ENTREPRENEURIAL PROFILE OF HIGHER EDUCATION STUDENTS

Häme University of Applied Sciences

HAMK
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Master's thesis

Business Management and Entrepreneurship

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ABSTRACT

The purpose of this study was to find out what kind of entrepreneurial profile the students of Häme University of Applied Sciences have. In addition to that, the aim was to verify to what extent the higher education institute affects the development of students' entrepreneurial profile. The subject is current, because higher education in Finland is undergoing big changes and for over a decade, promotion of entrepreneurship has been one of the aims of Finnish higher education policy.

This research is a part of the extensive international research project, where other partner universities are Feevale University and University of Caxias do Sul from Brazil. In this extensive study research group investigates the topic from an international point of view.

In the theoretical framework, the entrepreneurial profile is examined from three main aspects; entrepreneurial dimensions, entrepreneurial intentions and entrepreneurial antecedents such as family roots and entrepreneurial activities provided by the higher education institute. The theoretical framework creates an overall picture of the entrepreneurial profile and the factors affecting it.

The quantitative research was conducted in the spring of 2016 by using questionnaire. The research was cross-sectional. The population of the study was students of Häme University of Applied Sciences. The questionnaire was answered by 626 students, which gave a response rate of 8,94 per cent. It was concluded that the students' entrepreneurial profile consists of multiple factors. Eight dimensions for entrepreneurs were examined, students have relatively high intentions for establishing their own company and the role of family roots, social contacts but also entrepreneurial activities are important. However, further research on the topics is needed to be able to develop the entrepreneurial activities at HAMK to answer students' needs better.

Keywords entrepreneurial profile, university of applied sciences, entrepreneurial dimensions, entrepreneurial intentions, entrepreneurial antecedents

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TIIVISTELMÄ

Tämän tutkimuksen tavoitteena on selvittää, minkälainen yrittäjyysprofiili Hämeen ammattikorkeakoulun opiskelijoilla on. Lisäksi tarkoituksena oli selvittää, millä laajuudella korkeakoulu on mukana opiskelijoiden yrittäjyysprofiilin kehittymisessä. Aihe on ajankohtainen, sillä korkeakoulukenttä on uudistuksen alla ja yrittäjyyteen kannustaminen on ollut Suomen korkeakoulupolitiikan yksi tavoitteista jo vuosikymmenen ajan.

Tämä tutkimus on osa laajempaa, kansainvälistä tutkimusprojektia, jossa muut yhteistyöyliopistot ovat Feevale University ja University of Caxias do Sul Brasiliasta. Kyseisessä laajemmassa tutkimusprojektissa selvitetään aihetta kansainvälisestä näkökulmasta. Teoreettisessa viitekehyksessä yrittäjyysprofiilia tutkitaan kolmen eri osatekijän näkökulmasta: yrittäjyysulottuvuuksien, yrittäjyysintentioiden ja yrittäjyyskorrelaattien, kuten perheen ja korkeakoulun tarjoamien yrittäjyysaktiviteettien puolesta. Tutkimuksen teoreettinen viitekehys muodostaa kokonaiskuvan yrittäjyysprofiilista sekä siihen vaikuttavista osatekijöistä.

Kvantitatiivinen kyselytutkimus toteutettiin keväällä 2016. Tutkimus oli poikittaistutkimus ja sen kohdejoukkona olivat kaikki Hämeen ammattikorkeakoulun opiskelijat. Kyselylomakkeeseen vastasi 626 opiskelijaa, joka on 8,94 prosentin osuus kohdejoukosta. Lopputuloksena selvisi, että opiskelijoiden yrittäjyysprofiili muodostaa monista eri osatekijöistä. Kahdeksan eri yrittäjyysulottuvuuden roolia selvitettiin, opiskelijoilla oli suhteellisen korkeat intentiot oman yrityksen perustamiseen ja perheen, sosiaalisten suhteiden, mutta myös yrittäjyysaktiviteettien rooli paljastui tärkeäksi. Jatkotutkimuksia tarvitaan kuitenkin vielä, jotta Hämeen ammattikorkeakoulun yrittäjyysaktiviteetteja voidaan kehittää vastaamaan vielä paremmin opiskelijoiden tarpeita.

Avainsanat yrittäjyysprofiili, ammattikorkeakoulu, yrittäjyysulottuvuudet, yrittäjyysintentiot, yrittäjyyskorrelaatit

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1 INTRODUCTION

Small and medium-sized companies are one of the key elements for Finland's economic growth and for new job positions in the near future. The phenomenon of start-up entrepreneurship has encouraged especially young and innovative people to pursue an entrepreneurial career and the amount of start-ups increasing. This new phenomenon has also increased people's entrepreneurial attitudes. Surprisingly, at the same time, the amount of new companies established all over Finland is decreasing. In addition to that, more and more companies are shutting down their operations. (Confederation of Finnish Industries 2016.)

According to the GEDI index Finland was ranked as the 18th country in the world when it comes to the quality of entrepreneurial ecosystem. This ranking is as many as 11 places lower than the situation in the year 2012 so the decrease is really clear. When compared to Sweden, which is placed in the fifth place, the difference is quite enormous. Even though Finland is still among the best countries in the world when it comes to the entrepreneurial ecosystem, the decrease is still notable. Especially in the pillars measuring the quality of entrepreneurship activity, Finland's situation is lower than that of our competitors. In Sweden the educational level of entrepreneurs and exploitation of technology is also higher than in Finland. (GEDI 2016; Confederation of Finnish Industries 2016.)

Confederation of Finnish Industries also emphasizes bringing entrepreneurship knowledge to every school as an important factor regardless of the degree programme. (Confederation of Finnish Industries 2014, 3 & 14.) Universities of applied sciences have a significant role in this emphasized field because of their work-based education and close relationship with working life. For over a decade, the promotion of entrepreneurship has been one of the aims of higher education policy in Finland. In the year 2015 The Ministry of Education and Culture implemented a self-evaluation survey for Finnish higher education institutes concerning their operating methods that supports entrepreneurship. As a result of the survey, it became apparent that universities of applied sciences were ahead of universities when it comes to supporting entrepreneurship although there were also big differences among these two groups. (Ministry of Education and Culture 2015. 5 & 31.)

In addition to the traditional entrepreneurship which is equated with business activities, entrepreneurial activity is also an important part of entrepreneurship. From this point of view, entrepreneurship is associated with the creation and development of new economic activity and it is not necessarily related to an entrepreneur having to own a company. Employees can also be entrepreneurial, so entrepreneurial activity means pursuing the generation of value by creating economic activity. (Ahmad & Seymour 2008, 14-15.)

1.1 Scope of the research

The subject of this thesis is the entrepreneurial profile of higher education students in Häme University of Applied Sciences, later on referred to as HAMK. This thesis gives a general description of the type of entrepreneurial profile the students of HAMK have. Through this study, HAMK gets new insights and ideas to what kind of entrepreneurial activities and support they should offer to their students. It also gives a possibility to evaluate students' entrepreneurial intentions between different education fields. This research is implemented by HAMK's School of Entrepreneurship and Business, where the writer of this master's thesis is currently working.

This master's thesis concentrates on answering the research questions about the entrepreneurial profile of higher education students in the scope of students in Häme University of Applied Sciences. This research is a part of the extensive international research project concerning students' entrepreneurial profiles. The database of the partner universities participating in the extensive study and the comparison between them is excluded from this master's thesis. The extensive research project is presented in the chapter 2.2.

The population of this research are HAMK's students and especially the degree-awarding education students, even though teacher education students were not completely excluded from the study. This population's results could be generalised into Finnish higher education students overall, but also internationally at least from some point of views. The focus with the background variables is on the students' field of education. In addition to the examined dimensions of students' entrepreneurial profile, there might be other dimensions and factors, which affect to the development of students' entrepreneurial profile, but those cannot be solved by this research design and scope.

1.2 Objective of the research

As mentioned in the first chapter, universities of applied sciences have a big role in encouraging people for entrepreneurial careers and creating more positive attitudes towards entrepreneurship. As a promotion for these factors, higher education institutes are focusing on proper entrepreneurship education and entrepreneurial experiences. (Confederation of Finnish Industries 2014, 3 & 14; Ministry of Education and Culture 2015. 5 & 31.)

The objective of this thesis is to identify what kind of entrepreneurial profile the students at HAMK have and how the profile differs between the various fields of education. This thesis will give a general description of students' entrepreneurial profile. In addition to that, the aim of this research is to verify to what extent HAMK, is contributing to the development of the entrepreneurial profile of its students.

As a basis for these objectives, the main idea is to gather background information for future researches how to develop entrepreneurial activities at HAMK to better answer to needs of students. Thus, HAMK will get new insights and ideas about the entrepreneurial activities and support they should offer their students.

Answers to the research objectives are searched through three research questions, which are defined more specifically in the chapter 4.1:

- **Research question 1:** What kind of entrepreneurial dimensions do the students have?
- **Research question 2:** What kind of entrepreneurial intentions do the students have?
- **Research question 3:** What kind of entrepreneurial antecedents are there?

1.3 Research design

In this chapter, the research design is described briefly. A more thorough description about the methodological choices can be found in chapter 4. This research represents positivism and the research approach is deductive. This means that the research process started from a literature review and processed to creating a theoretical framework.

After the above mentioned phases, the research questions were defined based on the theoretical framework. The research focused on finding answers for these research questions. Because of the extent of the questionnaire and the big database, the research questions were specified into four hypotheses, which gave a closer look into the research objectives. The research design from the theoretical framework to the research questions and hypotheses are presented in the figure 1.

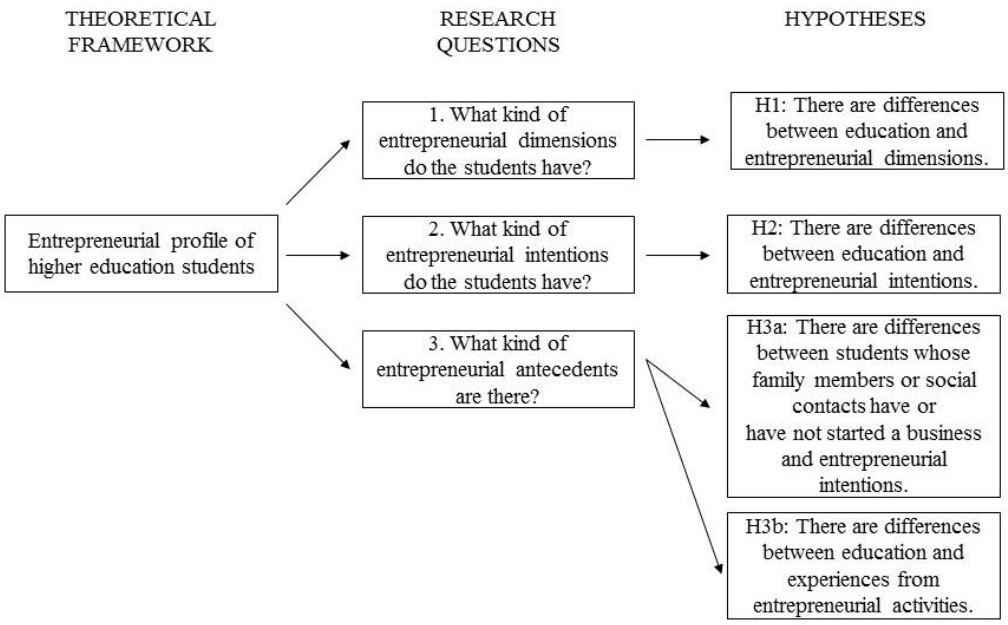

Figure 1 From theoretical framework to research questions and hypotheses.

Survey method was considered to be the most appropriate research strategy for this quantitative research. This study was cross-sectional and the data was collected through a questionnaire. The extensive international research project used the same research design and all of the phases of this master's thesis were closely related to that project. After the collection of the data, the next step was to analyse the results from the point of view of the hypotheses. In the final chapter of this research the key findings are presented and the conclusions are made.

1.4 Key concepts

The entrepreneurial profile of higher education students can be considered as a key concept for this research. This key concept also includes sub concepts, which are taken into consideration too. These are entrepreneurial dimensions, entrepreneurial intentions and entrepreneurial antecedents. In this research entrepreneurial dimensions consist of eight aspects which are self-effective, risk-calculative, opportunity detector, sociable, persistent, leader, creative and planner. Entrepreneurial intentions on the other hand consist of three factors: intentions, motivations and obstacles for entrepreneurship. The last subconcept, entrepreneurial antecedents, consists of family roots and social contacts, but also of higher education's entrepreneurial activities.

Multiple researches concerning these key concepts have also been made previously. The main researches related to this master's thesis are presented in chapter 2.3. The most related parts of those results are also compared to the results of this research in the final conclusion part.

2 CONTEXT

2.1 Häme University of Applied Sciences

Häme University of Applied Sciences (HAMK) is located centrally in the most populated area of southern Finland. HAMK has seven campuses, which are situated in Hämeenlinna, Forssa, Evo, Mustiala, Lepaa, Riihimäki and Valkeakoski. Häme University of Applied Sciences, which is later referred to as HAMK, is a multidisciplinary higher education institution and it has currently about 7000 students, 700 staff members and 30 degree programmes. 23 of these degree programmes are bachelor's programmes and seven are master's programmes. In addition to those, HAMK has professional teacher education unit and four different research units. HAMK operates in multiple fields of education. (About HAMK n.d.)

HAMK has strategic partnerships with two universities with a long history: Feevale University from Brazil and VIA University College from Denmark. The three universities have signed an agreement of alliance in the spring 2016. The strategic international alliance is aiming to strengthen their research activities, develop a common virtual campus and focus on e.g. the export of education, a joint international expertise pool, enterprise networks, student and staff mobility and international network-based research units. (International alliance n.d.) The subject of this master's thesis was an outcome of a collaborative meeting with Feevale University and HAMK. The background for this outcome is presented in chapter 2.2.

The history of HAMK starts from the year 1840 when agricultural education was founded in Mustiala. It was Finland's first agricultural institution and it combined both practice and theory. In Evo, The Ewoinen Forestry Institute was established in the year 1862 and it is still the oldest operating educational institute which specialises in forestry in Finland. Later it became a part of HAMK. Soon after that, in the year 1865 Fredrika Wetterhoff started a handicraft school in Hämeenlinna. In Lepaa, the horticultural school started operating in 1910. (HAMK Communication services 2016.)

In the 1950s and after that multiple regional educational institutions have been established in Häme region and in Southern Pirkanmaa. The universities of applied sciences were born in the 1990s when the Finnish higher education field was reformed. That was the time when Häme University of Applied Sciences was officially born and it combined the educational institutions from the area. Today, HAMK is the only higher education institute which operates in the region. HAMK operates actively on the national level, but also internationally to promote education and research. (HAMK Communication services 2016.)

HAMK's graduate employment rate is one of the highest in Finland, as well as the rate of the graduates who start their own businesses (Achieving Excellence in Education and Research 2015). Part of the HAMK mission is to improve Finland's competitiveness and its vision is to offer the most inspiring higher education and the most customer-oriented research. (HAMK Strategy 2020. 2015). Entrepreneurship can be considered as one of the key elements to improve Finland's competitiveness and young people's interest towards entrepreneurship has increased (Pietarila 2016). Accordingly, this research is supporting HAMK's strategy from those viewpoints.

2.1.1 Entrepreneurial activities at HAMK

In Häme region in Finland, Häme University of Applied Sciences is the only operating higher education institution that is also significant for the whole nation. Because of that, the role of HAMK is important when it comes to increasing the level of entrepreneurial knowledge and promoting entrepreneurial activities in Häme region. (Puusaari 2013, 4.) In HAMK Strategy (2015) the principle of "take action" is highlighted. It means that HAMK promotes entrepreneurship as a part of its every degree programme. HAMK wants to encourage students to innovate ideas, which are then developed into new business ideas.

According to the survey where HAMK's working-life orientation was examined, especially entrepreneurial activities were highlighted as one of the strengths of HAMK. Encouraging to entrepreneurship, entrepreneurship teaching and encouraging to innovations were seen as successful factors for that. (Innolink 2011.)

As higher education is undergoing big changes in Finland due to limited resources, entrepreneurship education has changed during the past couple of years. At HAMK, entrepreneurship education was previously coordinated from the top. All degree programmes had the same kind of basic entrepreneurship education courses available and HAMK had also different entrepreneurial activities which were open to all HAMK students.

Nowadays degree programmes have more flexibility to implement entrepreneurship education according to what suits them best. In addition to that there are still some entrepreneurial activities which are shared. For example, in the degree programme of business administration entrepreneurship education is included in various course modules and students have different options to focus on entrepreneurial activities if they are interested in them. Innovativeness and innovations are also an important part of entrepreneurial activities and students are encouraged to test, try and develop their ideas in different learning environments. (Tuomela, interview 12 September 2016.)

