Assessment of Entrepreneurial Success perceptions at Umeå University

A quantitative study on student’s perceptions of entrepreneurial success.

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Abstract

This research focused on assessing the perception of student’s at Umeå School of Business and Economics towards entrepreneurial success. Moreover this research focused on comparing student’s perception and perception of importance of entrepreneurial success, which has been defined three dimensionally.

The conceptual definition of entrepreneurial success has emerged from the existing literature and could be explained as follow: entrepreneurial success is a cluster of financial performance, operational performance and Satisfaction (which refers to the entrepreneur’s satisfaction.

We identified that the literature was remaining in some ways nebulous when it was to officially define the notion of entrepreneurial success. This notion has been somehow associated to the perception of entrepreneurial success, because of the approach or methods that have been used to assess it. Moreover, we have identified that some factors have been confirmed as influencing the perception of entrepreneurial success, however these results were not targeted students, but mainly entrepreneurs.

We formulated the following research question:

Which factors influence the perception and the perception of importance of entrepreneurial success, among Umea University’s students?

This research has been conducted by including all master program students and bachelor students in graduating class at Umeå School of Business and Economics, to examine their perception of entrepreneurial success generally and additionally compare their perception in order to determine whether some factors were influencing their perceptions.

The conceptual model has been created in order to determine whether the selected variables: Gender, age, background and perception of entrepreneurship as a culture is influencing two aspects: the perception of entrepreneurial success and the perception of importance of the entrepreneurial success. These two aspects have been underlined by the two first questions of our questionnaire, and have been defined according the same dimensions: Financial performance, Operational performance and satisfaction

These previous four variables have permitted to form groups in order to attest of potential differences of perceptions.

From all the analysis that have been proceeded. It has been found that not all the components from the conceptual model were likely to be considered as influencing the perception of entrepreneurial success and the perception of importance of entrepreneurial success.
Acknowledgment

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We are very thankful for Umeå University students who participated on this research by answer the questionnaire for this thesis. We would like also to extend our appreciation to Rebecca Arklöf, IBP coordinator.

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Umeå School of Business and Economics

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1. Introduction

This introductive section will outline and provide to the reader not only the reasons why the subject has been chosen but will also expose the theoretical background which will emphasize the knowledge gap. Furthermore, the problem background will be the key basis of the research and therefore will determine the research question. Moreover, purposes of the study will be explained. To conclude, this chapter will stress out the relevant concept’s definitions.

1.1 Choice of subject

Within the framework of the course entitled “Bachelor Thesis”, we have been asked to conduct a research study. As a binomial composed by one student enrolled in the international Business Program and the other as being an exchange student at Umeå University. It has been decided to write this Bachelor thesis on “Entrepreneurship”. This main field has been chosen according to the program in which we both were involved in and also due to personal interests. Several topics have been discussed within this Entrepreneurship field until narrowing down and specifying the thinking process, which led to consider the notion of Success. By reviewing articles on this subject, the subject of entrepreneurial success has been considered, and intimately linked to it the perception of entrepreneurial success.

The thesis has been conducted about Entrepreneurial success within Umeå university context and in relation to the Student’s perceptions towards the subject.

1.2 Theoretical background and knowledge gaps

What is success? This short interrogation might be the one which has been the most frequently addressed by the majority of people during their life.

The word Success finds its origins in the Latin language, etymologically success simply echoes to the result, outcome, understood as “what comes next” to any types of situations or events (Online Etymology Dictionary, n.d.). With such a broad description of success, it is definitely not possible to take position on what success is in concrete. Even though there has been a gigantic focus on two concepts which are inter-correlated, respectively Success and failure. The study of success must be driven by a specific context (Orser et al., 2005, p. 3).

The scope, understood as the dimension in which one is studying success is providing useful insights. The first conclusion that can be drawn is that success must be interpreted in a particular context. The context in which this thesis is written is therefore fundamental to understand the notion of success. As a consequence it is necessary to review what entrepreneurship is, as well as intimately linked to it what an entrepreneur is.

Apparently the first use of the term entrepreneur was slightly different from the meaning one might have nowadays. Entrepreneur or so called “entrepreneur” back in the middle ages was used in order to define a certain type of people which were mainly architects (Hoselitz, 1960, p. 237). The changes occurring at that time resulting of a transition from feudalism to early capitalism has clearly impacted the notion of “entrepreneur” (Hebert & Link, 2009, p. 6). Originally corresponding to an individual enhancing multiple activities, the history has
divided these tasks into several activities. Entrepreneur is no longer associated with architectural design, engineering conception and economical supervision (Hebert & Link, 2009, p. 6).

The evolution of the concept of entrepreneur from its original apparition in the dictionary in 1723 (Hebert & Link, 2009, p. 5), to its application in the economy by Cantillon (Thornton, 2010, p. 31), has raised among scholars divergences. Entrepreneurs have been defined over the time by executing or being in charge of several objectives which vary according to the different schools.

Wennekers and Thurik (1999, p. 31) have reunited different roles attributed to the entrepreneur in the overall literature. These 13 roles, for instance: innovator, superintendent etc. provide determinant aspects which are useful to increase our knowledge about entrepreneur. The definition one will have about entrepreneurship will lead to affect the definition of entrepreneurial success in the way that the selected indicators might be different. As mentioned by Perez and Canino (2009, p. 991), the relevant indicators for new ventures might not be the same as the ones used at other stages of the business cycle.

Having mentioned this observation, Success is seen from an entrepreneurial perspective which brings the question of what entrepreneurial success is.

Nowadays the word success is overused by several entities, however this overuse does not especially signify that the entities using it, do define it the same way. As mentioned by Orser et al. (2005, p. 3), it often echoes to disparate outcomes. In this sense, the term success is a complex notion to grasp.

The encountered issue with the notion of entrepreneurial success is that it has been largely studied by scholars who tried to map the factors leading to it without taking position on what it was (Resmi & Kamalanabhan, 2010, p. 379).

However if we consider Murphy et al. (1996, p. 15) they have clearly emphasized that due to the nebulous nature of the concept of entrepreneurship, the concept of entrepreneurial success is also hard to define but is intimately linked to a third aspect which is the performance.

By revising the existing literature, we have noticed that the nebulous aspect of the definition of entrepreneurships is therefore affecting the way success must be understood. However what is called success in entrepreneurship refers to the entrepreneurial success which is itself linked to the notion of performance. As a consequence by scrutinizing how performance has been interpreted, which means by focusing on the approaches that have been used, one might be able to define precisely what entrepreneurial success is.

The literature on performance is firstly distinguishing two notions which are organizational effectiveness and organizational performance (Venkatraman & Ramanujam, 1986, p. 802). Having a closer scrutiny at the literature, organizational performance has been studied according to two dimensions, from an objective point of view and a subjective one. Three methods have been used: objective, subjective and quasi objective (Richard et al., 2009, p. 727) or also known as self-assessment (Pérez & Canino, 2009, p. 996)
The literature has not only tried to define entrepreneurial success but also considered several variables that might affect the perception of success of entrepreneurs: mainly the education, principally based on the Human capital theory, individual are providing two dimensions to the firm: Breadth and depth of experiences (Reuber & Fischer, 1995 cited in Orser et al., 2005, p. 12) which likely expose that their choices are seen as investment and might result in a different way of perceiving success.

Secondly, the age where according to Duxbury et al., (2000, cited in Orser et al., 2005, p. 12) within a study of high-tech workers about their perceptions of career success, it has been found that 75 % of respondents who were over 40 years old considered personal satisfaction as well as respect as the most valuable. In contrast only 67 % of younger respondents valued the same notions.

The third variable which is the gender is the most controversial as mentioned by Orser et al. (2005, p. 13), in spite of the fact that the gender difference in perceived success is overly addressed, results still remained inconsistent.

To summarize, we have figured out that there is no common agreement on what entrepreneurship is. As a consequence the notion of success has been even harder to define since success must be defined according to a context (Orser et al., 2005, p. 3), and even within this context several approaches are used but are most of the times relying on only one of them (Richard et al., 2009, p. 727). It sounds as if there is a lack of clarity on what success is and how success is related to other aspects such as entrepreneurial success, performance. The existing gap resides firstly in the way each concept is linked to another: how success is linked to entrepreneurial success, how entrepreneurial success is linked to performance, and how performance is linked to organizational performance. Secondly, the gap resides in the dimensions used to define organizational performance and to the extent entrepreneurial success. Thirdly, the literature has considered organizational performance thanks to the quasi objective approach, which relies on the interpretation of objective data by the entrepreneur (Richard et al., 2009, p. 727). In other words, the study of success has been conducted from an entrepreneur’s point of view (Pérez and Canino, 2009, p. 1000), meaning that reports have accessed about the entrepreneur’s perception of success, and no one has considered testing the student’s perceptions on a defined model of entrepreneurial success and if their perceptions were different according selected variables. Indeed few studies have considered testing whether the entrepreneur’s perceptions were varying: the variables usually used are the education, the age and the gender (Orser et al., 2005, pp. 12-13). However some of these variables are inconsistent or have only been tested on special targets: entrepreneurs or different firm positions: executive, managers, etc (Duxbury et al., 2000, cited in Orser et al., 2005, p. 12).

1.3 Research question

Within the entrepreneurship’s field, researchers have been trying to map the attributes of entrepreneurial success. They intended to define it and have been measuring it according to several methods. No agreement has been made among scholars on the way to define entrepreneurial success. For this reason and based on the literature review, we decided to define it according three dimensions: financial performance, operational performance and
satisfaction This conceptual representation of entrepreneurial success is used in order to assess student’s perceptions.

The research question has been formulated as below:

Which factors influence the perception and the perception of importance of entrepreneurial success, among Umea University’s students?

This research question is principally based on the two first questions of our questionnaire. We argue that someone may be able to perceive a dimension of entrepreneurial success but might not give the same importance.

1.4 Research purpose

The main purpose of this study is to develop a model of entrepreneurial success that will be tested on Umea’s university students. The purpose could be summarized as hereinafter:

1) Assess Student’s perceptions of entrepreneurial success according to the model designed.
2) Compare their perceptions according four variables: background, age, gender, and their position on whether entrepreneurship is a culture.

1.5 Scope of study

Our research has been made within USBE University in Umea. As we are currently students within this university, it has been decided to select this sample for convenience reasons; our sampling area is the current students. We have decided to send out the questionnaire to students in their first and second years of Master, as well as fourth year Bachelor students. Firstly, the reason why this sample has been selected is residing in the fact that they may already have a pre-understanding of the subject and a certain acquaintance in Entrepreneurship which will palliate misunderstandings on the topic and research question. Furthermore they are potential entrepreneurs which allow us to test their perceptions. The sample is comprised of Swedish students and International students. It is necessary to stress out that the scope of the study is one main aspect that underlined the existing theoretical gaps, most of the time, the perception of entrepreneurial success has been assessed from an entrepreneur’s perspective and not from a student’s perspective. The fact that we are considering this particular perspective is the thing bringing uniqueness to its thesis.
2. Theoretical framework

This section will provide the literature review and exposed the several aspects that have been considered to design the conceptual model. The conceptual model will be exposed as well as the hypotheses related to it.

2.1 Evolution of the concept of entrepreneur and entrepreneurship

The word entrepreneur found its earliest form in the fourteenth century, as referred to “entreprendeur” (Hoselitz, 1960, p. 237). The role and the concept of the entrepreneur at this time was likely differing to the notion one might have in economy. The “entreprendeur” in the middle ages was referring to a special role, it was the person committed and handling the “great architectural works” (Hoselitz, 1960, p. 237). The word in itself did not include any restrictions, in the sense that the entreprendeur role was referring to diverse dimensions. The entreprendeur was in charge of the overall process of the great architectural works, therefore attributing and assimilating several tasks to the notion of entrepreneur (Hebert & Link, 2009, p. 5). As time was running, the transition between feudalism and capitalism has clearly impacted the concept of entrepreneur, incorporating a radical distinction between architecture, engineering, and economical supervision. The concept of entrepreneur and more specifically the term in itself has made its first apparition in the eighteenth century and more specifically in the French dictionary entitled "Dictionnaire Universel de Commerce" compiled by Jacques des Bruslons published in 1723 (Hebert & Link, 2009, p. 5). The term “entrepreneur” finds originally its roots from the French verb, entreprendre, which is associated to the notion of “doing something” or “undertaking”. (Sobel, 2008)

The initiation of the word entrepreneur to the economics field has been a polemical subject that has been raging over for a certain time. Even though it is commonly perceived that the reward of the use of entrepreneur goes to the French economist Jean Baptiste Say, the term has been initiated and above all intensively employed by Richard Cantillon in his posthumous “Essai sur la nature du commerce en general” (Thornton, 2010, p. 31).

According to the English translation of Richard Cantillon by Thornton (2010, p. 31) it is stated that: “Entrepreneurs establish markets in centrally located villages which provide the necessary conditions under which prices are established between supply and demand”. The vision undertaken by Cantillon confined the entrepreneur to a special function. Its function is to buy at a certain price, and sell at an uncertain one (Thornton, 2010, p. 32), he is therefore equilibrating the supply and demand. The uncertainty perspective is remarkably underlined in the quote hereinafter: “Entrepreneurs are living at uncertainty, the beggars and the robbers are undertakers of this class” (Higgs, 1959, p. 55).

This uncertainty results from the price speculation of the products and the merchandise, between the two entities which are the merchants and the villagers. In spite of the recurring idea of uncertainty that is facing the entrepreneur, the French economist Jean Baptiste Say has enlarged the entrepreneur concept: he has attributed to the entrepreneur a core role in the process of production and distribution (Hebert & link, 2009 p. 17). Say is arguing for the necessary judgemental dimension an entrepreneur must have, has being able to not only pinpoint the customer’s needs and satisfy them. Moreover the entrepreneur must be performing two aspects being a superintendent and an administrator (Hebert & link, 2009 p. 19). Say’s conception of the entrepreneur is to enhance the role of “guardian” of the equilibrium (Hebert & Link, 2009, p. 20).
So far the entrepreneur is intimately linked to the notion of risk bearing, but also managerial skills, however another function has been identified and is commented by Van Praag (1999, p. 318): the entrepreneur is continuously an opportunity seeker, where he tends to minimize costs.

As mentioned by Hebert and Link (1989, p. 213) the function of entrepreneur is comprising of several ones which are summarized into 4 points: the supply of financial capital, innovation, allocating resources and decision maker.

Wennnekers and Thurik (1999, p. 31) have reunited different roles attributed to the entrepreneur in the overall literature:

1. The person who assumes the risk associated with uncertainty.
2. The supplier of financial capital.
3. An innovator.
4. A decision-maker.
5. An industrial leader.
6. A manager or a superintendent.
7. An organizer and coordinator of economic resources.
8. The owner of an enterprise.
10. A contractor.
11. An arbitrageur.
12. An allocator of resources among alternative uses.
13. The person who realizes a start-up of a new business.

Entrepreneurial theories have been changing over the years but can be differentiated and categorized into major traditions: German tradition, the neoclassical tradition and the Austrian tradition (Wennecker & Thurik, 1999, p. 31)

The different traditions hold different opinions and stressed different distinctions of the role of the entrepreneur. The previous established list gives an insight of the existing roles that have been considered over the years and according different traditions. The entrepreneur and therefore the notion of entrepreneurship have been on the spotlights for a long time and scholars hold controversial views regarding to the notion of entrepreneurship and entrepreneur. The existing literature is a cluster of hundreds roles that an entrepreneur could be. However instead of exposing each role we have decided to underline the recurrent themes.

The perspectives on the nature of entrepreneurship:

<table>
<thead>
<tr>
<th>1. Creation of Wealth</th>
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<tbody>
<tr>
<td>2. Creation of Enterprise</td>
</tr>
<tr>
<td>3. Creation of Innovation</td>
</tr>
<tr>
<td>4. Creation of Change</td>
</tr>
<tr>
<td>5. Creation of Jobs</td>
</tr>
<tr>
<td>6. Creation of Value</td>
</tr>
<tr>
<td>7. Creation of Growth</td>
</tr>
</tbody>
</table>

Table 1. Perspectives on the nature of entrepreneurship (Kuratko et al., 2011, p. 10)
In this thesis entrepreneurship will be defined in two complementary ways: entrepreneurship will be seen as: 1) Commonly interpreted as a contextual phenomenon conditioned by social, economic, political, and cultural environment in which it occurs (Lumpkin & Dess, 1996, p. 135; Stearns & Hills, 1996, pp. 1-4). 2) “The process of creating value by bringing together a unique combination of resources to exploit an opportunity” (Stevenson & Jarillo-Mossi, 1986, p. 10). In this way entrepreneurship will refer either to the fact of creating a company or the process of generating, developing as well as implementing new ideas by a company which is implicitly linked to the second definition. It is necessary to stress out that entrepreneurship could be seen has either in relation to the emergence of a company, or entrepreneurship could take place in an already existing company.

2.2 The concept of success/entrepreneurial success and their linkage

It sounds as if the essence and therefore the concept of entrepreneur is in itself a complex notion to qualify and has been changing over decades. If we have an in depth view of the field and which recurrent themes entrepreneurship is dealing with, we come up with two significant outcomes that are expressed as Failure or Success. Those two fundamental aspects have been scrutinized in order to expose its causes, most of the time referred as “Factors” (Resmi & Kamalanabhan, 2010, p. 379). What is success and how can it be evaluated in entrepreneurship? have been the recurrent focus.

In this section we decided to expose how success is defined, what entrepreneurial success means and which methods have been used to evaluate success and which dimensions have been considered.

As previously mentioned the concept of entrepreneur and implicitly tied up to it entrepreneurship have been reviewed and assessed by several schools, highlighting the specific roles and dimensions an entrepreneur might enhance (Kuratko et al., 2011, p. 10; Wennekers & Thurik, 1999, p. 31).

