Entrepreneurial study programs and their use

Master's Thesis

Benedikt Záleha

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Aalborg University
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Benedikt Záleha

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Abstract:

There were observed many studies showing that entrepreneurial education has a positive impact on creating and awaking entrepreneurial intentions. However, many of them focus on entrepreneurial education in general, and there is a lack of relevant literature about academic entrepreneurship. Therefore, this thesis holds the focus on entrepreneurial master's degrees. This is achieved by a quantitative study analysing courses, employment and knowledge of their graduates who not only end up creating companies, but also find their place in well-established companies while still pursuing entrepreneurial ideas. There are described the results of entrepreneurial graduates, and there is proposed a course structure with teaching methods for entrepreneurship. In simple words, this thesis aims to increase the awareness of academic entrepreneurial education in European countries and especially in Denmark.

1. Preface

The current 30 ECTs master's thesis has been prepared in the fourth semester of MSc Entrepreneurial Engineering at Aalborg University from February to June 2021. The thesis is written only by one author who self-elected the topic with the supervisor's and study board's approvals.

There have been three online supervision sessions for the report with the assigned supervisor, Professor Frank Gertsen PhD. Except for the mentioned online sessions, there has been continuous written communication and guidance from the supervisor.

Therefore, I would like to express heartfelt thanks to the supervisor Professor Frank Gertsen PhD. for the guidance, contribution and support during the whole process of this research. But also for his engagement in entrepreneurship, which resulted in him standing behind this degree.

1. Preface

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2. Introduction

In the modern world of globalisation, volatility and the daily arising of new challenges, there is coming up a question: Which knowledge or skills are those which would successfully fit into this world and one's personal and professional life? Traditional forms of teaching cannot keep up with these trends, and therefore there is a need for something new. European Parliament and its Commission think, that entrepreneurship can be one of the essential competencies nowadays. This is confirmed by the European Commission letter, which says that "*the ability of European Union to meet the challenges of competitiveness and growth depends on dynamic Entrepreneurship*." (European Commission, 2006) Moreover, Europe is considered to be behind in entrepreneurial education compared to the United States. (Dimitrovski, Doneva, Pushova, & Mirchevska, 2014, p. 531)

In the past years, there is an increasing amount of literature about academic entrepreneurship. However, this literature primarily investigates the entrepreneurial activities at universities throughout different programs or evaluates academic spin-offs. Moreover, there can also be found some empirical studies. Still, they instead assessed the development of a person and his/her mindset during the entrepreneurial education or entrepreneurial intentions developed during an entrepreneurial program.

However, that is not the only thing this education is good for. This is confirmed by the following statement from EU Commission: "*The Benefits of entrepreneurship education are not limited to more start-ups. Entrepreneurship is a skill that is also useful in both personal and social aspects of everyday life."* In this case, I felt a gap in the knowledge about Entrepreneurial university degrees, their practical (everyday) use, and their graduates' employability, not only limited to start-ups. Therefore, this work investigates the life careers of mentioned graduates and how they transfer their knowledge in their professional life. As an example, can be mentioned Corporate Entrepreneurship, which brings the entrepreneurial mindset (spirit) to large organisations or companies. Especially to those, which are admitting the idea of the following quote: "*But we need more than just "the innovation department" – we need a culture of innovation.*" (Mathews, 2012) This statement has its unique voice in the context of the Covid-19 pandemic and following restrictions, which pushed many businesses to make some radical changes or let them be on the edge of survival.

On a personal note, honestly, I am also a bit confused about what to do in my life after finishing this education. Even though this program gave me plenty of entrepreneurial ideas, but realistically thinking, most probably, I will end up working for someone. At least, from the beginning.

Due to mentioned personal motivation and the expanding trend of Entrepreneurial Master's programs within the European context coming as efforts of the European

Commission Action plan for entrepreneurship, this thesis would like to keep this area as the main focus.

Many Universities make their own program evaluations, and they probably work for their purpose. Universities typically get the data from the local offices about the employment of their graduates as well. However, this is limited to only basic information and strictly kept for university's purposes. Nevertheless, this thesis would like to look even deeper and get more detailed data about the employability of entrepreneurial graduates. Hence, this thesis intends to find out some aspects of it as the course structure of those study programs and how successful their graduates are.

3. Research Question

Considering the area of focus described in 2. Introduction, the following research question was formulated:

What are the courses at Entrepreneurial Master's degrees, what is their use in the professional life and how successful are graduates of Entrepreneurship in terms of employment and job satisfaction?

3.1 Work Questions

WQ1: How to bring valid and reliable results when evaluating a Master's degree program, and what tools should be used for that?

The first part of the thesis describes the philosophical approach and methodology used in the thesis. This is the starting point when deciding what and how the data will be collected. But also, how they should be further approached. Except this, there is a description of the survey, its creation and how the data were collected. In the very end of this part, it is being argued why the data are valid and reliable and therefore can be generalised in this field.

WQ2: How does the scientific literature describe entrepreneurial education?

Before starting on analysis and survey creation, there had to be made a research of available data within this topic. It was necessary to clarify and describe what entrepreneurship means, the difference between entrepreneurial education and actual academic entrepreneurship. The researches of their impact helped to shape the survey. The literature, together with the analysis in the following chapter, should bring strong and proven facts about academic entrepreneurship formed in conclusion.

WQ3: What courses occur at Master's degrees in Entrepreneurship, and what is their use?

It is known that entrepreneurial degrees are very diverse. There is no clear structure of how they should look and which courses should be taught there. This was the starting point of this chapter, to find out what knowledge and skills are actually used by the graduates in their real life and then find what courses would be the most beneficial for them to have. Based on the study programs' curriculums, a list of the most common courses is created, which is then compared with the skills and knowledge of their graduates in professional life.

WQ4: What is the employability and job satisfaction of Entrepreneurial graduates?

The central chapter of this thesis consists of evaluating and analysing the survey about the employment of entrepreneurial graduates. Compared are three aspects: employment, job satisfaction and professional connection. The employment should show the importance of entrepreneurial master's degrees for venture creation and job creation. Factors like job satisfaction and professional connection serve rather as indicators or measurement tools for entrepreneurship as a field of study.

WQ5: How successful are entrepreneurial graduates at Aalborg University compared to others?

The last part of the analysis comes with the aspects of comparison as in the previous chapter. However, it puts the data into the context of MSc Entrepreneurial Engineering (EE) being compared with graduates of other entrepreneurial master's degrees. This comparative analysis shows the value of mentioned study program and underlines the importance of entrepreneurial education in Denmark. The second part of this chapter compares entrepreneurial activities at two different study programs at Aalborg University (AAU).

WQ NO.	Question	Chapter NO.	Chapter name
-	-	Chapter 1	Preface
-	-	Chapter 2	Introduction
-	-	Chapter 3	Research Question
WQ1	How to bring valid and reliable results when evaluating a Master's degree program, and what tools should be used for that?	Chapter 4	Research Methodology
WQ 2	How does the scientific literature describe entrepreneurial education?	Chapter 5	Entrepreneurial education in the scientific literature
WQ 3	What courses occur at Master's degrees in Entrepreneurship, and what is their use?	Chapter 6	Courses in the Academic Entrepreneurship
WQ 4	What is the employability and job satisfaction of	Chapter 7	Results of graduates

	Entrepreneurial graduates?		
WQ 5	How successful are entrepreneurial graduates at Aalborg University compared to others?	Chapter 8	Entrepreneurship at Aalborg University
Research Question	What are the courses at Entrepreneurial Master's degrees, what is their use and how successful are graduates of Entrepreneurship in terms of employment and job satisfaction?	Chapter 9	Conclusion

Table 1 - Structure of the report

3.2 Frames of the research and limitations

Despite the initial intention to research only graduates of MSc Entrepreneurial Engineering at Aalborg University, the research, in the end, is made on the more extensive sample of Master's degrees in Entrepreneurship from European Universities taught in the English language.

A smaller sample of Aalborg University would bring deeper data. However, there was a risk to get answers from very few people. Therefore, it was decided for a more general sample, which could represent European Master's degrees in Entrepreneurship. The Entrepreneurial Engineering program at Aalborg University is still included in the thesis, but only as a part of work question number 5.

Following program names were considered:
- (Digital) Entrepreneurship
- (Business) Strategic Entrepreneurship
- Social Entrepreneurship
- International Entrepreneurship (Management)
- Sustainable Entrepreneurship
- (Global) (Business) Development and Entrepreneurship
- Entrepreneurship and (Global) Innovation
- (Deep) Technology Entrepreneurship / Entrepreneurial Engineering

From the research, the following programs with Entrepreneurship / Entrepreneurial in the name were excluded:
- With less than 120 ECTs (or equivalent)
- Very specific entrepreneurial programs like Biomedical Entrepreneurship or Fashion Entrepreneurship

- Taught in other than the English language

Moreover, there were excluded graduates who continued for the Doctorate's diploma and those who finished more than one master's degree. The reason to exclude those is that their further studies do not clarify their employability or entrepreneurial activities. However, it is essential to mention, that there were found numerous people who did or were in the process of a Doctorate education.

The main limitation of this research is the time, as this thesis has a strict deadline, there are only around four months to complete it. During this time, there have to be made: pre-study, literature review, data collection and analysis. As mentioned before, the thesis tries to collect the data from a very small sample, compared to all university graduates. This makes the accessibility of the data very complicated, as many filters have to be applied. The problem of non-probability sample in this project also depended on the high degree of respondent's willingness to fill up the survey.

4. Research methodology

WQ 1: How to bring valid and reliable results when evaluating a Master's degree program, and what tools should be used for that?

"*A research paper presents and argues the writer's proposition or opinion. … As such, a research paper tries to convince readers that the writer's argument is valid or at least deserves serious consideration.*" (Rozakis, 2007) To bring solid, accurate and reliable results, the research has to be done in a systematic way. To ensure organized workflow, there should be followed some kind of methodological guidelines. This thesis is not an exception, and therefore this chapter will introduce the theory behind it.

The first subchapter describes the fundamental definitions of this research in 4.1 Research typology. The whole research methodology followed by the research onion can be found in Methodology. The last subchapter, 4.3 Validity and Reliability argues why this data should be considered as representative and defines the margin error.

4.1 Research typology

There are tons of different approaches for creating a research. However, the literature distinguishes two main types. The first one is Basic research, which is trying to increase the knowledge of processes and this way brings results that are applicable everywhere in the field. On the other hand, there is Applied research that investigates a specific problem and this way brings a solution to this particular problem.

Formulated research question and following work questions clearly show that the purpose here is to gain more knowledge about entrepreneurial programs and their graduates. The precise application of the knowledge into mentioned field says that it is the case of applied research.

4.1.2 Nature of the research

Taking a look one step further, there is the Nature of the research. It displays what should be accomplished by conducting the research. (Saunders, Lewis, & Thornhill, 2019, pp. 186 - 188) Therefore, at this point, it is necessary to decide whether the aim is to get a deeper understanding of the topic, or on the other hand, instead have a broad understanding, but perhaps less deep.