To mention some of the entrepreneurial activities at HAMK, Amazing Business Train is one worth of mentioning. Amazing Business Train provides an innovative way to learn entrepreneurship while travelling by train. Business development studies during an entrepreneurial train offer a moving and intensive practical learning experience to all students. The trip starts from Hämeenlinna railway station and passes through Finland to Oulu. During the trip, the focus on is team work in groups of diverse methods instead of watching landscapes. During these studies students develop either already thought business ideas further or start brainstorming ideas on the train. During the trip students can create their own networks and use different developmental tools in practice. Entrepreneurship teachers work as coaches during Amazing Business Train. (Tuomela, interview 12 September 2016.)

On the other hand, for example FUAS Innovation School offers students a way to advance their studies during summer. FUAS Innovation School is a 15 credit combination of virtual studies (themes) and project studies with companies. It gives students an opportunity to network, innovate and obtain knowledge. This can be considered as an indirect entrepreneurial activity.

Another form of HAMK's entrepreneurial activities is Startup Business School, which is a study module and it consists of three themes: business opportunity, idea commercialisation and business modelling. Startup Business School is meant for students who are interested in creating new business ideas, business projects, enhancing their entrepreneurship and business readiness. Students can earn 15 credits during this study module, which includes self-study materials and business projects – theory sections are studied on the internet.

In addition to those activities, different kind of entrepreneurial events such as pitching or business idea competitions, workshops, projects and company visits are arranged regularly. Degree programmes can arrange those activities by themselves but HAMK also offers multidisciplinary entrepreneurial activities and virtual learning is related to many of them. (Tuomela, interview 12 September 2016.)

2.2 International research project

2.2.1 Research partners

As mentioned before, this master's thesis is a part of the extensive study with universities from Brazil and Finland. This extensive study is a research project where Häme University of Applied Sciences (Finland), Feevale University (Brazil) and University of Caxias do Sul (Brazil) research their students' entrepreneurial profiles and comparing them with the other two universities.

Feevale University is located in the southern part of Brazil, in Novo Hamburgo, where they have two campuses. Their history dates back to the year 1969, when ASPEUR, the forerunner of Feevale University, was established. They have 54 undergraduate programmes, such as social applied sciences, human sciences, health sciences and pure sciences and a technology institute. They have also 10 graduate programmes, seven of those on master's level and three on in doctoral level. The amount of students is approximately 18 000. Feevale University also has an environment of innovation and entrepreneurship, which is called Feevale Techpark. There they have room for companies and research centers and their goal is to create closer connection with companies and the university, promote business competitiveness and foster new businesses. Feevale University is one of the two HAMK's strategic partners. (Universidade Feevale n.d.)

University of Caxias do Sul was founded in the year 1967, so it is the oldest university in north-eastern region of the state of Rio Grande do Sul, which is located in southern Brazil. Their main campus is situated in Caxias do Sul, but they have campuses in eight other cities as well. University of Caxias do Sul has 84 undergraduate programmes, from the fields of informatics, health, social communication, engineering and technology, applied social sciences, humanities, exact sciences and nature, arts, architecture and design but also from hospitality. In addition to those, they have 18 graduate programmes, of which 14 are on master's level and four on doctoral level. University of Caxias do Sul has approximately 37 000 students. As a basis for their degree programmes, research, innovation and technological development are important parts of the co-operation between the university and the society. Students and staff member are involved in projects which will be transformed e.g. into new products. (Universidade de Caxias Do Sul n.d.)

2.2.2 Research process

Representatives from HAMK and Feevale University met each others in October 2015 in Finland. Professor Serje Schmidt from Feevale suggested co-operation between strategic partners HAMK and Feevale University. Feevale University had been investigating their students' entrepreneurial profile for several years and they offered an opportunity for HAMK to join the research. On the other hand, University of Caxias do Sul and Feevale University are partners from the same country so it was natural that they joined in. (Lampinen, interview 15 August 2016.)

An international research group was formed at the end of the year 2015. The research group consists of representatives from each three universities: Eveliina Toivonen and Minttu Lampinen from HAMK, Serje Schmidt, Maria Cristina Bohnenberger and Tatiana Spaniol from Feevale University and Silvana Regina Apessan and Mateus Panizzon from University of Caxias do Sul.

The research group met regularly through Skype meetings. Each institute participating in the international research project had their own roles and responsibilities in every part of the process. The research work began by providing general facts about entrepreneurship in each country and exploring Feevale University's previous research, which was implemented and reported in Portuguese. The next step was to create the questions for the survey based on the theoretical framework. This was done in three different languages, in English, Portuguese and Finnish. Translating the questionnaire into different languages and cross-checking it was an important part of the process and assured the credibility of the research.

After that, the questionnaire was developed into the online version. Data collection was carried out in every higher education institution in the spring 2016. Online questionnaire was available for all students, covering letters (attachment 1) were created and reminding notices were sent. At HAMK, the second year business administration students, who were participating in their course on research methods assisted in gathering the data. Approximately 500 valid answered questionnaires were needed from each university, in order to provide consistent results that could potentially render action plans for the development of entrepreneurship. A general view of the extensive research project and how this master's thesis research subject is placed into this context is presented below (figure 2).

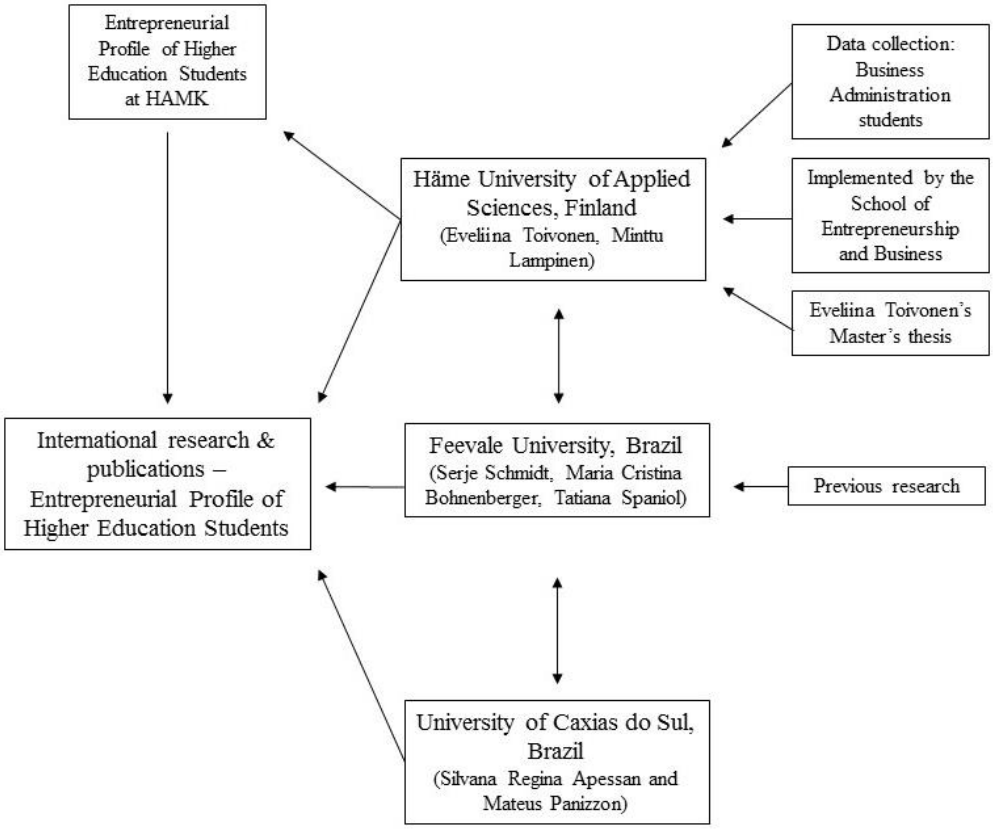

Figure 2 General view of the extensive research project and the teams.

All of the data was gathered at the beginning of the autumn period 2016 and a full database was completed. The goals were achieved as the amount of answers was 2180, which consisted of 1109 answers from Feevale University, 445 answers from University of Caxias do Sul and 626 answers from HAMK. The next step was to analyse the results which consisted of the comparison of the entrepreneurship profiles and the motivation between the countries, the conjecturing of possible antecedents and universities activities analysis. The higher education institutes participating in the research project shared their research topics and different articles concerning the international project are going to be published internationally.

This master's thesis research was implemented according to the extensive international research project. Some challenges rose from the cultural differences as the questionnaire had to answer to the needs of different countries and higher education institutions. As mentioned before, Feevale University had already done the same kind of entrepreneurship research before, so the questionnaire had to also follow the lines of their previous research to preserve compatibility with their longitudinal research.

2.3 Previous research

Entrepreneurship research has emerged as a topic of growing interest since the 1980's. Especially social scientists and management scholars have shown interest in it for a long time, although only little attention has been paid to geographical context in for entrepreneurial behaviour for example. On the other hand, historical research on entrepreneurship has a longer history and the focus has been on the characters and causes concerning the historical transformation of economies, industries and businesses. Historical research emerged already in the 1940s and 1950s. (Jones & Wadhwani 2006, 3-4.)

This chapter concerning on previous researches which have been made about entrepreneurial profiles focuses especially on four researches which survey the topic from different aspects. Flash Eurobarometer 134 (2002) examined the experiences, traits and risks concerning the entrepreneurship from the people living in the European Union, the United States, Norway, Liechtenstein and Iceland. The second research is called GUESSS. GUESSS stands for Global University Entrepreneurial Spirit Students' Survey. The research has been conducted every two years, since 2003. The International Report of the GUESSS Project 2013/2014 (Sieger, Fueglistaller, & Zellweger 2014) shows that 34 countries have participated in the study and that entrepreneurial intentions, antecedents and the activity of the universities have especially been examined.

In the Finnish research, researchers studied how entrepreneurial potential is developed among young people through a longitudinal study and the empirical context was Seinäjoki University of Applied Sciences (Varamäki, Joensuu, Tornikoski & Viljamaa 2015, 563; 568). The fourth and final main previous researches is the Global Entrepreneurship Monitor (GEM) which has now been completed 17 times and they compared 60 economies around the world with the main focus on different rates of entrepreneurship such as the characteristics, motivations and ambitions of entrepreneurs (Kelley, Singer & Herrington 2016, 7.)

In addition to those four researches, a couple of other researches were added to get a wider view of the previous studies. The most remarkable results which are related to this master's thesis study are presented in the chapters below. Especially the studies in which Finland is compared to other countries or the comparison is made between different age groups have been taken into account. Some of the previous researches presented in this chapter are also discussed in the conclusion chapter, where these previous researches are compared to the results of this master's thesis.

2.3.1 Entrepreneurial dimensions

There are multiple different dimensions related to entrepreneurship that can be calculated or compared. The chosen dimensions depend on the study and viewpoints for it. Despite of different viewpoints, a previous research made by Mitchell, Smith, Morse, Seawright, Peredo and McKenzie (2002, 17) provided results proving that there are statistically significant differences between entrepreneurs and non-entrepreneurs when speaking of their expertise and dimensions.

The GUESS research revealed that students' company ideas or actual companies include high degree of innovativeness when students compared their ideas to the ones which are their competitors. (Sieger et al. 2014, 58.) On the other hand, GEM research claimed that most of the entrepreneurs in different economies are opportunity-motivated. They are pursuing opportunities as a basis for their motivations to be an entrepreneur. (Kelley et al. 2016, 23.)

Pursuing opportunities is actually closely related to managing the risks. Sull (2004, 71) emphasizes that one of the most critical tasks when it comes to entrepreneurship is managing the uncertainty effectively which is an important part of pursuing opportunities. Risk-calculativeness is one of the keys for that. When considering the attitude towards taking risks, Finns are more scared of uncertain income which is shown by a higher percentage in Finland than in the other European Union counties. On the other hand, the percentage of the fear of going bankrupt is among the lowest in the European Union. (Flash Eurobarometer 134 2002, 41-44.)

A slightly different view to entrepreneurship research is brought up by Vecchio (2003, 308-309) when he presents that people who have a strong belief that they are entrepreneurially self-efficient enough are more typically establishing companies compared to others. It is important to give these people opportunities to participate in developing business ideas and establishing companies. On the other hand, when it comes to social capital, which is sometimes also considered as an important dimension for entrepreneurship, there have been debates on whether it can be considered as a dimension especially for entrepreneurship or is it just a general life skill which benefits entrepreneurs too.

2.3.2 Entrepreneurial intentions

People living in the United States have a bigger will to become self-employed than people living anywhere else. 67% of the respondents would rather be self-employed than be employees. In the European Union; the percentage is not so high, even 50% of the respondents the status of an employee to being self-employed. In the same study, country-specific information was also examined and it revealed that the percentage of people who would rather be employees is 69% in Finland. In the countries examined, men and very young people in general, are more oriented towards becoming self-employed than others. (Flash Eurobarometer 134 2002, 31-9.)

At the moment entrepreneurial intention is the highest ever in the history of the GEM research among young people. 19,9% of 18-24 years old Finns are planning to establish a company within three years. A year ago this percentage was 13,4 and ten years ago it was only 6,3. When compared to other countries, Finland's competitive advantages in getting new companies established is the infrastructure and stability. (Kelley et al. 2016, 21; 72.)

According to a survey commissioned by Yle Uutiset approximately 14% of Finns could consider becoming entrepreneurs. This study also confirms that entrepreneurial intentions in Finland are the highest among the younger generation. 27% of 15-24 -year-old people could consider becoming entrepreneurs whereas among 50-64–year-old people the percentage was only 7. Nowadays people see entrepreneurship more like an opportunity, not only as the only way to earn a living. (Malminen 2016). There is also a lot of research on other country-specific information. For example, Sieger et al. (2014, 58.) found out that there are differences in entrepreneurial intentions between developing and developed countries – intentions are stronger in developing countries.

When it comes to motivation for becoming an entrepreneur, Segal, Borgia and Schoenfeld (2005, 47-48) suggest that people may be more motivated to become entrepreneurs if they believe that compared to working for others, self-employment is more likely to lead to valued outcomes. After that individuals consider whether they have the required skills and knowledge to become an entrepreneur. After that decision, they determine that if they are willing to accept the risks concerning entrepreneurship.

Based on the model of entrepreneurial motivations by Segal et al (2005, 47-52), which is briefly presented in the previous chapter, the next logical viewpoints are obstacles for entrepreneurship and previous research made from them. Financial resources and the lack of them were considered as major obstacles when establishing a business, but also the complexity of administrative procedures also played a role in it. Surprisingly, in Finland, the complexity of administration procedures was seen a slightly bigger obstacle than the lack of financial resources. Actually, when compared to the other countries of the European Union, Finland was a country where the lack of financial resources was the second least feared. (Flash Eurobarometer 134 2002, 23-25.)

2.3.3 Entrepreneurial antecedents

When considering family background, Sieger et al. (2014, 58) found out that students whose parents had experience of entrepreneurship were more likely to become entrepreneurs than those whose parents did not have such experience. The same thing was also emphasized in the Flash Eurobarometer 134 (2002, 9) where the results showed that respondents who had at least one self-employed parent were towards self-employment compared to respondents whose parents were working for someone else. (Flash Eurobarometer 134 2002, 9.)

On the other hand, Peng, Lu and Kang (2012, 95-98) investigated the entrepreneurial intentions of students at a Chinese university and how for example family background affects their intentions and their results showed that that the entrepreneurial experiences of relatives, parents or friends had no significant impact on students' entrepreneurial attitude. This difference in research results might be explained through cultural differences.

Multiple studies have been made concerning the influence of families and social contacts on students' entrepreneurial profile. Most of the results emphasize the fact that there is a positive correlation. In addition, Gacheru (2007, 25-27) found out that for individuals who have parents with low entrepreneurial performance, the step to become an entrepreneurship is much higher than for others. When an individual's parents have failed in their self-employment, the influence on an individual becoming an entrepreneur is negative.

In a GUESS research, nearly two thirds of the respondents had not attended entrepreneurship-related courses. Despite of that, the entrepreneurial atmosphere and entrepreneurial learning at the universities were seen as important antecedents for the students' entrepreneurial career. (Sieger et al. 2014, 58.) A Finnish survey showed that higher education in general seems to have a negative effect on the development of students' entrepreneurial potential. Despite of that, they also found out that the students who participated in courses based on active entrepreneurship as well as in typical entrepreneurship lectures did not lose their entrepreneurial intentions. (Varamäki et al. 2015. 574.)

The research made by Koch (2005, 118-119) concluded that students who take part in the entrepreneurial activities in higher education voluntarily are especially motivated and have an active attitude towards entrepreneurship. As a natural continuum for that, Weinberg (2005, 24-26) was investigating that in what kind of campus culture students would think of themselves as innovators, problem solvers and creators. In Weinberg's research at Colgate University in New York they made the shift from traditional point of view of seeing staff members as service providers and students as customers. The students became members of a community with their own responsibilities. As a result, the students improved their skills to take control, to assume some risk and to create, explore and innovate.

3 ENTREPRENEURIAL PROFILE

The theoretical frame used in this research is presented in this chapter. The subject of this thesis is examined from the entrepreneurial point of view. The main focus is to describe the background information briefly for research questions which are then developed through the theoretical framework in a deductive way. The theoretical background of this study is strongly related to entrepreneurial dimensions, intentions and antecedents. The entrepreneurial profile of the students represents a hypernym of these themes. The focus of this theoretical framework is on Finland's point of view, because this master's thesis focuses on HAMK's students, even though the extensive study is international. This is done to draw more specific conclusions based on the research of this master's thesis.