In order to define Success we will focus on the etymology of the words.

Success comes from the Latin “Successsus” which is the past participle of the verb “Succedere”. (Online Etymology Dictionary, n.d.)

If we divide the verb, we might identify the original meaning of the word. The word is composed of the part “sub” which means “next to” and the part “cedere” which extends to mean “to go”. The movement is in itself coded in the term “success”, which increases the attention of what should be next to. The notion of success originally refers to the outcome of any event, action, or situation (Collins English Dictionary, n.d.)

Nowadays the word success is overused by several entities, however this overuse does not especially signify that the entities using it, do define it the same way. As mentioned by Orser et al. (2005, p. 3) it often echoes to disparate outcomes. In this sense, the term success is a complex notion to grasp.

In order to be capable of determining in which direction success is studied we might decide in which context we want to use it. We think necessary that we expose the context in which
success has been studied, in others words according to which field success has been reviewed. The thesis has been focussing on the notion of entrepreneurial success and is therefore linked to the entrepreneurial field.

The issue linked to entrepreneurial success is that many attempts have been made in order to map the potential characteristics affecting entrepreneurial success, in the sense that entrepreneurial success has been studied through characteristics, and as mentioned by Panda (2002, p. 177) : “One could conclude from these findings that entrepreneurial characteristics are not universal as no specific law or a set of characteristics are seen to be independent across situations to guide the entrepreneur to success”.

Resmi and Kamalanabhan (2010, p. 379) has summarized the major trust of researches that linked several factors to entrepreneurial success, as show in the figure below:

![Figure 1. Major trust of research (Resmi & Kamalanabhan, 2010, p. 379)](image)

However instead of clearly defining what entrepreneurial success is they identified the characteristics leading to it. Is entrepreneurial success only defined as the characteristics leading it? First of all, we would like to express an overall definition of what entrepreneurial success is: entrepreneurial success must be understood as referring to the success an organization or company has. The academic literature has paid attention to what is called “the company success”, this expression has been the focus in several fields ranging from economics, psychology but also sociology. (Van Praag, 2003, cited in Perez & Canino, 2009, p. 991). As a consequence how can be defined the expression “company success”, we argue that the company success/entrepreneurial success can be defined as the realization of its values where values is interpreted as: “what a person consciously or subconsciously desires, wants, or seeks to attain” (Locke, 1976, p. 1304). This definition has the advantage of
allowing us to enlarge the entrepreneurial success as comprising two dimensions, respectively conscious and unconscious.

If we consider Murphy et al. (1996, p. 15) they have clearly emphasized that due to the nebulous nature of the concept of entrepreneurship, the concept of entrepreneurial success is also hard to define but is intimately linked to a third aspect which is the performance.

First conclusion that can be drawn is that entrepreneurial success in the sense of “company success” and performance are intertwined.

We have taken one step further the definition of success. Success is linked to the performance dimension in an organizational context and there are different ways of measuring performance. This observation has been verified. Indeed, the term “Company Success” echoes to the notion of organizational performance so called OP.

2.3 Organizational effectiveness, organizational performance: definition and distinction

In spite of the fact that organizational performance is inevitably present and dominates the strategic management, performance is in its nature a simple indicator of effectiveness comporting both advantages and disadvantages. As mention by Venkatraman and Ramanujam (1986, p. 802), it is necessary to first take position concerning the ongoing debate on the differentiation of organizational performance and effectiveness. They further argue that organizational effectiveness is a construct encompassing, capturing organizational performance (Venkatraman & Ramanujam, 1986, p. 803).

Organizational effectiveness is argued based on Venkatraman and Ramujam (1986, p. 803) points of view where it is a broad construct clustering not only Organizational Performance but also internal performance outcomes (Richard et al., 2009, p. 722). In other words, organizational effectiveness is referred as the extent to which an organization might fulfil its objectives (Georgopoulos & Tannenbaum, 1957, p. 535).

The inherent issue is residing in the fact that the literature on Organizational performance is made of three perspectives having their own interpretation of the phenomenon (Ford & Schellenberg, 1982, p. 50). Organizational performance has been assessed according several theoretical approaches; however it is not the approaches that import to us but more the methods that have been used to assess organizational performance.

For convenience reason it has been decided to summarize thanks to table 2 the different meaning of the words used and their linkages, which will permit to grasp the overall picture.

<table>
<thead>
<tr>
<th>Terms</th>
<th>Meaning</th>
</tr>
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<tbody>
<tr>
<td>Success</td>
<td>From the latin: “next to”, refers to the outcome of a situation, event, etc.</td>
</tr>
<tr>
<td>Entrepreneurial success</td>
<td>Realization of organization’s values</td>
</tr>
<tr>
<td>Performance</td>
<td>Defined as part of Organizational effectiveness</td>
</tr>
<tr>
<td>Organizational effectiveness</td>
<td>Cluster of Organizational Performance and</td>
</tr>
</tbody>
</table>
To conclude what we have exposed so far is to link the different meanings of the terms. From the etymology of the word “Success” we have noticed that it was referring to the outcome of any situation, event. However in order to be able to define what is success in entrepreneurship we need to define what entrepreneurial success is, which means defining success in accordance with a certain context. We have captured that most of time entrepreneurial success has been defined in terms of characteristics rather than proposing a conceptual definition (Resmi & Kamalanabhan, 2010, p. 379). We argue that entrepreneurial success must be defined has the realization of the organizational values where the term “values” has itself been defined considering the original definition of success. Entrepreneurial success is then interpreted as the values an organization wants to realize, which corresponds to what a person desire, seeks or want to attain (Locke, 1976, p. 1304). From this point we argue that as the notion of entrepreneurial success is in itself vague, some scholars have linked it to the notion of performance (Murphy et al., 1996, p. 15), where the notion of performance is itself defined thanks to organizational effectiveness (Venkatraman & Ramanujam, 1986, p. 803). The word Organizational is indeed exposing a perspective so called organizational performance. A shortcut would be to understand success in entrepreneurship as echoing to organizational performance. In consequences most of the time the use of success in entrepreneurship refers to the following expressions: “company success”, “entrepreneurial success”, “performance”, and “organizational performance” (Murphy et al., 1996, p. 15; Panda, 2002, p. 177; Van Praag, 2003, cited in Perez & Canino, 2009, p. 991).

2.4 Measurement of success

As we have scratched from the finger the toughness residing in defining what success is we have decided to expose the methods that have been used in the literature to assess success/organizational performance. If we refer to the literature three methods have been used.

Figure 2. Overview from 1995-2007 of the different techniques used in articles to measure success in entrepreneurship. (Pérez & Canino, 2009, p. 996)
As the figure shows there are three methods, respectively objective, subjective and self-assessment also called quasi objective. We will describe what the underlying meaning behind each method is.

2.5 Objective approach

The objective approach consists in the assessment of success according to objective data. For instance, the accounting measure are seen as one of the most common and reliable objective data, which permits to measure performance (Richard et al., 2009, p. 727). The accounting measures have been largely considered in the sense that there are valid because of the relationship between the returns of accounting and economics (Richard et al., 2009, p. 727). In other words they are used because normally accounting measures are attesting and go hand by hand with economics returns. As an example, we could argue based on Danielson and Press (2003, p. 514) that those two dimensions, respectively accounting rates and economics ones are highly correlated: 0.75 correlations. Furthermore as a confirmation made by Jacobson (1987, p. 477), what is referred as the return on investment (ROI) has been proven to be a good differentiation tool for performance over time and industries.

The issue rising with the use of accounting measures is therefore due to the context in which it is used. The accounting policies might differ according

The table below is exposing a summary of the accounting measures that are usually used in order to assess organizational performance.

2.5.1 Limitations of accounting measures

As mentioned by Richard et al. (2009, p. 728) a certain numbers of limitations might arise from the only use of accounting measures. Three dimensions are emerging as potential issues: first of all the system, the GAAP standards might not grasp the organizational performance in the sense that the interpretation of the accounting measures varies widely and must be compared with the firm’s strategy. Secondly the other dimension is the time, in which way the time might be an issue to organizational performance, in fact when accounting measures are used, they assess the current situation of a company but not its future performance, a company that might be performant and to the extent successful today might not be tomorrow. As argued by Richard et al. (2009, p. 728):

“Hence, the apparent predictability and validity of accounting measures as signals of economic returns may have less to do with their validity and more to do with the stationary properties of the environment in which the measurement is taking place”

Finally the implicit dimension related to this, is the context or the environment, do accounting measures will be interpreted the same way in a turbulent environment? The answer is no, the environment will clearly affect which accounting measures will be used and will decrease the legitimacy and validity of these measures as performance.
2.5.2 Financial market measures

A potential alternative to accounting measures are the financial market ones because they are more likely to characterize organizational performance. In order to justify these measures, the main argument is exposed by Richard et al. (2009, p. 728), this argument resides in the instrumentalization of the firm, meaning that the firm is an instrument of shareholders. Having said that, one can clearly conclude that the link between financial markets measures and performance is relying on the shareholder’s perspective, which means according to their opinion based on the profit they received generated by the organization’s units.

2.6 Subjective approach

We have exposed the meaning of the objective approach therefore what is the meaning of the subjective one? The Subjective approach is based on subjective measures. These measures are intended to be addressed to a particular type of respondents. Indeed the respondent must be informed about the organizational performance (Richard et al., 2009, p. 734). The subjective approach to measure organizational performance is divided into two categories: which are either fully subjective or quasi-objective. (Richard et al., 2009, p. 734)

One prominent set of subjective measures of organizational performance is the Fortune magazine on the reputation survey (Chakraverty, 1986, p. 439). The reputation is acquired based on history, in the sense of past financial performance (Rowe et al. 2003, p. 188). However the current situation of the firm, based on its past financial performance does not necessarily affect the future performance (McGuire et al., 1990, p. 168).

The use of the reputation has been discussed by Roberts and Dowling (2002, p. 1079) where they found that reputation was related to either financial one or what is call a residual one. Residual reputation is perceived as prediction the future performance. Another tool or perspective to the fortune reputation is the KLD, which is an index evaluating indicators of corporate social performance. The corporate social performance is based on several strengths and concerns relating to the environment. However it exposed whether a company is concerned with the social aspect and also defines what is unsociably accepted (Richard et al., 2009, p. 735).

2.6.1 Fully subjective

As mentioned by Richard et al. (2009, p. 736) the main advantage of the fully subjective measures is that they purposively allow researchers a better access to information. Indeed the fully subjective self-report measures directly target the underlying performance construct. In other words, since the measures used are not oriented in a certain way or referring to a certain item and therefore they end up being relative (March & Sutton, 1997, p. 701). Flexibility is the key word of the fully subjective approach which permits to consider human perceptions and therefore raises the question of psychological biases.

As mentioned by some scholars, the biggest challenge that fully subjective measures are facing comes from the psychological biases: “Cognitive biases can influence subjective measures, particularly self-report measures from individuals who are part of the focal organization” (Richard et al., 2009, p. 736)
2.6.2 Quasi-Objective

Quasi objective approach is considering quasi objective measures, which indeed resides in the assessment of performance through self-report techniques. The goal is to question for instance the CEO to estimate the market value of its firm. The distinction between objective and quasi objective is hard to see; since the assessment is made by someone from the company it allows imperfections (Richard et al., 2009 p. 737)

A summary has been exposed in the table below:

<table>
<thead>
<tr>
<th>Approach</th>
<th>Meaning</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective</td>
<td>Use of objective data for the assessment of organizational performance</td>
<td>Accounting measures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Financial measures</td>
</tr>
<tr>
<td>Subjective</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fully subjective</td>
<td>Use of subjective data for the assessment of the organizational performance</td>
<td>Reputetion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>KLD</td>
</tr>
<tr>
<td>Quasi objective</td>
<td>Use of quasi objective measures for the assessment of organizational performance</td>
<td>Estimation of the respondent thanks to objective data</td>
</tr>
</tbody>
</table>

Table 3. Summary of the approaches used in the literature to assess performance

2.7 Objective vs Subjective approach

The literature is identifying three different approaches used in the entrepreneurship field to access organizational performance: the objective technique, and the subjective technique as well as the quasi-objective. One question that might rise is the validity of the use of the subjective technique. The use of a subjective approach has been verified by a simple comparison between the data provided by the management/the owner with the real data. Results about those kind of comparisons are disparate, some authors such as Baron and Markman (2003, p. 53) validated the two sets of data and have noticed that the data provided by the individual display a high degree of accuracy. However two decades ago, Sapienza et al. (1988, p. 52) have rejected the subjective measures. In spite of the fact that if we consider Wall et al. (2004, p. 113) correlation between objective and subjective measures has varied between 0.4 and 0.6. The measures were also found to display strong construct validity, in that they related to measures of other related constructs in a consistent way (Wall et al., 2004, p. 113). As a consequence it might be cautious to consider both techniques when measuring the performance since, even though subjective measures are not as accurate, these types of indicator are strongly linked to objective criteria of performance and considered satisfactorily valid (Wang & Ang, 2004, p. 360).
2.8 Dimensions of Success

The concept of success in entrepreneurship; which has been associated with entrepreneurial success and linked to organizational performance, has always been studied according three approaches (Pérez & Canino, 2009, p. 996; Richard et al., 2009, p. 727). Three approaches that have shaped what were considered for a company to be successful. If we go through those approaches, one may realize or notice that the traditional concept of success is sometimes associated with the perception of success. The traditional pattern and dominant way of assessing success is by using an objective approach: using concrete facts such as accounting or financial measures to attest whether or not a company is successful (Richard et al. (2009, pp. 727-728). This historical way has always underlined the financial dimension of the firm. In other words, a firm is successful if it is financially performant. However even if this approach relies on objective data, to extent data that have been collected from a “neutral entity”, these data are still subject to interpretation and it is the interpretation of either accounting/financial measures that is exposed as success. The subjective approach considers the use of subjective data to assess organizational performance and to the extent success Richard et al. (2009, p. 734). The subjective approach is itself divided according to two perspectives, the use of subjective data, or the self-assessment of objective data. Subjectivity introduces increased error, by allowing the imperfections of human cognition to play a greater role (Gilovich et al., 2002, cited in Richard et al., 2009, p. 735). The important aspect that we should identify here is that the way entrepreneurial success has been studied by incorporating purposively or not imperfections. By allowing imperfections through human interpretation, we can argue that the concept of entrepreneurial success is in its essence “subjective” in the sense that it is made of both objective and subjective approaches. According to Murphy et al. (1996, p. 21), our definition of success is likely to influence the results, since the measures we might consider might be inter-correlated either positively or negatively to another. The dimensions one should consider to define entrepreneurial success must be broad enough to fit with our scope of study: For instance, as mentioned by Perez and Canino (2009, p. 991) the relevant indicators for new ventures might not be the same as the ones used at other stages of the business cycle.

We argue based that entrepreneurial success must be defined by three pillars that are complementary. First of all Entrepreneurial success should consider the financial dimension, which means that it is defined as being financially performant. This first step, considers likely the use of objective data. Financial performance has been defined as: “financial indicators that are assumed to reflect the fulfilment of the economic goals of the firm[…]such indicators sales growth, profitability and earning per share” (Venkatraman & Ramanujan, 1986, p. 803). This englobing term, permits to consider success objectively and has been chosen because of its wide use in the literature. However we do think that if would define entrepreneurial success as only relying on financial performance we would not grasp the overall meaning of it. As a consequence, we argue that another dimension that should be considered is the operational one. This second dimension is likely to reinforce the financial one, but is however different in itself. Operational performance has been defined as: a “business performance
would include emphasis on indicators of non-financial [...] such as market-share, new product introduction, product quality and manufacturing value-added” (Venkatraman & Ramanujan, 1986, p. 804).

Finally we argue that entrepreneurial success is considering another perspective which is the satisfaction an entrepreneur could express towards its venture (Cooper & Artz, 1995, p. 441). Another argument to corroborate our choice of using satisfaction is based on the results of a study: According to Duxbury et al. (1999, p. 8), and even though the study was about career success and not entrepreneurial success, respondents have slightly emphasized the importance of enjoyment/satisfaction in the work itself with 51 % of the sample. The self-esteem, reward and accomplishment had obtained 34 % of the sample, career progress 32 %, recognition and extrinsic rewards 28 %, learning 27 % and finally ability to contribute and influence 25 %. Moreover if we compare these results to the ones from Orser and Hogarth Scott (2005, pp. 287-288) and also mentioned by Resmi and Kamalanabhan (2010, p. 380) personal satisfaction is underlined as one major aspect that entrepreneurs considered to define their perceptions of success. The satisfaction here is understood as a subjective interpretation which excludes financial measures. The satisfaction perspective is expressed to understand whether or not the entrepreneur is satisfied with what he/she is doing.

We are using objective measures as well as subjective ones in a different way the literature is used to do. Objective measures in our study are used because of the financial and operational dimensions. The subjective measure here is the satisfaction. However we would like to express that the operational dimension might also be implicitly linked to the fully subjective measure known as reputation. The product quality and market share indicators are likely to set up and reinforce corporate reputation. To conclude we will expose the way we have defined entrepreneurial success:

![Figure 3. Conceptual definition of Entrepreneurial Success](image-url)
2.9 Variable selection to attest of perceptions differences

In this section we will expose the variables that have been selected. We have decided to select four variables to test whether perceptions among students were differing. These variables are respectively: the education, the gender, the age and finally their perception of entrepreneurship as a culture.

2.9.1 Education: background

As it is suggested by the Human capital theory, individual are providing two dimensions to the firm: Breadth and depth of experiences (Reuber and Fischer, 1995 cited in Orser et al., 2005, p. 12). As a consequence their choices might be seen as an investment which corroborates that both education and professional experiences will likely impact their perception of success. As mentioned by Orser et al. (2005, p. 12), business owners which could be entrepreneurs, with a higher level of education and experience within industries, will slightly value more the financial aspects of success over the personal ones. In opposite business owners with less level of education would likely value more personal dimensions of success. In this thesis, we understand education in the sense of background, a background in entrepreneurship. In others words, we would like to know whether perceptions of success among students vary between the ones who have an entrepreneurship background (who attended to entrepreneurial courses) with the ones who have not.