The literature recognizes these three following research natures:

1. **Explorative research** – It is in the early stages of a hypothetical or theoretical problem or a phenomenon. In other words, it can be the first step in learning about something new. The newness does not necessarily have to be in the idea itself but also the direction of the research. Typically, this research nature answers What? types of questions. (Strömberg, 2016) (Barcik, 2021)

2. **Descriptive research** – Builds on the previous explorative study and adds more information/descriptions or elaborates. The descriptive research answers typically How? types of questions. (Strömberg, 2016) (Barcik, 2021)

3. **Explanatory research** – The most challenging type of research tries to connect different phenomena or ideas and find out relationships between them. In other words, researchers try to understand cause and effect between two or more ideas. From the description, it is clear that this research answers questions starting on Why. (Strömberg, 2016) (Barcik, 2021)

Putting it to the context of this thesis, it can be defined as explorative research. Considering the newness of entrepreneurship at universities, there were not made many researches of this type. From the internet research, there were not found any studies that would research entrepreneurial study program's courses and put it in the context of their graduate's professional life or analyse their graduates' job satisfaction. However, this thesis looks at the available literature, which gives this thesis some direction and helps build the survey. Therefore, the same way as in the previous case, it is not absolutely clear, and some signs of descriptive or explanatory research can be found too.
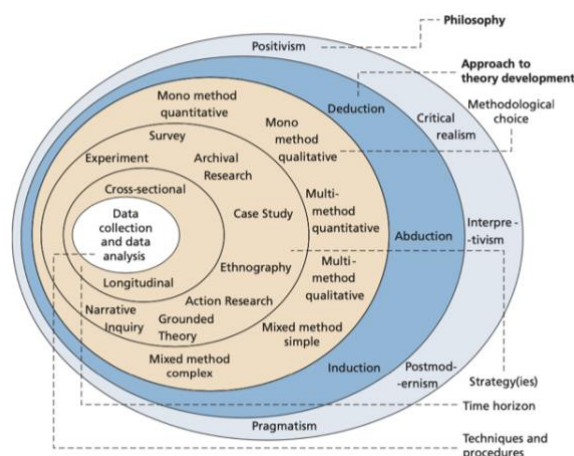
4.2 Methodology

Figure 1 - The research onion (Saunders, Lewis, & Thornhill, 2019, p. 130)

After clarifying the basics of this research, as the research type and the nature of the study. It is important now to determine the methodology, which is to demonstrate the different phases of writing a paper. In order to make it systematically, there was presented a model created by Saunders, Lewis and Thornhill. This model is called the research onion and was introduced in the following book: (Saunders, Lewis, & Thornhill, 2019)

4.2.1 Research Philosophy

"*Research philosophy deals with the source, nature and development of knowledge.*" (Bajpai, 2011) In other words, it is about the ways of assuming how the data about a phenomenon or a problem should be collected, analysed and interpreted. The choice of the research philosophy for this thesis was taken based on the practical implications of different philosophies.

As this thesis is building on the observable content, which hopefully can produce law-like generalisations – it should fall under the philosophy of positivism. Other definitions of positivism also confirm this. It sees the reality as real, external and independent, which works very well with the sample of entrepreneurial graduates. Acceptable knowledge comes from observable and measurable facts, but also predictions can serve as a contribution or a starting point. Usually, it is connected with deductive methods; it is highly structured and deals with quantitative data. (Saunders, Lewis, & Thornhill, 2019, p. 144)

4.2.2 Research Approach

The second layer in the mentioned research onion is about the research approach. According to (Cramer-Petersen & Ahmed-Kristensen, 2015), there exist three methods (reasonings): Deductive, Inductive and Abductive. The first mentioned builds on the theories and then collects the data. The data either confirm the theories, reject them or add something on top of them. Differently, Inductive research first collects the data and then builds the theories upon them. This approach often is not supported by any literature, but it requires much more time and efforts. The last approach, Abductive, is in its nature very similar to the Inductive. However, it builds on the set of incomplete data and brings the most likely explanation of it.

Due to the limited time for this thesis, it is not possible to make entirely inductive research. Luckily, there is already some literature describing the topic of entrepreneurial study programs, which this research can be built on. That is why this paper will be classified as deductive. Yet, there is hope that new findings can be presented from the collected data, and this thesis would bring something new to the academic world.

4.2.3 Research Strategy

Following the research onion, it is to describe now the methodological choice. This is entirely related to the research strategy, and therefore it is described together. This thesis can be characterised as a multi-method quantitative study defined as a research that uses multiple quantitative or qualitative research design strategies. (Saunders, Lewis, & Thornhill, 2019, p. 178) The primary source of data is gathered through the survey; other data come from a content analysis. In addition to that, there was executed one round of interviews. The last there is the comparison of start-ups from data accessed through study coordinators with all the permissions. Those research strategies, their validity and reliability are explained below.

4.2.3.1 Interviews

Collecting of four interviews happened before creating the survey. The mentioned interviews served for structuring the survey, validating the understandability of questions and finding all possible options. After this, the actual survey was finalized and sent out to the respondents.

4.2.3.2 The survey

The survey was chosen due to its authority, as it is almost impossible to be manipulated. It is a fast and straightforward method for both the researcher and respondents. (Saunders, Lewis, & Thornhill, 2019, p. 193) In addition, it gives the flexibility to ask any questions. On the other hand, it provides an option to ask questions with given alternatives, which assures fair evaluation.

Due to the unknown number of entrepreneurial graduates, it is not possible to define the probability of the sample. Thus, the non-probability sampling technique has to be considered. Out of those, the most suited one would be **volunteer sampling** which is defined as: "*Non-probability sampling procedure in which participants are volunteered or self-selected to be part of the research*". (Saunders, Lewis, & Thornhill, 2019, p. 820) Despite that, they had to be approached on LinkedIn first, but the option to join was only up to them.

In the end of the survey, a respondent had a chance to enter his/her email address to receive the results of this research as a sign of thankfulness for the help with sharing their information. The email address was entered by 30% of respondents, which underlines the importance of this research and the attractiveness of asked questions.

Sampling:

In this case, there were sent approximately 900 proposals to fill out the survey. Invitations were in the form of a private message or a friend request through LinkedIn. This social media allowed to filter users by the university and further by the degree. After that, there were chosen those who already graduated, and the message or a friend request was sent. Until the 26th of April 2021, there were collected 134 responses that serve as data for this analysis. There were another 106 people who would like to answer the survey, but they responded too late. The response rate was approximately 25%. The sample consists only of Master's degree graduates of European Universities in Entrepreneurship. Following figures and further description show more detailed data about the sample:
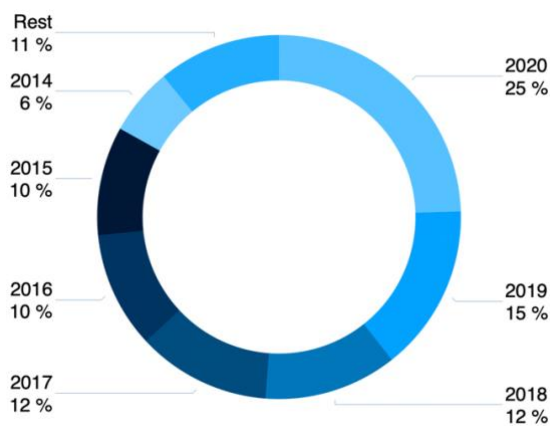
Figure 2 - Sample by the year of graduation   *Figure 3 - Sample by the country of studies*
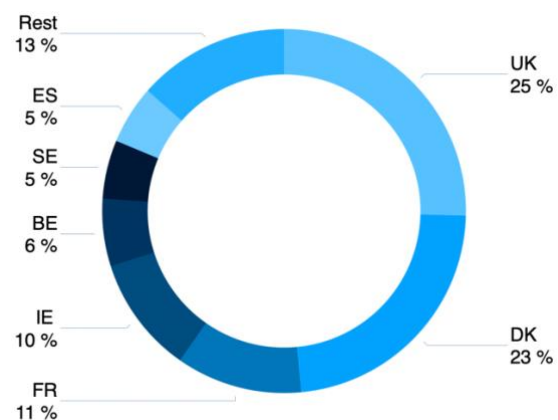
As shown in Figure 2, with a further graduation year, there are fewer answers. The latest year of graduation is 2004. Therefore, the scope can be narrowed even more to those who graduated after 2000 and most probably, the sample contains mainly the Generation Y. Figure 3 shows the diversity in countries where entrepreneurial education was taken. In total, there were present 12 European countries as places of studies. Countries of the current residence of respondents are not shown in the figure due to its extreme diversity containing over 38 countries.

After the distribution of the survey, there was made a slight change in 1E, which before was following: "What is the name of your previous University?" Many people return the question as unclear whether they are supposed to write for a bachelor's or master's degree. The change was made in the early phase of the data collection and therefore did not impact the final results.

Structure of the survey:

1) **Basic Information**
   A. *Are you?*
   - Student (Out of the scope)

- Graduate

B. *What is your latest degree?*

- Bachelor Degree (Last section)
- Master Degree (Continue)
- PhD Degree (Last section

C. *What is the name of your master's degree?*

- Name of the education program _____

D. *Year of your graduation?*

- Year _____

E. *University of your Master's degree*

- Name of the University _____

F. *Country of your studies*

- Country of studies _____

G. *Country of your current residence*

- Country of the residence _____

H. *What is your current job status?*

- I have a job (Go to 2.)
- I am self-employed - incl. freelance (Go to 4.)
- I do not have a job (Go to 6.)

2) **The Current Job**

A. *Your current job is*:

- Full-time job
- Part-time job

B. *What is your job status?*

- Fixed job - Not limited by time
- Project or time-limited job

C. *What is the professional connection between your master's degree and your current job?*

- My job is in the field of my master's degree
- My job is outside the field of my master's degree education but requires academic knowledge
- There is no connection between my master's degree and my current job

D. *How satisfied are you at your current job?*

- With your salary: Poor/Fair/Satisfactory/Very Good/Excellent
- With the working environment: Poor/Fair/Satisfactory/Very Good/Excellent
- With the company name: Poor/Fair/Satisfactory/Very Good/Excellent

   E. Did you have other jobs than your current job? (Include only those after finishing your education)
- Yes (Go to 3.)
- No (Go to 3.E)

3) **Your First Job**
   A. Your First Job was?
- Full-time job
- Part-time job

   B. What was the job status of your first job?
- Fixed job - Not limited by time
- Project or time-limited job

   C. What was the professional connection between your master's degree and your first job?
- My job was in the field of my master's degree
- My job was outside the field of my master's degree education but requires academic knowledge
- There was no connection between my master's degree and my current job

   D. How satisfied were you at your first job?
- With your salary: Poor/Fair/Satisfactory/Very Good/Excellent
- With the working environment: Poor/Fair/Satisfactory/Very Good/Excellent
- With the company name: Poor/Fair/Satisfactory/Very Good/Excellent

   E. How long did it take you to find your first job since finishing the education? Include only time when actively searching for a job)
- Before I finished the University
- 0-6 months after the graduation
- 7-12 months after the graduation
- 13-24 months after the graduation
- More than 2 years after the graduation

   F. What do you think are the reasons that you got your first job? (Multiple selections)
- I wrote my thesis in the field of my first job
- I had good experiences from project work with external partners
- I had good experiences from my internship

- I had correct academic competencies (research methods, analysis ...)
- I had the ability to teamwork
- I had good grades at the University
- I had good experiences from a voluntary work
- I had good competencies from my Bachelor degree
- I had good experiences from abroad
- I had correct personal competencies
- I had good experiences from my student job
- I had the ability to work cross-disciplinary
- I had the ability to work with problem-solving
- I had good competencies from my Master degree
- I had good contacts in my network
- Other _____

G. *Have you ever been self-employed?*
- Yes (Go to 5.)
- No (Go to 7.)

4) Self-employed

A. *When did you start working on your company?*
- Before I finished the University
- 0-6 months after the graduation
- 7-12 months after the graduation
- 13-24 months after the graduation
- More than 2 years after the graduation

B. *What was the main motivation for you to start a company?*
- Motivation: _____

C. *What is the professional connection between your master's degree and your job as self-employed?*
- My job is in the field of my master's degree
- My job is outside the field of my master's degree education but requires academic knowledge
- There is no connection between my master's degree and my current job

D. *How many employees does your company have?*
- Only me
- 1 Employee
- 2-3 Employees
- 4-5 Employees
- 6-10 Employees

- Other: _____

E. Are you supporting the income from your company with other sources?
- Yes, I support it with social benefits
- Yes, I support it with a paid job
- Yes, I support it with a paid job and social benefits
- No

F. How satisfied are you at your company?
- With your salary: Poor/Fair/Satisfactory/Very Good/Excellent
- With the working environment: Poor/Fair/Satisfactory/Very Good/Excellent
- With the company name: Poor/Fair/Satisfactory/Very Good/Excellent

G. Did you have a job after your graduation and before you started at your company?
- Yes (Go to 3.)
- I had other company before (Go to 5.)
- No (Go to 7.)

5) Previously Self-employed
Same questions as 4. Self-employed plus:

A. What was the reason that you stop with the company / Self-employment?
- I did not have sufficient funding
- My company was sold
- It required too many working hours
- The pressure was too heavy
- My business idea was not good enough
- I could not get a sufficient customer base
- I lost motivation
- Other: _____

(Go to 7.)