The theoretical background consists of three main parts as it can be seen from figure 3. The parts are the previously mentioned entrepreneurial dimensions, intentions and antecedents. At first the same terms related to the entrepreneurial profile, such as entrepreneurial activity, are described. After that, the theoretical framework for entrepreneurial dimensions and intentions is highlighted. The final part of this chapter deals with entrepreneurial antecedents and the effect they have on the development of the students' entrepreneurial profile. This section is divided into two parts. The first is family roots and social contacts. The second parts give an overview on entrepreneurial activities in higher education institutes.

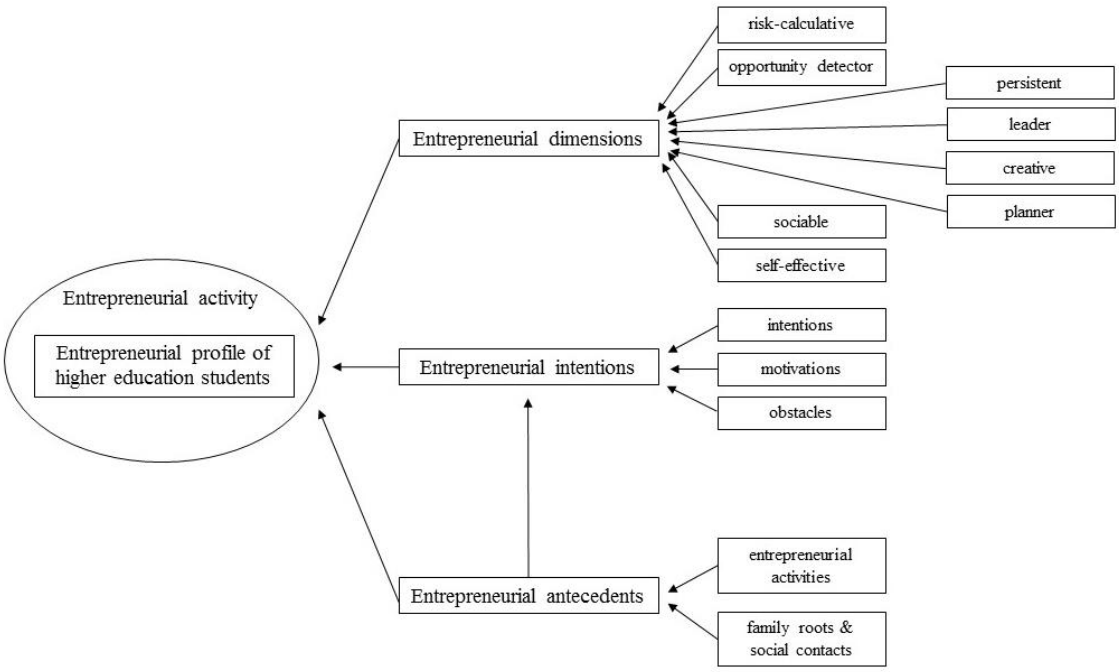

Figure 3 Entrepreneurial profile of higher education students – the theoretical framework of this study.

Entrepreneurship can mean different things to different people. For some it can mean top skills and attitude towards change and new innovations, but on the other hand for some people it can mean just a person who wants to work for him or herself. There is not currently any specific definition of entrepreneurship, which is uniformly accepted in the literature (Carland, Hoy, & Carland 1988, 33). According to Cambridge Dictionary (n.d.) entrepreneurship means "skill in starting new businesses, especially when this involves seeing new opportunities".

Even though the word 'entrepreneur' has been used at least from the beginning of the 18th century, scholars still disagree who can be called as an entrepreneur (Carland, Hoy, Boulton & Carland 1984, 354-356). For example, in their Green Paper, Commission of the European Communities (2003, 5) entrepreneurship was described by a more modern definition. They declared that entrepreneurship is really a mindset, which includes a person's motivation and capacity as an individual or within an organisation and those features help to identify opportunities to produce more value.

There is no accurate data of the amount of entrepreneurs in the world. Measuring the amount is difficult because countries do not have any common definition of self-employment. In their executive report Reynolds, Bygrave and Autio (2004) stated that nine in 100 people of working age are somehow involved in entrepreneurship around the world (Cubico, Bortolani, Favretto & Sartori 2010, 425).

According to the COMPENDIA 2000.2 database, the number of business owners in Finland has increased between the years 1972 and 2000, from 145 000 to 212 000 business owners. But in this case it has be remembered, that as we all well know, the number of total labour force has increased, too. When the number of business owners is divided by the number of total labour force, statistics prove that the share of business owners has increased. In the year 1972 the business ownership rate was 0.066, and in 2000 it was already 0.081. This database does not include business owners in agriculture, forestry, fishing and hunting. (van Stel 2003, 50-52.)

Entrepreneurial profile can be approached from a trait or behavioural perspective, which are both important parts of it. Both are needed to understand the whole concept of entrepreneurship. Some researchers have been caught up in the debate between trait and behavioural ways, when the biggest question should have really been why some people become entrepreneurs. A simple example for this comes from the sport life: a successful team needs skilful and motivated people who interact together and play and train in an environment leading to their success. (Carland et al. 1988, 33-36.)

Just like a successful team, an entrepreneur needs to have specific traits and behavioural things to succeed. To put it simply, the whole is always greater than the sum of its parts. Researchers have proved that entrepreneurs and small business owners are individuals and they all have different traits and behaviours. Because entrepreneurs are not a homogenous group, it is important to study different aspects of entrepreneurial profile. (Carland et al. 1988, 33-36.) In recent years, there has been a growing interest in the personal characteristics of an entrepreneur and certain individual differences have been found, for example the ones concerning attitudes, traits, values and motives, which all differentiate entrepreneurs from the others. (Cubico et al. 2010, 426.)

As a synthesis of this research it can be concluded that the entrepreneurial profile is a sum of its parts and both traits and behavioural factors affect the entity. The three factors are dimensions, intentions and antecedents. A more precise definition of the synthesis was presented in figure 3. The hypotheses of each of the three factors of the entrepreneurial profile are presented at the end of the chapters dealing with the topic. In addition to the themes, entrepreneurial activity is described briefly because it is important to realise that people can implement their entrepreneurial behaviour in various ways. No hypotheses were made for that theme because it was not included in the research objectives.

3.1 Entrepreneurial activity

Nowadays entrepreneurial activity or behaviour as a skill is highly appreciated in different fields of business whether people are entrepreneurs or work for someone else as an employer. People can have traits and behaviours suitable for entrepreneurial behaviour but they can also implement it through working for someone else also. (Yvistä energiaa. n.d.)

Typically, entrepreneurship is highly related to establishing a business and that delineates entrepreneurship from other activities (Carland et al. 1988, 33-36.) On the other hand, entrepreneurship occurs in all type of businesses and in all sectors. An entrepreneur can be self-employed, but entrepreneurship can also exist in big multinational companies and in all phases of the cycle of life: pre-start, growth, transfer, exit or re-start. (Commission of the European Communities 2003, 6.)

Entrepreneurial activity is an important part of entrepreneurship in all of its forms. In addition to typical entrepreneurship whose characteristic is a company of one's own, there are two other forms of entrepreneurship strongly influenced by the postmodern atmosphere: intrapreneurship and self-oriented entrepreneurship. Entrepreneurial activity can be executed in all of these three forms. (Kyrö 1998, 134-137.)

Intrapreneurship means that organisations use entrepreneurial behaviour in their micro-level operations. It describes collective processes which are subconscious or conscious. Self-oriented entrepreneurship is related to an individual's own development in working life, to his or her behaviour, attitudes and ways of acting. Sometimes establishing and owning a company is related to self-oriented entrepreneurship but it is not a necessity. It is an individual's way to influence himself or herself, the environment or his ways of acting. (Kyrö 1998, 134-137.)

All in all, entrepreneurial activities can be considered to be a combination of enterprising human activity, leveraging creativity, innovation, identifying opportunities but also of value creation. These factors do not depend on any specific form of entrepreneurial activity. This point of view differentiates entrepreneurial activity and typical business activities from each other. (Ahmad & Seymour 2008, 9-10.)

3.2 Entrepreneurial dimensions

As mentioned at the beginning of this chapter, an entrepreneurship consists of both traits and behaviours. Entrepreneurial dimensions are traits that can be regarded as features or characteristics of a typical entrepreneur. Psychological literature reveals clearly that personality plays an important role on all aspects of life, including working life and entrepreneurship. There is still no specific combination of personality traits which makes a great entrepreneur – entrepreneurs have all possible combinations of those. So it is clear that all entrepreneurs cannot have the same set of traits and they are a heterogeneous group. (Carland et al. 1988, 33-36.)

Eight dimensions of entrepreneurship were chosen for the study of this master's thesis. The dimensions are presented below in table 1 below. According to researches, it is important to understand that no unique personal trait for entrepreneurs has been found (Rogoff & Heck. 2003, 559). These eight dimensions (table 1) were selected to this study due to several reasons. The literature on entrepreneurship and previous researches highlighted these dimensions among others. The extensive research group agreed that the dimensions were suitable for various cultures and HAMK's partner university Feevale has been using those dimensions in their longitudinal study as well.

Trait(s)	**Author(s)**	**Year**
self-effective	Chen, Greene & Crick	1998
risk-calculative	Busenitz	1999
opportunity detector	Ireland, Hit & Sirmon	2003
sociable	Baron & Markman	2000
persistent	Markman & Baron	2003
leader	Concepcion G.; Ireland et al.	2003; 2003
creative	Lupsa-Tataru	2014
planner	Clarysse & Kiefer	2011

Table 1 Typical traits of entrepreneurs, which were chosen as entrepreneurial dimensions in this research.

Self-effective

The first one of the chosen dimensions is self-effective. Wood and Bandura (1989) described self-efficacy as a person's cognitive estimate of how capable he or she is to mobilize cognitive resources, the motivation and actions needed to exercise control in their lives. High self-efficacy is not always directly related to success; it can persist also at time of failure. On the other hand, low self-efficacy can mean that an individual has a belief that he or she is not capable enough to complete the task because he or she does not have the required emotional and cognitive abilities. (Chen, Greene & Crick 1998, 296-310.)

Being self-effective is clearly a task-oriented characteristic and it is related to career choices, like becoming an entrepreneur. This is the reason why self-efficacy cannot be measured in a general domain. It can be measured on a specific task level, like in some specific tasks of entrepreneurship. The research revealed that self-effectiveness is a positive indication to become or be an entrepreneur. (Chen, Greene & Crick 1998, 296-310.)

Risk-calculative

For entrepreneurs it is typical that they engage themselves in risky events. In his study, Busenitz studied the definition of entrepreneurial risk and how entrepreneurs use biases so that they probably are receiving less risk in different situations then the others. A lot of studies have been made of the risk-taking characteristics of entrepreneurs, but not so many researches have examined the reasons for it. Busenitz believes, that entrepreneurs are able to master even big obstacles because they feel overconfident and are more willing to generalize things, despite of their limited experiences, than others. (Busenitz 1999, 325-328, 336-337.)

The biggest difference between entrepreneurs and managers in big organisations are how they think about and perceive risks. Business decisions include a lot of uncertainty and the possibilities of risks are nearly impossible to calculate if a decision-maker is trying to be too comprehensive. In these cases, one of the typical characteristics for entrepreneurs, risk-calculativeness, is useful and it can be applied by using the biases perspective. Busenitz's study revealed that if entrepreneurs had operated using comprehensive manners, most of the start-ups would never have been started. However, entrepreneurs approach risks in start-up processes using their own calculations and biases based on their experiences without desiring risky adventures more than others. (Busenitz 1999, 325-328, 336-337.)

Opportunity detector

Opportunity detector is the third entrepreneurial dimensions chosen into this master's thesis study. To be able to succeed as an entrepreneur, simultaneous opportunity detecting is needed. It is a typical trait of start-up companies to be good at detecting opportunities. Although, on the other hand, finding the right competitive advantages of those opportunities and exploiting them is not the most effective trait of those firms and entrepreneurs in small businesses. (Ireland, Hitt & Sirmon 2003, 963-967.)

Entrepreneurs who are focusing on the opportunity detecting aspect are still able to disrupt an industry's current competitive conditions or creating new market spaces. Opportunity detection in a close relation with advantage-seeking can also be seen as one of the most important features of the wealth creation process in firms. (Ireland, Hitt & Sirmon 2003, 963-967.)

Sociable

The fourth entrepreneurial dimensions is sociable. Baron and Markman suggest that specific competencies which help entrepreneurs interact more effectively with others are also related to their success. Social skills in the cases refer to social capital which is based on for example reputation, experiences and direct personal contacts. These skills help an entrepreneur to have an access to business angels, venture capitalists and new customers. (Baron & Markman 2000, 106.)

After having the previously mentioned first contact or access face-to-face interaction plays a more important role. When an entrepreneur is in this kind of a situation, different social skills, such good first impression, persuasiveness and the ability to read others, are useful. Consequently, since networking is one of the reasons to succeed as an entrepreneur, a sociable entrepreneur is typically more able to create new connections and socialise with other people. Luckily, social skills can also be trained easily. (Baron & Markman 2000, 106.)

Persistent

Markman & Baron argue that personal persistence is one of the dimensions which defines how person fits into entrepreneurship. Typically, establishing a company requires more work with less resources. In these cases, the vulnerability of failure is high. To be able to succeed entrepreneurs have to rise above many obstacles. This can mean, for example, working hard without knowing the results, trying to create a market foothold without financial resources and competing against established and resourceful companies. Because of these obstacles, entrepreneurs who are persistent – able to survive and overcome obstacles quickly, are more likely to succeed. (Markman & Baron 2003, 290-294.)

Persistency can be used to predict how effective a person is and how he or she performs under challenging situations. Establishing a company and creating a successful business is a challenge and persistent entrepreneurs typically outperform those who are less persistent. (Markman & Baron 2003, 290-294.) As an outcome of this definition, persistent has been chosen as one of the entrepreneurial dimensions for this research.

Leader

To become a dynamic entrepreneur an individual also needs skills to be a dynamic and effective leader. Leadership condition is higher in people who have other entrepreneurial characteristics, too. Concepcion G. sees dynamic leadership as a process of four steps. First an individual grows from an ordinary individual to an entrepreneur, after that to an entrepreneurial manager and finally to an entrepreneurial leader. The key phases in every step develop entrepreneurial characteristics. The biggest difference between managers and leaders is that managers are well-organised and focus on managing the organisation by their authority and position. On the other hand, leaders are innovative and focus on leading people by their charisma. (Concepcion G. 2003, 411-416.)

Typically, effective entrepreneurial leaders like to share their information and knowledge really openly, revisit simple questions deceptively, help to develop company culture where resources are managed strategically but also question the dominant logics. All of these characteristics are important for entrepreneurs. To summarize, an entrepreneur can also be considered as a leader and it is linked to the success of companies. (Ireland et al. 2003, 971-972.) Due to the combination of these characteristics of an effective entrepreneurial leader, leader was chosen to be the sixth of the entrepreneurial dimensions presented in this chapter.

Creative

What kind of role does creativity have when it comes to entrepreneurship? Lupsa-Tataru (2014, 139-144) describes creativity as a process where an entrepreneur brings something new to something that has a value, and it requires passion and commitment. It is common knowledge that when establishing a company an entrepreneur needs money, which is of course true. But a big share of the money can be compensated with other entrepreneurial qualities such as creativity.

In her study, Lupsa-Tataru (2014, 139-144) confirmed that there is a concrete link between entrepreneurship and creativity. Creativity has also been recognised as a one of the major drivers for innovation and economic growth. It has been found out that people in creative professions are more likely to become entrepreneurs than others. (Fritsch & Sorgner 2013, 21-22.)

Planner

The last one of the entrepreneurial dimensions deals with planning. Even though entrepreneurs are known for their "straight into action" attitude, starting a company and keeping it running needs a lot of planning, too. For example, the phases of idea creation and evaluation typically take time. New ventures are never conceived in one meeting. At the beginning there is only a small seed of an idea and an opportunity. Planning is clearly related to the entrepreneurial journey which follows these first thoughts and ideas. This includes idea testing and developing, reality-testing, correcting and investigating for example. After those many phases and if the idea is still a great one, an entrepreneur finally sees the potential value of it and really starts planning to spend time and money on it. (Clarysse & Kiefer 2011, 9.)

Naturally, this planning process continues constantly during the entrepreneurial journey, it just has different forms, like planning to grow the business, seeking new potential funding opportunities or expanding to new markets for example. After the early stages of ideas, some entrepreneurs move directly into writing a business plan, it is not a recommendable technique because the first idea is normally only a hypothesis and not a reality – it needs more planning and developing before it becomes a viable business idea. (Clarysse & Kiefer 2011, 9.)

As explained at the beginning of this chapter, entrepreneurs have multiple different dimensions and they are a very heterogeneous group. There are also various other entrepreneurial dimensions highlighted in the literature but the eight chosen dimensions represent the most typical ones well. Even though it is challenging to sketch a profile of an entrepreneur from the traits presented in table 1, it gives a good overall picture of the entrepreneurial dimensions and it has to be remembered that those traits are only one part of the entrepreneurial profile - which was illustrated in figure 3. Other parts of the entrepreneurial profile are discussed further below.