2.9.2 Age

The second variable we have decided to choose is the age variable. As one might anticipate, the owner age is often related to the perceived success. According to Duxbury et al. (2000, cited in Orser et al., 2005, p. 12) within a study of high-tech workers about their perceptions of career success, it has been found that 75 % of respondents who were over 40 years old considered personal satisfaction as well as respect as the most valuable. In contrast only 67 % of younger respondents valued the same notions. Additionally, 33 % of the respondents under 40 years were found to primarily favor financial rewards compared to older respondents.

In our thesis, we are willing to expose whether or not perception of entrepreneurial success of people from 18 to 25 is different from the category 25 and over.

2.9.3 Gender

If one considers two approaches which are LFT and SFT, standing respectively for liberal feminist theory and social feminist theory, these theories suggest a potential gender based difference in terms of perceptions of success (Johnsen & McMahon, 2005, pp. 117-118). As mentioned by Orser et al. (2005, p. 13) in spite of the fact that the gender difference in perceived success is overly addressed, results still remained inconsistent.

Many authors have conducted studies for example Collerette and Aubrey (1990, p. 422), Kyro (2001, cited in Orser et al., 2005, p. 13), Fernald and Solomon (1998, pp. 29-30 ), where they concluded that women entrepreneurs are more likely to value aspects such as family or customer satisfaction rather than the financial criterion.
More recently, Verheul et al. (2005, p. 485) have clearly stated that women are having more issues to consider themselves as entrepreneurs, however they value the same accomplishments but in a different way that men might do. As a consequence the literature is reporting inconsistencies about the potential existence of gender differentiation in terms of perceptions of success. In our thesis we would like to expose if there is a difference of perception of entrepreneurial success between our male and female respondents.

2.9.4 Entrepreneurship culture

The last variable has been selected in order to know if their position on whether entrepreneurship is a culture might affect their perception of entrepreneurial success. We did not find any literature which has been studying the effect of seeing entrepreneurship as a culture on the perception of entrepreneurial success. However this variable is interesting in the sense that it might show whether or not believes might influence our perceptions.

2.10 Model and hypothesis

The conceptual model has been created in order to determine whether the selected variables: Gender, age, background and perception of entrepreneurship culture are influencing two aspects: the perception of entrepreneurial success and the perception of importance of the entrepreneurial success. These two aspects have been underlined by the two first questions of
our questionnaire, and have been defined according the same dimensions: Financial performance, Operational performance and satisfaction.

Our hypotheses are exposed below:

H1: There is a difference of perceptions of entrepreneurial success in terms of Financial performance, Operational performance and Satisfaction according to the variable “Gender”.

H1a: There is a difference of perceptions of importance of entrepreneurial success in terms of Financial performance, Operational performance and Satisfaction according to the variable “Gender”.

H2: There is a difference of perceptions of entrepreneurial success in terms of Financial performance, Operational performance and Satisfaction according to the variable “Age”.

H2a: There is a difference of perceptions of importance of entrepreneurial success in terms of Financial performance, Operational performance and Satisfaction according to the variable “Age”.

H3: There is a difference of perceptions of entrepreneurial success in terms of Financial performance, Operational performance and Satisfaction according to the variable “Background”.

H3a: There is a difference of perceptions of importance of entrepreneurial success in terms of Financial performance, Operational performance and Satisfaction according to the variable “Background”.

H4: There is a difference of perceptions of entrepreneurial success in terms of Financial performance, Operational performance and Satisfaction according to the variable “ perception of entrepreneurship’s culture”.

H4a: There is a difference of perceptions of importance of entrepreneurial success in terms of Financial performance, Operational performance and Satisfaction according to the variable “ perception of entrepreneurship’s culture”.

The hypotheses are expressed in terms of difference, since if the test conducted exposes a difference in terms of perceptions of entrepreneurial success according to a certain variable; it means that the variable tested (Age, gender, background and perception of entrepreneurship as culture) is therefore influencing the perceptions of entrepreneurial success.

N.B: Each hypothesis has been simplified for convenience reasons. In reality each variable has been tested with each dimension of perception of entrepreneurial success, and perception of importance of entrepreneurial success.
3. Methodology

3.1 Pre-understanding

The personal values and beliefs of an individual are likely to be determinant while conducting a thesis. Values would be the mirror of the researcher, illustrating its beliefs and opinions, (Bryman & Bell, 2011, p. 29).

Those values condition several aspects of the thesis: the research area, the method, the analysis and data’s interpretation (Bryman & Bell, 2011, p. 29). Values are indeed affecting the thesis process.

Studying at Umea University, we have therefore attended to several common and diverse courses in Business Administration. We agreed to focus Entrepreneurship, which has been found to be a common interest within the group.

Entrepreneurship course helped us by providing the pre-understanding necessary to define and specify our process thinking in the thesis. However, reviewing the existing literature has been crucial to refine the approach.

Entrepreneurship is studied in a business school context which even more interesting in order to evaluate the perceptions of student’s towards entrepreneurial success considering four variables: Gender, background, age, the perception of entrepreneurship culture.

As it was mentioned above, we are both students at Umeå University, so it probably affected the choice of the research topic. Both authors have different backgrounds, and it leads them increase their willingness to focus on a common interest which is and will more and more a prerequisite in tomorrow’s world.

The objective of this thesis is to define a conceptual model of entrepreneurial success which is tested on students and linked to it we are willing to identify which factors influence the perception of Umea university students of entrepreneurial success.

3.2 Ontological assumptions

Ontology deals with the nature of reality (Saunders et al., 2012, p. 130). Should social entities be considered as objective entities that have a reality external from social actors 2) or should they be viewed as constructs derived from the perceptions and actions of the social actors (Bryman & Bell, 2011, p. 21).

There are two different positions when it comes to ontology: 1) Objectivism and 2) Constructionism (Bryman & Bell, 2011, p. 20). In order to be convenient, Objectivism will be described in the first time, and then constructionism will be exposed.
According to the Objectivist’s point of view, social entities are seen as hereinafter: “social entities exist in reality external to and independent of social actors” (Saunders et al., 2012, p. 131). Reality is in itself objective and therefore does not depend on social actors. Objectivism also applies to culture, besides organization.

In an organizational context, objectivism will be considered as a constraint. It will influence the organization’s member, therefore restraining their actions (Bryman & Bell, 2011, p. 21). In a cultural context, culture constrains social actors. Individuals are adopting and supporting specific values or norms, those factors influence their behaving (Bryman & Bell, 2011, p. 21).

Constructionists argue that culture is a reality emerging and constantly changing. Culture is a process where construction and reconstruction are the key points (Bryman & Bell, 2011, pp. 21-22). People’s needs are subject to changes. The main purpose of constructionism or subjectivism is to understand the underlying reality of people in order to give sense to their motivations, acts or intentions.

For this thesis, we have followed an objectivist’s point of view. Umeå University is seen as an organization that has certain rules and procedures, a specific structure and influence its participants to act in certain way.

Constructionism is irrelevant since we would aim to examine how different factors (objective entities) affect student’s perceptions of success in an entrepreneurial context

3.3 Epistemological assumptions

Epistemology refers to the nature of knowledge. Does social world should be scrutinized, examined in accordance with the same principles used for natural sciences? (Bryman & Bell, 2011, p. 15). Three epistemological perspectives exist: positivism, realism and interpretivism (Bryman & Bell, 2011, pp. 15-17). Each of those positions will be argued in the same order as mentioned.

Positivism argues that the study of social reality should be based on the application of methods of the natural sciences (Bryman & Bell, 2011, p. 15). Both social and natural sciences can be studied in the same way.

Positivism is a single reality, independent of human beings (Mackenzie, 2011, p. 534). The same author has pointed out that the natural science approaches should be adopted if one is conducting a research in social/educational context. This approach is suitable for the thesis research. Moreover positivism is a way of generating hypotheses that will be tested later on in order to get data, to finally allow explanations of the facts that has been assessed (Saunders et al., 2012, p. 134). The aim is to explain a fact, or someone’s behaviour instead of providing an in depth understanding. A free value process should be taken into consideration for positivists (Saunders et al., 2012, p. 134). A free value process simply means that researchers don’t influence people’s responses which support the objectivity of the findings.

Realism is another stance of epistemology, and is pretty similar to positivism in several ways (Bryman & Bell, 2011, pp. 15-17). Natural and social sciences should be studied in the same
way, including the data collection and analysis (Bryman & Bell, 2011, p. 17). Second agreement is made, and argues that there is an external reality, distinct from people’s descriptions (Bryman & Bell, 2011, p. 17).

As matter of conclusion, the underlying difference is that on the way they perceive reality. Positivists think that their view is really reflecting this one, and realists think that the view of reality is a one way of knowing this reality (Bryman & Bell, 2011, p. 17).

Interpretivism is the last epistemological position. Interpretivism is based on criticisms and questioning of the applicability of scientific models in a social world and dedicates greater importance to social actors and their role in shaping the social world by investigating their subjective meaning (Bryman & Bell, 2011, p.16). It means that the social world and nature cannot be studied in the same way. The focus is whether to explore behaviour rather than to explain it.

We have chosen for the purpose of this thesis to follow a positivist point of view. Positivism will not only be useful to test, compare the influence of different factors on student’s perceptions at Umeå University.

Furthermore, positivism has been chosen due to its deductive theory approach. It allows testing the theories that have been generated before and see how they affect each other (Bryman & Bell, 2011, p. 11). The last argument for using positivism concerns the outcomes of the research; they are likely to be objective due to the role of the researchers.

While conducting this research, the goal was to remain objective in order to avoid bias or affect the people’s responses. Realism is not relevant for this study since it will only describe the reality. Intrepretivism is mainly related to qualitative research and is consequently not appropriate.

Moreover, the aim of this research is to explain the effects of different factors on Umeå University student’s perception (positivist view), but not to explore them in order to get a deeper understanding (interpretivist view).

### 3.4 Research approach

Induction or deduction, are two distinct research approaches (Bryman & Bell, 2011, p. 11). Induction must be understood as process of consisting first in collecting the data and then developing a theory (Bryman & Bell, 2011, p. 11).

Deduction is a matter of designing a model based on previous researches, with this model will come up variables that one aim to test through hypothesises. It’s typically testing existing theories and seeing their relationships, and how they affect each other (Bryman & Bell, 2011, p. 11). Taking into account ontological and epistemological assumptions of this research, the deductive approach has been chosen. The steps of the deductive approach are outlined in a figure below.
As the thesis started by reviewing the existing literature deductive approach should be used. A deductive process is relevant for this thesis, since we aim to test existing theories within entrepreneurship on students at Umeå University, in order to evaluate their perceptions of what is entrepreneurial success.

To do so, one needs to develop hypothesis and design a questionnaire to test them (Bryman & Bell, 2011, p.11). A deductive approach is intimately linked to a quantitative study (Saunders et al., 2012, p. 144).

In this research, the theory will be tested to find out how different factors can influence students’ perception of entrepreneurial success in Umeå University. Induction is not appropriate for this research because it is usually associated with qualitative research method in order to understand the problem (Saunders et al., 2012, pp. 146-147).

3.5. Methodological Choice

According to Bryman and Bell (2011, pp. 26-27) methodological choices have two major general approaches. They are widely used by different researchers to conduct business researches: two types of approach are mentioned, quantitative and qualitative method. These research strategies have various philosophical stances that lead to underline differences between them. The research will be conducted by using one approach of them. We put in table the basic difference between qualitative and quantitative research strategies according to Bryman and Bell (2011, p. 27).

<table>
<thead>
<tr>
<th>Research strategy</th>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ontological</td>
<td>Subjectivism/Constructionism</td>
<td>Objectivism</td>
</tr>
<tr>
<td>Epistemological</td>
<td>Interpretivism</td>
<td>Positivism</td>
</tr>
</tbody>
</table>
Firestone (1987, p. 16) argued that research conducted with quantitative strategy mostly explain the factors that bring a change in social fact. Mostly quantitative studies are associated with deductive research approach; that means to clarify a social fact different empirical analysis and correlation design will be applied (Saunders et al., 2009, pp. 124-126).

Thus, to collect the required data from the sample of population the researcher used questionnaires (Saunders et al., 2009, p.145) open ended questions, closed ended questions or mixed of them. Another perspective given by Firestone (1987, p. 16) about qualitative method is that the targeted participants in the research contribute to understanding a social phenomenon for research findings. In addition Bryman and Bell (2011, p. 27) said that quantitative research strategy considering positivism in epistemological position; it involves for acceptable knowledge in the field of study as norm and practices in natural scientific model, whereas objectivity in ontology considering objective reality as social entity exist in reality. Off course qualitative method is most of the time related with inductive approach (Saunders et al., 2009, pp. 124-126). Specifically when it comes to our research we choose a quantitative method to gather our data from the sample and our research approach is conducted with deductive research.

The advantages quantitative research is to reliability, validity and generalizability of our study. Insisted on this, our purpose is to test the perception of the students how the entrepreneurship success influenced by those three major factors, so we do intend to generalize our findings to Umeå university students.

### 3.6. Choice of theoretical sources

To conduct our research we reviewed and used a lot of secondary sources like relevant articles or journals on the topic written by different authors and books as well (Saunders et al., 2012, pp. 82-83). Depending on the chapters the sources of books and journals that referred the thesis are differing. Most of the relevant articles have been used in the theoretical framework as references to well organize the theoretical background and to identify our research gap. On the other hand to construct the methodological part, we used the book so called Business research methods from Bryman and Bell (2011), which was borrowed from the university library.

To find the articles and books that we used for this thesis, we used the university data base search engine via Umeå university library main data base i.e. EBSCO (Business Source Premier) and google scholar search engine. On our search results we found the most relevant academic articles on the specific topics and then simply downloaded all of them except the books. To find high quality articles from the database we have been using the most relevant keywords regarding the topics. Some of the keywords that we used to search the articles are primarily entrepreneurship and success and then entrepreneurship-social capital, entrepreneurship-environment and entrepreneurship-psychology.
The articles that we downloaded contain our research core points. In order to get more primary sources, we looked over the downloaded articles reference list to find out the original article via EBSCO (Business Source Premier) that had very useful information to strengthen our study. Therefore searching and finding a relevant literature is vital for arguing the research topic with valuable articles, even though it is very challenging to find a relevant literature that have not been searched before in details for a new research area or research topics (Saunders et al., 2012, p. 107).

Even if in our thesis topic there was a limitation due to the youthfulness of the field compare to other streams in business administration. Within situation, we were paying attention to find relevant literature considering different dimensions of the literature quality and value. We have been referring also original sources that are investigated in the secondary data to avoided ambiguity and misunderstanding.

3.7. Research Design

It’s a framework for all types business researches to design a research process and dimension like case study, survey, experiment, ethnography, archive research, action research and ground theory (Saunders et al., 2012 p. 173). A similar way used by Bryman and Bell (2011, p. 40) is expressed: research design is seen as outlining how the data should be collected and analysed. Then to go through the next step it is very important to look at all type of research design.

According to Bryman and Bell (2011, p. 54) a research survey is a process that holds data collection predominantly by questionnaire or by structured interviews on more than one case, sometimes it can be more than one, at single point in time in order to collect a body of quantitative data related with two or more variables, which are then examined to detect the associated pattern.

Saunders et al. (2012, p. 177) argued the reason why researchers were choosing a certain type of survey, it is due to the research strategy. In this thesis, a quantitative data collection method is applied. It also applied in our research since in our questionnaires are designed using the question type of “what”, “which”, who”, “where”, “how many” and “which one” to collect the required data (Saunders et al., 2012, p. 176). In addition to this Saunders et al. (2012, p. 177) mentioned other main two reasons why researchers are using a survey method to collect data. Those ones are more effective economically with respect to cost and time. In line with this the second reason is that the quality of collected data is quite very simple to explain and to understand. A survey could be used to design a possible model exposing relationships between variables. In our thesis we want to investigate the student’s perception about the entrepreneurial success, considering three major factors that is social capital, environmental and normative.

On the other hand a surveying method has its own disadvantage, which possibly will bring error or lead the researcher to the wrong result. Bryman and Bell (2011, p. 203) listed where error mainly could be occurred: poor worded questions, the way of asking the questions by the interviewer, misunderstanding from the interviewee’s part, memory problems on the part
of the interviewee, the way of the information is recorded by the interviewer and the way of the information is proceed, either when answers are coded or when data are entered into the computer. Saunders et al. (2012, p. 178) also shared the perspective of Bryman and Bell, saying that clear responses from the respondents is related to the question words. They shouldn’t have to be confusing.

In order to avoid such error we tried to organize the questionnaire in a simple way, using understandable words. Moreover, we sued a formal and polite way of asking questions. Besides this we were trying to give clear information to avoid confusion from the respondents since we were reaching the potential respondents via internet based survey (Cohen et al., 2007, p. 226) using their student email by attaching the link of questionnaire website. To deliver our questionnaire to the targeted respondents we contacted a program’s coordinator to obtain the emails directly from her. The email has been sent to the students with the link of a questionnaire website. The advantage of internet to send our survey is related to money and time considerations: zero cost, easy and fast to reach the potential respondent (Cohen et al., 2007, p. 229). In addition this survey method gives a certain freedom to the respondent to answer freely, with appropriate time to reflect on it, and not biased the survey since they are not contacted directly by the authors (Cohen et al., 2007, p. 230). Another advantage is that reduces the chances of errors while entering the data into an appropriate tool analyser.