6) Unemployed
A. How long are you unemployed?
- 0-3 months
- 4-6 months
- 7-9 months
- 10-12 months
- 13-24 months
- More than 2 years

B.   Are you actively job searching?
- Yes
- No (Go to 6.D)

C.   What do you think are the reasons for your unemployment?
- There is a big competition in my field / in my dream job
- There is no available job that would fit my professional profile
- I lack relevant competencies from my education
- I lack job experience
- There are no available jobs in my geographical area
- I wrote applications but never got to an interview
- I was at interview/interviews but never got the job
- Other: _____

D.   Did you have other job/jobs before? – Include only those after finishing your education
- Yes (Go to 3.)
- No (Go to 7.)
- I was self-employed (Go to 5.)

7) Skills and Knowledge

A. Which of the following skills/knowledge/fields have you used after graduation in your professional life?

CSR, Accounting, Marketing, Business planning, Measuring Business Performance, Business Development, Business Modelling, Product Design, Management, Statistics, Technology forecasting, Creating a new venture, Partnership, Sustainability, Artificial Intelligence, Business ethics, E-Commerce, Understanding failure, Product development, Risk management, Academic, Project management, Design thinking, Operations, Technology Entrepreneurship, Intrapreneurship (Corporate Entrepreneurship), Digital Design, Robotics, Funding, Tourism, Creativity related, Logistics, Human Resources, Leadership, Family Business Development, Promotion management, Pricing, DIA (Discovery - Incubation - Acceleration), Organisational Behaviour, Social Entrepreneurship, Industrial Organization for Entrepreneurs, Decision Making, Innovation, Communication, Ethics and Responsibility, Production, Conflict Management, Negotiations, Supply Chain Management, Disruption, Finance, Law, Resources, Laser technologies, Business Strategy, Opportunity, Intellectual Property, Entrepreneurship, Outsourcing, Problem solving, IT, Other

4.2.3.3 Data about Universities

In order to collect the data about Universities and their Master's degrees in Entrepreneurship, there was used the content analysis method. It was based on the online search for Master's degrees in Entrepreneurship according to the criteria mentioned in 3.2 Frames of the research and limitations. To find as much as possible of existing degrees, there were used educational platforms as: mastersportal.com, whatuni.com and a regular google.com search.

As universities communicate primarily in the online world, it was not very difficult to find them and research their curriculums. In case of a not available list of courses, the universities were contacted individually by email. Also, for this reason, it was possible to get courses structure from the most of selected degrees.

4.3 Validity and Reliability

Participant error – In order to avoid the participant error as much as possible, the survey was distributed at different times of the day, throughout all days in the week, continuously during a more extended period of time. This assures that participants did not answer only on Monday morning or Friday evening when the results could be influenced.

The only error that could occur is the situation with the Covid-19 pandemic, which could influence the job satisfaction, job occupancy, or salary of the respondents. However, due to the timeframe of this research, this is unavoidable.

Participant Bias – Is avoided by the anonymity of the survey.

Researcher Error and Bias – Is avoided by consultation of the results with the supervisor and another not engaged person.

External Validation – The representativeness of the sample was achieved by contacting people from different universities in different countries and graduated in different years. This helped to avoid collecting data only from the top universities and in countries with good employment. The diversity in respondents results in data that can be generalised within the measured field of Entrepreneurial Master's degrees in Europe. Specifically, the diversity of the sample is shown in the 4.2.3 Research Strategy. Further validation of the survey was made through contacting four random respondents once again, asking them to fill up the survey again. By comparing those four surveys with their previous answers, there was 98,31% compliance with the previous ones. The questions 7A was excluded from this. The mentioned question 7A had a most significant difference, where the compliance was measured on 92,12%.

Regarding the content analysis, which was used to collect the data about the programs and courses, it cannot be clearly concluded that the sample is absolutely completed. The reason is that university programs start and close within time, and it cannot be clearly stated that all of them were found. However, the actual 79 found entrepreneurial master's degrees should be enough to represent the whole sample.

As it is not possible to define the whole targeted population, it is the case of non-probability sampling. In this case, it is almost impossible to define the margin error of the data. Therefore, it has to be considered by the reader that the data might bring some differences with the real picture.

4.4 Sub-conclusion

To assure the precise structure of the thesis and reliable data collection, a research onion model was chosen as a guideline throughout the process. Under the philosophy of positivism, there were also defined other definitions and methods used in this research. Moreover, this chapter described how the data were collected and what is their validity and reliability.

The sample of 134 respondents might not seem very big, but comparing to how many actually graduated a degree according to the limitations, it should be representative enough within the targeted scope. This is assured mainly through random selection of respondents, which would bring the same results if the research was done with different methods or by a different researcher. However, it is important to mention that this research was made in the cross-sectional time horizon, and therefore some data could be different with the time passed.

5. Entrepreneurial education in the scientific literature

WQ 2: How does the scientific literature describe entrepreneurial education?

Before starting with anything further, it is crucial to investigate the topic itself. The following literature review described in this chapter provides the base for this research. According to the main findings, the whole survey and comparison are based on.

In the beginning, there defined the main terms about entrepreneurship in 5.1 Definitions. The following subchapter describes entrepreneurial education in various forms and at different levels in 5.2 Entrepreneurial education. In section 5.3 Academic Entrepreneurship, there is entrepreneurial education placed into the context of universities. 5.4 Entrepreneurship describes the process of entrepreneurship in general and brings some data about self-employment. Due to European Commission encouragement, the last subchapter of this literature review describes the sustainable development goals and their connection to entrepreneurship, which can be found in 5.5 Entrepreneurship and SDGs.

5.1 Definitions

Entrepreneur or entrepreneurship are commonly used words in the English language. However, it is difficult to translate this word directly to some languages. There can be used some alternatives, but they might not have the same meaning.

Entrepreneur – Is continuously searching for innovative causes, the changes and their indications to find new opportunities. Moreover, they need to know how to apply the innovation principles successfully. By this innovation, entrepreneurs can pursue different business or service. (Drucker, 2014, p. 36)

Within this term, there can be included following others, which are coming out of the term entrepreneur. **Intrapreneur** (or Corporate entrepreneur) – is an entrepreneur within an existing organisation. They might not be the real leaders in a company, but they bring entrepreneurial ideas to the top tier. Normally, they have the same characteristics as entrepreneurs but face additional challenges of rules and cultures of the organisation. (Suanes & Benitez, 2018) **Social Entrepreneur** – is a person who merges entrepreneurship and social initiatives to bring a positive change in society. Can be in job creation, education or environmental protection. (Drayton, 2007)

Entrepreneurship – Is an important and relevant field of study. It is the field that involves the study of sources of opportunities, the processes of discovery, evaluation

and exploitation of opportunities. Entrepreneurship does NOT require but can include the creation of new organisations. (Shane & Venkatareman, 2000)

5.2 Entrepreneurial education

In the USA, universities have well established entrepreneurial departments, and a large percentage of schools offer courses in entrepreneurship. (Dimitrovski, Doneva, Pushova, & Mirchevska, 2014, p. 531) The academic entrepreneurship is described below in In Europe, there is not a common strategy regarding entrepreneurial education. In 2014 some countries had a separate budget for funding entrepreneurship, such as Denmark, France, Austria, Sweden, or Belgium. Nineteen other countries were funding entrepreneurship from the general educational budget, and ten countries had no funding of entrepreneurial education at all. The survey from the same year also showed the differences within the educational strategy. Some European states had a specific strategy, others gave freedom to teachers, and some did not create any national strategy. (European Commission, 2016) Despite the different approaches of European countries, the European Union encourages entrepreneurial education to a high degree. Except for the European commission papers mentioned in 2. Introduction, also very popular Sustainable Development Goals bring the importance of entrepreneurship for the future development of the world.

5.3 Academic Entrepreneurship. This subchapter is investigating rather entrepreneurial education, not in the form of a degree. This is the case of European universities, where entrepreneurship at universities is still trying to find its place, and it is instead provided by other external actors. (Dimitrovski, Doneva, Pushova, & Mirchevska, 2014, p. 531)

Entrepreneurial education often stands in the opposite of traditional teaching. The traditional teaching is well suited for transferring facts and theories, but it is not enough for an entrepreneurial student. In addition to that, it is necessary to grow personally and awake entrepreneurial attitudes in the student. (Vaidya, 2014) Entrepreneurial education is process- and student- oriented. This can be achieved by problem orientation, multi-disciplinary focus and learning from mistakes. (Leckeus, 2015)

According to the following Figure 4, many countries have joined the trend of entrepreneurial education and established it on different educational levels, such as at universities, high schools, and primary schools. (Leckeus, 2015) There are already some studies evaluating returns back to the society of those educations. Results temp to confirm the importance of entrepreneurial education and its positive impact on graduates' entrepreneurial mindset. (Vaidya, 2014)
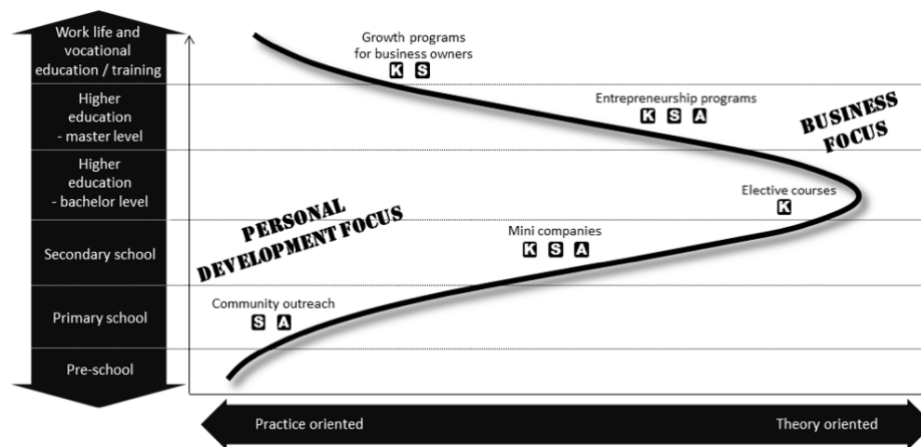
Figure 4: Entrepreneurial education across different educational levels. (K-Knowledge, S-Skills, A-Attitudes)
(Leckeus, 2015)

In Europe, there is not a common strategy regarding entrepreneurial education. In 2014 some countries had a separate budget for funding entrepreneurship, such as Denmark, France, Austria, Sweden, or Belgium. Nineteen other countries were funding entrepreneurship from the general educational budget, and ten countries had no funding of entrepreneurial education at all. The survey from the same year also showed the differences within the educational strategy. Some European states had a specific strategy, others gave freedom to teachers, and some did not create any national strategy. (European Commission, 2016) Despite the different approaches of European countries, the European Union encourages entrepreneurial education to a high degree. Except for the European commission papers mentioned in 2. Introduction, also very popular Sustainable Development Goals bring the importance of entrepreneurship for the future development of the world.

5.3 Academic Entrepreneurship

In this context, it is necessary to mention that academic entrepreneurship is relatively young compared to other fields of study. To its beginning, it is necessary to go almost 100 years back in time. According to Arnold Cooper, the first course in entrepreneurship was established at the Harvard Business School in 1947. (Cooper, 2005) However, some non-academic sources show the University of Michigan as the first with an entrepreneurial course already in 1927. (entrepreneur.com, 2014) Regarding the history of entrepreneurial university programs, it is not exactly clearly stated in the scientific literature. But the same as in the previous subchapter, the European entrepreneurial platform comes with a statement that the first entrepreneurship program was established at the University of Texas in 1964. (entrepreneur.com, 2014)

Nowadays, there are different variations of entrepreneurial academic educations. Students can either dedicate their complete studies in entrepreneurship, add an entrepreneurial master's degree to a completed traditional bachelor degree within the business / finance / engineering, or as an additional degree to a completed education

within other (also traditional) spheres. According to Figure 4, academic entrepreneurship is rather theory-oriented, but of course, contain some practice. Entrepreneurial programs teach knowledge, skills but also form entrepreneurial attitudes in their students.