The entrepreneurial dimensions represented in this chapter are related to the research question number 1: What kind of entrepreneurial dimensions do students have? The research questions are explained further in chapter 3.1. The hypotheses based on this research question and the theoretical framework is:

Hypothesis 1 (H1): There are differences between education and entrepreneurial dimensions.

3.3 Entrepreneurial intentions

Many researches have confirmed that the role of intentions is important when it comes to the decision on becoming an entrepreneur (Ozaralli & Riverburgh 2016, 1). Intention can be defined as rational action, will or endeavour towards achieving the target of an intention. Entrepreneurial intentions can be divided into three different groups. The first group are the actual intentions referring to the will which is based on planned actions (Fayolle, Gailly & Lassas-Clerc 2006, 708) and to the intentions of opening a new business, in this master's thesis survey. The second group of entrepreneurial intentions is motivation. How motivated is a student to open an own business? The groups deals with obstacles. What kind of obstacles do students face when opening a new business?

Entrepreneurial activity and establishing a company are acts of intentional operations. In the model (Krueger & Carsrud 1993, 323) introduced by Fayolle et al. (2006, 708) intentions toward entrepreneurship are based on how attractive entrepreneurship appears to an individual, what kind of social norms about entrepreneurship an individual has and how self-efficient an individual is towards entrepreneurship. In this master's thesis intentions were measured by finding out whether students planned to open their own business, to what kind of extend they actually planned it, or if they were planning to close the business they had.

From the motivational point of view, the most important thing is to find out the motivations for why people make entrepreneurial decisions. There can be multiple different motivations and reasons which all affect those decisions. (Shane, Locke & Collins 2003, 257.) For some people who become entrepreneurs the need for achievement is great and they think that they can achieve those goals by becoming entrepreneurs. As mentioned before, entrepreneurship also includes risks and people who are motivated by risk-taking and tolerance for ambiguity find a way to fulfil that need by becoming entrepreneurs. Some individuals do not want to have their own boss, they want to have external locus of control, but on the other hand some future entrepreneurs have clear goals to achieve or have an egoistic passion, which are the motivations to become entrepreneurs. (Shane et al. 2003, 263-269.)

Typically, the biggest obstacles to opening a new business are knowledge and resources. It is commonly known that entrepreneurs will face numerous obstacles during their entrepreneurial journey. Individuals' previous experiences and cultural factors may affect how be affecting to how they see the obstacles, as well as other entrepreneurial intentions. For example, administrative and legal aspects are the biggest obstacles for entrepreneurs who are establishing their businesses, but financial things are also seen as challenges. When the company is already running, the biggest obstacles concerns the state of the economy. In addition to that, the knowledge of business and entrepreneurial ability is also regarded as an obstacle. (OECD 2011, 92-94.)

Research question number 2: What kind of entrepreneurial intentions do students have? is based on these viewpoints. The research questions are explained further in chapter 3.1. The hypothesis based on this research question and the theoretical framework is:

Hypothesis 2 (H2): There are differences between education and entrepreneurial intentions.

3.4 Entrepreneurial antecedents

As it was said at the beginning of this chapter, entrepreneurship is generally closely related to establishing a company. Despite of that, quite a big share of new entrepreneurs become business owners through change of generation or through normal buyout. Does that logic exclude these types from entrepreneurial researches? It is clear that the purchase of business can be considered also as an entrepreneurial activity. (Carland et al. 1988, 36.) That is one reasons why family businesses, impact of families and other social contacts cannot be dismissed. During an entrepreneurial journey, the ability to develop networks and create contacts is also fundamental (Birley 1985, 109).

Even though there has been a lot of discussion about entrepreneurial dimensions and traits which are part of defining the entrepreneurial profile, they are also dependent on environmental variables also (Cubico et al. 2004. 427). Entrepreneurial antecedents affect directly the development of entrepreneurial profile, but they also have an indirect affect through entrepreneurial intentions, which were discussed more specifically in the previous chapter. These antecedents are influence and shape the intentions to become an entrepreneur. (Ozaralli & Rivenburgh 2016, 1-2.)

In this study family roots, social contacts and entrepreneurial activities of higher education were chosen as entrepreneurial antecedents and the influence of them were researched. The research question of this master's thesis which deals with entrepreneurial antecedents is number 3: What kind of entrepreneurial antecedents are there? The hypotheses concerning these topics are presented in the next two chapters.

3.4.1 Family roots and social contacts

Researchers have proved that e.g. parental employment has a clear impact on initiating enterprise start-ups (Carland et al. 1988, 36). Family roots with financial resources, human resources, economic conditions and education can be seen as oxygen for entrepreneurship. Family roots as a part of entrepreneurship has not played an important role in entrepreneurship research even though it is a key part of it. (Rogoff & Heck. 2003, 559-560.)

In addition to typical family roots, other social contacts have a strong effect on entrepreneurs. Social contacts can mean e.g. friends but also business contacts. Potential or current entrepreneurs are looking for advice, information, reassurance and other immaterial things from their informal networks. Sue Birliey's (1985, 107-108) study reveals that informal contacts like friends and family are the main source of help for many entrepreneurs when it comes to for example material things in entrepreneurship.

The simplest form of family effects on entrepreneurship are family businesses, which actually are the vast majority of businesses. In addition to that, the role of families and social contacts, their own entrepreneur history and cheering has an important influence. To get a more holistic and realistic view of the entrepreneurial profile, external aspects like family roots and social contacts have to be taken into consideration. Families and businesses have had a close role during centuries so its historical affect is also remarkable. (Aldrich & Cliff. 2003, 574.) Previous research by Ozaralli and Rivenburgh (2016, 21) revealed that especially parental role models and examples were important factors on entrepreneurial intentions. Students who had family members with a successful entrepreneurial background had higher entrepreneurial intention than students whose parents were not entrepreneurs.

Hypothesis 3a (H3a): There are differences between students whose family members or social contacts have or have not started a business and entrepreneurial intentions.

3.4.2 Entrepreneurial activities in higher education

When it comes to understanding the concept of entrepreneurship, it is important to notice that multiple things happen before, during and after establishing the business (Carland et al. 1988, 36). The role of higher education institutions is important especially in the first steps before launching of a new venture. More and more new and innovative companies are needed to benefit from market openings and to go international on a larger scale.

The meaning of small companies and start-ups for the economy have increased a lot during recent decades (Commission of the European Communities 2003, 4). Globalisation has changed the situation, because manufacturing companies are struggling in high-cost locations and knowledge-based companies have become Europe's competitive advantage (Kauhanen, presentation 22 April 2015).

Nowadays, entrepreneurship education in higher education institution focuses on the development and improvement of entrepreneurial awareness, inspiration, skills and knowledge, which are needed to establish and run a company successfully (Ozaralli & Rivenburgh 2016, 10). Entrepreneurship can be considered as a multi-dimensional theme and it can occur in different contexts. Entrepreneurship is actually and most clearly a mindset. (Commission of the European Communities 2003, 5.)

It is important to understand that in addition to traditional entrepreneurship courses, students would benefit from a more multidisciplinary approach to entrepreneurial activities in higher education, which capitalises on all facets of entrepreneurship and the quality of those offerings also matters. E.g. incubators and mentoring programs are examples of additional programmes for entrepreneurial activities. From a pedagogical point of view, theoretical emphasis should be turned into practical emphasis. Students and teachers should co-participate in creating knowledge, and instructing as facilitators, but also both deductive and inductive learning are needed to produce lasting skill learning. Of course many of these approaches have been taken into use in many higher education institutes, but there is still a lot of work to be done. (Kickul & Fayolle 2007, 1-7.)

When entrepreneurial activities in higher education are reflected through a progression mode, they have four dimensions, which are interdependent: action, creativity, environment and attitude. These dimensions should be embedded into the core subject and curriculum in order to be effective. The goal should be that every student acquires innovative and entrepreneurial competencies, even though they do not have the same skills or future plans. In higher education institutes this means, for example, that students get involved into challenging and complex situations where they have to challenge their need for reflection and knowledge. It is important that students experience all four dimensions, thus different and versatile entrepreneurial actions are needed. (Rasmussen & Nybye 2013. 5-8.)

For many years one of the biggest goals of Finnish higher education policy has been the promotion of entrepreneurship. The strategic intent for higher education institutes has been to have an operating method, which provides and encourages the skills needed for a student to become an entrepreneur, but which also generates innovations and creates a good environments for growing companies. Despite of that, it has been noticed that there are quite big variations in accomplishing that strategy. Based on the self-evaluation survey, the management of every higher education institute which answered the survey, had engaged themselves into supporting entrepreneurship. The study also revealed that even though there are operational models for entrepreneurial activities, the implementation part was insufficient. (Ministry of Education and Culture 2015, 1-8 & 14-16.)

The research implemented by Ministry of Education and Culture (2015, 28) shows that when comparing the results from the universities with those from the universities of applied sciences, the latter ones were ahead of the universities in entrepreneurial activities and supporting entrepreneurship. Higher education institutes were divided into two categories according to the results HAMK was the only institute which was placed between those two categories presented in the survey: entrepreneurial universities of applied sciences and universities of applied sciences that support entrepreneurship. This may be because of the differences in the entrepreneurial actions between the degree programmes.

Entrepreneurship education and how it affects the development of students' entrepreneurial intentions is a research topic which has not been investigated a lot (Ozaralli & Rivenburgh 2016, 11). In this master's thesis entrepreneurial activities in higher education were divided into three categories based on their style and type. The first one is traditional education on entrepreneurship, which means typical courses and case study activities concerning entrepreneurship directly. The second category of activities is entrepreneurial experiences. This category includes activities such as participating and getting to know different entrepreneurial institutions and consultancies for example. The third category consists of indirect entrepreneurial activities including other higher education activities e.g. company visits, traineeships or events, which somehow encourages students to pursue entrepreneurship indirectly.

Hypothesis 3b (H3b): There are differences between education and experiences from entrepreneurial activities.

4 METHODOLOGICAL CHOICES

The scope and the objectives of the research were defined more thoroughly in the first chapter. In short, the objective is to find out what kind of entrepreneurial profile higher education students have and how the profile differs between the different fields of education. In addition to that, the aim of this research is to verify to what extent HAMK is contributing to the development of the entrepreneurial profile of its students. Even though this thesis is part of a extensive international study, the scope of the research focuses on HAMK's students.

If the research design is examined through the research onion as Saunders and Lewis (2012, 103) presented it, the first layer is research philosophy. This research can be considered as positivism. Positivism as a research philosophy means that it uses highly structured methods which are e.g. used to facilitate replication (Saunders & Lewis 2012, 104). Statistical methods in positivism include e.g. measuring phenomena as objectively as possible by using quantitative variables (Jyväskylän yliopisto 2015).

The research approach, on the other hand, is clearly deductive. The reasoning behind the method is that in deductive approach the theoretical framework comes first and the theoretical proposition is tested after that. Research questions are defined from the theoretical framework and the research focuses on finding the answers to those questions. (Saunders & Lewis 2012, 108.) The focus on deductive approach is to develop hypotheses based on a theory and a research design is created based on them. Deduction can be considered as a way to create knowledge from the particular to the general. (Research Methodology n.d.)

Saunders and Lewis (2012, 110-113) divide researches into three categories: exploratory, descriptive and explanatory studies. Descriptive study attempts to describe persons, events or situations and it requires quantitative responses. Descriptive study gathers information from the research objectives and tries to describe and explain it. Research objectives and analyses are described as objectively as possible, avoiding causing any changes to the results. Based on these categorisations, this research is descriptive.

Being interested in gaining quantitative and comparable answers, a survey was considered to be the most appropriate research strategy. A survey is a typical strategy for studies where data is gathered from a sizeable population and this strategy is popular in business research (Saunders & Lewis 2012, 114). This study uses mono method, is cross-sectional and the data is collected through a questionnaire. The whole research design is illustrated below in figure 4. The research methodology including strategies, time horizons, techniques and procedures is described more specifically in the next parts of this chapter.

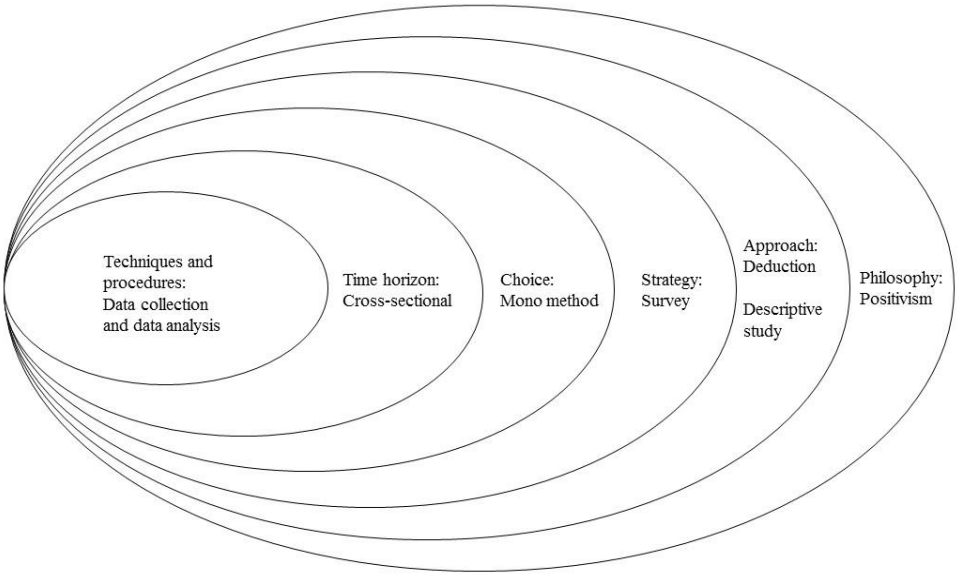

Figure 4 Research design of this study according to Saunders and Lewis (2012, 103).

4.1 Research questions

Research's objectives are pursued to accomplish by research questions. Choosing the right research questions is important but so is also the form of the questions. The basic form of the questions starts with "what". The answer tells to what the phenomena are all about. The responses to the right research questions produce answers which solve the research objectives. It is important to remember to avoid creating research questions which do not generate new insights and consulting the relevant literature is a key to this. (Kananen 2011, 19-20; Saunders, Lewis & Thornhill 2009, 33-34.)

In this research, the research questions were defined together with the international partners of the extensive study. The research questions were derived from the theoretical background and the applicability of this theory to this research setting was tested. This process and its interfaces are presented in figure 5.

Answers to the research objectives are searched through three research questions:

- **Research question 1:** What kind of entrepreneurial dimensions do the students have?
- **Research question 2:** What kind of entrepreneurial intentions do the students have?
- **Research question 3:** What kind of entrepreneurial antecedents are there?

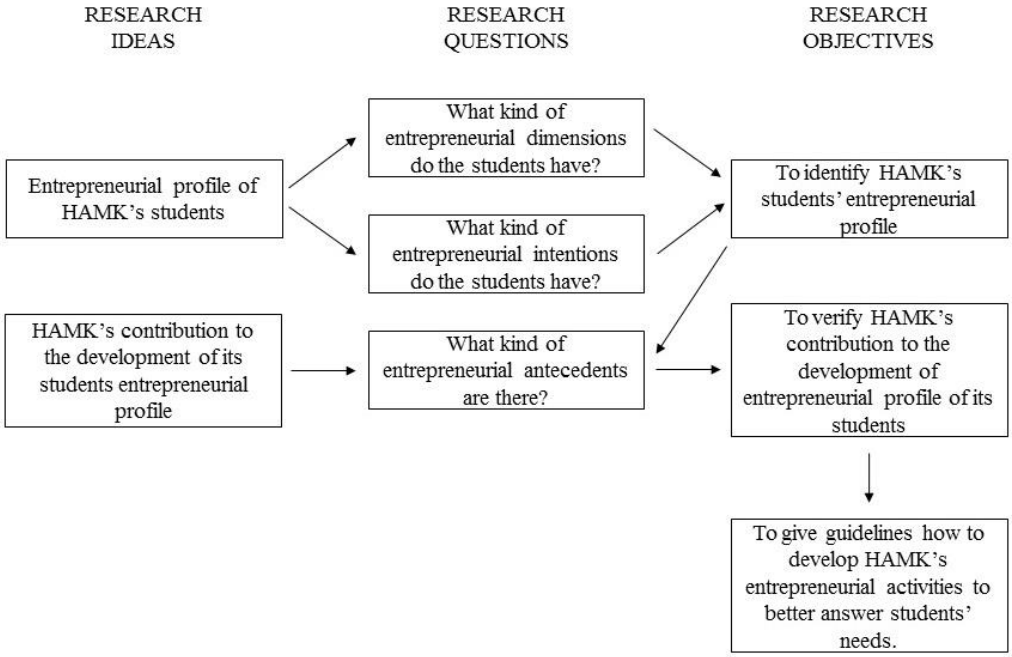

Figure 5 Research questions which are derived from research ideas and the objectives of the research, based on the model of Saunders, Lewis & Thornhill (2009, 34-35).