For the purpose of data collection survey in our thesis we created Google document tool, it makes easier to reach our potential respondent and for further analysis we summarized all answers for the questionnaires in one table then put it in Excel file. In which it avoid wastage of time to enter data manually and minimized the possible risk entering wrong data.

3.8. Data collection technique

For this thesis, it has been chosen in order to collect data to use a questionnaire. It mainly comports advantages to do so: it is firstly efficient to collect responses from a large sample for a quantitative study (Saunders et al., 2012, p. 417). A questionnaire is defined as a specific techniques used for data collection in which one is asked to answer to different questions, which have been ordered (Saunders et al., 2012 p. 416). In this research, it has been chosen to send the questionnaire directly to the respondents. This type of questionnaire is named a self-completed one; it is filled in by the respondents themselves (Saunders et al., 2012, p. 419). It has been argued that the reliability and validity of a questionnaire resides in having several items/questions for each variables tested (Cohen et al., 2007, p. 209). In this thesis, the different constructs that have been tested are related to environmental, social and psychological fields. The best way to test them, it has been noticed that there was an existing need to find relevant and reliable measures. Such measures consisted of a set of questions for each construct. The measures for the constructs in this study were found after the review of previous research. The measures for different factors were taken from prior researches in the designated field. Based on the agreed measures, the items for the questionnaire were created and designed. The questionnaire consisted in 46 closed questions. Closed questions are questions that are providing a certain number of alternative answers (Saunders et al., 2012, p. 432). Cohen et al. (2007, pp. 321-333) identified specific types of items that can be used in a
questionnaire. The questionnaire was designed using single listed question, evaluation tables, and dichotomous questions. A dichotomous question is a question where one can choose either between “yes/no”. That type of question has been used for demography. Single listed question and evaluation tables are using a specific type of answers: it is a Likert scale. The Likert scale exposes and provides a set of responses for a given question (Cohen et al., 2007, p. 326). A five-point scale was used, where 1 referred to “strongly disagree” and 5 was “strongly agree”. The full questionnaire can be found in the Appendix 1.

The original and current question started with a cover letter, defining the purpose of the study and to assure the respondents of the confidentiality that they will have. Cohen et al., (2007, p. 339) underlined the purpose of the covering letter as “to indicate the aim of the research, to convey to respondents its importance, to assure them of confidentiality and to encourage their replies”. The program used to create and send the questionnaire is called google documents. A tool designed by Google to design questionnaires, easy to use and free.

We didn’t perform a pilot study on some respondents in order to pre-test the questionnaire due to time restrictions. However some few adjustments have been made after the questionnaire was sent to the supervisor and we also waited for the supervisor’s approval. The first objective is to collect primary data. Primary data is gathered for the purposes of the specific research (Saunders et al., 2012, p. 304).

3.9. Sampling

According to Shiu et al. (2009, p. 63) a population in a research process is defined as “a specified group of people or objects for which questions can be asked or observations made to develop required data structures and information”. In line with this Sample defined as taking a selective individuals or groups from the entire population while conducting a research or for a survey (Bryman & Bell, 2011, p. 173). As a represented specific group Umeå Business and Economics School students considered as a population is this research. A representative sample took from all master program students and from a bachelor graduate class students under USBE since it reflect the population accurately with microcosm version (Bryman & Bell, 2011, p. 176).

Time and access the population was the major limitation in this research, it may bring sampling bias; since it will arises “a distortion in the representativeness of the sample when some members of the population stand little or no chance of being selected for inclusion in the sample” (Bryman & Bell, 2011, p. 176). To be ensuring the distribution was made within the representative of the population. For this the sampling was made through acceptable method. Later on, they define Census as a data collection, in which data collected from all representative units of the population instead of a sample. The main restriction in this method is; it is more time and money consuming plus it is very hard to access all units of the population. Hence the process of data collection with census method is very challenging for a researcher (Saunders et al., 2009, p. 210) regarding a limitation of time and restricted access of all student, for this reason the authors this research not choosing this method since it is impractical in this context.
Usually selecting a sample has to two approaches (Shiu et al., 2009, p. 64) which are probability sampling and non-probability sampling. A probability sampling means “a sample that has been selected using a random selection so that each unit in the population has a known chance of being selected” (Bryman & Bell, 2011, p. 176). The possible result that found from this survey will generalized the rest of the population (Shiu et al., 2009, p. 64) since it reduced the possible error in the sample. On the other hand, non-probability sampling means “a sample that has not been selected using a random selection method […] this implies that some units in the population are more likely to be selected than others”(Bryman & Bell, 2011, p. 176).

Convenience method is a simple method that is a sample is “one that is simply available to the researcher by virtue of its accessibility” (Bryman & Bell, 2007, p. 190). Therefore in this research the authors are forced to use this method to collect the data due to the limitation of time and access of the population; despite of it is very challenging to generalize the result from this sample (Bryman & Bell, 2007, p. 190).

The questionnaire was sent through email to the student the one who were available for the research and they were also answered the questionnaire.

3.10. Access to respondent and possible problems

It was not challenging to get access to the respondents since we are also students from Umeå School of Business and Economics at Umeå University and so are the potential respondent from all master students and graduating class of a bachelor student in USBE. By contacting a program coordinator, we had access to the student’s emails in order to send the questionnaire. The authors considered this USBE student as one potential respondent. From the 278 number of total participant, the number of response that we have been collected is 52. Therefore the response rate was achieved at least the minimum.

On the 6 of May, 2014, we sent out the questionnaire for all students those are the possible potential respondents at Umeå University. But the first couple of days we did not got enough respondents as we expected, therefore to get enough responses on 8 of May, 2014, we sent one reminder email, after this relatively we start to getting more responses. The online survey was available for 7 days then closed down on 13 of May, 2014.

Due to technical error in the survey we sent the questionnaires a multiple times. This inconvenient might affect the rate of answers we get. Students might have been annoyed in the first place. Moreover the survey has been online for a week, so time is a limitation to consider. Besides this, other factors may have played a role: i.e. usually some student they did not have a habit to check their student email so they might missed the questionnaire. The length of our questionnaire (46 closed questions originally) is also a limitation in itself, as it could be perceived to be boring to completely fill in the questionnaire.

The other reason might be that respondents were tired of answering surveys; then they might have ignored our questionnaire. Moreover the questionnaire has been sent to last year bachelor students and as they also have to write their thesis, they were not willing to spend
time answering it. But in general the responses rate in this survey was remarkable for further analysis.

3.11 Data analysis

For this thesis two soft wares have been used: Both SPSS (Statistical Package for the Social Sciences) and “R” were used to analyse the results. SPSS is software that allows quantitative data analysis (Bryman & Bell, 2011, p. 719). “R” is an “open source” software that allows quantitative analysis. First, the data from the questionnaire was converted to the Excel file.

After editing it, the data was opened in SPSS software where all the descriptive statistics were done, and “R” was used to conduct further advanced statistics.

3.11.1 Descriptive statistics

Descriptive statistics is a term used in order to describe and expose existing data that has been found. It is not in any case a forecast (Cohen et al., 2007, p. 504). Let’s describe the different notions such as mean, standard deviation, standard error, skewness and kurtosis. Mean is exposed as the average value calculated by adding up the values of each case for a variable and dividing by the total number of cases” (Saunders et al., 2012, p. 674).

The standard deviation is a measure of the range of scores (Cohen et al., 2007, p. 504). In other words it stresses out the variability of data’s values, which means to look at how data values are spread around their mean. If the data values are likely to be close to the mean, it describes a low standard deviation. In contrast, a high standard deviation is that the values are likely to be widely spread over the mean (Saunders et al., 2012, pp. 506-507).

The standard error corresponds simply to the standard deviation of sample means (Cohen et al., 2007, p. 504). The Skewness is a notion used to describe the distance between the data and what is called “a normal curve distribution”, in simple words it permits to describe the asymmetry of the data with a normal distribution (Cohen et al., 2007, p. 504). Finally, the Kurtosis contributes to understand or realize how flat the data could be distributed (Cohen et al., 2007, p. 504).

3.11.2 Inferential statistics

In contrast to descriptive statistics, inferential ones are calculated with the objective of the generalizing the findings to the entire population of interest (Allua & Thompson, 2009 p. 168).

The notion of inferential statistics is used in this thesis in order to give to the reader an insight of the data analysis that has been conducted. Inferential statistics are used in order to underline whether the differences that have been observed between groups are only applying to the sample or are resulted from a concrete differences between the population represented (Allua & Thompson, 2009 p. 168).

In conclusion, inferential statistics are associating the probability theory and the hypothesis testing process.
When it comes to inferential statistics they are classified in two categories: parametric or nonparametric ones. Which are the differences between the parametric and nonparametric statistics?

1) The level of measurement:

Nonparametric statistics are used for variables at nominal and ordinal level (Allua & Thompson, 2009 p. 168). Those are used when the distribution is not normal. Parametric statistics are in contrast used for variables at the interval or ratio level (Allua & Thompson, 2009 p. 168). Those are used when the distribution is normal.

3.11.3 Preliminaries tests

Before proceeding to any further inferential statistics tests, it is needed to fulfil some conditions such as normality and homogeneity, in order to assess the validity of the inferential statistics and to determine precisely which tests are the most appropriated. First of all we will describe what a normal distribution is and which test has been used, then we use the same process for the notion of homogeneity.

Normal distribution and normality test: Shapiro-Wilk Test

We will use the definition below of the normal distribution:

“A continuous random variable X has a normal distribution if its probability density function is bell-shaped, symmetrical about its mean m, and asymptotic to the X or horizontal axis (Fig. 5) In what follows, we shall refer to the normal probability density function as simply the “normal curve.” Asymptotic to the horizontal axis means that the normal curve extends from $-\infty$ to $+\infty$ with its tails gradually approaching, but never touching, the horizontal axis. The normal probability distribution is completely determined once its mean m and standard deviation $\sigma$ are given.” (Panik, 2012, pp. 102-103)

![THE NORMAL DISTRIBUTION](image)

**Figure 5. The Normal curve (Panik, 2012, p. 103)**
In order to assess whether or a continuous variable follows a normal distribution there are several ways both graphically and statistically. If we consider the statistical part: The Shapiro-Wilk test refers to the original work of Shapiro and Wilk (1965). The Shapiro-Wilk test also known as the W statistic test is a not only a well-established test but also one of the most powerful to assess normality (Royston, 1995, p. 547). The statistical test is expressed as hereinafter (Shapiro & Wilk, 1965, p. 593):

\[
W = \frac{R^2 \hat{\sigma}^2}{C^2 S^2} = \frac{b^2}{S^2} = \frac{(a'y)^2}{S^2} = \frac{\left( \sum_{i=1}^{n} a_i y(i) \right)^2}{\sum_{i=1}^{n} (y_i - \bar{y})^2}
\]

Where

\[
R^2 = m'V^{-1}m
\]

\[
C^2 = m'V^{-1}V^{-1}m
\]

and

\[
a' = (a_1, ..., a_n) = \frac{m'V^{-1}}{(m'V^{-1}V^{-1}m)^{1/2}}
\]

\[
b = R^2 \hat{\sigma}/C
\]

For convenience, we have decided not to deepen this formula; however it is necessary to clarify that the Shapiro-Wilk test is used to evaluate whether or not the data that has been collected follows a normal distribution.

**Homogeneity of variance and homoscedastic test: Levene’s test**

What does Homogeneity of variance refers to? In fact homogeneity of variances is also known as “homoscedasticity” which has two meanings according the context:

1) If one considers a single independent variable in what is called a discrimination model, this term would underline the fact that the variances of the variable in a number of samples are equal. In other words, homoscedasticity echoes to the equality of variances of the variable in the different existing groups of a population. (Tuffery, 2011, p. 58)

2) If one considers the case of more than one independent variable, this notion “homoscedasticity” will refer to: “the equality of the covariance matrices of the variables in a number of samples” (Tuffery, 2011, p. 58)
Depending on the nature of the normality distribution (i.e. Gaussian or non-Gaussian) of the data that has been collected, different tests might be used to assess homoscedasticity.

The most reliable way of assessing homoscedasticity is by using the Levene’s test. The Levene’s test is the best option due to its low sensitivity to a non-Gaussian distribution. This test is adapted and can be used to palliate the cons of the Fisher’s Test which is reliable only if the data follow a normal distribution (Tuffery, 2011, p. 58).

Permutation tests also known as randomization tests. It is widely used in nonparametric statistics where a parametric form of the underlying distribution is not specified. In a nonparametric statistic, there is no parameter to be tested. (Butar Butar & Park, 2008, p. 20)
3.11.4 Basic Tree decision tests

If we refer to the basic tree decision by Hervé (2012, p. 95) according to whether the groups that we are testing have a normal distribution, and are homogeneous. Different tests have to be taken into considerations if we want to compare two means.

![Diagram of Basic Tree Decision](image-url)

**Figure 6. Basic tree decision to compare two means (Hervé, 2012, p.95)**
3.12. Ethical issues

Bryman and Bell (2011, p. 122) argued that ethical issues cannot be undermined, since they are directly related to the integrity of a piece of research. Ethical issues are exposed by two questions: “How should we treat the people on whom we conduct research?” And “Are there activities in which we should or should not engage in our relations with them?” Bryman and Bell (2011, p. 122). Again these two question are clearly discussed by Bryman and Bell (2011, pp. 128-134), four main ethical issues emerged i.e. lack of consent, invasion of privacy, deception and harm to participant; which are supposed to be mainly remarked in business research integrity. According to Diener and Crandall (1978, p. 54) invasion of privacy as ethical issue could be done by revealing personal information without the participant acknowledgment and approval. In line with this, one should not harm participants. In business research, harm can be seen as “physical harm, harm to participants development or self-esteem, stress, harm to career prospect and future employment” (Bryman & Bell, 2011, p. 128). In addition the anonymity and confidentiality of participant should be underlined in ethical issues (Bryman & Bell, 2011, p. 130). Similarly, lack of informed consent should be avoided, which means that participants in the research should be clearly informed about the research and purpose (Diener & Crandall, 1978, p. 34). Therefore, based on this four areas of ethical issues will reduce possibility of error in the survey.

All participants were clearly assured that their answers will remain confidential and that they will be anonymous. In addition to this all of them were informed about the purpose of this research at the ground level of the questionnaire and it was up to their willingness to respond to the questionnaire. The sum up of all this effort enhanced the quality of the research.
4. Results

In this section, the results of the questionnaire will be provided and commented. In order to expose the results, it has been decided to use several charts, figures or tables. These findings will be the key points and will therefore serve a basis for discussion.

4.1 Demographics

The questionnaire that has been designed contains demographics questions. These questions have been used in order to provide the specified age, the gender, but also the background of the respondents. In this thesis, the background has been developed in relation with the objective of the thesis, in other words within the survey the background has been considered as either respondents have attended to entrepreneurship courses or not. It was necessary to ask all those questions in order to understand how respondents varied within the sample.

In this thesis, the demographics questions have been placed at the end. One of the demographic questions was about the gender. The results are shown in Figure 7 below.

The question about the gender allows the authors to determine, the proportion of male or female that have answered to the survey. According to our initial sample of 52 respondents, 56 % were Females and 44 % were Males. These percentages showed a slightly higher proportion of female than male.

![Figure 7. Gender’s Repartition](image)

The second question was about the age. It has been asked from the respondents to choose between 5 options: 18-25; 25-30; 30-35; 35-40; 40 and older. The results will be presented in the Figure 8 below. As it can be observed on the pie chart, 67 % of the respondents were in the first category: 18-25. The second most significant category is the 25-30 years with 29 %. Finally the less represented category was 30-35 years with 4 %.

![Figure 8. Age Repartition](image)
Figure 8. Age of respondents

First of all those results are significant since the survey was sent out to mainly students at a bachelor level (Bachelor 4th year) and a master level (Master 1st year & 2nd year). The third demographics question was about the background of the respondents. As previously stated the background has been defined as whether or not the respondents have attended to Entrepreneurship courses. The results are shown in the Figure 9 below. Out of 52 respondents, there are 58% that have a background in Entrepreneurship, and 42% that didn’t.

Figure 9. Entrepreneurship’s background of respondent
4.2 Descriptive statistics

It is necessary to focus on the descriptive statistics. In this thesis the Descriptive statistics that have been performed are the mean, the standard deviation.

<table>
<thead>
<tr>
<th>Regulatory Institutions:</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q6</td>
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<td>Q7</td>
<td>3.61538462</td>
<td>0.79591718</td>
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<td>Q8</td>
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<td>0.99071862</td>
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<tr>
<td>Q11</td>
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<tr>
<td>Q12</td>
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<td>Q16</td>
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<tr>
<td>Q17</td>
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<td>Q18</td>
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<td>Q33</td>
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<td>Q36</td>
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Table 5a. Descriptive Statistics

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<th>Innovativeness:</th>
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<th>Std. Deviation</th>
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<td>Q21</td>
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<td>Q22</td>
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<td>Q26</td>
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</tr>
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<td>Q27</td>
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<table>
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<th>Risk-taking:</th>
<th>Mean</th>
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<td>Q29</td>
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</tr>
<tr>
<td>Q30</td>
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</tr>
<tr>
<td>Q31</td>
<td>3.69230769</td>
<td>0.96076892</td>
</tr>
</tbody>
</table>

Table 5b. Descriptive Statistics

Table 5c. Descriptive Statistics
The table 5a, 5b, 5c are exposing not only the mean but also the standard deviation for the selected questions. One can notice that the regulative institutions had the lowest score approximately 3.13, whereas the highest is held by innovativeness Q21 and social adaptability Q35. The meaning of the mean is to simply expose the average of answers from respondents for the different constructs. The standard deviation provides another explanation, by considering how data values may be spread around the mean (Saunders et al., 2012, pp. 506-507). To provide a clear explanation, if the respondent’s data values are close to the mean it underlines a low standard deviation, and in contradiction the higher the standard deviation the wider data values are spread (Saunders et al., 2012, pp. 506-507). The mean and standard deviation permits to evaluate how spread the answers given are.
5. Analysis

This section will analyse the results of the empirical findings. It will be divided into two parts. Part 1 will expose the analysis made with the descriptive statistics about the perception and importance attributed to the different entrepreneurial success, combined with a ranking of the several factors. Part 2 will exposed the inferential statistics that have been conducted about the perception/importance attributed to the different entrepreneurial success, according to four variables: Gender, Age, and Background and Entrepreneurial culture.