Entrepreneurial education can cover the entire scope of business administration. With its context is often compared to management education at universities. However, it gives a broader, more integrative and rational approach to business, which is intended for future entrepreneurs, managers and top executives. (Kuratko, 2003) Moreover, according to the European Commission, entrepreneurial education should not be mixed with regular business or finance studies. The aim of entrepreneurial education is to evoke creativity, innovation and self-employment. (European Commission, 2009)

Entrepreneurial study programs are expected often to provide different training activities. Those are used to develop entrepreneurial intentions, behaviour, knowledge and desirability of an entrepreneurial activity. (Dimitrovski, Doneva, Pushova, & Mirchevska, 2014, p. 529)

Same as in the previous case, there is a positive feedback from the entrepreneurial university degrees and show a significant difference in entrepreneurial activities of their graduates with a strong entrepreneurial mindset. (Vaidya, 2014) Nevertheless, it is important to mention that the entrepreneurial mindset and the entrepreneurial activity are two different things. Entrepreneurial activity, in other words – creating start-ups is not limiting an entrepreneurial graduate. Many students find their jobs in well-established companies or small businesses.

5.4 Entrepreneurship

Another quantitative study that has collected 1541 valid questionaries among various university degrees showed that 12,8% of graduates are self-employed. Most of the self-employed students came following departments: Nutrition and dietetics (41,8%), Civil engineering (35,2%), Physiotherapy (26,2%). Approximately in the middle of the list were departments as: Tourism (12%), Electronics (9,5%), Marketing (9,3%). Departments with the lowest self-employment rate were: Childhood care (3,8%), Midwifery (2%). Nursing (1,7%). (Kostoglou & Siakas, 2008) The survey did not take entrepreneurship as a separate department.

Self-employment can be divided into two main categories: small-medium enterprises (SME) and innovation-driven enterprises (IDE). SMEs serve local markets with traditional, already established business ideas and do not try to compete with something special. (Aulet & Murray, 2013, p. 3) Those might be the case of graduates of the first three mentioned departments in the previous paragraph. However, the entrepreneurial education should be focused on IDEs. Those are more global oriented

and bring the innovation, which is then transformed into a competitive advantage and hopefully transformed into growth. (Aulet & Murray, 2013, p. 4)

5.3.1 Entrepreneurial activity

As mentioned before, entrepreneurial education has a positive impact on the entrepreneurial mindset and activities of students. A study published in Journal of Business Venturing vol. 31 found that entrepreneurial activities in those who had some kind of entrepreneurial education are higher in countries with the entrepreneurship-hostile environment. The mentioned study found the correlation between entrepreneurial study and financial capital availability, control of corruption and public image of entrepreneurs in different countries. On the other hand, in the entrepreneurial-friendly environment, students of entrepreneurship tend to pursue their careers in entrepreneurship-related occupations, such as corporate entrepreneurs or intrapreneurs. (Walter & Block, 2016) From this context, it can be stated that entrepreneurial education is necessary for the developing countries or regions, where they can improve the unemployment rate or lacking social and material aspects. Furthermore, in the developed countries help established companies to challenge the competition.

5.3.2 Entrepreneurial skills

There is much discussion about what are correct entrepreneurial skills or knowledge. Those are very often transformed into competencies in the company. Moreover, there are studies confirming the correlation between a company's performance and entrepreneurial skills. (Chell, 2013) A report covered by both OECD and Danish Business Authority introduces an Entrepreneurial skill-set based on the literature review, shown in Figure 5.
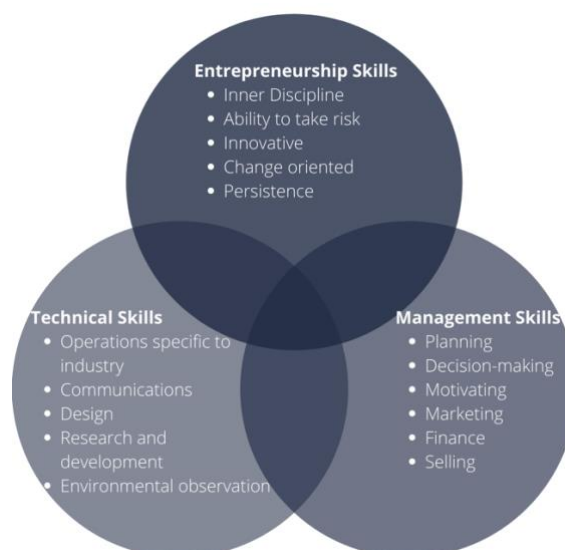
Figure 5: Entrepreneurial Skill-Set (Cooney, 2012) own design

5.5 Entrepreneurship and SDGs

The definition of a social entrepreneur mentioned in 5.1 Definitions shows that entrepreneurship and entrepreneurial education can bring the support and change into environmental, economic and social development of Europe and individual countries. The 2030 Agenda for Sustainable Development sees entrepreneurship as a factor in improving the quality of life, building the vital infrastructure, promoting sustainable industrialisation and bringing new innovations.

Entrepreneurship can be found in the SDGs goal 4: Quality Education. Specifically, in the target 4,4: "*By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.*" Another goal that is linked to entrepreneurship is SDG goal 8: Decent work and economic growth. The connection is mostly in target 8,3: "*Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.*"

5.6 Sub-conclusion

Many experts agree that this world's economic, technological and environmental future depends to a high degree on entrepreneurs. Primarily those, who are to be future leaders. Studies mentioned in this research confirm the words of the European Commission from 2. Introduction. Therefore, the importance of an entrepreneurial education cannot be stressed enough. From this chapter, it is known that the presence of entrepreneurial courses in the traditional study programs are significant and have a positive impact on students. The same way as an opportunity to join business incubators, accelerators, university grants and similar. Moreover, the chapter shows the importance of academic entrepreneurship itself. The literature brings the concept of entrepreneurship which is not only limited to start-up creating but as a tool for innovating the whole society.

6. Use of entrepreneurial study programs

WQ3: What courses occur at Master's degrees in Entrepreneurship, and what is their use?

Use of entrepreneurial study programs is a short chapter analysing the core courses of entrepreneurial master's degrees. There is created a list of the most common courses which are compared to the knowledge and skills that respondents in the survey use in their professional lives. Two subchapters give it the following structure: The comparative analysis of courses with explanations is described in 6.1 Analysis of courses. The evaluation of the analysis with the structuring of "the best entrepreneurial master's program" can be found in 6.2 Sub-conclusion.

6.1 Analysis of courses

This subchapter is analysing the data from the content analysis research of European Master's degrees in entrepreneurship. In the online search, there were found 79 entrepreneurial degrees from 16 different countries. Moreover, it was possible to get the data about 75 of them. The table below shows a list of all the courses found with the percentages of cases where they occurred compared to how many students marked it as they are using this knowledge / skill in their professional life. Numbers in brackets say the order from the most common (1) to the least common. The colours symbolize the difference between the order in the first and second column. Green stands for the more common occurrence and red for less common use than in the first column.

Course name (note)	% of programs with this course	% of use in the professional life
Entrepreneurship (1)	84% (1)	60,7% (3)
Management (2)	65% (2)	59,3% (4)
Marketing (3)	63% (3)	56,3% (7)
Innovation (4)	63% (4)	57,8% (5)
Leadership	50% (5)	48,1% (10)
Finance (5)	47% (6)	27,4% (20)
Business modelling (6)	47% (7)	41,5% (12)
Academic (7)	47% (8)	20,0%
Business strategy (8)	44% (9)	64,4% (1)
Accounting (9)	37% (10)	25,2% (24)
Creativity related (10)	36% (11)	26,7% (22)
Business development	32% (12)	57,8% (6)
Project management	21% (13)	50,4% (9)
Corporate entrepreneurship (11)	20% (14)	37,8% (14)

Creating a new venture	20% (15)	32,6% (17)
Design thinking	19% (16)	41,5% (13)
Sustainability	19% (17)	27,4% (21)
Product development (Design)	16% (18)	29,6% (18)
Communication (12)	13% (19)	45,2% (11)
Business ethics	11% (20)	23,0%
Statistics	11% (21)	20,0%
Opportunity creation	11%	16,3%
Funding	4%	28,1% (19)
Negotiations	4%	37,8% (15)
Pricing	3%	34,1% (16)
Decision making	3%	53,3% (8)
Problem solving	3%	62,2% (2)
Measuring business performance	1%	25,9% (23)

Table 2 - Comparison of courses and skills/knowledge in the professional life

Some courses can have different names but having the same meaning. Others might be a bit different but are falling into the same category. Therefore, below there are described exact names of the courses which are in different categories.

(1) Process, practice, fundamental, theory, applied, understanding, technology
(2) Intercultural, global, strategic, brand
(3) Strategic, entrepreneurial, high-tech, digital, social media
(4) Brand, technological, management, social
(5) Entrepreneurial, business)
(6) Innovation, generation, sustainable
(7) Research methods, Qualitative/Quantitative methods
(8) Entrepreneurial, global, planning
(9) Accounting systems, management, financial, international, entrepreneurial
(10)   Boosting creativity, creative thinking, exploring creativity
(11)   Intrapreneurship, change management
(12)   Business, stakeholder, entrepreneurial, presentation skills

The most significant difference between occurrence in courses and skills / knowledge practised in real life was observed within problem-solving. It is the second most commonly used skill, but as a course was present only in 3% of all the programs. The reason for that can be that universities might have use problem solving as a teaching method. This way, it is also in the case of Aalborg University. It is proved that workers who have the ability of problem-solving can produce better and more quality work than others. (Amran, Kutty, & Surat, 2019) Therefore, problem-solving is appreciated by the job creators. Due to its importance between entrepreneurial graduates, but as also mentioned for employers, it is important to put an extra focus on it. Daouas and Dahmane bring teaching methods for evoking problem-solving in the students: Giving more autonomy to the students, extending the time for the assignments, increase

student's participation in the discussion, give access to resources for data, knowledge or instruments. (Daouas & Dahmane, 2012) Problem-solving is a process of analysing different solutions and, based on the data choosing the best one. (Changeboard, 2019) Therefore, it is more common for those who are employed in a company and not that much among the self-employed.

Decision making was surprisingly also widespread in the professional life of graduates. It might seem very similar to problem-solving. However, in this case, the choice is made based on the own judgement. (Changeboard, 2019) From its nature, it is more common for self-employed, as they are many often leaders in the executive functions.

6.2 Sub-conclusion

This chapter analysed the data about courses of entrepreneurial master's degrees in Europe and created a list of the most common courses. Subsequently, they were compared with the data from the survey of most common skills or knowledge which respondents use in their professional life. Both lists and comparison can be seen in Table 2. Based on the survey, there can be created a "perfect" entrepreneurial master's degree, which would contain subjects in the following areas: Business Strategy, Entrepreneurship, Management, Innovation, Business Development, Marketing, Project management and Leadership. Moreover, it is recommended to include problem-solving and decision making into the teaching methods. This should prepare a graduate for their professional life in the most efficient way.

Sustainability was not very common as a course, neither as a knowledge in the professional life. However, considering the subchapter 5.5 Entrepreneurship and SDGs, teaching sustainability to future entrepreneurs or intrapreneurs can help in shaping future green companies.

7. Results of graduates

WQ4: What is the employability and job satisfaction of Entrepreneurial graduates?

This chapter analyses the three aspects of life after the graduation and uses them as an evaluation tool for the entrepreneurial master's degrees. Due to a lack of data about other than entrepreneurial graduates, an easy comparison analysis is not possible. However, in most of the cases, it could be compared with the general data from other trustworthy organisations or reports. The chapter aims to answer whether entrepreneurial master degrees are beneficial and what are the results of their graduates compared to the European average.

The three compared fields are described in separate subchapters. First, 7.1 Employment, with analyses of self-employed, employed and unemployed. Second, 7.2 Job satisfaction, compares the satisfaction with salary, working environment and company name of respondents. In the end, there is an analysis of the connection between education and the job in 7.3 Professional connection.