As it can be seen from figure 5, the research questions chosen were based on the research ideas. The first and the second one of the questions were created to solve the research objective "to identify HAMK's students' entrepreneurial profile". This objective led to the third research question. The main objective of this question is to verify HAMK's contributions to the development of the entrepreneurial profile of its students.

The aim of the follow-ups of this research is to develop guidelines on how to advance HAMK's entrepreneurial activities to answer the needs of its students better. All the previous research questions and objectives are giving guidelines on this.

4.2 Research methodology

4.2.1 Research method

The research method used in this research was a cross-sectional quantitative study. This quantitative study was carried out by using a questionnaire. The questionnaire had numerable and measurable questions. Even though this research was cross-sectional, there is an option to continue the same research process even yearly. Thus it can be expanded into a longitudinal study later.

A quantitative study was chosen as a research method because of its repeatability features, but also because it would be easier to make comparisons between the universities in the extensive study. Feevale University, one of the partner universities, has already been implementing a study of their students' entrepreneurial profile for a couple of years so the questionnaire was modified from their original questionnaire. Most of the items were measured with a 7-point Likert scale and with a "don't know or don't want to answer" option.

A survey is a popular strategy for business and management researches. It involves structured collection of data from a sizeable population. Using standardised questions gives the possibility to compare responses across different locations but also within different time-frames. In addition to questionnaires, other forms of collecting survey data are structured observations and structured interviews. (Saunders & Lewis 2012, 115-116.)

Saunders and Lewis (2012, 123-124) described cross-sectional research as a snapshot of some specific research at some specific time and a longitudinal study as a research method which tracks events over time. The biggest difference between these two time-horizons is that a longitudinal study is able to note changes. This is one of the reasons why there is an intention to develop this research into a longitudinal study in the future.

4.2.2 Data collection

As explained before, this thesis is a part of the extensive international study. That is the reason why the research questions had to be suitable to use at different universities. By taking this into consideration from the beginning of the research process, the results would be easier to compare on the next stages of the extensive study. The questions of the questionnaire were decided among the research teams from the partner universities.

The survey was implemented by an online questionnaire, but students also had the opportunity to answer by using a paper questionnaire. Approximately 500 valid answered questionnaires were needed from HAMK, in order to provide consistent results that could potentially render action plans for entrepreneurship development. Data was collected from males and females, but also from students from different degree programmes. Because the amount of needed answers was so high, there was no sample selection, the questionnaire was available for every HAMK's student. All the students had the option to answer the questionnaire or not.

Research questions were based on the theoretical framework presented in chapter 3. The questions were divided into three different approaches. The students' entrepreneurial dimensions were examined through questions 11-50. The entrepreneurial dimensions consist of eight aspects: self-effective (questions 11, 19, 27, 35 and 43), risk-calculative (questions 17, 25, 33, 41 and 49), opportunity detector (questions 12, 20, 28, 36 and 44), sociable (questions 14, 22, 30, 38 and 46), persistent (questions 13, 21, 29, 37 and 45), leader (questions 18, 26, 34, 42 and 50), creative (15, 23, 31, 39 and 47) and planner (questions 26, 24, 32, 40 and 48).

The second aspect was entrepreneurial intentions, which were investigated through the questions 51-70. In this research this aspect was divided into three groups: intentions to open own business (questions 51-55), motivations to open own business (questions 56-61) and obstacles for opening a new business (questions 62-70).

The last approach was entrepreneurial antecedents and the questions concerning this topic were 71-95. This approach consisted of two aspects: family roots and social contacts (questions 71-80) and university activities (questions 81-95). The latter aspect was divided into three groups. Traditional education on entrepreneurship (81, 82, 84, 85 and 90), entrepreneurial experiences (83 and 86-89) and indirect entrepreneurial activities (91-95).

The first questions of the questionnaire dealt with profile variables and scales. This background information enables the comparison of the results between different background variables and respondent groups. The final questionnaire can be found at the end of this thesis, as attachment 2.

5 ANALYSIS

5.1 Operationalisation

Because of the extent of this research, the concepts presented in this master's thesis need to be operationalised. It is especially important to differentiate the concepts from different levels, which means operating the concepts into more understandable and measurable form. (Vehkalahti 2008, 18; KvantiMOTV 2008.) For example, entrepreneurial profile and intentions are abstract concepts and had to be defined into analytic concepts which were measurable. Parts of this operationalisation was already done in the previous chapters, but figure 6 presents all of them in the same figure.

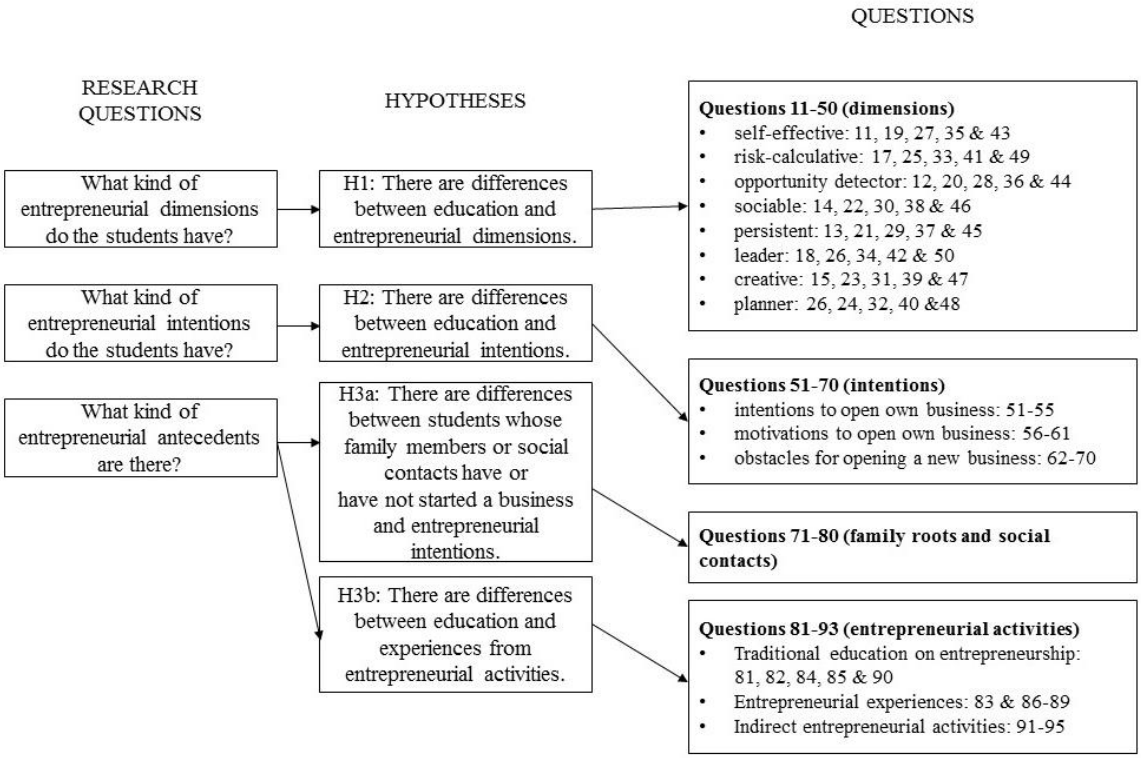

Figure 6 Operationalisation of the research.

From the figure above, it can be seen which hypotheses were derived from each of the research question. Most importantly the figure illustrates the questions which measure each hypothesis. The questionnaire can be found in the attachment 2.

5.2 Results of the research

The data were analysed with Webropol's Professional Statistics tool and Microsoft Excel. At the beginning of the analysis, values needed to be recoded. By using the recoded values, the eight option, I do not know / I do not want to answer, was excluded from the results where Likert scale was used. In addition to this, values were recoded as opposites. Value 1 was scaled to 7, value 2 to 6 and like that. This was done because e.g. value 1 in the questionnaire meant that the respondents completely agreed and value 2 that they completely disagreed. In the analysis phase, this would have had caused problems with calculating in the analysis phase.

To be able to test the hypotheses, the data was analysed by using cross tabulation. As this research and the hypotheses dealt with multiple variables, multivariate methods were considered suitable for analysing those. Suitable methods are depending on the types of data. Whether the depending variables of the data are in the form of a nominal or ordinal scale or whether they are in the form of a ratio or interval scale applies to the explanatory variables, too. (KvantiMOTV 2003.)

In this research and hypotheses, the data is in the form of a nominal (education) or ordinal scale (other variables). The method recommended in these cases is cross tabulation, which was chosen as the analysing method. Cross tabulation can be used to examine relationships between different variables (KvantiMOTV 2004). It is considered as one of the most traditional methods for analysing the data. Cross tabulation provides an illustrative way to present information in a compact form. (Vehkalahti 2008, 68.) In many of the cross tabulations in this research, the group which is compared is education based on Unesco's education field codes. To have a more explicit tables, Unesco's education field codes are presented only as codes, explanations for each code are presented below.

Unesco's education field (narrow) codes used in this research

- 11: Education
- 21: Arts
- 41: Business and administration
- 52: Environment
- 61: Information and communication technologies
- 71: Engineering and engineering trades
- 72: Manufacturing and processing
- 73: Architecture and construction
- 81: Agriculture
- 82: Forestry
- 91: Health
- 92: Welfare

5.2.1 Background variables

Overall 626 answers were collected from the students of Häme University of Applied Sciences. HAMK has currently 7339 students (HAMK Tietotuotanto 2016), so 8,94% of all of the HAMK's students answered the survey. Degree programme, field of education, percentage of education completed, age and sex were examined as background variables. In addition to them, number of financial dependents and students' entrepreneurship history were also described.

Among the answerers, there were 323 women (51,60%) and 303 men (48,40%), so the proportion of men and women was quite even. When compared to the proportion of men and women at HAMK overall, the percentages do not differ much, even though the overall the percentage of men is slightly bigger (50,62%) than that of women's (49,39%) at HAMK. The age distribution in this research consisted of students from 20 years old or less to more than 45-year-olds. The biggest group was the students who were 21-25 years old (40,26%). The second biggest group was 20 years old or younger students (19,17%) and the third group was 26-30 years old students (14,70%). The share of other age groups was under 8 % per group.

HAMK has five different schools, which are the School of Bioeconomy (11,66%, 73) the School of Entrepreneurship and Business (49,36%, 309), the School of Technology (26,36%, 165), the School of Wellbeing (11,66%, 73) and the School of Professional Teacher Education (0,96%, 6). The percentage and the number of answers from each school are presented after the school's name above. As it can be seen, answers were gathered from all of the schools even though there were only a few answers from the School of Professional Teacher Education. That school is the only school which offers education that qualifies for teaching, not degree-awarding education, like the others.

The scope of the research was to focus especially on degree-awarding education, so the percentage of answers from the School of Professional Teacher Education does not threaten the findings. The percentage of students from the School of Entrepreneurship and Business was higher in the database than in the population. This can be explained by the fact that the research was implemented by the same school. Because of this, the students in this specific school were easier to reach and they were more motivated to answer. The main background variables are presented below (table 2).

Background variable	**Population**	**Population 7339 %**	**Database 626 %**
Gender	Male	50,62%	48,40%
	Female	49,39%	51,60%
Age	20 years or less	This data wasn't available due to HAMK's new statistics	19,17%
	21-25		40,26%
	26-30		14,70%
	31-35		7,99%
	36-40		6,71%
	41-45		4,47%
	More than 45 years		6,71%
School	Bioeconomy	19,10%	11,66%
	Entrepreneurship and Business	22,96%	49,36%
	Technology	30,63%	26,36%
	Professional Teacher Education	9,16%	0,96%
	Wellbeing	18,15%	11,66%
Education	Bachelor's level	81,74%	83,87%
	Master's level	9,10%	15,18%
	Teacher education	9,16%	0,96 %

Table 2 Comparison of the main background variables of answers and population. The percentages of the population are based on the intranet of HAMK (HAMK tietotuotanto 2016) and data from Education Support Service at HAMK (Tirkkonen, email 3 October 2016)

The percentages were divided quite evenly when it comes to the percentage of education completed. (figure 7). Although the biggest amount of answers (38,82%) came from the students who had completed 25% - 30% of their degree. The biggest reason for that was probably that those students have typically more lectures at school than, for example, students close to their graduation who are doing their internships or thesis processes.

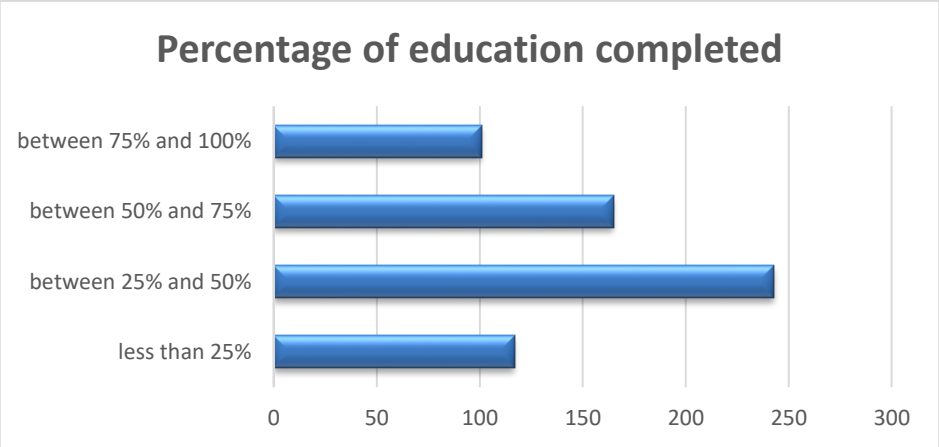

Figure 7 Percentages of education completed.

The respondents mentioned study in 29 different degree programmes. The amount cannot be compared directly with HAMK's degree programmes, because the respondents were able to write their degree programmes by themselves and there might have been different interpretations. Still, the biggest respondent group from the data collected was from Business Administration degree programme (21,41%), the second group was International Business (11,34%) and the third one was Automation Engineering (8,47 %).

83,87% of the responses were from students who studied on bachelor level, 15,18 % were from students studying on master level and 0,96 % were completing their pedagogical studies. Because the degree programmes mentioned in the survey were not comparable directly with HAMK's current degree programmes, they were divided by using UNESCO's ISCED classification, which is an international standard classification of education. (UNESCO, n.d.) This method also helps the comparison of the answers between the different universities in the extensive international study. The narrow field of the classification was used in this research. The degree programmes divided by ISCED classification can be seen below (figure 8).

The classification confirms that the major part of the answers came from the field of business and administration (39,94%) and this group includes the answers from the students from Business Administration, International Business, Business Development (master's degree) and Business Management and Entrepreneurship (master's degree). The second group is engineering and engineering trades with the share of 17,5 %. Each of the other education field had under 8% share of the answers. Narrow fields in this research were transformed from the degree programmes which students mentioned in their answers.

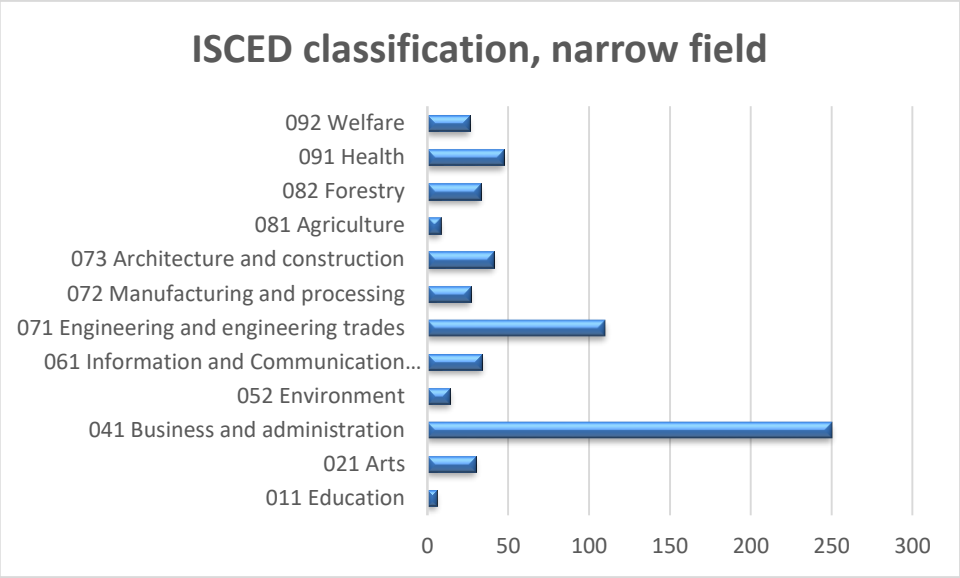

Figure 8 ISCED classification for the answers by using the narrow field.

As regards to the students' history of entrepreneurship, only 6,87 % of the students who answered the survey said that they had or had had their own business. Most of the respondents did not have any financial dependents (72,04 %). 79 students said that they had one financial dependent (12,62 %), 67 students said that they had two financial dependents (10,70 %), 21 said that they had three financial dependents (3,35 %) and only eight people had four or more financial dependents (1,28 %).