5.1 Descriptive statistics

5.1.1 Perceptions and importance of entrepreneurial success

In the questionnaire, one of the questions is dealing about how entrepreneurial success should be viewed. The results are exposed in different figures that are shown hereinafter.

To the question that has been asked to the respondents (i.e. What is your perception of Entrepreneurial success?), there were three possible outcomes: Financial performance, Operational performance, and Human perspective: Satisfaction. The question was designed in order to propose to the respondents the opportunity to evaluate each of the answers, instead of selecting one. Figure 10 exposes the answer to the question: Entrepreneurial success is Financial Performance. As expected respondents have largely considered that financial performance is the way that entrepreneurial success should be interpreted. In fact, 55.77 % of respondents strongly agree with the fact that financial performance is the entrepreneurial success.

![Figure 10. Perception of Entrepreneurial success as Financial Performance](image)

Figure 10. Perception of Entrepreneurial success as Financial Performance
Figure 10a exposes the answer to the question: Entrepreneurial success is Operational Performance. As expected respondents have largely considered that Operational performance is the way that entrepreneurial success should be interpreted. In fact, 34.62% of respondents strongly agree with the fact that Operational performance is the entrepreneurial success.

Figure 10b exposes the answer to the question: Entrepreneurial success is Human Perspective: Satisfaction. As expected respondents have considered that financial success is the way that entrepreneurial success should be interpreted. In fact, 32.69% of respondents strongly agree with the fact that Satisfaction is the entrepreneurial success.

Figure 10a. Perception of entrepreneurial success as operational performance

Figure 10b Perception of entrepreneurial success as Human perspective: Satisfaction.
N.B The initial question was asked as evaluation table, which means that all participants have evaluated all the three answers proposed to the question. One must recognize the limitation underlying, it is not possible to evaluate if one respondent strongly agree with one item, and how it considered the others due to the non-exclusiveness of the question.

To conclude the perceptions that have been gauged are summarized hereinafter:

if one compare the overall repartition of the answers for every question, considering “Agree” and “Strongly Agree” Entrepreneurial Success would be seen as: 1) Financial Performance 2) Operational Performance and 3) Satisfaction. This overall distribution has been confirmed by the question asked on the importance of each possible causes of entrepreneurial success

![Figure 11. Overall distribution of the perceptions of entrepreneurial success](image)

Figure 11. Overall distribution of the perceptions of entrepreneurial success
5.2 Inferential Statistics

5.2.1 Normality

As we mentioned in the section 3.11.3 that it is necessary to conduct preliminaries tests before using inferential statistics. One the aspect that we have to consider is the Normality aspect. In this thesis we have supposed that the data we have collected were following a theoretical normal distribution. Based on this assumption, we have decided to confront this one with the reality by using the appropriate test: which is the Shapiro Wilk test. The Shapiro-Wilk test also known as the W statistic test is the most powerful to assess normality (Royston, 1995, p. 547).

First of all it is necessary to expose the null hypothesis of this test to understand what we are testing.

The null hypothesis tested with the Shapiro Wilk test is that the sample comes from a normal distribution:

H0= the sample comes from a normal distribution

H1= the samples comes from a non-normal distribution

➢ If p-value of the test lower than the p-value selected, the null hypothesis is rejected, which means that the sample doesn’t come from a normal distribution.

➢ In contrast is the p-value of the test is higher than the p-value selected therefore the null hypothesis is accepted.

➢ The p-value selected called α=0.1

We have tested the normality distribution of the questions regarding the perceptions and the importance of the entrepreneurial success. Which are expressed as below: d$F1, d$OP1, d$ES1, d$F2, d$OP2, d$ES2.

<table>
<thead>
<tr>
<th>Data</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>d$F1</td>
<td>Perception of Entrepreneurial success as Financial performance</td>
</tr>
<tr>
<td>d$OP1</td>
<td>Perception of Entrepreneurial success as Operational performance</td>
</tr>
<tr>
<td>d$ES1</td>
<td>Perception of Entrepreneurial success as Satisfaction</td>
</tr>
<tr>
<td>d$F2</td>
<td>Perception of importance of Entrepreneurial success as Financial performance</td>
</tr>
<tr>
<td>d$OP2</td>
<td>Perception of importance of Entrepreneurial success as Operational performance</td>
</tr>
<tr>
<td>d$ES2</td>
<td>Perception of importance of Entrepreneurial success as Satisfaction</td>
</tr>
</tbody>
</table>

Table 6. Meaning of the data
The results from the table 7 clearly confirmed that the null hypothesis is rejected which means that the data doesn’t come from a normal distribution. The sample we have collected does not follow a Gaussian distribution.

### 5.2.2 Homogeneity

As we mentioned in the section 3.11.3 there are several assumptions that have to be made and verified before doing further statistical tests. In this part, we will focus on the homogeneity assumption. In order to know if the variances are homogeneous, the most reliable way is by using the Levene’s test. The Levene’s test is the best option due to its low sensitivity to a non Gaussian distribution. This test is adapted and can be used to palliate the cons of the Fisher’s Test which is reliable only if the data follow a normal distribution (Tuffery, 2011, p. 58)

First of all it is necessary to expose the null hypothesis concerning the levene test: the null hypothesis for a Levene’s test is that the variances are equal.

\[
H_0 = \sigma_1^2 = \sigma_2^2 = \cdots = \sigma_k^2 \quad \text{(Tuffery, 2011, p. 58)}
\]

\[
H_1 = \sigma_i^2 \neq \sigma_j^2 \text{ for at least one pair (i,j)} \quad \text{(Tuffery, 2011, p. 58)}
\]

In concrete:

- If \( p \text{-value of the test} > p\text{-value selected} \) therefore \( H_0 = \) the variances are equal, they are homogeneous.
- If \( p \text{-value of the test} < p\text{-value selected} \) therefore \( H_1 = \) the variances are not equal, therefore they are not homogeneous

#### The p-value selected called \( \alpha=0.1\)

We used specific notations for this analysis which are expressed below: \( dSF1, dSOP1, dSES1, dSF2, dSOP2, dSES2, \) Gender, Age, BG, and Ecul.

<table>
<thead>
<tr>
<th>Data</th>
<th>Test performed</th>
<th>W</th>
<th>p-value</th>
<th>Null hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>dSF1</td>
<td>Shapiro Wilk test</td>
<td>( W = 0.7161 )</td>
<td>( p\text{-value} = 1.034e-08 )</td>
<td>Rejected</td>
</tr>
<tr>
<td>dSOP1</td>
<td>Shapiro Wilk test</td>
<td>( W = 0.8246 )</td>
<td>( p\text{-value} = 2.37e-06 )</td>
<td>Rejected</td>
</tr>
<tr>
<td>dSES1</td>
<td>Shapiro Wilk test</td>
<td>( W = 0.8537 )</td>
<td>( p\text{-value} = 1.405e-05 )</td>
<td>Rejected</td>
</tr>
<tr>
<td>dSF2</td>
<td>Shapiro Wilk test</td>
<td>( W = 0.81 )</td>
<td>( p\text{-value} = 1.027e-06 )</td>
<td>Rejected</td>
</tr>
<tr>
<td>dSOP2</td>
<td>Shapiro Wilk test</td>
<td>( W = 0.8317 )</td>
<td>( p\text{-value} = 3.589e-06 )</td>
<td>Rejected</td>
</tr>
<tr>
<td>dSES2</td>
<td>Shapiro Wilk test</td>
<td>( W = 0.809 )</td>
<td>( p\text{-value} = 9.722e-07 )</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

Table 7. Shapiro wilk test results
Table 8. Meaning of the overall notations

The objective of the Levene’s test is to assess whether variance are homogeneous or heterogeneous within groups. For this reason the data collected from the survey have been modified in order to create groups.

The variable Gender is composed of two groups: Male and Female

The Variable Age comports two groups: 18 to 25 years old, and 25 +. (in the second group the number 25 is excluded)

The variable BG comports two groups: Yes and No, which corresponds to whether respondents have attended to courses in entrepreneurship.

The variable Ecul comports two groups: the groups have been created by purposively dividing the answers of the respondents to the question 9: the answers from 1 to 3 on a likert scale are composing one group; the answers from 4 to 5 of a likert scale are composing the other group.

The levene’s tests have been performed according to each variable and are exposed in the tables hereinafter:

<table>
<thead>
<tr>
<th></th>
<th>Levene statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
<th>Null hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>d$F1,Gender</td>
<td>0.1383</td>
<td>1</td>
<td>50</td>
<td>0.7115</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$OP1,Gender</td>
<td>0.1804</td>
<td>1</td>
<td>50</td>
<td>0.6728</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$ES1,Gender</td>
<td>4.3889</td>
<td>1</td>
<td>50</td>
<td>0.04126</td>
<td>Rejected</td>
</tr>
<tr>
<td>d$F2,Gender</td>
<td>0.8586</td>
<td>1</td>
<td>50</td>
<td>0.3586</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$OP2,Gender</td>
<td>0.2321</td>
<td>1</td>
<td>50</td>
<td>0.6321</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$ES2,Gender</td>
<td>0.4679</td>
<td>1</td>
<td>50</td>
<td>0.4971</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Table 9. Homogeneity of variances for the Gender variable
Table 9a. Homogeneity of variances for the Age variable

<table>
<thead>
<tr>
<th></th>
<th>Levene statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
<th>Null hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>d$F1$,Age</td>
<td>0.0999</td>
<td>1</td>
<td>50</td>
<td>0.7533</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$OP1$,Age</td>
<td>0.0682</td>
<td>1</td>
<td>50</td>
<td>0.795</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$ES1$,Age</td>
<td>2.4189</td>
<td>1</td>
<td>50</td>
<td>0.1262</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$F2$,Age</td>
<td>1.1252</td>
<td>1</td>
<td>50</td>
<td>0.2939</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$OP2$,Age</td>
<td>1.4165</td>
<td>1</td>
<td>50</td>
<td>0.2396</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$ES2$,Age</td>
<td>0.002</td>
<td>1</td>
<td>50</td>
<td>0.9649</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Table 9b. Homogeneity of variances for the BG variable

<table>
<thead>
<tr>
<th></th>
<th>Levene statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
<th>Null hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>d$F1$,BG</td>
<td>0.0034</td>
<td>1</td>
<td>50</td>
<td>0.954</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$OP1$,BG</td>
<td>0.4317</td>
<td>1</td>
<td>50</td>
<td>0.5142</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$ES1$,BG</td>
<td>1.5881</td>
<td>1</td>
<td>50</td>
<td>0.2134</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$F2$,BG</td>
<td>1.5639</td>
<td>1</td>
<td>50</td>
<td>0.2169</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$OP2$,BG</td>
<td>0.5383</td>
<td>1</td>
<td>50</td>
<td>0.4666</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$ES2$,BG</td>
<td>0.255</td>
<td>1</td>
<td>50</td>
<td>0.6158</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Table 9c. Homogeneity of variances for the Ecul variable

<table>
<thead>
<tr>
<th></th>
<th>Levene statistic</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
<th>Null hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>d$F1$,Ecul</td>
<td>1.6312</td>
<td>1</td>
<td>50</td>
<td>0.2074</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$OP1$,Ecul</td>
<td>2.76</td>
<td>1</td>
<td>50</td>
<td>0.10</td>
<td>Refused</td>
</tr>
<tr>
<td>d$ES1$,Ecul</td>
<td>1.2408</td>
<td>1</td>
<td>50</td>
<td>0.2706</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$F2$,Ecul</td>
<td>0.0723</td>
<td>1</td>
<td>50</td>
<td>0.7892</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$OP2$,Ecul</td>
<td>7.0557</td>
<td>1</td>
<td>50</td>
<td>0.01058</td>
<td>Refused</td>
</tr>
<tr>
<td>d$ES2$,Ecul</td>
<td>0.0147</td>
<td>1</td>
<td>50</td>
<td>0.9039</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Since we have conducted the normality and homogeneity assumptions we are capable of selecting the appropriate tests to compare our groups.

5.2.3 Tests to compare two means

Based on the previous results testing both the normality and the homogeneity of the variances it is therefore possible to select the appropriate tests according to the basic tree decisions to compare two means by Hervé (2012, p. 95)

1) The data is not following a normal distribution

2) The variances are either homogeneous or heterogeneous

Based on these two information the appropriate tests are:

If the variances are homogeneous: Permutational t-Test

If the variances are heterogeneous: Wilcoxon Mann Whitney Test
Permutation tests might also be referred as randomization tests. They are widely used when it comes to nonparametric statistics, because they do not suggest any specified distribution. In a nonparametric statistic, there is no parameter to be tested. (Butar Butar & Park, 2008, p. 20)

In our case as the normality distribution assumption is not verified non parametric tests are the best options.

We will now expose the different null hypotheses for each test, we will begin with the permuational t test

For the Permuational t test:

The null hypothesis stipulates that the true difference in means is equal to zero, which tests to the extent if the difference observed is due to a statistical fluctuation. In contrast the alternative hypothesis H1 stipulates that the true difference in the means is not equal to zero, which means that the difference observed is not due to a statistical fluctuation.

\[ H_0= \text{True difference in the means is equal to zero} \]
\[ H_1= \text{True difference in the means is not equal to zero} \]

For the Mann whitney Wilcoxon test:

The Mann-Whitney U test null hypothesis (H0) stipulates that the two groups come from the same population (Nachar, 2008, p. 14). In other terms, it stipulates that the true difference in the means is equal to zero. In contrast the alternative hypothesis H1, stipulates that the true difference in the means is not equal to zero.

\[ H_0= \text{True difference in the means is equal to zero} \]
\[ H_1= \text{True difference in the means is not equal to zero} \]

For both test the p-value selected \( \alpha = 0.1 \)

We will now expose in tables the different results we obtained.

<table>
<thead>
<tr>
<th>Meaning</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>d$F1</td>
<td>Perception of Entrepreneurial success as Financial performance</td>
</tr>
<tr>
<td>d$OP1</td>
<td>Perception of Entrepreneurial success as Operational performance</td>
</tr>
<tr>
<td>d$ES1</td>
<td>Perception of Entrepreneurial success as Satisfaction</td>
</tr>
<tr>
<td>d$F2</td>
<td>Perception of importance of Entrepreneurial success as Financial</td>
</tr>
<tr>
<td>d$OP2</td>
<td>perception of importance of Entrepreneurial success as Operational</td>
</tr>
<tr>
<td>d$ES2</td>
<td>Perception of importance of Entrepreneurial</td>
</tr>
</tbody>
</table>
success as Satisfaction

| Gender | Corresponds to the variable gender |
| Age   | Corresponds to the variable age   |
| BG    | Corresponds to the variable Background, if the respondents have attended to entrepreneurship courses before |
| Ecul  | Corresponds to the variable Entrepreneurial culture, how the respondents answered to the question 9 of the questionnaire |

Table 6. Meaning of the data

First of all we will expose the results obtained for Gender, the Age, the Background and the Entrepreneurial culture.

We have decided to compare the variable gender with the several factors called $dF1$, $dOP1$, $dES1$, $dF2$, $dOP2$, $dES2$. It is necessary to expose which tests have been used:

<table>
<thead>
<tr>
<th>Comparisons</th>
<th>Normality assumption</th>
<th>Homogeneity of variances assumption</th>
<th>Tests appropriated</th>
</tr>
</thead>
<tbody>
<tr>
<td>$dF1$ by $dGender$</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
<tr>
<td>$dOP1$ by $dGender$</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
<tr>
<td>$dES1$ by $dGender$</td>
<td>Rejected</td>
<td>Rejected</td>
<td>Wilcoxon Mann Whitney test</td>
</tr>
<tr>
<td>$dF2$ by $dGender$</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
<tr>
<td>$dOP2$ by $dGender$</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
<tr>
<td>$dES2$ by $dGender$</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
</tbody>
</table>

Table 10. Tests appropriated for the Gender variable

As a brief example to describe this table, if we want to compare the female and male populations which is referred as $dGender$ with the factor $dF1$, we have previously found that the data was not following a normal distribution so the normality assumption is rejected, plus the homogeneity of variances is either accepted or rejected according to what we are comparing. However in our example, $dF1$ by $dGender$, the appropriate test is a permutational two sample t test. This decision has been made based on the basic decisions tree by Hervé (2012, p. 95)

For each test we will expose the necessaries information in order to either verify or reject the null hypothesis of the test conducted. We have decided to group tests that are the same in one table for each variable.