7.1 Employment
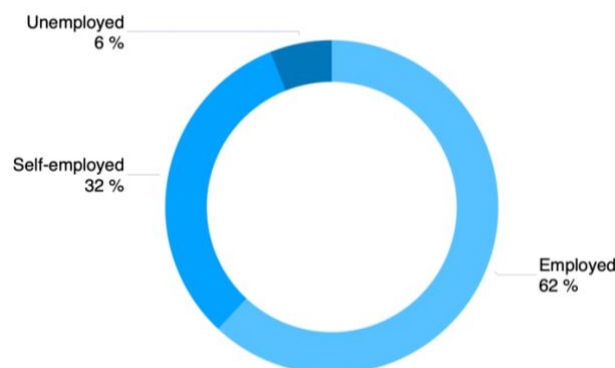
Figure 6 - Employment between entrepreneurial master's degree graduates

Graduation is a sign for the official end of the study life, and many often bring wonderings what is going be the next. This time comes to the life of almost every person at some point. Entrepreneurial graduates might face even more complex decisions than others while keeping their entrepreneurial dreams coming up from their studies. However, there are just the following options: Get a graduate job, start an own business, postgraduate studies or take a break. This subchapter takes a look at the first two aspects, plus those who have not succeeded to find a job yet and analyse them according to the data from the survey.

7.1.1 Self-employed

According to figure Figure 6, there are 32% of entrepreneurial graduates currently self-employed. This is significantly higher than the average of 12,8% found between university graduates and mentioned in 5.4 Entrepreneurship. In addition to that, Eurofound says that 14,3% of Europeans were self-employed in 2018. (Eurofound, 2021) Both compared values are lower than the measured number. This clearly shows that graduates of entrepreneurial master's degrees have more tendencies to start their own business. This is further supported by another question, which asked if they were self-employed in the past. Coming from those two questions, it is known that those who at least tried self-employment are more than 63,5% or 85 participants in the sample.
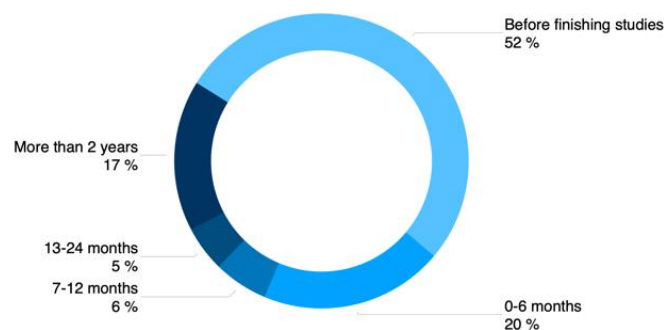
Figure 7 -Time when starting an own business

In total, there are 43 currently self-employed people in the sample. However, this number is limited by the time when the research is placed. Taking the same sample in a couple of years should increase the number of self-employment or those who at least tried self-employment. The reason is that there is a significant number of educated entrepreneurial students who start their own business later than two years after the graduation.

71% of the respondents who stated themselves as self-employed do not support their income from other sources than their business. The rest supported the income with a paid job - 21% and with social benefits – 7%.
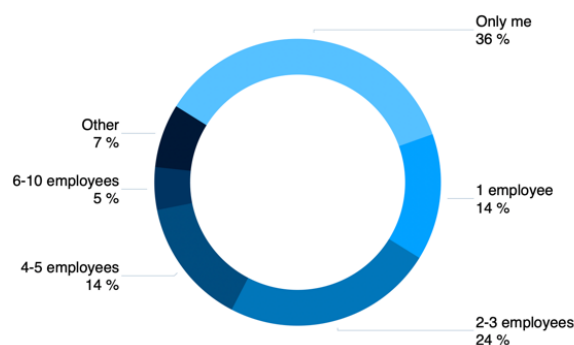
Figure 8 – Number of employees in companies of entrepreneurial graduates

The importance of entrepreneurial education is stressed enough in the introduction when mentioning few papers and the European Commission. They both show a positive impact of entrepreneurial education on the job creation and the development of individual countries. This is also confirmed by the data from the chart above. According to Figure 8 there are 31 self-employed people who do not support their income with other sources. But they do not only create job positions for themselves but also for other at least 103 people.

Motivations for self-employment were asked in a qualitative question, where a participant could write a free text. After analysing, the answers were collected into the following categories: Freedom and autonomy – 29%, greater income – 14%, great idea – 12%, to create an impact – 7%, challenge yourself – 6%, support the family business – 5% and more.

Previously self-employed

Those who were previously self-employed from the most extensive part started their self-employment before finishing the education. This was stated by a significant majority of 78,6% of respondents. Other 11,9% has started self-employment between the graduation and following six months. A small percentage of participants who closed their business started it later than six months after the graduation.

Main reasons for quitting the self-employment or leaving the company were following: "I lost the motivation to continue" was stated by 26% of respondents. 24% of respondents realized that they could not get a sufficient customer base. The exact number of respondents could not get sufficient funding. The fourth most common reason is: "My idea was not good enough". Three of the respondents succeeded to sell their companies, and one left the company to her husband, deciding to build her carrier in a different direction.

The sample of previously self-employed is relatively small, and therefore it is difficult to make any further conclusions here. However, from the available data it can be seen, that those who started the company later after the graduation were more successful. This might be because the entrepreneurial starting pack is not only about the knowledge and skills, but many often also about the resources and environment. However, this needs more attention and further research to be better evaluated further, as this was not the aim of this question, neither of this research.

7.1.2 Employed

As shown in Figure 6, there are 83 people currently employed in a company, which corresponds to 62% of all the respondents. From the mentioned employed

respondents, 97% are working full-time and only 3% part-time. 90% of them works in a fixed job, and the rest 10% has a time-limited or a project job.

For the 42% of respondents, this current job is their first job after the graduation, and the rest of 58% had at least one more job before. The current employment is not very explanatory for this research, and therefore the focus was rather on the acquisition of the first job. During the search for the first employment, the focus is many often kept on the taken education. On the other hand, when searching for other jobs, the focus can be instead on job experiences.

The first job

As it is described above, getting the first job is always difficult. Except for all the things connected with the CV or interview, it is also important to make correct decisions during the job search. CBNC in their article describes that the job search has to be approached strategically, as it can form the future path of the career. (Nova, 2018)
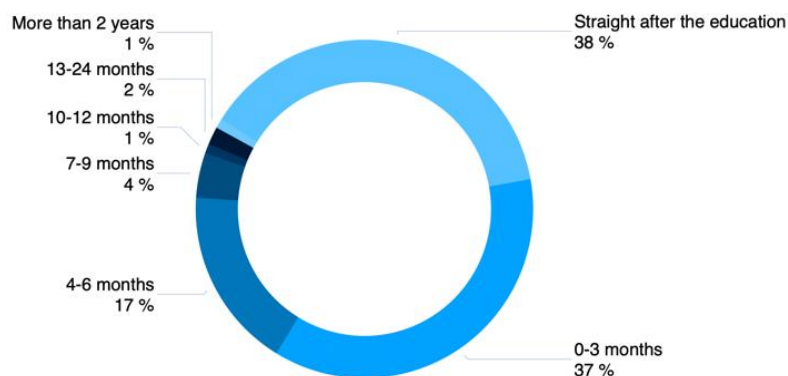
Figure 9 - Job acquisition by time

Despite the other factors like country, social status, language skills, education is one of the most important factors influencing the search for the first job in the field. (Verhofstadt & Omey, 2003) Therefore, the time spent for searching a job can be one of the aspects to evaluate an education.

According to Eurostat, the average time between formal leaving education and starting the first job between university graduates was 5,1 months in 2009. (European Commission, 2014) This number can be compared with the weighted average of the data from Figure 9. This was calculated almost exactly to 0 to 3 months.

Reasons	Percentage
I had correct personal competencies	60%
I had the ability to work with problem-solving	56%
I had good competencies from my Master degree	44%
I had the ability to work cross-disciplinary	43%

I had the ability to teamwork	38%
I had good experiences from abroad	32%
I had good contacts in my network	32%

Table 3 - Reasons for getting the first job from respondents' perspective

The Table 3 describes the six most common answers why the respondents think they got their first job. Correct personal competencies are important with any kind of job. They are defined as self-awareness and self-management skills. And they include emotional awareness, self-assessment, confidence level or commitment. (Goleman, 1998) The importance of problem-solving got again confirmed the same way as in the chapter 6. Use of entrepreneurial study programs. Good competencies from the master's degree were chosen by 44%. Good competencies from the bachelor's degree were selected by 30%; those could also be other than entrepreneurial. This shows that entrepreneurial knowledge gives them more value in the job they were searching for.

7.1.2 Unemployed

Unemployed create only 6% of the sample according to Figure 6. It is a small sample of only eight respondents. However, it was not possible to target only them, as it could bind the data. The number of employed – excluding unemployed can be compared with the average employment between university graduates in Europe, which is 85% in 2019. (eurostat, 2020) Therefore, according to the data from the survey, the employment of entrepreneurial master's degree graduates is higher than the average of all tertiary educated people in Europe.

It is important to mention that 50% of respondents are unemployed only 0-3 months. The other 25% are unemployed for 3-6 months and the rest 25% 6-12 months. All the respondents were actively searching for a job. 38% of those who were unemployed had already a job after finishing the studies.

According to the survey, the main reason for unemployment was a big competition in the field, which was stated by 75% of respondents. The second most common reason was the lack of experiences in the field, which was market by 27% of respondents.

7.2 Job satisfaction

Measuring the job satisfaction might be a bit tricky. Words like satisfaction or success are very subjective, and that is why also difficult to measure and compare. For this reason in this survey were clarified very strictly the limitations and the sample. For example, higher education results in higher expectations from the job and therefore could bring different results between different degrees of academic education. To avoid differences between salaries and life quality in different countries. There were chosen words describing feelings rather than more qualitative data. Respondents could choose between poor, fair, satisfactory, very good and excellent level of satisfaction.

It is confirmed that the education program and level have an impact on the satisfaction in the professional life. (Verhofstadt & Omey, 2003) Therefore, also this can serve as a measurement of the study program.
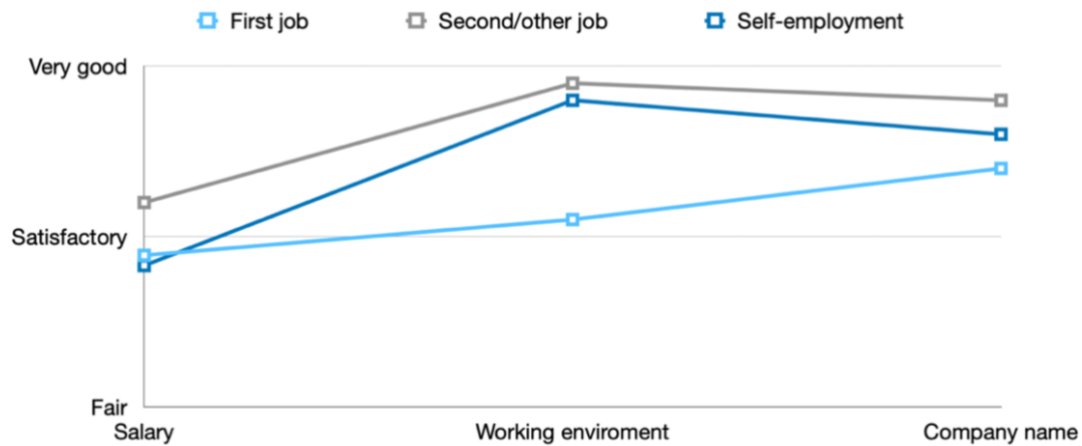
Figure 10 - Job satisfaction comparison

The weighted average of the results clearly shows the level of satisfaction in different categories and by the employment type. The highest satisfaction was measured between those who were employed in other than their first job after the graduation, and the least satisfied were those in their first job after the graduation. Self-employed temp to be very satisfied with the working environment and the company name. However, the salary has the lowest satisfaction level. In general (not focused on entrepreneurial students), there are papers confirming a positive correlation between self-employment and happiness. (Andersson, 2018) (Artes, Salinas-Jimenez, & Salinas-Jimenez, 2012) However, the survey shows the opposite.