5.2.2 Entrepreneurial dimensions

Entrepreneurial dimensions were analysed by using cross tabulation. Before that, the reliability of the scales reliability was measured. That was done because there were multiple questions in the questionnaire measuring the same dimension. Cronbach's alpha was used for that. It is a statistic which measures internal consistency which means the degree to which items in the scale measure the same phenomenon. The degree varies from 0 to 1. A higher value indicates a higher level of reliability. A value higher than 0.7 is acceptable and values over 0.8 are considered as good. Values higher than 0.9 are questionable (Hooper 2012, 7u.)

Entrepreneurial dimensions measured by Cronbach's alpha are presented in table 3 below. As it can be seen from the table, all of the questions for each dimension could be analysed because Cronbach's alpha crossed the 0.7 in nearly every dimension. The only exception was a dimension called creative, where Cronbach's alpha was slightly under 0.7. Despite of that, all of the items in that dimension were also included, because the difference in Cronbach's alpha was so little and items had to be investigated together even though they do not correlate so well together.

Dimension	Cronbach's alpha	Grade
self-effective	0.7516	acceptable
risk-calculative	0.7222	acceptable
opportunity detector	0.8789	good
sociable	0.7320	acceptable
persistent	0.8103	good
leader	0.8279	good
creative	0.6924	questionable
planner	0.7479	acceptable

Table 3 The reliability of entrepreneurial dimensions measured by Cronbach's alpha

There were five questions measuring each entrepreneurial dimension. The questions were summarised and the average values from the Likert scale were calculated for each entrepreneurial dimension.

Figure 9 demonstrates the entrepreneurial dimensions from HAMK's overall viewpoint. As it can be seen from the figure, planner had the lowest average value (4,4) among the respondents. On the other hand, self-effective had the highest average value (5,4). So there was not any big diversity between the entrepreneurial dimensions of HAMK students overall.

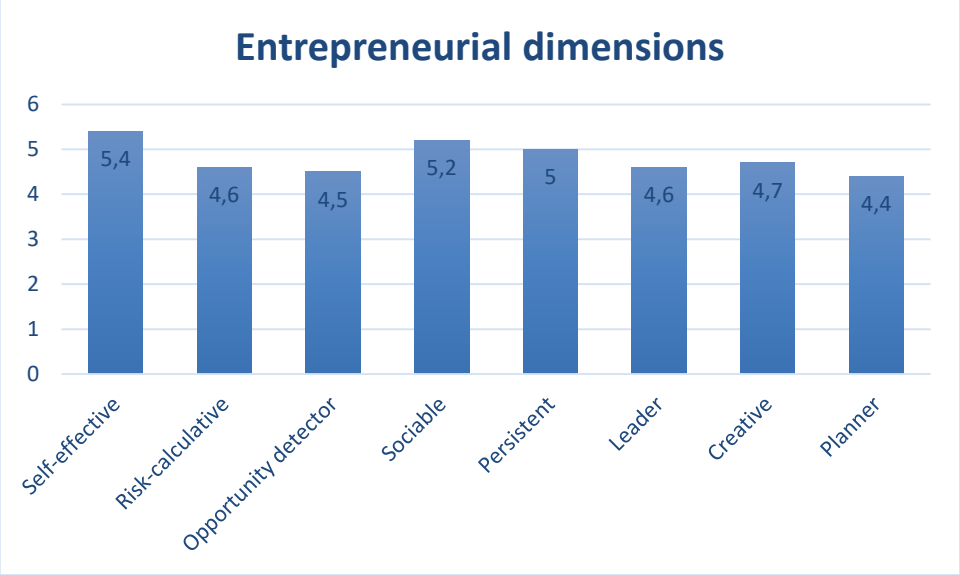

Figure 9 Entrepreneurial dimensions of HAMK students

To test the hypothesis 1 (H1): There are differences between educations and entrepreneurial dimensions, cross tabulation was used. Cross tabulation was applied for each entrepreneurial dimension. The results of the cross tabulation are presented in the form of the table below (table 4).

Chi2 Test was used to examine the groups where the difference is so big that the observations can be called statistically significant. Chi2 Test is an independence test which is based on the null hypothesis that variables are independent. In this research it meant that the null hypothesis in this Chi2 Test was that education and entrepreneurial dimensions are independent of each others. It means that if the null hypothesis is true, the entrepreneurial dimensions are the same despite of the education. (KvantiMOTV 20014.)

The statistically significant differences ($p=\leq 0.05$) between the respondent groups are indicated with green colour. White cell colour is shown when the difference between the respondent groups is not statistically significant.

	UNESCO'S EDUCATION FIELD											
DIMENSION	**11**	**21**	**41**	**52**	**61**	**71**	**72**	**73**	**81**	**82**	**91**	**92**
self-effective	5,73	5,13	5,58	5,08	4,85	5,29	5,08	5,47	4,65	5,28	5,61	5,54
risk-calculative	4,87	4,79	4,63	4,62	4,42	4,71	4,23	4,77	4,23	4,53	4,65	4,50
opportunity detector	5,30	4,54	4,59	4,41	4,05	4,73	4,01	4,49	4,00	4,29	4,13	4,33
sociable	5,37	4,97	5,40	4,53	4,60	4,90	5,33	5,03	4,90	5,15	5,48	5,39
persistent	5,37	5,01	4,96	5,01	4,25	4,94	4,68	5,11	4,30	4,95	5,35	5,18
leader	5,77	4,28	4,62	4,47	4,16	4,67	4,22	4,74	3,50	4,57	5,06	4,74
creative	5,60	4,95	4,54	4,80	4,56	4,80	4,44	4,83	4,33	4,42	4,92	4,80
planner	5,33	4,13	4,39	4,10	3,82	4,64	4,40	4,52	3,85	4,33	4,85	4,72

Table 4 Cross tabulation with entrepreneurial dimensions compared to education fields

As it can be seen from the table 4 above, statistically significant differences were found from nearly every education field. For example, three dimensions (leader, creative and planner) were statistically higher in education field 11 (education) than in the others. Among education field 41 (business and administration) self-effective, sociable and creative were the dimensions with statistically big enough differences. Field code 52 (environment) showed a difference big enough when it comes to sociable dimension. Students of information and communication technologies (61) showed differences in multiple dimensions, which were self-effective, opportunity detector, sociable, persistent, leader and planner.

Opportunity detector, sociable and planner were also dimensions which were highlighted in education field 71 (engineering and engineering trades). Agricultural students (81) self-effective and leader dimensions were statistically significant, and health students (91) stood up in multiple dimensions (sociable, persistent, leader and planner). In arts (21), manufacturing and processing (72), architecture and constructing (73), forestry (82) and in welfare (92) there were no statistically significant differences. In figure 8 below, the results are presented more visually in the form of chart.

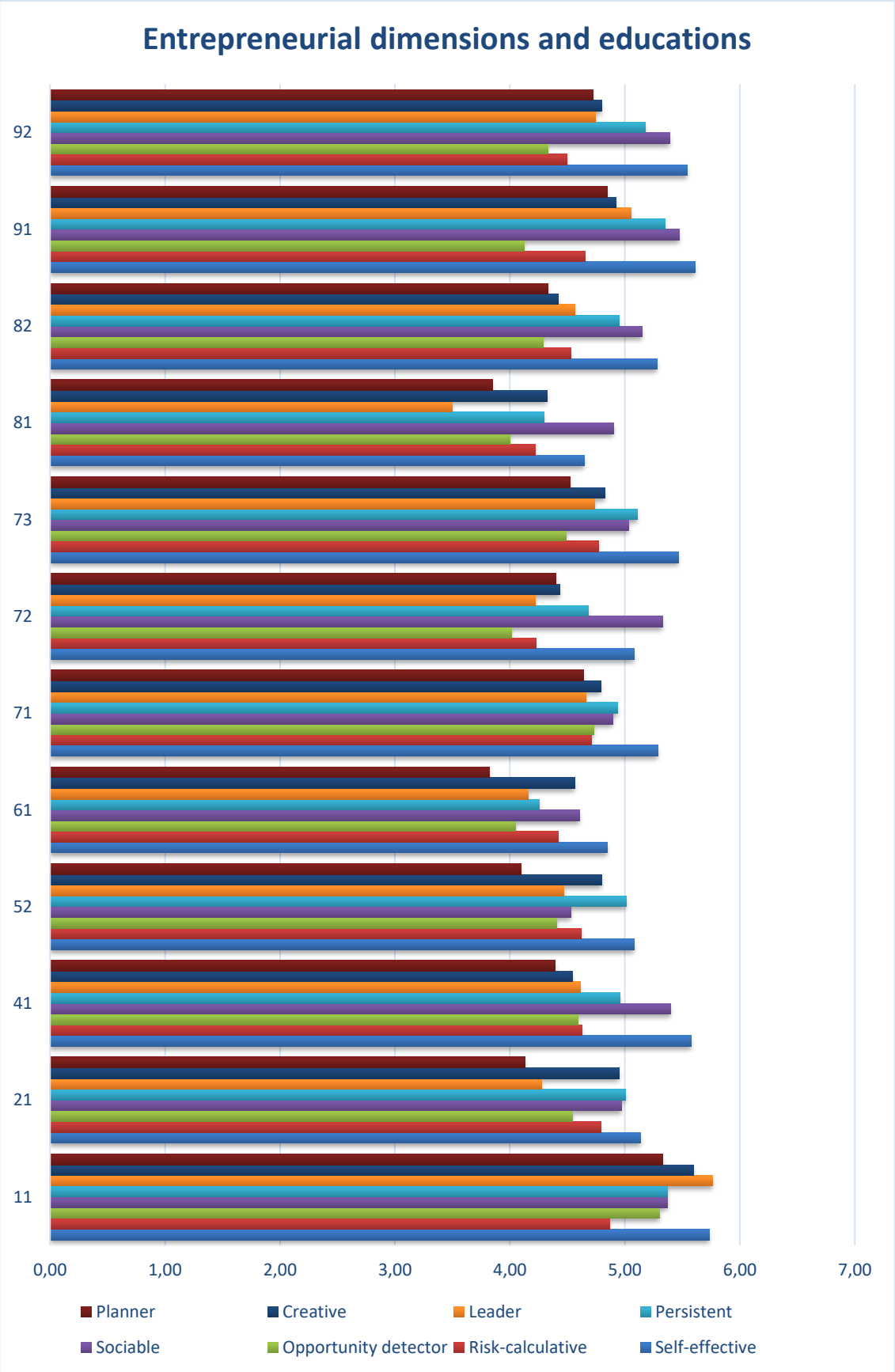

Figure 10 Entrepreneurial dimensions compared to UNESCO's education fields.

Finally, a study was conducted to see if there was a statistically significant difference in the values of the different educational fields among the various entrepreneurial dimensions. Analysis of variance (ANOVA) was used to investigate this. In a one-way analysis of variances there is only one dependent variable, which in this case was education field. A basis for this is the null hypothesis, that there are no differences. (KvantiMOTV 2002.)

This analysis of variances is presented in table 5. The statistically significant differences ($p=\leq 0.05$) between the respondent groups are indicated with green colour. White cell colour is shown when the difference between the respondent groups is not statistically significant.

ENTREPRENEURIAL DIMENSION	**UNESCO'S EDUCATION FIELD**
self-effective	4.08 (p=0.000)
risk-calculative	0.84 (p=0.598)
opportunity detector	1.89 (p=0.038)
sociable	4.13 (p=0.000)
persistent	3.25 (p=0.000)
leader	3.37 (p=0.000)
creative	2.27 (p=0.010)
planner	3.19 (p=0.000)

Table 5 Analysis of variance of education fields and entrepreneurial dimensions

As it can be seen from the table above, there are statistically significant differences in seven entrepreneurial dimensions. The only one where there is not statistically significant difference is risk-calculative. In addition to previous analyses presented in this chapter, this proves that the hypothesis 1 (H1), that there are differences between educations and entrepreneurial dimensions, is supported from self-effective, opportunity detector, sociable, persistent, leader, creative and planner dimensions, the only exception is risk-calculative dimension.

5.2.3 Entrepreneurial intentions

Entrepreneurial intentions in this research were examined from three different viewpoints: intentions, motivations and obstacles. All three viewpoints were analysed separately due to different sections and questions in the questionnaire. These factors were analysed by using cross tabulation.

Intentions

Cross tabulation was done to each question concerning intentions. The results of cross tabulation are presented in the form of a table below (table 6). Chi2 Test was used to examine the groups where the difference is so big that the observations can be called statistically significant. The statistically significant differences ($p=\leq 0.05$) between the respondent groups are indicated with green colour. White cell colour is shown when the difference between the respondent groups is not statistically significant.

Question	**Unesco's education field**											
	11	**21**	**41**	**52**	**61**	**71**	**72**	**73**	**81**	**82**	**91**	**92**
I like the idea of having my own business.	5,33	5,13	5,09	5,29	4,62	4,87	4,11	5,33	4,63	4,45	4,24	4,69
I already have an idea of business in mind.	4,67	4,40	3,78	3,93	3,76	3,95	3,07	4,28	3,63	3,59	3,70	4,08
I will open my own business soon.	3,00	3,39	2,93	2,17	2,38	3,54	2,41	3,23	2,38	2,91	2,28	2,17
I do not have any intention of opening my own business.	3,50	3,29	3,45	4,08	3,50	4,05	3,81	3,51	3,57	4,47	4,55	3,69
I want to close the business I have.	2,75	3,13	2,85	3,43	2,93	3,95	3,00	2,96	2,50	4,25	3,18	2,85

Table 6 Cross tabulation with intentions compared to education field.

As it can be seen from table 6 above, there are differences in some education fields. Business and administration students (41) showed statistically significant differences concerning the idea of having their own business, intentions of opening their own business and closing their own business. When it comes to engineering and engineering trade students (71), the statistically significant differences were seen in opening their business soon and closing the business they have whereas the significant difference among manufacturing and processing students (72) was seen in the question dealing with idea of having their own business.

Not having any intentions of opening their own business and closing the business they have were highlighted in the education field of 82 (forestry). Both students of health (91) and welfare (92) showed statistically big enough differences in the question of opening their business soon. In addition to that, welfare students were also highlighted in the idea of having their own business and not having any intentions of opening their own business. In the education fields of education (11), arts (21), environment (52), information and communication technologies (61), architecture and construction (73) and in agriculture (81) there were statistically significant differences. In figure 11 below, the results are presented more visually in the form of a chart.

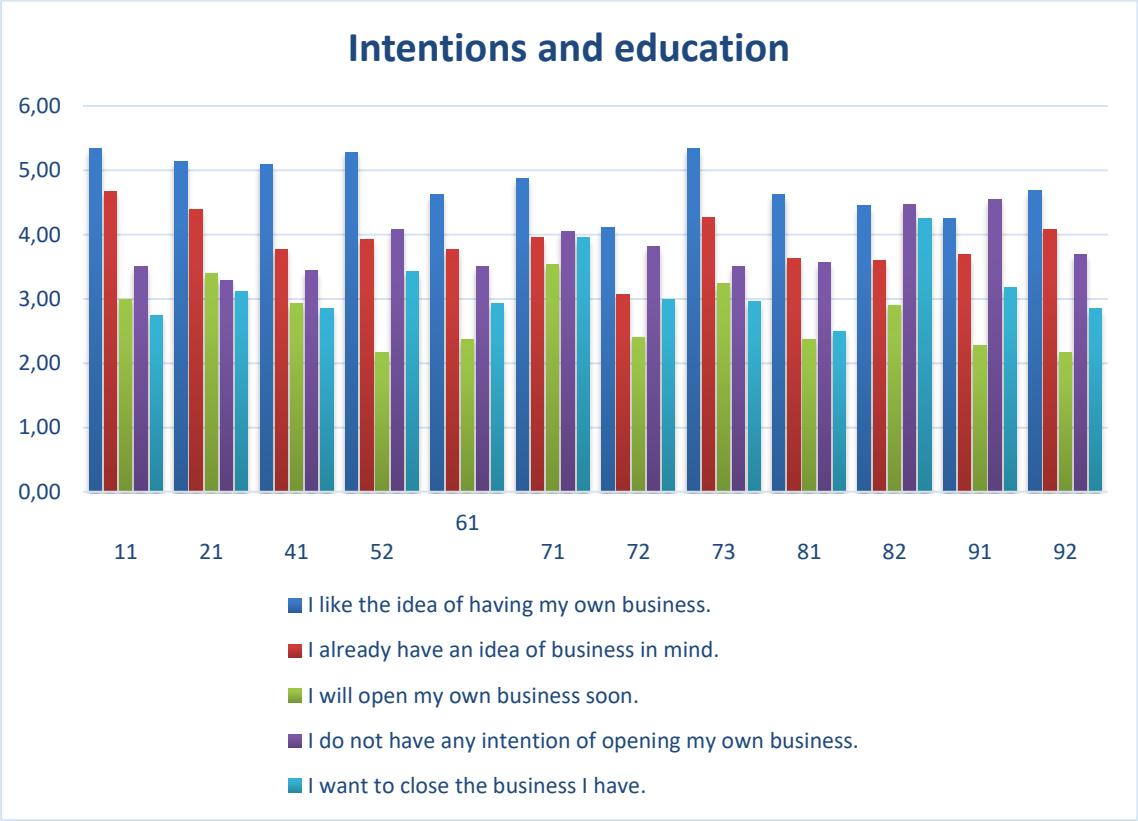

Figure 11 Intentions compared to UNESCO's education fields.