We have decided to provide the means and standard deviations for all test we have conducted in order to have an insight of the repartition of the data in order to comment it.
### Table 10 a. Means and standard deviations for the variable Gender with all factors

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>d$F1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>23</td>
<td>4.347826</td>
<td>0.831685</td>
</tr>
<tr>
<td>Female</td>
<td>29</td>
<td>4.241379</td>
<td>1.154345</td>
</tr>
<tr>
<td>d$OP1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>23</td>
<td>4.086957</td>
<td>0.733178</td>
</tr>
<tr>
<td>Female</td>
<td>29</td>
<td>4.172414</td>
<td>0.80485</td>
</tr>
<tr>
<td>d$ES1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>23</td>
<td>3.608696</td>
<td>1.15755</td>
</tr>
<tr>
<td>Female</td>
<td>29</td>
<td>4.172414</td>
<td>0.80485</td>
</tr>
<tr>
<td>d$F2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>23</td>
<td>4.130435</td>
<td>0.919701</td>
</tr>
<tr>
<td>Female</td>
<td>29</td>
<td>4.172414</td>
<td>0.848064</td>
</tr>
<tr>
<td>d$OP2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>23</td>
<td>4.043478</td>
<td>0.705708</td>
</tr>
<tr>
<td>Female</td>
<td>29</td>
<td>4.068966</td>
<td>0.798706</td>
</tr>
<tr>
<td>d$ES2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>23</td>
<td>3.869565</td>
<td>0.967863</td>
</tr>
<tr>
<td>Female</td>
<td>29</td>
<td>4.310345</td>
<td>0.849514</td>
</tr>
</tbody>
</table>

### Table 10 b. Tests performed to compare two means with the Gender variable

Permutational Two Sample t-test

<table>
<thead>
<tr>
<th>Tests</th>
<th>t</th>
<th>p-value</th>
<th>Null hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>d$F1 by d$Gender</td>
<td>0.3719</td>
<td>0.771</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$OP1 by d$Gender</td>
<td>-0.3954</td>
<td>0.715</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$F2 by d$Gender</td>
<td>-0.1708</td>
<td>0.879</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$OP2 by d$Gender</td>
<td>-0.1202</td>
<td>1</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$ES2 by d$Gender</td>
<td>-1.7472</td>
<td>0.10</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

Wilcoxon Mann Whitney test

<table>
<thead>
<tr>
<th>Tests</th>
<th>W</th>
<th>p-value</th>
<th>Null hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>d$ES1 by d$Gender</td>
<td>236.5</td>
<td>0.06105</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

### Table 10 c. Tests performed to compare two means with the Gender variable

We are testing H0, which is testing whether or not the true difference in means is equal to zero. In others words we want to know if the difference observed is significant or not, in order to know if the difference observed is due to any statistical fluctuation or not. The predefined p-value called \( \alpha \), is the p-value set to either verify or reject the null hypothesis H0. For example, if we consider in table 10 b, the test effectuated “d$F1 by d$Gender”, we can see that the p-value of the test is 0.771. As the p-value of the test is superior to the p-value predefined \( \alpha \), we can accept the null hypothesis, meaning for this case that there is a probability of 77.1% that the difference observed in the means is due to chance and therefore to a statistical fluctuation. To be concrete, it means that if one considers the Gender variable when testing the perception of entrepreneurial success as financial performance, there are no real differences of perceptions between the males and the females.

If we consider in table 10 b, the test effectuated “d$OP1 by d$Gender”, we can see that the p-value of the test is 0.715. As the p-value of the test is superior to the p-value predefined \( \alpha \), we
can accept the null hypothesis, meaning for this case that there is a probability of 71.5\% that the difference observed in the means is due to chance and therefore to a statistical fluctuation. To be concrete, it means that if one considers the Gender variable when testing the perception of entrepreneurial success as operational performance, there are no real differences of perceptions between the males and the females.

If we consider in table 10 c, the test effectuated “d$ES1 by d$Gender”, we can see that the p-value of the test is 0.06105. As the p-value of the test is inferior to the p-value predefined \(\alpha\), we can reject the null hypothesis, meaning for this case that there is a probability of 6.105\% that the difference observed in the means is not due to chance and therefore not to a statistical fluctuation. To be concrete, it means that if one considers the Gender variable when testing the perception of entrepreneurial success as satisfaction, there are real differences of perceptions between the males and the females. Males and females do not perceive the perception of entrepreneurial success as satisfaction, the same way.

If we consider in table 10 b, the test effectuated “d$F2 by d$Gender”, we can see that the p-value of the test is 0.879. As the p-value of the test is superior to the p-value predefined \(\alpha\), we can accept the null hypothesis, meaning for this case that there is a probability of 87.9\% that the difference observed in the means is due to chance and therefore to a statistical fluctuation. To be concrete, it means that if one considers the Gender variable when testing the perception of importance of entrepreneurial success as Financial performance, there are no real differences of perceptions between the males and the females.

If we consider in table 10 b, the test effectuated “d$OP2 by d$Gender”, we can see that the p-value of the test is 1. As the p-value of the test is superior to the p-value predefined \(\alpha\), we can accept the null hypothesis, meaning for this case that there is a probability of 100\% that the difference observed in the means is due to chance and therefore to a statistical fluctuation. To be concrete, it means that if one considers the Gender variable when testing the perception of importance of entrepreneurial success as operational performance, there are no real differences of perceptions between the males and the females.

If we consider in table 10 b, the test effectuated “d$ES2 by d$Gender”, we can see that the p-value of the test is 0.10. As the p-value of the test is inferior to the p-value predefined \(\alpha\), we can accept the null hypothesis, meaning for this case that there is a probability of 10\% that the difference observed in the means is not due to chance and therefore not to a statistical fluctuation. To be concrete, it means that if one considers the Gender variable when testing the perception of importance of entrepreneurial success as satisfaction, there are real differences of perceptions between the males and the females. Males and females have a different way of perceiving the entrepreneurial success as satisfaction.
We have decided to compare the variable Age with the several factors called $dF1$, $dOP1$, $dES1$, $dF2$, $dOP2$, $dES2$. It is necessary to expose which tests have been used:

<table>
<thead>
<tr>
<th>Comparisons</th>
<th>Normality assumption</th>
<th>Homogeneity of variances assumption</th>
<th>Tests appropriated</th>
</tr>
</thead>
<tbody>
<tr>
<td>$dF1$ by $dAge$</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
<tr>
<td>$dOP1$ by $dAge$</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
<tr>
<td>$dES1$ by $dAge$</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
<tr>
<td>$dF2$ by $dAge$</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
<tr>
<td>$dOP2$ by $dAge$</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
<tr>
<td>$dES2$ by $dAge$</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
</tbody>
</table>

Table 11. Tests appropriated for the Age variable

As a brief example to describe this table, if we want to compare the respondents according their age by creating two populations (18 to 25 years old, and 25 +) which is referred as $dAge$ with the factor $dF1$, we have previously found that the data was not following a normal distribution so the normality assumption is rejected, plus the homogeneity of variances is either accepted or rejected according to what we are comparing. However in our example, $dF1$ by $dAge$, the appropriate test is a permutational two sample t test. This decision has been made based on the basic decisions tree by Hervé (2012, p. 95). For each test we will expose the necessaries information in order to either verify or reject the null hypothesis of the test conducted. We have decided to group tests that are the same in one table for each variable. We have decided to provide the means and standard deviations for all test.

<table>
<thead>
<tr>
<th>$dF1$</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>35</td>
<td>4.257143</td>
<td>1.038745</td>
</tr>
<tr>
<td>25+</td>
<td>17</td>
<td>4.352941</td>
<td>0.996317</td>
</tr>
<tr>
<td>$dOP1$</td>
<td>N</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>18-25</td>
<td>35</td>
<td>4.171429</td>
<td>0.746983</td>
</tr>
<tr>
<td>25+</td>
<td>17</td>
<td>4.058824</td>
<td>0.826936</td>
</tr>
<tr>
<td>$dES1$</td>
<td>N</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>18-25</td>
<td>35</td>
<td>4.114286</td>
<td>0.866753</td>
</tr>
<tr>
<td>25+</td>
<td>17</td>
<td>3.529412</td>
<td>1.178858</td>
</tr>
<tr>
<td>$dF2$</td>
<td>N</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>18-25</td>
<td>35</td>
<td>4.057143</td>
<td>0.68354</td>
</tr>
<tr>
<td>25+</td>
<td>17</td>
<td>4.058824</td>
<td>0.899346</td>
</tr>
<tr>
<td>$dOP2$</td>
<td>N</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>18-25</td>
<td>35</td>
<td>4.058824</td>
<td>0.899346</td>
</tr>
<tr>
<td>25+</td>
<td>17</td>
<td>4.058824</td>
<td>0.899346</td>
</tr>
</tbody>
</table>

Table 11 a. Means and standard deviations for the variable Age with all factors
We are testing H0, which is testing whether or not the true difference in means is equal to zero. In others words we want to know if the difference observed is significant or not, in order to know if the difference observed is due to any statistical fluctuation or not. The predefined p-value called \( \alpha \), is the p-value set to either verify or reject the null hypothesis H0. For example, if we consider in table 11 b, the test effectuated “d$F1 by d$Age”, we can see that the p-value of the test is 0.779. As the p-value of the test is superior to the p-value predefined \( \alpha \), we can accept the null hypothesis, meaning for this case that there is a probability of 77.9% that the difference observed in the means is due to chance and therefore to a statistical fluctuation. To be concrete, it means that if one considers the Age variable when testing the perception of entrepreneurial success as financial performance, there are no real differences of perceptions between the two populations (from 18 to 25 years old, from 25 and plus)

N.B. in the first interval of the populations, 25 years old is included; in the second interval it is excluded.

If we consider in table 11 b, the test effectuated “d$OP1 by d$Age”, we can see that the p-value of the test is 0.703. As the p-value of the test is superior to the p-value predefined \( \alpha \), we can accept the null hypothesis, meaning for this case that there is a probability of 70.3% that the difference observed in the means is due to chance and therefore to a statistical fluctuation. To be concrete, it means that if one considers the Age variable when testing the perception of entrepreneurial success as operational performance, there are no real differences of perceptions between the two populations (from 18 to 25 years old, from 25 and plus).

If we consider in table 11 b, the test effectuated “d$ES1 by d$Age”, we can see that the p-value of the test is 0.063. As the p-value of the test is inferior to the p-value predefined \( \alpha \), we can reject the null hypothesis, meaning for this case that there is a probability of 6.3% that the difference observed in the means is not due to chance and therefore not to a statistical fluctuation. To be concrete, it means that if one considers the Age variable when testing the perception of entrepreneurial success as satisfaction, there are real differences of perceptions between the two populations (from 18 to 25 years old, from 25 and plus). People included in the interval 18 to 25 years old do not have the same perception of entrepreneurial success as satisfaction, that the people included in the interval 25 years old and plus.

### Table 11 b. Tests performed to compare two means with the Age variable

<table>
<thead>
<tr>
<th>Tests</th>
<th>t</th>
<th>p-value</th>
<th>Null hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>d$F1 by d$Age</td>
<td>-0.316</td>
<td>0.779</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$OP1 by d$Age</td>
<td>0.4925</td>
<td>0.703</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$ES1 by d$Age</td>
<td>2.0239</td>
<td>0.063</td>
<td>Rejected</td>
</tr>
<tr>
<td>d$F2 by d$Age</td>
<td>0.5439</td>
<td>0.62</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$OP2 by d$Age</td>
<td>-0.0075</td>
<td>1</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$ES2 by d$Age</td>
<td>0.3057</td>
<td>0.874</td>
<td>Accepted</td>
</tr>
</tbody>
</table>
If we consider in table 11 b, the test effectuated “d$F2 by d$Age”, we can see that the p-value of the test is 0.62. As the p-value of the test is superior to the p-value predefined \( \alpha \), we can accept the null hypothesis, meaning for this case that there is a probability of 62% that the difference observed in the means is due to chance and therefore to a statistical fluctuation. To be concrete, it means that if one considers the Age variable when testing the perception of importance of entrepreneurial success as financial performance, there are no real differences of perceptions between the two populations (from 18 to 25 years old, from 25 and plus).

If we consider in table 11 b, the test effectuated “d$OP2 by d$Age”, we can see that the p-value of the test is 1. As the p-value of the test is superior to the p-value predefined \( \alpha \), we can accept the null hypothesis, meaning for this case that there is a probability of 100% that the difference observed in the means is due to chance and therefore to a statistical fluctuation. To be concrete, it means that if one considers the Age variable when testing the perception of importance of entrepreneurial success as operational performance, there are no real differences of perceptions between the two populations (from 18 to 25 years old, from 25 and plus).

If we consider in table 11 b, the test effectuated “d$ES2 by d$Age”, we can see that the p-value of the test is 0.874. As the p-value of the test is superior to the p-value predefined \( \alpha \), we can accept the null hypothesis, meaning for this case that there is a probability of 87.4% that the difference observed in the means is due to chance and therefore to a statistical fluctuation. To be concrete, it means that if one considers the Age variable when testing the perception of importance of entrepreneurial success as satisfaction, there are no real differences of perceptions between the two populations (from 18 to 25 years old, from 25 and plus).

We have decided to compare the variable BG (background) with the several factors called d$F1, d$OP1, d$ES1, d$F2, d$OP2, d$ES2. It is necessary to expose which tests have been used:

<table>
<thead>
<tr>
<th>Comparisons</th>
<th>Normality assumption</th>
<th>Homogeneity of variances assumption</th>
<th>Tests appropriated</th>
</tr>
</thead>
<tbody>
<tr>
<td>d$F1 by d$BG</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
<tr>
<td>d$OP1 by d$BG</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
<tr>
<td>d$ES1 by d$BG</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
<tr>
<td>d$F2 by d$BG</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
<tr>
<td>d$OP2 by d$BG</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
<tr>
<td>d$ES2 by d$BG</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
</tbody>
</table>

Table 12. Tests appropriated for the Background variable

51
As a brief example to describe this table, if we want to compare the background of the populations which is referred as d$BG (corresponds to whether or not the respondents attended to entrepreneurship courses) with the factor d$F1, we have previously found that the data was not following a normal distribution so the normality assumption is rejected, plus the homogeneity of variances is either accepted or rejected according to what we are comparing. However in our example, d$F1 by d$BG, the appropriate test is a permutational two sample t test. This decision has been made based on the basic decisions tree by Hervé (2012, p. 95)

For each test we will expose the necessaries information in order to either verify or reject the null hypothesis of the test conducted. We have decided to group tests that are the same in one table for each variable.

<table>
<thead>
<tr>
<th>d$F1</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>22</td>
<td>4.227273</td>
<td>0.869144</td>
</tr>
<tr>
<td>Yes</td>
<td>30</td>
<td>4.333333</td>
<td>1.124441</td>
</tr>
</tbody>
</table>

### Table 12 b. Tests performed to compare two means with the BG (background) variable

<table>
<thead>
<tr>
<th>Tests</th>
<th>t</th>
<th>p-value</th>
<th>Null hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>d$F1 by d$BG</td>
<td>-0.3686</td>
<td>0.776</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$OP1 by d$BG</td>
<td>0.0139</td>
<td>1</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$ES1 by d$BG</td>
<td>-0.3615</td>
<td>0.697</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$F2 by d$BG</td>
<td>-0.7646</td>
<td>0.477</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$OP2 by d$BG</td>
<td>0.2703</td>
<td>0.871</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$ES2 by d$BG</td>
<td>-0.1624</td>
<td>0.895</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Table 12 a. Means and standard deviations for the variable BG (background) with all factors.
If we consider in table 12 b, the test effectuated “d$OP1 by d$BG”, we can see that the p-value of the test is 0.697. As the p-value of the test is superior to the p-value predefined $\alpha$, we can accept the null hypothesis, meaning for this case that there is a probability of 69.7 % that the difference observed in the means is due to chance and therefore to a statistical fluctuation. To be concrete, it means that if one considers the BG (Background) variable when testing the perception of entrepreneurial success as satisfaction, there are no real differences of perceptions between the ones who attended and did not attend to entrepreneurship courses, while testing the perception of entrepreneurial success as operational performance.

If we consider in table 12 b, the test effectuated “d$F2 by d$BG”, we can see that the p-value of the test is 0.477. As the p-value of the test is superior to the p-value predefined $\alpha$, we can accept the null hypothesis, meaning for this case that there is a probability of 47.7 % that the difference observed in the means is due to chance and therefore to a statistical fluctuation. To be concrete, it means that if one considers the BG (Background) variable when testing the perception of importance of entrepreneurial success as financial performance, there are no real differences of perceptions between the two populations. There is no difference of perceptions between the ones who attended and did not attend to entrepreneurship courses, while testing the perception of entrepreneurial success as operational performance.

If we consider in table 12 b, the test effectuated “d$OP2 by d$BG”, we can see that the p-value of the test is 0.871. As the p-value of the test is superior to the p-value predefined $\alpha$, we can accept the null hypothesis, meaning for this case that there is a probability of 87.1 % that the difference observed in the means is due to chance and therefore to a statistical fluctuation. To be concrete, it means that if one considers the BG (Background) variable when testing the perception of importance of entrepreneurial success as operational performance, there are no real differences of perceptions between the two populations. There is no difference of perceptions between the ones who attended and did not attend to entrepreneurship courses, while testing the perception of entrepreneurial success as operational performance.
perceptions between the ones who attended and did not attend to entrepreneurship courses, while testing the perception of importance entrepreneurial success as operational performance.

If we consider in table 12 b, the test effectuated “d$ES2 by d$BG”, we can see that the p-value of the test is 0.895. As the p-value of the test is superior to the p-value predefined α, we can accept the null hypothesis, meaning for this case that there is a probability of 89.5% that the difference observed in the means is due to chance and therefore to a statistical fluctuation. To be concrete, it means that if one considers the BG (Background) variable when testing the perception of importance of entrepreneurial success as satisfaction, there are no real differences of perceptions between the two populations. There is no difference of perceptions between the ones who attended and did not attend to entrepreneurship courses, while testing the perception of importance entrepreneurial success satisfaction.