In general, the satisfaction of all three aspects varies between satisfactory and very good. Numerically shown, on the scale from 1-5, the average was measured to 3,4.

7.3 Professional connection

This part is analysing the answers to the questions regarding the connection between the education and the job. There were three options: A – My job is in the field of my latest education, B – My job is outside the field of my latest education, C – There is no connection between my job and my education.
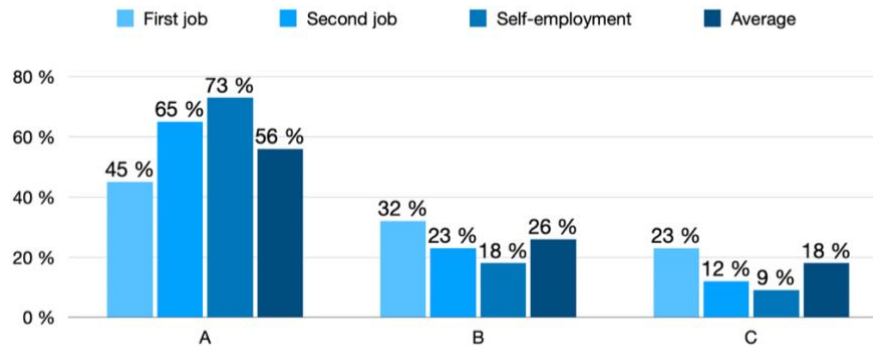
Figure 11: Chart of connection between professional life and education

From the data in the previous chart can be seen that self-employed respondents found the entrepreneurial education helpful and use the skills in their professional life. Interesting is also a comparison between the first and second (or other) job of the respondents. Where the other than the first job was more often in the field of the entrepreneurial education than the first one. The reason for this can be that fresh graduates are willing to take jobs that serve only as a starting point, despite that they are outside of their field. Another 26% of respondents also use their education at work, but not that much entrepreneurial knowledge, as the academic knowledge. In the end, there are only 18% of respondents who think that their job has nothing to do with their entrepreneurial master's degree. An explanation might b, that they are working in the field of their bachelor's degree.

7.4 Sub-conclusion

After analysing the general data collected in the survey, it can be concluded that the employment of entrepreneurial graduates is very high. Among those who were employed in a company, 75% of them found their first job earlier than three months after the graduation and already six months after graduation 92% of respondents had a job. Out of the whole sample, there are 63,5% of those who are or were self-employed in the past. Therefore, entrepreneurial graduates showed a much higher percentage of those who were self-employed compared to the general average. This positively impacts the job creation, as at the time of collecting the answers, respondents created in total more than 134 jobs. Enough for the whole sample. The satisfaction was measured in all cases approximately between good and very good. The highest satisfaction was measured in the employment in a company, but in other than the first job. Self-employed were satisfied to a high degree with the working environment, but the satisfaction with salary was the lowest. More than 80% of entrepreneurial graduates think that their job is somehow related to their education. The highest connection between the education and professional life was measured among the self-employed, which mean that concerned degrees prepare well their graduates for establishing a company. However, it also shows that there should be given bigger meaning to corporate entrepreneurship knowledge.

8. Aalborg University

WQ 5: How successful are entrepreneurial graduates at Aalborg University compared to others?

The last work question emphasizes the entrepreneurship at Aalborg University (AAU) and the study program of the author – Msc Entrepreneurial Engineering (EE). The survey was spitted into AAU, and non-AAU graduates and this way could be compared. The aim is to see whether EE graduates can compete with others and what are their strong and weaker sides.

The first subchapter, 8.1 Comparative analysis compares the employment, job satisfaction and professional connection between EE graduates and graduates of other universities. Knowledge and skills used in the professional life of graduates are compared in 8.2 Knowledge and skills. The subchapter 8.3 Start-ups compares the entrepreneurial activities on two different programs at AAU and brings a description of entrepreneurial opportunities at the mentioned university.

8.1 Comparative analysis

This subchapter compares most of the aspects for program evaluation between EE graduates and entrepreneurial graduates of other universities. Some aspects could not be compared due to the small sample from AAU, especially regarding the self-employment and unemployment. Comparison of self-employment is therefore replaced by a different analysis in 8.3 Start-ups.

8.1.1 Employment
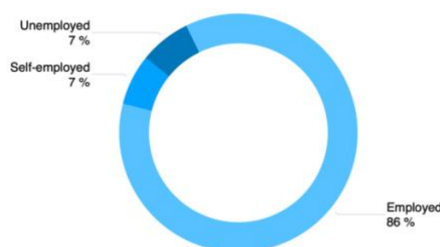
Figure 12: Employment of Entrepreneurial Engineering between AAU graduates
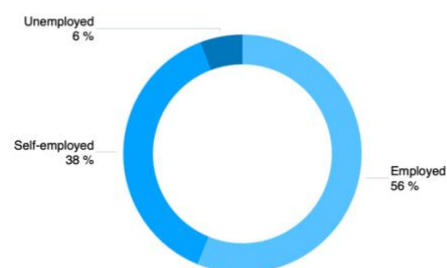
Figure 13: Employment of Entrepreneurial graduates without AAU

From the Figure 12 and Figure 13, it can be seen that self-employment between EE graduates at AAU is much lower than at other universities. However, in this case, it is

difficult to judge the program for that, and the low percentage of self-employed might not be a reason for low entrepreneurial education, but rather of the country where the education takes place. Denmark, where 76% of EE graduates live, is continuously on the bottom of the share of self-employment in Europe, as shown in the Figure 14. Eurostat says, that specifically the region of Nordjylland (place of AAU) has one of the lowest self-employment between all the regions in Europe. (eurostat, 2020) 45% of respondents from AAU were self-employed or a part of a start-up before. This shows a higher entrepreneurial activity than the average and the importance of an entrepreneurial degree in this region.
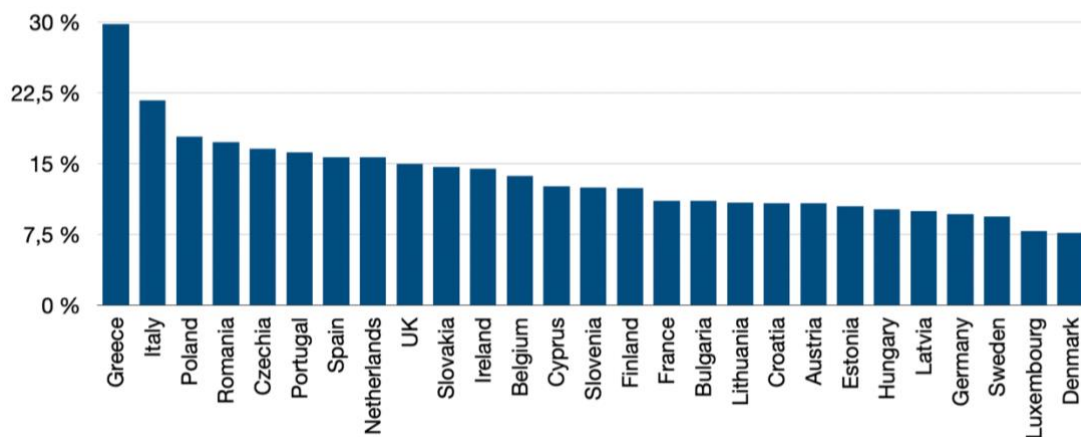
Figure 14: Self-employment by country in 2018 (EU-LFS, 2021)

The first job
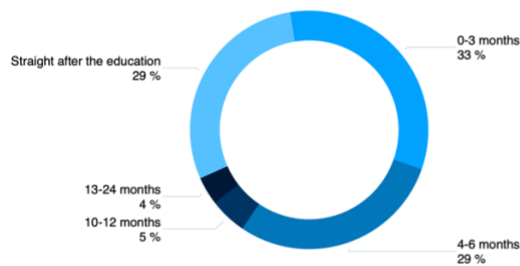
Figure 15: Time to get the first job between AAU graduates
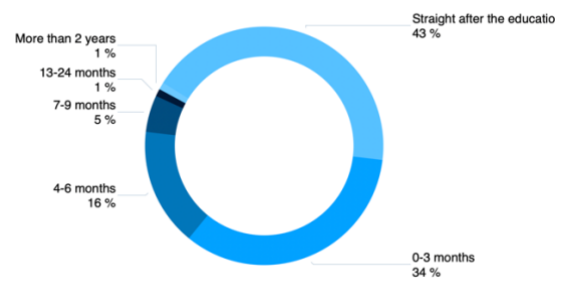
Figure 16: Time to get the first job without AAU

The time spent for acquiring the first job between EE graduates and other entrepreneurial graduates is very similar. In both cases, six months after the graduation had a job over 90% of graduates. Specifically, in the case of EE it was 91%, and at other universities it was 93%. However, the weighted average of the job acquisition is slightly on the side of other universities with 1,93, while at AAU it is 2,26 (Scale 1-7). Despite that, the results are very similar. The main reasons for getting the first jobs according to EE graduates are described in the Table 4, this data can be compared with the Table 3.

Reasons	% at AAU
I had the ability to work cross-disciplinary	62%
I had correct personal competencies	50%
I had the ability to work with problem-solving	46%
I had good experiences from my internship	42%
I had good competencies from my Master's degree	38%
I had good competencies from my Bachelor degree	38%
I had the ability to teamwork	35%

Table 4 - Reasons for getting the first job from AAU respondents' perspective

The most significant difference between EE students and those at other universities was spotted within the ability to work cross-disciplinary. This can be caused by the way EE is built; to bring the students from different bachelor's degrees together. According to the respondents, it is the most valuable thing for them which assure them of getting the job.

Previously self-employed

Everyone who tried self-employment or being part of a start from EE graduates have started it before the graduation. The main reasons for stopping with the entrepreneurial activity were: Loosing the motivation to continue (46%), Could not reach a sufficient customer base (31%), Realizing that the business idea is not good enough (23%) and the lack of sufficient funding (15%). Data for comparison are in 7.1.1 Self-employed.

8.1.2 Job satisfaction

This subchapter compares the job satisfaction between entrepreneurial graduates at AAU and entrepreneurial graduates from other universities. They are compared in three categories, as it was before. This is considered for the first job of respondents and the current (other than the first) job of respondents. In this case, comparison of satisfaction between self-employed is excluded due to low sample from AAU.
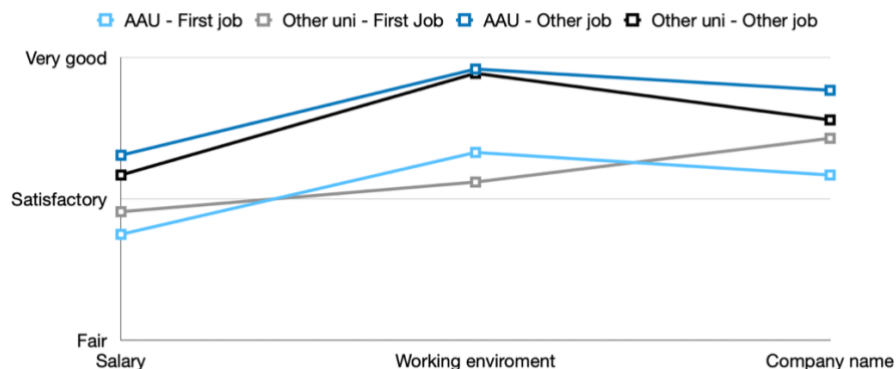
Figure 17 - Job satisfaction comparing EE and other entrepreneurial graduates

As it can be seen in the Figure 17, graduates of other universities were slightly more satisfied in their first jobs. The weighted average of satisfaction in the first jobs of respondents from other universities was 3,15 and at AAU 3,08 (difference 0,07). The same figure also shows that the satisfaction in the other than the first job was higher among AAU graduates. In this case, the weighted average favours the EE graduates with 3,66 against 3,54 at other universities (difference 0,12). Total average satisfaction in both kinds of jobs is very similar, 3,35 at other universities and 3,38 at AAU. The scale for measuring the satisfaction is 1(poor) – 5 (excellent).