The comprehensive Chi2 Test was also done and the results are presented in table 7 below. The statistically significant differences ($p=\leq 0.05$) between the respondent groups are indicated with green colour. White cell colour is shown when the difference between the respondent groups is not statistically significant.

As it can be seen from the table below, there are statistically significant differences four of the five questions. The only one where there is not statistically significant difference is already having an idea of business.

QUESTION	UNESCO'S EDUCATION FIELD
I like the idea of having my own business.	121.53 (p=0.001)
I already have an idea of business in mind.	93.58 (p=0.096)
I will open my own business soon.	109.1 (p=0.009)
I do not have any intention of opening my own business.	118.23 (p=0.002)
I want to close the business I have.	117.37 (p=0.002)

Table 7 Chi2 Test for questions related to intentions when it comes to education fields.

Motivations

Motivations for entrepreneurship were analysed by using cross tabulation. When dealing with HAMK students, the biggest motivation for becoming an entrepreneur was earning more money. Table 8 presents the results of the analysis and the Chi2 Test was also used to find out the groups where the difference is so big that those observations can considered statistically significant.

The statistically significant differences ($p=\leq 0.05$) between the respondent groups are indicated with green colour. White cell colour is shown when the difference between the respondent groups is not statistically significant.

Question	Unesco's education field											
	11	**21**	**41**	**52**	**61**	**71**	**72**	**73**	**81**	**82**	**91**	**92**
I seek my financial independence.	5,50	5,54	5,60	5,77	5,26	5,52	5,58	5,90	5,14	5,34	5,78	5,69
I do not want to have a boss.	4,83	4,66	4,32	4,43	4,47	4,31	3,89	4,20	4,00	4,23	4,20	4,31
I do not have other job opportunity.	3,67	3,79	2,44	3,42	2,52	3,41	2,12	2,32	3,00	2,70	2,02	2,35
I want to follow my family tradition.	1,60	2,77	2,93	1,83	2,38	3,61	3,28	2,87	4,33	4,61	1,95	2,52
I want to exploit a market opportunity	6,00	4,44	4,56	4,69	4,50	4,58	3,96	4,57	5,00	4,93	4,05	4,46
I want to earn more money	6,33	4,48	5,87	5,36	5,85	5,68	5,62	5,95	5,71	5,75	5,30	4,69

Table 8 Cross tabulation with motivations compared to education fields

As the table above shows, education field 11 (education) showed a statistically significant difference in exploiting market opportunities. On the other hand, both art students (21) and business and administration students (41) showed a difference in not having other job opportunities and a will to earn money. The question dealing with family traditions showed a difference in the environment students' (52) answers compared to others.

When it comes to engineering and engineering trade students (71), the statistically significant differences were seen in not having other job opportunities and following family traditions. A meaningful difference was also found in the question dealing with family traditions among the forestry students (82). On the other hand, education field 91 (health) showed difference in not having other job opportunities and following family traditions, whereas education field 92 (welfare) differed from the others in the question dealing with earning money.

The education fields of information and communication technologies (61), manufacturing and processing (72), architecture and construction (73) and agriculture (81) showed no differences. To have a more visual view of the results, figure 12 presents them in the form of chart.

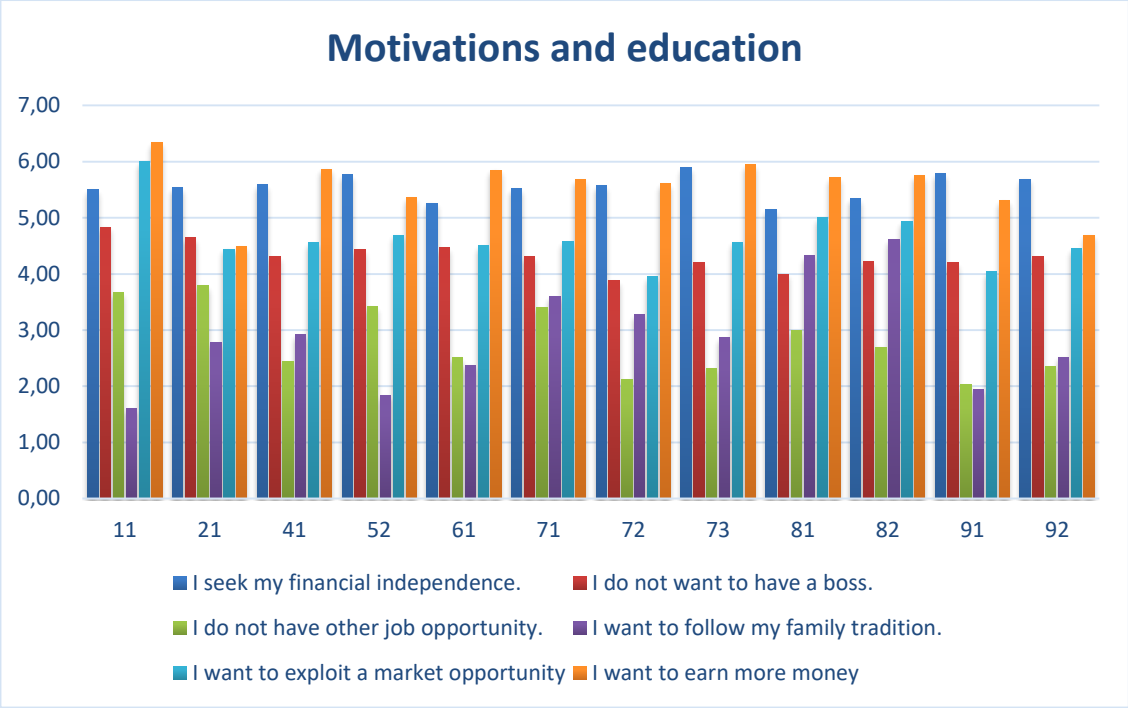

Figure 12 Motivations compared to UNESCO's education fields.

The Chi2 Test for all of the education fields was also done and it can be seen in table 9. The statistically significant differences ($p=\leq 0.05$) between the respondent groups are indicated with green colour. White cell colour is shown when the difference between the respondent groups is not statistically significant.

Four of the six questions concerning motivations for entrepreneurship have a statistically significant difference. The questions dealing with seeking financial independence and exploiting market opportunities showed no difference big enough.

QUESTION	**UNESCO'S EDUCATION FIELD**
I seek my financial independence.	78.65 (p=0.426)
I do not want to have a boss.	99.04 (p=0.046)
I do not have other job opportunity.	134.94 (p=0.000)
I want to follow my family tradition.	122.73 (p=0.001)
I want to exploit a market opportunity	65.33 (p=0.826)
I want to earn more money	130.13 (p=0.000)

Table 9 Chi2 Test for questions related to motivations when it comes to education fields.

Obstacles

The last one of the factors related to entrepreneurial intentions was obstacles. Like the other factors, this was also analysed through cross tabulation. When viewing the obstacles and averages, HAMK's students saw financial resources as their biggest obstacle.

The results of cross tabulation are presented in the form of a table below (table 10). Chi2 Test was used to examine the groups where the difference is so big that the observations can be called statistically significant. The statistically significant differences ($p=\leq 0.05$) between the respondent groups are indicated with green colour. White cell colour is shown when the difference between the respondent groups is not statistically significant.

Question	**Unesco's education field**											
	11	**21**	**41**	**52**	**61**	**71**	**72**	**73**	**81**	**82**	**91**	**92**
Financial resources	4,50	5,80	5,14	5,43	5,00	5,45	5,11	5,23	5,13	5,09	5,49	5,16
Entrepreneurial knowledge	4,17	5,53	4,13	4,36	4,74	5,18	4,93	4,72	5,75	4,70	5,00	4,76
Recessive market	4,83	5,07	4,58	4,36	4,53	5,17	5,19	4,74	4,88	5,03	4,90	4,68
Too much bureaucracy	4,17	5,60	4,65	4,79	4,59	5,19	5,27	5,26	5,50	5,79	5,50	5,62
Too much taxes	3,17	4,37	4,24	4,46	3,79	4,76	4,13	4,19	4,75	5,53	4,88	4,54
To know what to sell	3,83	3,40	4,90	4,71	4,06	5,27	4,92	4,24	4,00	4,41	4,41	3,65
Personal skills	3,33	3,59	4,22	3,86	4,32	4,94	4,41	4,24	5,00	3,78	3,45	3,46
The risks involved	4,50	5,00	4,81	4,86	4,38	5,13	5,00	5,05	5,25	4,58	4,86	4,04
Entrepreneurs are not perceived as nice persons	1,83	2,32	2,48	1,85	3,09	3,54	2,42	2,44	3,50	3,43	2,44	2,27

Table 10 Cross tabulation with obstacles compared to education fields

Table 10 above reveals that like in other factors of entrepreneurial intentions, there is also statistically significant information in the obstacles. For example, two obstacles (entrepreneurial knowledge and knowing what to sell) were statistically different in education field 21 (arts) compared to the others. Education fields 41 (business and administration) and 71 (engineering and engineering trades) showed significant differences in multiple obstacles, which were entrepreneurial knowledge, recessive market, many taxes, knowing what to sell and that entrepreneurs are not perceiving as nice persons.

In addition, business and administration students were highlighted with regards to bureaucracy and engineering and engineering trade students when it comes to personals skills. Among education field 61 (information and communication technology students), too much taxes was the question with statistically big enough a difference. Field code 82 (forestry) showed meaningful differences in bureaucracy, taxes, and that entrepreneurs are not perceived as nice persons.

Knowing what to sell, personals skills and risks involved were obstacles which were highlighted in the educations field 92 (welfare), whereas the students of health (91) showed statistical difference only in personal skills as obstacles. There were no statistically significant differences in education (11), environment (52), manufacturing and processing (72), architecture and construction (73) and in agriculture (81). The results are presented more visually in a form of chart in figure 13 below.

Figure 13 Obstacles compared to UNESCO's education fields.

The comprehensive Chi2 Test was also done and the results are presented in table 11 below. The statistically significant differences ($p=\leq 0.05$) between the respondent groups are indicated with green colour. White cell colour is shown when the difference between the respondent groups is not statistically significant.

As table below shows, there are statistically significant differences in five of the nine questions. No statistically significant difference was found in financial resources, recessive markets, too much bureaucracy and in risks involved.

QUESTION	**UNESCO'S EDUCATION FIELD**
Financial resources	88.03 (p=0.183)
Entrepreneurial knowledge	116.98 (p=0.002)
Recessive market	89.02 (p=0.165)
Too much bureaucracy	92.65 (p=0.108)
Too much taxes	104.64 (p=0.020)
To know what to sell	130.72 (p=0.000)
Personal skills	103.97 (p=0.022)
The risks involved	77.51 (p=0.462)
Entrepreneurs are not perceived as nice persons	123.88 (p=0.001)

Table 11 Chi2 Test for questions related to obstacles concerning education fields.

When the observations and analyses of the three factors of entrepreneurial intention are compared together, hypothesis 2 (H2) stating that there are differences between educations and entrepreneurial intentions can be proved. Even though no statistically big enough differences were not found in all of the questions dealing with the topic, most of them still supported hypothesis 2.

5.2.4 Entrepreneurial antecedents

Because two entrepreneurial antecedents, family roots and entrepreneurial activities, were examined in the questionnaire with different questions and the two antecedents had their own hypotheses, the analyses for those were also made separately.

Family roots

The hypothesis for this entrepreneurial antecedents was that there are differences between students whose family members or social contacts have or have not started a business and entrepreneurial intentions. All the questions dealing with entrepreneurial intentions were taken into account in the cross tabulation where the questions were compared with whether the respondents knew someone who had or had had his/her own business.

This hypothesis was also analysed through cross tabulation. The results of cross tabulation are presented in the form of a table below (table 12). Chi2 Test was used to examine the groups where the difference was so big that the observations can be called statistically significant. The statistically significant differences ($p=\leq 0.05$) between the respondent groups are indicated with green colour. White cell colour is shown when the difference between the respondent groups is not statistically significant.

QUESTION	**Do you know someone who has or had his/her own business?**	
	YES	**NO**
I like the idea of having my own business.	4,98	4,60
I already have an idea of business in mind.	3,91	3,64
I will open my own business soon.	2,92	2,90
I do not have any intention of opening my own business.	3,62	4,06
I want to close the business I have.	3,08	3,49
I seek my financial independence.	5,61	5,50
I do not want to have a boss.	4,30	4,31
I do not have other job opportunity.	2,54	3,07
I want to follow my family tradition.	2,93	3,20
I want to exploit a market opportunity	4,59	4,36
I want to earn more money	5,65	5,66
Financial resources	5,16	5,52
Entrepreneurial knowledge	4,50	5,04
Recessive market	4,71	5,03
Too much bureaucracy	5,00	5,13
Too much taxes	4,38	4,59
To know what to sell	4,48	5,21
Personal skills	4,01	4,81
The risks involved	4,72	5,19
Entrepreneurs are not perceived as nice persons	2,50	3,37

Table 12 Cross tabulation with entrepreneurial intentions compared with family roots or social contacts with entrepreneurial experience.

The table above indicates, of 20 questions, 11 out of 20 questions showed statistically significant differences. Thus hypothesis 3a (H3a), There are differences between students whose family members or social contacts have or have not started a business and entrepreneurial intentions, is supported by a small majority.

Entrepreneurial activities

Entrepreneurial activities provided by university and experiences of the activities differ between various fields of education were analysed by using cross tabulation. Before that, the overall picture of HAMK's entrepreneurial activities were analysed in the form of a chart. This is presented in figure 14.

The averages were not high in any of the entrepreneurial activities, because the biggest share of the respondents answered every question by stating that they had not been participated in the activities. They may actually not have participated in them, or they had just not recognised the activities in which they had participated as entrepreneurial activities. Technical visits to companies had the average with the biggest personal benefit and after that came oriented or supervised traineeships and a course with practical projects developed in the companies. On the other hand, activities related to business incubators, pre-incubators and science parks had the lowest score.

Figure 14 The overall picture of HAMK's entrepreneurial activities.

Cross tabulation was also used in this case to test hypothesis 3b (H3b): There are differences between educations and experiences from entrepreneurial activities.

As mentioned in chapter 3.4.2., entrepreneurial activities in higher education were divided into three categories based on their style and type: traditional education on entrepreneurship (questions dealing with courses and case study activities concerning entrepreneurship directly), entrepreneurial experiences (including activities such as participating and getting to know different entrepreneurial institutions and consultancies for example). The third category consisted of indirect entrepreneurial activities which contain other higher education activities that somehow indirectly encourage students for entrepreneurship. The questions were summarised into these three categories of activities and Cronbach's alpha was tested.

Category of activity	**Cronbach's alpha**	**Grade**
traditional education on entrepreneurship	0.8473	good
entrepreneurial experiences	0.9182	excellent
indirect entrepreneurial activities	0.8465	good

Table 13 Entrepreneurial dimensions measured by Cronbach's alpha.

Cronbach's alpha proved that the categorisation of entrepreneurial activities was supported by the results. The results of the cross tabulation are presented in the form of a table below (table 14). Chi2 Test was also done. Statistically significant differences ($p=\leq 0.05$) between the respondent groups are indicated with green colour. White cell colour is shown when the difference between the respondent groups is not statistically significant.

Category of activity	**Unesco's education field**											
	11	**21**	**41**	**52**	**61**	**71**	**72**	**73**	**81**	**82**	**91**	**92**
Traditional education on entrepreneurship	1,50	1,69	2,50	1,81	1,72	1,76	1,64	1,84	2,18	1,78	1,47	1,50
Entrepreneurial experiences	1,20	1,21	1,55	1,23	1,24	1,54	1,40	1,64	1,03	1,35	1,24	1,22
Indirect entrepreneurial activities	2,23	2,40	2,06	2,01	1,58	2,00	2,01	2,21	2,50	2,05	1,50	2,05

Table 14 Cross tabulation with entrepreneurial activities compared with education fields

As table 14 above shows, students of art (21) showed a statistically significant difference in indirect entrepreneurial activities, as did the students of information and communication technology (61), too. Education field 41 (business and administration) had a big enough difference in traditional education on entrepreneurship and entrepreneurial experiences.

Engineering and engineering trade students were highlighted also in traditional education on entrepreneurship. Among the students of welfare (92) and health (91) traditional education on entrepreneurship showed differences in comparison with other fields of education. The result from the indirect entrepreneurial activities of the latter group should also be pointed out. The results are presented in the form of a chart in figure 15 below.