We have decided to compare the variable Ecul (Entrepreneurial culture) with the several factors called d$F1, d$OP1, d$ES1, d$F2, d$OP2, d$ES2. It is necessary to expose which tests have been used:

<table>
<thead>
<tr>
<th>Comparisons</th>
<th>Normality assumption</th>
<th>Homogeneity of variances assumption</th>
<th>Tests appropriated</th>
</tr>
</thead>
<tbody>
<tr>
<td>d$F1 by d$Ecul</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
<tr>
<td>d$OP1 by d$Ecul</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
<tr>
<td>d$ES1 by d$Ecul</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
<tr>
<td>d$F2 by d$Ecul</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
<tr>
<td>d$OP2 by d$Ecul</td>
<td>Rejected</td>
<td>Rejected</td>
<td>Wilcowon Mann Whitney test</td>
</tr>
<tr>
<td>d$ES2 by d$Ecul</td>
<td>Rejected</td>
<td>Accepted</td>
<td>Permutational Two Sample t-test</td>
</tr>
</tbody>
</table>

Table 13. Tests appropriated for the Entrepreneurial culture variable

As a brief example to describe this table, if we want to compare the background of the populations which is referred as d$Ecul (corresponds to whether or not the respondents considered entrepreneurship as a culture) with the factor d$F1, we have previously found that the data was not following a normal distribution so the normality assumption is rejected, plus the homogeneity of variances is either accepted or rejected according to what we are comparing. However in our example, d$F1 by d$Ecul, the appropriate test is a permutational two sample t test. This decision has been made based on the basic decisions tree by Hervé (2012, p. 95)

For each test we will expose the necessary information in order to either verify or reject the null hypothesis of the test conducted. We have decided to group tests that are the same in one table for each variable.
Table 13 a. Means and standard deviations for the variable Ecul (entrepreneurial culture) with all factors

<table>
<thead>
<tr>
<th>Tests</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>d$F1 by d$Ecul</td>
<td>13</td>
<td>3.846154</td>
<td>1.214232</td>
</tr>
<tr>
<td>d$OP1 by d$Ecul</td>
<td>13</td>
<td>3.846154</td>
<td>0.987096</td>
</tr>
<tr>
<td>d$ES1 by d$Ecul</td>
<td>13</td>
<td>4.230769</td>
<td>0.667341</td>
</tr>
<tr>
<td>d$F2 by d$Ecul</td>
<td>13</td>
<td>4.153846</td>
<td>0.844127</td>
</tr>
</tbody>
</table>

Table 13 b. Tests performed to compare two means with the Ecul (entrepreneurial culture) variable

<table>
<thead>
<tr>
<th>Tests</th>
<th>t</th>
<th>p-value</th>
<th>Null hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>d$F1 by d$Ecul</td>
<td>-1.8548</td>
<td>0.076</td>
<td>Rejected</td>
</tr>
<tr>
<td>d$OP1 by d$Ecul</td>
<td>-1.5875</td>
<td>0.165</td>
<td>Accepted</td>
</tr>
<tr>
<td>d$ES1 by d$Ecul</td>
<td>-3.0943</td>
<td>0.005</td>
<td>Rejected</td>
</tr>
<tr>
<td>d$F2 by d$Ecul</td>
<td>-2.2942</td>
<td>0.038</td>
<td>Rejected</td>
</tr>
<tr>
<td>d$ES2 by d$Ecul</td>
<td>-1.587</td>
<td>0.163</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Table 13 c. Tests performed to compare two means with the Ecul (entrepreneurial culture) variable

<table>
<thead>
<tr>
<th>Tests</th>
<th>W</th>
<th>p-value</th>
<th>Null hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>d$OP2 by d$Ecul</td>
<td>234.5</td>
<td>0.6705</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

We are testing H0, which is testing whether or not the true difference in means is equal to zero. In others words we want to know if the difference observed is significant or not, in order to know if the difference observed is due to any statistical fluctuation or not. The predefined p-value called $\alpha$, is the p-value set to either verify or reject the null hypothesis H0. For instance, if we consider in table 13 b, the test effectuated “d$F1 by d$Ecul”, we can see that the p-value of the test is 0.076. As the p-value of the test is inferior to the p-value predefined $\alpha$, we can accept the null hypothesis, meaning for this case that there is a probability of 7.6 % that the difference observed in the means is not due to chance and therefore not to a statistical fluctuation. To be concrete, it means that if one considers the Ecul (corresponding to whether or not the respondents considered entrepreneurship as a culture) variable when testing the
perception of entrepreneurial success as financial performance, there are a real differences of perceptions between the two populations. There is a difference of perceptions between the ones who considered and did not consider entrepreneurship as a culture, while testing the perception of entrepreneurial success as financial performance.

If we consider in table 13 b, the test effectuated “d$OP1 by d$Ecul”, we can see that the p-value of the test is 0.165. As the p-value of the test is superior to the p-value predefined α, we can accept the null hypothesis, meaning for this case that there is a probability of 16.5% that the difference observed in the means is due to chance and therefore to a statistical fluctuation. To be concrete, it means that if one considers the Ecul (corresponding to whether or not the respondents considered entrepreneurship as a culture) variable when testing the perception of entrepreneurial success as operational performance, there are no real differences of perceptions between the two populations. There is no difference of perceptions between the ones who considered and did not consider entrepreneurship as a culture, while testing the perception of entrepreneurial success as operational performance.

If we consider in table 13 b, the test effectuated “d$ES1 by d$Ecul”, we can see that the p-value of the test is 0.005. As the p-value of the test is inferior to the p-value predefined α, we can accept the null hypothesis, meaning for this case that there is a probability of 0.5% that the difference observed in the means is not due to chance and therefore not to a statistical fluctuation. To be concrete, it means that if one considers the Ecul (corresponding to whether or not the respondents considered entrepreneurship as a culture) variable when testing the perception of entrepreneurial success as satisfaction, there are real differences of perceptions between the two populations. There is a difference of perceptions between the ones who considered and did not consider entrepreneurship as a culture, while testing the perception of entrepreneurial success as satisfaction.

If we consider in table 13 b, the test effectuated “d$F2 by d$Ecul”, we can see that the p-value of the test is 0.038. As the p-value of the test is inferior to the p-value predefined α, we can accept the null hypothesis, meaning for this case that there is a probability of 3.8% that the difference observed in the means is not due to chance and therefore not to a statistical fluctuation. To be concrete, it means that if one considers the Ecul (corresponding to whether or not the respondents considered entrepreneurship as a culture) variable when testing the perception of importance of entrepreneurial success as financial performance, there are real differences of perceptions between the two populations. There is a difference of perceptions between the ones who considered and did not consider entrepreneurship as a culture, while testing the perception of importance of entrepreneurial success as financial performance.

If we consider in table 13 c, the test effectuated “d$OP2 by d$Ecul”, we can see that the p-value of the test is 0.6705. As the p-value of the test is superior to the p-value predefined α, we can accept the null hypothesis, meaning for this case that there is a probability of 67.05% that the difference observed in the means is due to chance and therefore to a statistical fluctuation. To be concrete, it means that if one considers the Ecul (corresponding to whether or not the respondents considered entrepreneurship as a culture) variable when testing the perception of importance of entrepreneurial success as operational performance, there are no
real differences of perceptions between the two populations. There is no difference of perceptions between the ones who considered and did not consider entrepreneurship as a culture, while testing the perception of importance of entrepreneurial success as operational performance.

If we consider in table 13 b, the test effectuated “d$ES2 by d$Ecul”, we can see that the p-value of the test is 0.163. As the p-value of the test is superior to the p-value predefined α, we can accept the null hypothesis, meaning for this case that there is a probability of 16.3% that the difference observed in the means is due to chance and therefore to a statistical fluctuation. To be concrete, it means that if one considers the Ecul (corresponding to whether or not the respondents considered entrepreneurship as a culture) variable when testing the perception of importance of entrepreneurial success as satisfaction, there are no real differences of perceptions between the two populations. There is no difference of perceptions between the ones who considered and did not consider entrepreneurship as a culture, while testing the perception of importance of entrepreneurial success as satisfaction.

6. Discussion

In this section will be held the discussion about the results.

6.1 Perception of entrepreneurial success discussion

The previous analysis allows assessing the proposed conceptual model of this thesis. In this thesis it has been decided to test a conceptual model of entrepreneurial success (which is defined as financial performance, operational performance and finally thanks to satisfaction) on the students at Umea University. As mentioned in our questionnaire, the first question that has been addressed was: What is your perception of entrepreneurial success? With three potential answers: Financial performance, Operational performance, Entrepreneur’s satisfaction.

To this question, and if we consider globally what the respondents have expressed, the student’s perception of entrepreneurial success is ranked as hereinafter:

1) Financial Performance
2) Operational performance
3) Satisfaction

What we understand from this answer, is that student’s at Umea University consider the financial performance is the best dimension defining entrepreneurial success with an approximately 56% of “strongly agree”. Operational performance obtained 35% of strongly agree and entrepreneur’s satisfaction 33%. This general distribution has been confirmed by the assessment of the student’s perceptions of importance of entrepreneurial success. In other words which out of the three dimensions they value the most.

What could explain this overall repartition of perceptions of entrepreneurial success?
We argue that this repartition is legitimately linked to way success has been measured over the years, as mentioned by Pérez and Canino (2009, p. 996) three techniques have been used and generally the objective approach which consists of assessing success in terms of financial performance is widely used in the literature. Moreover these results coincide with the importance of entrepreneurs perceptions of success, mentioned by Pérez and Canino (2009, p. 1000). They identified among the questionnaires sent to entrepreneurs that entrepreneurs are likely to propose the “financial perspective” (ranked first with 39.5 %) as the tool to measure their entrepreneurial success. Secondly in the same study, entrepreneurs identified the “customer perspective” (ranked second with 26.5 %) which could support the operational performance perspective, in the sense that customer perspective must be understood as customer satisfaction, and that this satisfaction might be caused by some aspects of the operational performance mentioned by Venkatraman & Ramanujan, (1986, p. 804): “product quality and manufacturing value-added”. Moreover in this study, Pérez and Canino (2009, p. 1000) have identified “the human capital perspective” is the category where entrepreneur’s satisfaction is compiled. We argue that globally students at Umeå University, have the same way of ranking entrepreneurial success as the entrepreneurs. In other words, we make the assumption that both the way how the success has been studied and the entrepreneur’s perceptions of entrepreneurial success, might have conditioned consciously or not their perceptions.

In this part we will addressed the results of our thesis. The table below is summarizing these results:

<table>
<thead>
<tr>
<th>Tests</th>
<th>Null hypothesis</th>
<th>Tests</th>
<th>Null hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>dSF1 by dGender</td>
<td>Accepted</td>
<td>d$F1 by d$BG</td>
<td>Accepted</td>
</tr>
<tr>
<td>dSOP1 by dGender</td>
<td>Accepted</td>
<td>dSOP1 by d$BG</td>
<td>Accepted</td>
</tr>
<tr>
<td>dSF2 by dGender</td>
<td>Accepted</td>
<td>dSES1 by d$BG</td>
<td>Accepted</td>
</tr>
<tr>
<td>dSOP2 by dGender</td>
<td>Accepted</td>
<td>dSF2 by d$BG</td>
<td>Accepted</td>
</tr>
<tr>
<td>dSES2 by dGender</td>
<td>Rejected</td>
<td>dSOP2 by d$BG</td>
<td>Accepted</td>
</tr>
<tr>
<td>dSES1 by dGender</td>
<td>Rejected</td>
<td>dSES2 by d$BG</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tests</th>
<th>Null hypothesis</th>
<th>Tests</th>
<th>Null hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>dSF1 by dAge</td>
<td>Accepted</td>
<td>d$F1 by d$Ecul</td>
<td>Rejected</td>
</tr>
<tr>
<td>dSOP1 by dAge</td>
<td>Accepted</td>
<td>dSOP1 by d$Ecul</td>
<td>Accepted</td>
</tr>
<tr>
<td>dSES1 by dAge</td>
<td>Rejected</td>
<td>dSES1 by d$Ecul</td>
<td>Rejected</td>
</tr>
<tr>
<td>dSF2 by dAge</td>
<td>Accepted</td>
<td>dSF2 by d$Ecul</td>
<td>Rejected</td>
</tr>
<tr>
<td>dSOP2 by dAge</td>
<td>Accepted</td>
<td>dSES2 by d$Ecul</td>
<td>Accepted</td>
</tr>
<tr>
<td>dSES2 by dAge</td>
<td>Accepted</td>
<td>dSOP2 by d$Ecul</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Table 14. Summary of the results obtained

First of all, it is necessary to mention that the tests that have been conducted only attest whether there is a difference or not, which means that they do not provide the reasons why there is a difference.
6.2 Gender discussion

The test d$F1 by d$Gender does not attest of a difference of perceptions between males and females, which means that males and females perceive entrepreneurial success as financial performance in the same way. The test d$OP1 by d$Gender does not attest of any differences of perceptions between males and females. However, the test d$ES1 by d$Gender is attesting of a difference of perceptions between males and females. Do males and females perceive entrepreneurial success as satisfaction? The answer is no, they have a divergence of perceptions. Noticing that there is a difference does not explain why there is a difference.

Based on our results we have figured out that when we ask males about their perception of entrepreneurial success as satisfaction the mean of their answers is 3.60, whereas the mean of the females is 4.17. We can therefore argue that the females are most likely to perceive satisfaction as entrepreneurial success rather than the males.

<table>
<thead>
<tr>
<th>d$ES1</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>3.608696</td>
<td>1.15755</td>
</tr>
<tr>
<td>Female</td>
<td>4.172414</td>
<td>0.80485</td>
</tr>
</tbody>
</table>

Table 15. Data extracted from Table 10 a

We have been able to identify if there was a difference of perception of entrepreneurial success between males and females. If we now focus on the perception of importance, we can say that for financial performance and operational performance, females and males do have the same perception of importance of entrepreneurial success. However if we look at the perception of importance between males and females for the satisfaction dimension, we have figured out that it was not the same. That females and males were according different importance to satisfaction. These results are partially supported by the literature. According to Collerette and Aubrey (1990, p. 422), Kyro (2001, cited in Orser et al., 2005, p. 13), Fernald and Solomon (1998, pp. 29-30 ), female entrepreneurs are more likely to perceive success in terms of customer satisfaction and family. According to our results we argue that the difference of perceptions is due to the aspects females perceive and value. Satisfaction is mostly perceived as fundamental aspect for females rather than males, and this is caused might be caused by the fact that females tend to value their success according the human perspective where for instance, family is a priority. Moreover if we compare the importance females give to financial performance and to satisfaction, we can say that females are valuing more the satisfaction.

<table>
<thead>
<tr>
<th>d$F2</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>4.130435</td>
<td>0.919701</td>
</tr>
<tr>
<td>Female</td>
<td>4.172414</td>
<td>0.848064</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>d$SES2</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>3.869565</td>
<td>0.967863</td>
</tr>
<tr>
<td>Female</td>
<td>4.310345</td>
<td>0.849514</td>
</tr>
</tbody>
</table>

Table 15 a. Data extracted from Table 10 a.
Conversely the expectation one might have to say that males will be likely to perceive financial performance as entrepreneurial success as well as the importance they give to financial performance has not been proven in our results. We cannot conclude that males perceive differently entrepreneurial success as financial performance, and we cannot say also that they value more financial performance. The only conclusion that can be made is that males give less importance to satisfaction in comparison to females.

6.3 Age discussion

If we now consider the age variable, the test $dF1$ by $dAge$ does not attest of any difference in terms of perception of entrepreneurial success as financial performance. The two categories, respectively the ones from 18 to 25 years old, and the ones over 25 have the same perception of entrepreneurial success as financial performance. The test $dOP1$ by $dAge$ is also not attesting of any difference in terms of perception of entrepreneurial success as operational performance. We only find a difference of perception of entrepreneurial success as satisfaction, which means that the age variable affects the way respondents within their age category perceive satisfaction. We can notice since the test attested of a difference that the differences in means are valid which means that people from 18 to 25 years old value more satisfaction that the one who are over 25. We argue that this difference goes against the literature. According to Duxbury et al (2000, cited in Orser et al., 2005, p. 12), based on their study, they have figured out that older people were valuing more personal satisfaction than the younger ones. Here we have the opposite results were younger respondents perceive more entrepreneurial success in terms of satisfaction, which we argue might be explained by the fact that there might have more females in the category 18-25, and we have previously found that they perceive and value satisfaction the most.

<table>
<thead>
<tr>
<th>d$ES1</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>4.114286</td>
<td>0.866753</td>
</tr>
<tr>
<td>25+</td>
<td>3.529412</td>
<td>1.178858</td>
</tr>
</tbody>
</table>

Table 16. Data extracted from Table 11 a.

However if we focus on the perception of importance of entrepreneurial success generally, we are not able of affirming that there is a difference of perceptions. This is really interesting in the sense that first of all the difference of perception of entrepreneurial success does not impact the importance respondents have given to each dimension of entrepreneurial success. They might perceive differently according to their age the satisfaction but when they assess its importance, they give the same importance. We would expect that the young respondents would have perceived and valued more the financial performance compared to the older respondents. Moreover we would have expected that the older respondents would have perceived and valued more the satisfaction. This expectation was based on the fact that: time goes along with maturity and older people are more likely to consider personal satisfaction as a determinant rather than the fame.
6.4 Background discussion

We will now consider the background dimension that has been tested. The tests that have been performed on the perception of entrepreneurial success and the perception of importance of entrepreneurial success are surprising. First of all, we have figured out generally that the background has not effect on the difference of perception of entrepreneurial success and perception of importance of entrepreneurial success. In other words, the people who had a background in entrepreneurship do not perceive differently entrepreneurial success than the ones who had not a background. The existing literature which is dealing with the education variable has identified that the education of an individual is likely to affect its perception of success. As mentioned by Orser et al., (2005, p. 12), a high level of education value more the financial aspects of success rather than the personal ones. In contrast a low level of education value more the personal dimensions of success. In our findings, there are no difference of perception or difference of perception of importance, which means that both the ones who got exposed to entrepreneurship and who were not. There are no differences between those populations, for instance if we consider the perception of financial performance d$F1, we can say that both groups have highly ranked it with a mean of 4.22 and 4.33, respectively for the ones who had not a background and the one who had.

Table 17. Data extracted from Table 12 a.