8.1.3 Professional connection

The level of connection between the education and the professional life is also compared between EE graduates and other entrepreneurial graduates. Similarly, as in the subchapter 7.3 Professional connection, the respondents had the following options: A – My job is in the field of my latest education, B – My job is outside the field of my latest education, C – There is no connection between my job and my education. The comparison is distinct between the first job of a graduate and the other than the first job.
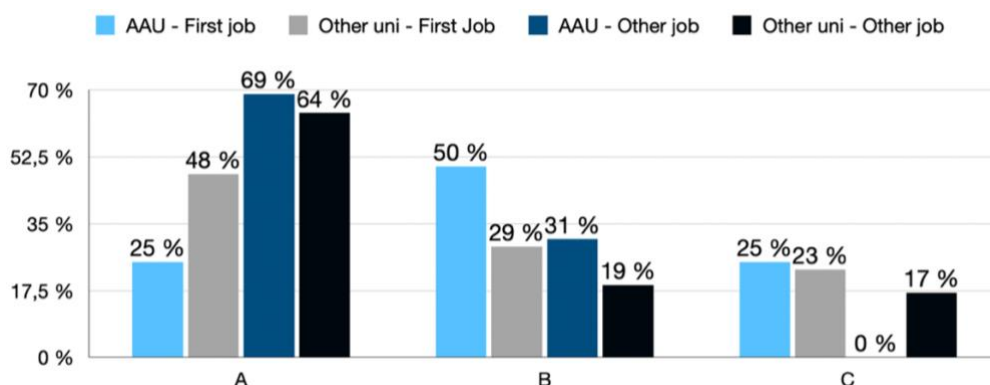
Figure 18 - Chart of connection between professional life and education EE and other entrepreneurial graduates

Looking at the first employment after the graduation in the Figure 18, it can be stated that graduates of other universities were more successful in finding a job in the field of their studies than EE graduates. However, the second or other employment of EE graduates is more often in the field of studies than of those from other universities. Moreover, there was no one from AAU who would feel that his/her job has no connection with their studies.

8.2 Knowledge and skills

This subchapter takes the data which were used in the chapter 6. Use of entrepreneurial study programs. However, in this case, it uses the comparative analysis between EE and other entrepreneurial graduates. It compares the knowledge and skills used in their professional life. EE in years 2019/2021 taught the following courses: Understanding entrepreneurship, Markets, resources and entrepreneurship

(marketing), Design-based Innovation, Creativity, Corporate entrepreneurship, Applied Business Modelling, Agile Business Navigation.

Entrepreneurial engineering	Other entrepreneurial programs
Problem-solving – 76%	Entrepreneurship – 66%
Project management – 69%	Marketing – 62%
Corporate e. / Intrapreneurship – 62%	Management – 62%
Innovation – 59%	Problem-solving – 58%
Business development – 59%	Innovation – 58%
Communication – 59%	Business strategy – 57%
Business strategy – 55%	Business development – 57%
Business planning – 55%	Decision making – 55%
Management – 48%	Leadership – 54%
Business modelling – 48%	Business planning – 54%

Table 5 - Skills and knowledge used by EE graduates in their professional life compared to others

As it can be seen in the Table 5, there are differences between the skills and knowledge used by graduates. The biggest difference is in the entrepreneurial skills/knowledge itself, where between EE graduates was not very common. On the other hand, corporate entrepreneurship was much more common. Project management, corporate entrepreneurship, innovation and communication show that EE graduates are rather corporate-oriented than on the creating of new ventures, which was already confirmed in the Figure 12. Problem-solving is the leading skill of EE graduates, which is probably coming from the Problem Based Learning (PBL) model of Aalborg University, which has a long history at this University. (Aalborg University, 2021)

8.3 Start-ups

This subchapter compares the data about student's start-ups in two different programs at Aalborg University, MSc. Computer Science and MSc. Entrepreneurial Engineering. For both programs, there is taken a time frame of seven years from during which the start-ups were created. In the case of EE, it is considered 2013-2021 and computer science 2009-2016 due to a lack of data after 2016. The data are coming from the internal analysis of program coordinators and supported with the data from virk.dk.

Name of the start-up/company	Start-up year	Nr. Of employees
Enologic	2009 (closed after 5 years)	?
2operate	2009	8
AptuSoft	2010	2
CodeCreator	2010	7
Ncouraged	2010 (closed after 9 years)	?
EasyCoaching	2012 (closed after 4 years)	?

| Ax2mobile | 2012 (closed after 5 years) | ? |

Table 6 - Startups coming from MSc in Computer Science (7 year's period)

Name of the start-up/company	Start-up year	Nr. Of employees
Addore	2018	3
Artland	2016	15
Tubus	2014	2
Absolute Liquid Solutions	2014	1
CalcuEasy	2015	3
Crickster	2016	1
RefLevel	2017	3
Sensade	2018	4
OBI+	2016	18
Drone Foto	2013 (closed)	?
Pulsevent	2013	10
Tonsser	2014	29

Table 7 – Start-ups coming from Msc Entrepreneurial Engineering (7 year's period)

The table shows much higher entrepreneurial activities of EE students compared to computer science. Within the seven years' timeframe, there were found 8 companies coming out of the computer science, while four were already closed during the considered period. On the other hand, EE brought 12 start-ups in seven years, and only one got closed in this period. Moreover, EE start-ups are even more successful in terms of employability. In addition to that, it must be stated that MSc in Computer Science has much more students annually than EE. This makes it difficult to compare, but also shows the difference even more.

8.4 Sub-conclusion

The employment was one of the most different between EE and programs at other universities, where EE had a much lower percentage of currently self-employed people in the sample. The reason can be the general low self-employment rate in Denmark. Other factors about the employment were similar as at other universities.

The comparison of the job satisfaction and the connection between taken education and job has shown an interesting difference between EE graduates and others. EE graduates show lower values in both aspects in their first jobs. However, when it comes to the second and other jobs, the values are much higher than in the case of other universities. It can be only assumed what can be the reason for that. Denmark is very often on the top of job satisfaction, but according to the survey, it is also more challenging to find the first job which would fulfil the expectations.

The importance of an entrepreneurial degree in a country like Denmark cannot be stressed enough, especially in Nordjylland, the region with one of the lowest shares of

self-employed in the world. Despite the low amount of data about self-employment between EE students, in the Table 7 can be seen that in seven years of this program's existence, EE graduates have produced some quality and well-established start-ups. This can be crucial for the innovation, competitiveness and economic sustainability of the region.

9. Conclusion

What are the courses at Entrepreneurial Master's degrees, what is their use in the professional life and how successful are graduates of Entrepreneurship in terms of employment and job satisfaction?

The mentioned research question and the direction of this thesis was started because of the own motivation to find out what is the employability of entrepreneurial graduates. The attractiveness and the need of this research are also confirmed by the respondents of the survey, who in a high degree reacted with a positive feedback and asking for sharing the findings with them.

The thesis starts by defining the philosophy of this research, which is positivism. This choice had an impact on the further methodology and this way also on the whole data collection and final results. The data were collected in various forms. The most important source was the survey with 134 respondents. The survey was structured based on the literature review and interviews. It was built in the way, so it is easy to compare with the Aalborg University graduates survey in the future. Another data is coming from the content analysis, which helped to build the list of entrepreneurial programs according to the limitations and the list of their core courses. Last, but not least are the data about the start-ups of two different study programs at Aalborg University, which were compared together. Those are from the internal source at Aalborg University.

The literature review showed that entrepreneurship is a relevant and important field of study which is nowadays present on every educational level and in various forms. From the primary schools to universities and in the form of a course, an elective, after school activity or a study program itself. To the last-mentioned was dedicated the whole thesis – Master's degrees in Entrepreneurship at European universities. In the end of the literature review, there is shown the connection between entrepreneurship and achieving economic, societal or environmental sustainability.

The first analysis consisted of comparing the core courses found between various entrepreneurial degrees and the skills / knowledge used by their graduates. Most of the frequent skills / knowledge reflected also study curriculums. The most important courses were identified as: business strategy, entrepreneurship, management, innovation, business development, marketing, project management and leadership. The great importance for graduates had problem-solving and decision making. Therefore those two aspects should be present in the entrepreneurial education too. Maybe as a teaching method. Sustainability was not found within the most common courses, neither in the professional life of respondents. However, the literature and sustainable development goals urge the sustainability to be educated at

entrepreneurial programs, as it can positively impact the transformation of companies or when creating new ones.

The previously mentioned findings from the literature were in most of the cases confirmed by the analysis of data from the survey. 32% of the entrepreneurial graduates who participated in the survey mentioned that they are currently self-employed. In total there were 63,5% of respondents who tried self-employment. This number is high above the average of all university graduates or the general population itself. Other information coming from the survey were difficult to be compared with something. However, the data showed very high results in almost every aspect. For example, the acquisition of the first job happened in 92% of cases earlier than six months after the graduation. The job satisfaction was the highest in case of other than the first job, but it was comparable to those who were self-employed. Mostly self-employed think, that their job is in the field of their education. It is not very surprising in the entrepreneurial degree, but this might show a need to communicate more the aspects of corporate entrepreneurship.

The last analysis in this report consisted of a comparative analysis of MSc. Entrepreneurial Engineering. First with other similar master's programs and further with a non-entrepreneurial program. The first analysis showed very similar data as in the other universities. The only aspect which was much smaller was the percentage of self-employed. This should be adjusted if the sample was bigger, but the biggest reason should be the job-oriented market in Denmark with the lowest share of self-employment in the EU. The other comparison showed that EE had many more start-ups coming from the education than another program at the same university. In addition to that, those start-ups were also more successful and created jobs for more people. This shows the importance of this education in Denmark and the region of Nordjylland, where the self-employment is extremely low. The education was comparable to other European degrees, and the other than first employment of its graduates was in average better rated than of those from other universities.

In the end, it can be concluded that entrepreneurial master's degrees have their place in the society. They contribute to the job creation, sustainable transition, but also shape leaders of well-established companies. The graduates showed positive results in all the aspects and therefore can be concluded that these degrees produce graduates with very needed skills and knowledge.

9.1 Reflection

I decided to write this thesis also from my own curiosity about what will happen after the education, and I must clearly say that I am much more relaxed about it now. In my opinion, collected results are more than good and entrepreneurial degrees can easily compete with other academic degrees. To be honest, I believe taking an

entrepreneurial education is even better than any kind of specific business education, as it covers the whole scope of business administration (marketing, management, finance, development …), plus the innovation which is very expected nowadays.

After finishing this research, I believe entrepreneurial education is needed in the society for making the private sector more attractive, producing self-sufficient people who create jobs for themselves and others, producing leaders in companies, producing people with the ability to be innovative, producing new and advanced business ideas.

Of course, there are things which could be better. During the writing process, there were uncovering new questions that deserve to be answered, but it was difficult to think about everything in the beginning and once the process was started, there was no way back. However, I hope this can serve someone else as a starting point of a new research that can extend the knowledge even further.

As an unknown author said: "It is very difficult to make a proper research and only few are really professional researchers." I can now only agree with it and hope, that I have presented you reliable information in a useful way. But even more, I hope that I could raise the awareness of the need for entrepreneurial education for the better future of our society.

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Appendix I. – List of Universities and degrees

University	Country	Study Program
WHU - Otto Beisheim School of Management	Germany/E	Entrepreneurship
Jonkoping University	Sweden/E	Strategic Entrepreneurship
University of Amsterdam	Netherlands/E	Entrepreneurship
Universitat Rovira i Virgili	Spain/E	Entrepreneurship and Innovation
GBSB Global Business School	Spain/E	Entrepreneurship
EU Business School	Spain/E	Innovation and Entrepreneurship
Gisma Business School	Germany/E	Innovation, Strategy and Entrepreneurship
Vleric Business School	Belgium/E	Innovation and Entrepreneurship
University of Limerick	Ireland/E	International Entrepreneurship Management
Imperial College Business School	UK/E	Innovation and Entrepreneurship
London Metropolitan University	UK/E	Technology Entrepreneurship
Falmouth University	UK/E	Entrepreneurship
Erasmus School of History, Culture and Communication	Netherlands/E	Cultural Economics and Entrepreneurship
Emlyon Business School	France/E	Global Innovation and Entrepreneurship
Linnaeus University	Sweden/E	Entrepreneurship
Grenoble Ecole de Management	France/E	Innovation, Strategy and Entrepreneurship
University of Bath	UK/E	Entrepreneurship Management and Innovation
Nottingham Trent University	UK/E	Innovation Management and Entrepreneurship
Brand University of Applied Sciences	Germany/E	Entrepreneurship and Innovation
University of Portsmouth	UK/E	Innovation Management and Entrepreneurship
Caas Business School	UK/E	Entrepreneurship
NEOMA Business School	France/E	Entrepreneurship and Innovation
Vilnius University	Lithuania/E	DeepTech Entrepreneurship
Cardiff University	UK/E	Business Strategy and Entrepreneurship

| University of Surrey	UK/E	Entrepreneurship and Innovation Management
Burgundy School of Business	France/E	Global Sustainable Entrepreneurship
University of Pécs	Hungary/E	Enterprise Development and Entrepreneurship
Kings College London	UK/E	Strategic Entrepreneurshop and Innovation
University of Strathclyde	Scotland/E	Entrepreneurship, Innovation and Technology
Birkbeck University of London	UK/E	Business Innovation and Entrepreneurship
University of Warwick	UK/E	Innovation and Entrepreneurship
University of Gothenburg	Sweden/E	Knowledge-Based Entrepreneurship
Ca Foscari University of Venice	Italy/E	Global Development and Entrepreneurship
Kedge Business School	France/E	Innovation, Transformation, Entrepreneurship
Rome Business School	Italy/E	Entrepreneurship and Innovation
Edinburg Napier University	Scotland/E	Business Entrepreneurship
Copenhagen Business School	Denmark/E	Organisational Innovation and Entrepreneurship
EDC Paris Business School	France/E	Innovation and Entrepreneurship
ESEI International Business School Barcelona	Spain/E	Digital Entrepreneurship
Alba Graduate Business School	Greece/E	Entrepreneurship
University of Venice	Italy/E	Global Development and Entrepreneurship
Dundalk Institute of Technology	Ireland/E	Entrepreneurship and Marketing
ITMO University Saint Petersburg	Russia/E	Innovative Entrepreneurship
Loughborough University	UK/E	Entrepreneurship and Innovation Management
University of Groningen	Netherlands/E	Sustainable Entrepreneurship
Free University of Bozen-Bolzano	Italy/E	Entrepreneurship and Innovation
University of Edinburgh	Scotland/E	Entrepreneurship and Innovation
London School of Business and Finance	UK/E	Entrepreneurship

National College of Ireland	Ireland/E	Entrepreneurship
Coventry University	UK/E	International Entrepreneurship
University of Reading	UK/E	Entrepreneurship
University of Cambridge	UK/E	Entrepreneurship
University of London (Royal Holloway)	UK/E	Entrepreneurship and Innovation
Kingston University	UK/E	Innovation Management and Entrepreneurship
University of Plymouth	UK/E	Entrepreneurship
Aston University	UK/E	Entrepreneurship
University of Bristol	UK/E	Innovation and Entrepreneurship
Bournemouth University	UK/E	Innovation Management and Entrepreneurship
University of Manchester	UK/E	Innovation Management and Entrepreneurship
University of the West of England	UK/E	Innovation and Applied Entrepreneurship
Goldsmiths University of London	UK/E	Social Entrepreneurship
Newcastle University	UK/E	Innovation, Creativity and Entrepreneurship
Aalborg University	Denmark/E	Entrepreneurial Engineering
DTU - Danish Technical University	Denmark/E	Technology Entrepreneurship
Roskilde University	Denmark/E	Social Entrepreneurship and Management
LUT University	Finland/E	International Business and Entrepreneurship
Antwerp Management School	Belgium/E	Innovation and Entrepreneurship
Harbour Space University	Spain/E	Entrepreneurship Management and Innovation
ESCP Business School	France/E	Innovation and Entrepreneurship
University of Sussex	UK/E	Entrepreneurship and Innovation
Utrecht University	Netherlands/E	Business Development and Entrepreneurship
University of Osijek	Croatia/E	Entrepreneurial Management and Entrepreneurship
Cranfield School of Management	UK/E	Management and Entrepreneurship
University of Pavia	Italy/E	International Business and Entrepreneurship
Leuphana University of Luneburg	Germany/E	Management and Entrepreneurship

KTH Royal Institute of Technology	Sweden/E	Entrepreneurship and Innovation Management
SRH Hochschule Berlin	Germany/E	Entrepreneurship
Munich Business School	Germany/E	Innovation and Entrepreneurship
University of Exeter	UK/E	Entrepreneurship and Innovation Management

Appendix II. – Timeline

In the following figure there is a timeline of this research. It is important to place it within the time as the results might be different when repeating it in couple of years.

As it can be seen in the timeline, there were three individual meetings with the supervisor and one Super Wise Net (SWN), from where the addition feedback and guidelines came from.
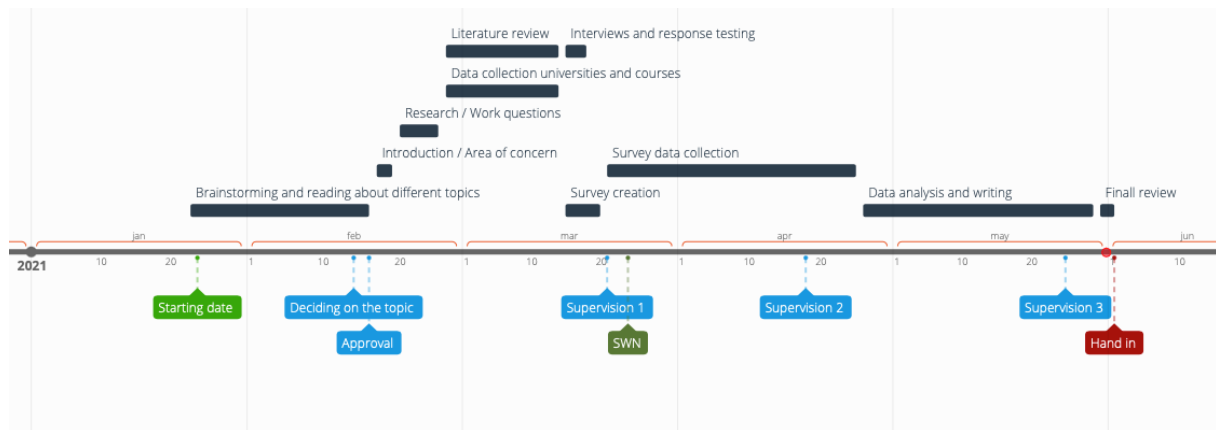
Appendix III. – Full results

The data in this appendix show the number of responses for the individual answers. Together with the thesis there is handed in together with an excel file with all the surveys and data about courses and universities.

Status	ALL	AAU
Employed	83 (3 of them part-time)	25
Self-employed	43	2
Unemployed	8	2
Tried self-employment	85	15

Appendix III.I – Employment

Appendix III.I.I – Job status

Answer	ALL	AAU
Fixed job	131	32
Project job / time limited	23	6

Appendix III.I.II – Job acquisition

Answer	ALL	AAU
Before finishing the uni	44	6
0-3 months	42	12
4-6 months	20	6
7-9 months	5	0
10-12 months	2	1
13-24 months	1	1
More than 2 years	1	0

Appendix III.I.III – Reasons for getting the first job

Answer	AAL	AAU
I had good contacts in my network	37	7
I wrote my thesis in the field of my first job	5	3
I had good experiences from a project work with external partners	20	6
I had good experiences from my internship	28	11
I had correct academical competencies (research methods, analysis ...)	23	5
I had ability with team work	44	9

I had good grades at University	19	2
I had good experiences from a voluntary work	14	3
I had good competencies from my Bachelor degree	35	10
I had good experiences from abroad	37	4
I had correct personal competencies	69	13
I had good experiences from my student job	18	7
I had ability to work cross-disciplinary	50	16
I had ability to work with problem solving	64	12
I had good competencies from my Master degree	51	10

Appendix III.II – Self-employed

Appendix III.II.I – Time to get self-employed

Answer	Currently self-employed	Previously self-employed
Before finishing uni	11	33
0-6 months after	12	5
7-12 months after	5	0
13-24 months after	3	1
More than 2 years after	11	3

Appendix III.II.II – Supporting the company income with other sources

Answer	Nr. of respondents
Yes, I support it with social benefits	3
Yes, I support it with a paid job	9
Yes, I support it with both social benefits and a paid job	0
NO	30

Appendix III.II.III – Job before starting a company

YES – 28
NO – 14

Appendix III.II.IV – Reason for stopping with self-employment

Answer	Nr. of answers ALL	Nr. of answers AAU
I did not have sufficient funding	10	2
My company was sold	3	1
It required too many working hours	2	1

The pressure was too heavy	2	0
Business idea was not good enough	7	3
Could not reach sufficient customer base	10	4
I lost motivation to continue	11	6
Other	16	5

Appendix III.II.V – Number of employees in the own company

Answer	Currently self-employed	Previously self-employed
Only me	15	14
1 employee	6	2
2-3 employees	10	11
4-5 employees	6	9
6-10 employees	2	1
Other	3 (14,14,13)	5

Appendix III.III – Professional connection

Appendix III.III.I – Professional connection from ALL the respondents

Answer	First job	Other than 1.job	Self-employed	Total
In the field	52	32	31	115
Outside the field	36	11	7	54
No connection	27	6	4	37

Appendix III.III.II – Professional connection between AAU graduates

Answer	First job	Other than 1.job	Self-employed	Total
In the field	3	9	1	13
Outside the field	6	4	1	11
No connection	3	0	0	3

Appendix III.IV – Job satisfaction

Appendix III.IV.I – Job satisfaction – salary - ALL the respondents

Answer	First job	Other than 1.job	Self-employed	Total
Poor	14	4	7	25
Fair	25	9	9	43

Satisfactory	45	12	13	70
Very Good	21	21	10	52
Excellent	10	3	3	16

Appendix III.IV.II – Job satisfaction – salary – AAU graduates

Answer	First job	Other than 1.job	Self-employed	Total
Poor	0	1	0	1
Fair	4	3	1	8
Satisfactory	7	2	0	9
Very Good	1	5	1	7
Excellent	0	2	0	2

Appendix III.IV.III – Job satisfaction – working environment - ALL the respondents

Answer	First job	Other than 1.job	Self-employed	Total
Poor	11	0	7	18
Fair	19	2	9	30
Satisfactory	40	14	13	67
Very Good	33	20	10	63
Excellent	12	13	3	28

Appendix III.IV.IV – Job satisfaction – working environment – AAU graduates

Answer	First job	Other than 1.job	Self-employed	Total
Poor	0	0	0	0
Fair	1	0	1	2
Satisfactory	6	3	0	9
Very Good	5	8	1	14
Excellent	0	2	0	2

Appendix III.IV.V – Job satisfaction – company name - ALL the respondents

Answer	First job	Other than 1.job	Self-employed	Total
Poor	6	4	3	13
Fair	16	2	2	20
Satisfactory	39	13	14	66
Very Good	34	20	11	65
Excellent	20	10	12	42

Appendix III.IV.VI – Job satisfaction – company name – AAU graduates

Answer	First job	Other than 1.job	Self-employed	Total
Poor	1	0	0	1
Fair	0	0	0	0
Satisfactory	8	6	1	15
Very Good	2	4	1	7
Excellent	1	3	0	4

Appendix III.V – Unemployed

3 of currently unemployed had a job before, 5 of them never got the job. In total there are 8 unemployed in the sample.

Appendix III.V.I – Time of being unemployed

Answer	Nr. of answers
0-3 months	4
4-6 months	2
7-9 months	1
10-12 months	1
13-24 months	0
More than 2 years	0

Appendix III.V.II – Reasons for being unemployed

Answer	Nr. of answers
There is a big competition in my field/dream job	6
There is no available job which would fit to my professional life	2
I lack relevant competencies from my education	0
I lack job experiences	3
There are no available jobs in my geographic area	2
I wrote applications, but never got the job	1
I was at interview/interviews, but never got the job	1