<table>
<thead>
<tr>
<th>d$F1</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>4.227273</td>
<td>0.869144</td>
</tr>
<tr>
<td>Yes</td>
<td>4.333333</td>
<td>1.124441</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>d$ES1</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>3.863636</td>
<td>0.83355</td>
</tr>
<tr>
<td>Yes</td>
<td>3.966667</td>
<td>1.129032</td>
</tr>
</tbody>
</table>

If we only consider the mean, we might think that there is a difference however the test said the opposite. This little difference in terms of means is due to statistical fluctuation. However something that can be said is as they have the same perception of entrepreneurial success as financial performance, and if we compare it to the others dimensions (operational and satisfaction), we can say that even though they have the same perception of entrepreneurial success as financial performance and the same perception of entrepreneurial success as satisfaction, their ranking differs. In other words, the perception they have on d$F1 and the one they have d$ES1, even if they are the same individually, both students who had and had not entrepreneurship courses perceive financial performance higher than satisfaction. However when it comes to the perception of importance both groups value the same way the different attributes.

Table 17 a. Data extracted from table 12 a.

<table>
<thead>
<tr>
<th>d$F2</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>4.045455</td>
<td>0.998917</td>
</tr>
<tr>
<td>Yes</td>
<td>4.233333</td>
<td>0.773854</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>d$OP2</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>4.090909</td>
<td>0.683763</td>
</tr>
<tr>
<td>Yes</td>
<td>4.033333</td>
<td>0.808717</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>d$ES2</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>4.090909</td>
<td>0.867898</td>
</tr>
<tr>
<td>Yes</td>
<td>4.133333</td>
<td>0.973204</td>
</tr>
</tbody>
</table>
6.5 Entrepreneurship’s culture discussion:

We will now consider the last variable that has been tested which is the student’s perception of entrepreneurship as a culture. If we focus on the test $d_{F1}$ by $d_{Ecul}$, which is testing whether there is a difference in terms of perception of entrepreneurial success as financial performance, between the two groups that have been created (the ones who consider entrepreneurship as a culture and the ones who don’t), we figured out that there was a difference of perceptions. The people who considered entrepreneurship as a culture (who ranked it from 4 to 5) do perceive more entrepreneurial success as financial performance than the ones who didn’t perceive entrepreneurship as a culture.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1-3</td>
<td>13</td>
<td>3.846154</td>
</tr>
<tr>
<td>4-5</td>
<td>39</td>
<td>4.435897</td>
</tr>
</tbody>
</table>

Table 18. Data extracted from table 13 a.

The second test $d_{OP1}$ by $d_{Ecul}$ didn’t attest of any difference of perception which means both groups had the same perceptions of entrepreneurial success as operational performance.

The third test $d_{ES1}$ by $d_{Ecul}$ emphasized the existence of difference of perceptions between the two groups.

<p>| | | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>13</td>
<td>3.230769</td>
</tr>
<tr>
<td>4-5</td>
<td>39</td>
<td>4.153846</td>
</tr>
</tbody>
</table>

Table 18 a. Data extracted from table 13 a.

It is interesting to notice that the respondents, who considered entrepreneurship as a culture, perceive both more entrepreneurial success in terms of financial performance and satisfaction. However their perception of entrepreneurial success as financial performance is superior as the one they got on satisfaction (4.43 > 4.15). This repartition might be explained by the fact that the respondents who considered entrepreneurship as a culture, might be principally female which would explain the fact that there is a difference of perception of entrepreneurial success in terms of satisfaction. We have previously exposed that female were more likely to perceive the satisfaction dimension over male but were perceiving entrepreneurial success as financial performance, the same way. We might also make the assumption that this repartition is due to the role of culture on individual, where culture has been proven to influence human perceptions.

If we now consider the perception of importance of entrepreneurial success which has been tested in relation to the variable perception of entrepreneurship culture, we have figured out that: out of the three tests, only the test $d_{F2}$ by $d_{Ecul}$ has been proven to attest of a difference between the two groups.
Respondent have considered entrepreneurship as a culture value more than financial performance of the entrepreneurial performance. The two others perception of importance have been found to be perceived the same way by the groups.

7. Conclusion

This section will expose the answer to the thesis question and will also underline the theoretical and practical contributions.

7.1 General conclusion, Limitations and future research

This thesis has for research question: Which factors influence the perception and the perception of importance of entrepreneurial success, among Umea University's students?

In order to be able to identify which factors are indeed influencing the perception of entrepreneurial success of the students, we have firstly drafted a conceptual model of entrepreneurial success based on the literature. One must consider and be aware that the way entrepreneurial success has been studied is intimately linked to the way of which the perception of entrepreneurial success has been defined. Entrepreneurial success and the perception of entrepreneurial success are two concepts which are intertwined.

The approach in which entrepreneurial success is assessed is likely to implement subjectivity and therefore cognition biases, biases associated to the perception of an individual on this concept (Gilovich et al., 2002, cited in Richard et al., 2009, p. 735).

From our study, we have noticed that Student’s perceptions towards entrepreneurial success have been firstly ranked: as Financial performance, Operational success and Satisfaction. This overall repartition might be explained by the way the literature has been emphasizing approaches to study entrepreneurial success, literature which has been heavily focusing on the financial performance dimension (Richard et al., 2009, p. 727). Moreover these results are supporting the way the entrepreneurs have perceived entrepreneurial success (Pérez and Canino, 2009, p. 1000).

Based on our findings, the factors which have been proven to influence the student’s perception of entrepreneurial success at Umea University, are respectively: The gender, the age and the variable “perception of entrepreneurship culture”. Each of the four originally selected variables has been tested on two dimensions; the perception of entrepreneurial success and the perception of importance of entrepreneurial success. However not all the factors have influenced all the dimension of entrepreneurial success.

<table>
<thead>
<tr>
<th>dSF2</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>13</td>
<td>3.692308</td>
<td>0.85485</td>
</tr>
<tr>
<td>4-5</td>
<td>39</td>
<td>4.307692</td>
<td>0.83205</td>
</tr>
</tbody>
</table>

Table 18 b. Data extracted from table 13 a.
From our results we can say:

- Males and Females students have a different perception of entrepreneurial success as satisfaction.
- Males and Females students have a different perception of importance of entrepreneurial success as satisfaction.
- Young students and “older students” have a different perception of entrepreneurial success as satisfaction.
- Students with an entrepreneurship background and the ones without didn’t have a difference of perception and perception of importance of entrepreneurial success for all the dimensions.
- Students who considered entrepreneurship as a culture and the ones who didn’t, have a different perception of entrepreneurial success as financial performance and satisfaction.
- Students who considered entrepreneurship as a culture and the ones who didn’t, have a different perception of importance of entrepreneurial success as financial performance.

From our results we might hypothesize:

- Female’s perception of entrepreneurial success is likely to be viewed as satisfaction, which goes in the same direction of the finding of Collerette and Aubrey (1990, p. 422), Kyro (2001, cited in Orser et al., 2005, p. 13), and Fernald and Solomon (1998, pp. 29-30).
- Male’s perception of entrepreneurial success is less likely to be viewed as satisfaction.
- Female’s perception of importance of entrepreneurial success is likely to be viewed as satisfaction which goes in the same direction of the finding of Collerette and Aubrey (1990, p. 422), Kyro (2001, cited in Orser et al., 2005, p. 13), and Fernald and Solomon (1998, pp. 29-30).
- Male’s perception of importance of entrepreneurial success is less likely to be viewed as satisfaction.
- Males favours Financial performance over satisfaction for the perception of entrepreneurial success.
- Difference of perception of entrepreneurial success as satisfaction between younger students and older students might be due because of a gender orientation. Females perceive and value satisfaction the more. The findings of Duxbury et al. (2000, cited in Orser et al., 2005, p. 12), are not supported where older people were valuing more personal satisfaction than the younger ones.
- Difference of perception of entrepreneurial success as financial performance between the ones who valued entrepreneurship culture and who did not, explained by a gender
To conclude it is necessary to mention the possible limitations of this study. First of all the amount of respondents is an issue. We have a small sample of 52 people. Secondly, this study is not longitudinal which means that the results we have obtained should be compared over time in order to be able to generalize. Thirdly, the fact that the groups were not equivalent in terms of size might be an issue, even if it’s the tests are based on the means of each population. Fourthly, the tests that have been performed allows us to identify if there is a difference between the populations but do not give the causes of this difference, which means that the interpretation of the results might be interpreted and argued in different ways. All these arguments, confirmed the importance of further research in this field of research. For instance, two procedures might emerge. First of all increase the number of respondents as well as implementing the longitudinal dimension in order to either confirm or reject these findings and to be able to generalize them. The objective is specifying which factors are indeed affecting the perception of entrepreneurial success of the students. The second approach would consider a qualitative approach in order to have a better understanding of why there are differences in terms of perceptions of entrepreneurial success.

7.2 Truth criteria

7.2.1 Generalizability

Generalizability is the question whether or not the findings may be applicable to another setting (Saunders et al., 2012, p. 382). If one look at the concept of generalizability, it simply refers to generalize within a certain setting type such as groups, communities or situations to an external group (Cohen et al., 2007, p. 135).

In the context settle by the study, it has been asked from the students to answer to a questionnaire testing several attributes influencing entrepreneurial success. So if one considers the generalizability concept the answers made can apply to individuals others that the one who participated. In this case, it should apply to all students at Umeå University.

When it comes to generalizability, one should consider one aspect that is the sampling. The impossibility to ask an entire population to complete a survey, underlines the importance of creating a representative sampling in order to generalize the findings (Bryman & Bell, 2011, p. 164). The fact is that the findings of this thesis can’t be applied beyond the population of the study. Which means it can be applied to only students.

7.2.2 Validity

Validity is dealing with the question whether or not what has been measured is really measuring it (Saunders et al., 2009, p. 157). This validity is necessary and has been considered in this thesis.

Validity is always defined considering three types: face validity, internal validity and external validity (Bryman & Bell, 2007, p. 165).
Face validity is measuring if the constructs evaluate what they should. To proceed to face validity, experts in the designated field may rate the measuring instrument. The constructs and measuring instruments in this thesis were chosen from existing models and literature. The supervisor approved the different constructs.

Internal validity is focusing on whether one variable is the cause of a relationship with another one (Bryman & Bell, 2007, p. 42).

External validity is evaluating the extent to which the findings may be generalized (Graziano & Raulin, 2010, p. 181). For this thesis, the sample has been selected by convenience and the questionnaire has been sent out through internet. This sample constitutes a limitation because of the accessibility to the students and time restrictions.

### 7.2.3 Reliability

In quantitative studies reliability has always been an important criterion. Reliability deals with the replication issue (Graziano & Raulin, 2010, p. 45). A high reliability for a study implies that it can be applied for future research. In quantitative studies three factors should be considered: stability, internal reliability and inter-observer consistency (Bryman & Bell, 2011, pp.157-159).

Stability is the question whether the findings will be consistent among similar respondent over time (Cohen et al, 2007, p.146).

Internal reliability is our thesis verified by the preliminaries tests which have been performed before doing the tests on the populations

The interobserver consistency deals with the subjectivity regarding the decision making process while conducting a study by several researchers (Bryman & Bell, 2011, p.158). Each part of this thesis has been discussed by the author, and if the authors encountered issues with a certain type of question, it has been decided to ask to the supervisor. Moreover statistical tests were conducted to decrease the subjectivity of the thesis.
Reference List:


Appendix 1: Questionnaire

Thesis questionnaire

Dear Students,

We are a group of students at the Umeå School of Business and Economics (USBE) that are performing a thesis on relevant triggers of entrepreneurial success and the perception towards it. We have constructed a survey by which we will attempt to cover some of these aspects of entrepreneurial success. We understand that your time is limited and precious but we ask no more than 5-10 minutes in order to complete it. All the answers will remain confidential.

With kind regards

N.B PLEASE PICK ONLY ONE ANSWER

1=strongly disagree, 2= disagree, 3= neither disagree nor agree, 4= agree, 5= strongly agree

1. What is your perception of entrepreneurial success?
   a. Financial performance (likert scale 1 to 5)
   b. Operational performance, (likert scale 1 to 5)
   c. Entrepreneur’s satisfaction. ((likert scale 1 to 5)

2. According to you, which of these successes is the most valuable?
   a. Financial performance (likert scale 1 to 5)
   b. Operational performance, (likert scale 1 to 5)
   c. Entrepreneur’s satisfaction. ((likert scale 1 to 5)

Environment:

Regulatory institutions

3. According to your opinion, which of these aspects are determinant to support entrepreneurship? (rank from 1 to 5, 1= the higher)
   a. Government programs
   b. Tax incentives
   c. Development assistance
   d. Universities (programs on entrepreneurship)
   e. Government export assistance.
4. To your mind, do regulatory institutions support entrepreneurship? (Likert scale 1 to 5)

5. To your mind, do regulatory institutions hinder entrepreneurship? (Likert scale 1 to 5)

6. According to you, do regulatory institutions have an influence on financial performance (e.g. economic success)? (Likert scale 1 to 5)

7. According to you, do regulatory institutions have an influence on operational performance (e.g. economic success)? (Likert scale 1 to 5)

8. According to you, do regulatory institutions have an influence on the entrepreneur’s satisfaction? (Likert scale 1 to 5)

**Normatives institutions:**

9. Do you think entrepreneurship is a culture in itself? (Likert scale 1 to 5)

10. To which extent, normative institutions are favouring financial performance (e.g. economic success)? (Likert scale) (Likert scale 1 to 5)

11. To which extent, normative institutions are favouring operational performance (e.g. economic success)? (Likert scale 1 to 5)

12. To which extent, normative institutions are favouring the entrepreneur’s satisfaction (e.g. human perspective success)? (Likert scale 1 to 5)

**Selfemployment:**

13. Would you personally engage yourself in a self-employment activity? (Likert scale 1 to 5)

14. Do you think high rate unemployment is a likely to push individuals to be innovative? (Likert scale 1 to 5)

15. Do you think high rate unemployment is likely to push individuals to launch their ventures? (Likert scale 1 to 5)

16. Does self-employment activity have an influence on financial performance (e.g. economic success)? (Likert scale 1 to 5)

17. Does self-employment activity have an influence on operational performance (e.g. economic success)? (Likert scale 1 to 5)

18. Does self-employment activity have an influence on the entrepreneur’s satisfaction (e.g. human perspective)? (Likert scale 1 to 5)
19. Do you think there is a distinction between personal traits and attitudes? (likert scale 1 to 5)

**Innovativeness**

20. To which extent, do you consider innovativeness to be a determinant in entrepreneurship? (likert scale 1 to 5)

21. According to you, do you think attitudes such as innovativeness is likely to contribute to financial performance (e.g. economic success)? (likert scale 1 to 5)

22. According to you, do you think attitudes such as innovativeness is likely to contribute to operational performance (e.g. economic success)? (likert scale 1 to 5)

23. According to you, do you think attitudes such as innovativeness is likely to contribute to entrepreneur’s satisfaction (e.g. human perspective)? (likert scale 1 to 5)

**Proactiveness**

24. To which extent, do you consider proactiveness to be a determinant in entrepreneurship? (likert scale 1 to 5)

25. According to you, do you think attitudes such as proactiveness is likely to contribute to financial performance (e.g. economic success)? (likert scale 1 to 5)

26. According to you, do you think attitudes such as proactiveness is likely to contribute to operational performance (e.g. economic success)? (likert scale 1 to 5)

27. According to you, do you think attitudes such as proactiveness is likely to contribute to entrepreneur’s satisfaction (e.g. human perspective)? (likert scale 1 to 5)

**Risk-taking**

28. To which extent, do you consider risk taking to be a determinant in entrepreneurship? (likert scale 1 to 5)

29. According to you, do you think attitudes such as risk-taking is likely to contribute to financial performance (e.g. economic success)? (likert scale 1 to 5)

30. According to you, do you think attitudes such as risk-taking is likely to contribute to operational performance (e.g. economic success)? (likert scale 1 to 5)

31. According to you, do you think attitudes such as risk-taking is likely to contribute to entrepreneur’s satisfaction (e.g. human perspective)? (likert scale 1 to 5)
Social Capital

**Persuasiveness**

32. According to you, does changing people’s perception to the expected direction affect financial performance (e.g. economic success)? (Likert scale 1 to 5)
33. According to you, does changing people’s perception to the expected direction affect operational performance (e.g. economic success)? (Likert scale 1 to 5)
34. According to you, does changing people’s perception to the expected direction affect the entrepreneur’s satisfaction (e.g. human perspective)? (Likert scale 1 to 5)

**Social adaptability**

35. In a social context, do you think adaptability is likely to affect financial performance (e.g. economic success)? (Likert scale 1 to 5)
36. In a social context, do you think adaptability is likely to affect operational performance (e.g. economic success)? (Likert scale 1 to 5)
37. In a social context, do you think adaptability is likely to affect entrepreneur’s satisfaction (e.g. human perspective)? (Likert scale 1 to 5)

**Impression management**

38. To which extent generating favorable reactions into others does affect financial performance. (e.g. economic success) (Likert scale 1 to 5)
39. To which extent generating favorable reactions into others does affect operational performance (e.g. economic success) (Likert scale 1 to 5)
40. To which extent generating favorable reactions into others does affect the entrepreneur’s satisfaction. (e.g. human perspective) (Likert scale 1 to 5)

**Social perception**

41. Understanding others in the right way may have a significant role for financial performance. (e.g. economic success) (Likert scale 1 to 5)
42. Understanding others in the right may have a significant role for operational performance (e.g. economic success) (Likert scale 1 to 5)
43. Understanding others in the right way may have a significant role for the entrepreneur’s satisfaction. (e.g. human perspective) (Likert scale 1 to 5)

**What is your gender?**
- Male
- Female

**Did you attend to entrepreneurship courses?**
- Yes
- No
How old are you?

☐ 18-25
☐ 25-30
☐ 30-35
☐ 35-40
☐ 40+