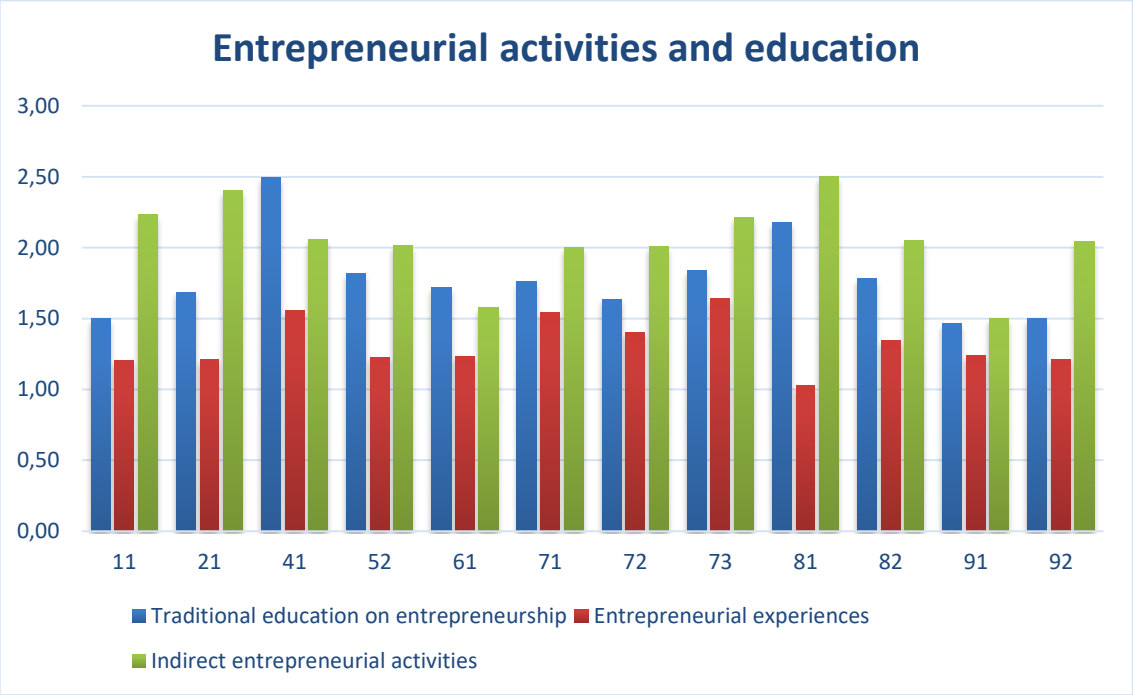

Figure 15 Entrepreneurial activities compared to Unesco's education fields.

Finally, ANOVA was used to examine whether there was a statistically significant difference between the values of various fields of education with regards to various entrepreneurial activities. This analysis of the variances is presented in table 15. The statistically significant differences ($p=\leq 0.05$) between the respondent groups are indicated with green colour. White cell colour is shown when the difference between the respondent groups is not statistically significant.

CATEGORY OF ACTIVITY	UNESCO'S EDUCATION FIELD
Traditional education on entrepreneurship	9.65 (p=0.000)
Entrepreneurial experiences	1.76 (p=0.058)
Indirect entrepreneurial activities	2.36 (p=0.008)

Table 15 Analysis of variance for education fields and entrepreneurial dimensions

As the table above indicates, there are statistically significant differences in two of the categories of entrepreneurial activity (traditional education on entrepreneurship and indirect entrepreneurial activities). The only with nostatistically significant difference is entrepreneurial experiences. In addition to the previous analyses presented in this chapter, this proves that hypothesis 3b (H3b), that there are differences between educations and experiences from entrepreneurial activities is proved to be true.

5.3 Credibility

In scientific research, reliability and validity of the research have to be evaluated. Successful reliability and validity evaluation ensures the quality and creditability of the research. (Kananen 2011, 125; Saunders & Lewis 2012, 127-128.) As Kananen (2011, 125) highlights, in quantitative research reliability means the consistency and repeatability of the results of the research and validity consists of researching and measuring the right things.

Even though reliability and validity are highly related to each other's, for example reliability does not guarantee directly validity and both of these elements have sub-concepts which are presented in this chapter. To be short, reliability tells how accurate measurement is and validity on the other hand that are researched measuring the right things (Vehkalahti 2008, 41).

5.3.1 Reliability

To have a reliable research, data collection methods and analysis procedures should produce consistent finding. Consistency in this framework can mean for example that used measures will produce the same results when used on other occasions, interpreters of the research can see clearly how conclusions derived from the data collected and if other researchers use the same procedures and methods in the same way, they will get similar results. (Saunders & Lewis 2012, 128.) The aim should be that research's reliability is as high as it can be and to have measure errors as few as there can be. Another possible factor that might cause harm to research's reliability is data collection (Vehkalahti 2008, 41-42.)

Stability is an important part of reliability – it means that the measure remains stable over time. When consistency is added to that, the measure remains stable over time, but also that it measures the same thing. The clearest way to test reliability of research is to repeat the measurement. However, this is typically too difficult and in many cases also too expensive. Ensuring reliability like that also has other disadvantages, because reliability cannot also be even guaranteed by a new measurement. The reasons for that might be that the phenomenon could change over time or the survey itself can effect on respondents' behaviour. (Kananen 2011, 126.)

In this master's thesis research, the reliability is ensured as well as possible. Repeating a measurement could not have been possible due to the limited resources. The amount of data collected was so high and data collection process was time consuming. In order to still ensure the reliability, other actions were made. The same survey was implemented in three different higher education institutions at the same time and at HAMK, a test group of 30 persons were asked to test the questionnaire beforehand.

Those results were compared to the actual database and no specific differences were observed. HAMK's strategic partner Feevale University has already conducted this research for several years so this worked as a good baseline also. This research is aimed to be also conducted later on as a longitudinal study, so reliability issues have been taken into consideration since the beginning effectively.

5.3.2 Validity

The validity of research can be considered as even more important part when it comes to creditability of research. Sometimes survey or parts of it might be measuring the wrong things. On the other hand, there are validity issues also in repeating the research for example in every two years. Nothing guarantees that metrics are going to be stabile for repeating a survey as exactly same as every year. It is natural that phenomenon's dimensions are changing during time. (Vehkalahti 2008, 41.)

In quantitative research, validity has four sub-groups. External validity the most important of those. It means that how well the findings are generalizable to the population. As in its simplest form, generalisability means that the results are valid in same kind of situations. When there is a big population, it is not about examining every single member of a population, but part of the population is included in the research and that sample should correspond to the population, to which the findings are meant to be generalised. (Kananen 2011, 126-127.)

At the same time content validity checks if the used measuring measures the right things, which means things that it is supposed to measure. Sometimes it can be difficult to prove that the content validity is guaranteed. The third sub-group is theoretical validity, which means how well existing theory has been taken into account when it comes to the concepts of the research. The last sub-group is criterion validity which deals with previous research results from the other researchers. How well these results support current result's findings? (Kananen 2011, 126-127.)

In this master's thesis research, one of the challenges concerning validation was that the extensive study was based on the previous research made by Feevale University in Brazil. Now the extensive international study was implemented in different higher education institutions and in different countries and cultures than before. This has been taken into account since the beginning of the research project and for example questionnaire was developed with time and discussions about the language barriers and differences in countries.

Questionnaire was translated into three languages and it was properly cross-checked several times. Repeating a research was also taken into consideration in the research process. As mentioned before, Feevale University had been examining this research topic as a longitudinal study beforehand. These materials were used as a basis, but those were fully examined and reflected to the current environment and changes were made because of that, but still the comparability stayed to their previous research.

When it comes to external validation, in the chapter 5.2.1. background variables were presented and the main variables were compared between the data collected and the population. These percentages were presented in a visualised form in the table 2. Multiple measures and dimensions for each research questions were chosen and studied through the survey. This can also be seen from the length of the questionnaire.

The measures, which has been proven to be answering to the right things from Feevale University's previous studies were also used. So the experiences of Feevale University helped a lot to be able to guarantee the content validity. Also as a background material, a lot of previous researches from other researches were used and those were presented in the chapter 2.3 in this master's thesis. More specific definitions of the measurements used can be found from the chapter 4.

When viewed from the theoretical validity's point of view, the validity was ensured by working on a theoretical framework with research's partner universities. The theoretical framework was also based on Feevale University's previous research; from which they have published several articles. Previous research made by other researchers were taken into account also from this viewpoint. At HAMK, there has not been before any so wide researches concerning the development of students' entrepreneurial profile. Previous research from the other researchers helped a lot from in this, too. All of the phases of the research project were documented properly, concepts were defined appropriately and those were based on the theory - all of those factors concerning validity were also presented in this thesis.

6 CONCLUSIONS

The final chapter of this thesis focuses on highlighting the key findings, presenting the achieved objects but also on giving recommendations for future research projects. The data of the research was so extensive that there are multiple research topics left concerning that database, but also other options for future research can be found. This chapter ends with the author's comments and acknowledgements.

6.1 Key findings

The key findings are presented in this chapter by dividing them into three groups according to the structure of the research: entrepreneurial dimensions, entrepreneurial intentions and entrepreneurial antecedents. The findings are also reflected on the previous research of the topics and on the theoretical framework.

6.1.1 Entrepreneurial dimensions

The key finding concerning the eight entrepreneurial dimensions is that there are differences between fields of education and entrepreneurial dimensions. When the overall picture of all the respondents was observed, risk-calculativeness was among the lowest entrepreneurial dimensions. This agreed well with the results of previous research made by Flash Eurobarometer 134 (2002, 41-44), where the risk-taking attitude was lower among people living in Finland compared to other countries. On the other hand, the opportunity detector dimension is also one of the lowest dimensions in this research, whereas Kelley et al. (2016, 23) have found out that most of the entrepreneurs all over the world are opportunity-motivated. The country-specific dimensions might explain this situation.

There were differences between the education fields of Unesco when compared separately. For example, the students of education (11) had a relatively high average on every dimension, but the highest score was in the leader dimension. This might be a result of age distribution, because the students of HAMK's School of Professional Teacher Education are mainly older than the other students.

It was also interesting that no specific dimension was highlighted when it comes to students of arts (21), their highest average was on self-effective dimension, like many other educations had also. From the point of view of business and administration students (41), the sociable dimension was among the highest averages, but creativity was quite low. Slightly surprisingly, the self-effective dimension had the lowest averages in the fields of information and communication technologies (61) but also in agriculture (81). Quite obviously the students of health (91) showed the highest average in the sociable dimension, but dimensions of persistent and leader were also high. To conclude, some of the dimensions in education fields were emphasized as expected, but some differences were rather surprising.

6.1.2 Entrepreneurial intentions

When it comes to entrepreneurial intentions, the analyses were made from the point of views of intentions, motivations and obstacles. Differences between educations and entrepreneurial intentions were seen in all of the factors. Many of the students liked the idea of having their own business, it earned the highest average of the questions related to intentions in every field of education. The only exception was the health students (91) whose highest score in this factor came from not having any intentions of opening their own business.

The previous research also supported the fact that more and more people are having positive thoughts about becoming self-employed. This was emphasized especially among the younger generations. Becoming an entrepreneur can nowadays be seen as an opportunity, not only as the only option for earning a living. (Kelley et al. 2016, 21; 72, Malminen 2016.)

Money played an important role in both motivations and obstacles for entrepreneurship. In motivations for entrepreneurship, seeking their own financial independence and a will to earn money were among the highest averages in every education field. On the other hand, financial resources were seen as one of the biggest obstacles for entrepreneurship in every field of education. Flash Eurobarometer 134 (2002, 23-24) confirms the same situation, too, because the study revealed that financial resources were considered as major obstacles for becoming an entrepreneur. Despite of that, the same research also revealed that in Finland the complexity of the administration processes was actually seen a bigger obstacle.

When that result was compared to the results of this thesis, a connection was seen, because too much bureaucracy was highlighted in both. When other obstacles were compared with educations, it was interesting to notice, that students of engineering and engineering trades (71) saw knowing what to sell as their biggest obstacle for entrepreneurial career, but students of arts (21) on the other hand ranked this obstacle as their lowest obstacle.

6.1.3 Entrepreneurial antecedents

From the point of view of the entrepreneurial antecedents, there was two different factors: family roots and social contacts, but also entrepreneurial activities. Because of the nature of these antecedents, these two factors were analysed separately and the results are discussed also accordingly.

Family roots and social contacts

Key finding in this topic was that there were minor differences when comparing the students' entrepreneurial intentions whether they know someone with an entrepreneurial experiences or not. Students who knew someone with entrepreneurial experience had more positive thoughts about having their own business and students who did not know anybody with entrepreneurial experience, had more intentions on not opening their own business.

When motivations for entrepreneurship were concerned, the only statistically significant difference arose from not having any other job opportunities. In such a case, students who did not know anyone with entrepreneurship history had a higher average. Surprisingly, all the obstacles for becoming an entrepreneur were seen as bigger obstacles for those who did not know anyone who had their own business. Previous researches also supported the observations of this research concerning family roots and the likelihood of becoming an entrepreneur (Sieger et al, 2014, 58; Flash Eurobarometer 134 2002, 9.)

Entrepreneurial activities

The entrepreneurial activities at HAMK were divided into three categories: traditional education on entrepreneurship, entrepreneurial experiences and indirect entrepreneurial activities. Sieger et al. (2014, 58.) noticed in their research that only one third of the respondents attended entrepreneurship-related activities in university. The same situation is also highlighted in this research.

Statistically significant differences between educations were observed especially in traditional education on entrepreneurship and indirect entrepreneurial activities. The students of business and administration (41) were highlighted with the highest average in traditional education on entrepreneurship, whereas health (91) and welfare (92) students had the lowest average. The personal benefit from entrepreneurial experiences is the highest also among the business and administration students (41). On the other hand, the education fields of arts (21) and agriculture (82) benefitted the most from indirect entrepreneurial activities.

6.2 Achieved objectives

The first objective of this research was to identify what kind of entrepreneurial profile students at HAMK have. The questions were approached through the different education fields and differences between them and there were two research questions measuring that. The first was "What kind of entrepreneurial dimensions do the students have?" The results of this research showed that all of the eight chosen dimensions can be observed from the entrepreneurial profile of HAMK students.

The overall picture of HAMK students revealed that the planner and opportunity detector were the dimensions with the lowest averages, whereas self-effective and sociable had the highest ones. Multiple statistically significant differences were also seen between different education fields. Further research is needed to get a more detailed understanding of these differences

The second question concerning this research objective was: "What kind of entrepreneurial intentions do the students have?" It was slightly surprising to see that all students had quite high intentions to open their own business. From the motivation and obstacle point of views, money plays an important role as the students' motivation for becoming entrepreneurs was the highest in seeking their financial dependence and earning more money. At the same time, they saw financial resources as the biggest obstacles. In addition to that, having too much bureaucracy is highlighted. Differences between education fields can be seen in intentions, too.

Another objective of this research was to verify HAMK's contribution to the development of entrepreneurial profile of its students. This was investigated through the research question: "What kind of entrepreneurial antecedents are there". Family roots and social contacts had a significant role in this, entrepreneurial experiences from relatives or friends influenced students' entrepreneurial intentions positively.

More interesting themes from the point of this research were the entrepreneurial activities provided by HAMK and how the students see their personal benefit of them. It is interesting that so many students said they have not participated in entrepreneurial activities. Most of the students benefitted especially from technical visits to companies, but also from the traineeships, practical project courses and courses on entrepreneurship. Based on the categorisation of entrepreneurial activities, the greatest benefits were gained from traditional education on entrepreneurship and indirect entrepreneurial activities. Differences between education fields were observed also in play an important role in developing the students' entrepreneurial profile but that the activities can still be improved to answer the needs better.

Answers to each research question were got and the research objectives were achieved. Despite of them, more research is needed from various aspects of the research theme. The next chapter discusses about the topic further. The results of this research work as a basis for the guidelines on how to develop entrepreneurial activities at HAMK to respond to the needs of its students better.

6.3 Recommendations for the future

This study focused on defining the entrepreneurial profile of Häme University of Applied Sciences students. The results showed that there are differences between the fields of education and the students' entrepreneurial profile. The next step would be to concentrate more on the entrepreneurial activities which HAMK offers to its students and to develop the activities based on the results presented in this thesis.

However, more research is also needed concerning the students' entrepreneurial profile. It is highly recommendable to focus on longitudinal studies to develop the students' entrepreneurial profiles and the entrepreneurial activities related to them. This would give a brilliant opportunity to investigate the change, i.e. how the students' entrepreneurial profile changes and how changes made in the entrepreneurial activities at HAMK affect it. More research is also needed to examine why the students' entrepreneurial profiles differ so much between the various education fields.

As mentioned earlier, this research was part of a extensive international research project between Finland and Brazil. For that reason, the questionnaire had to suit each participating university and it had to be comparable with the previous longitudinal research at Feevale University, too. As a result, there were multiple questions and data collected, which could be examined more from the viewpoint of HAMK.

None of the differences between entrepreneurship and background variables e.g. gender and age are investigated in this research. The data collected can be utilised also in the future and more analyses can be made based on it. There are of course several opportunities concerning the extensive international research and its continuity but these were excluded from this thesis.

6.4 Author's comments

Getting deep into entrepreneurial profiles and different factors affecting it, was definitely an interesting topic and broadened my own knowledge. In addition to the main topic of this thesis, the greatest benefit for me was to learn new things about research methodology and analyses of quantitative research, as well as about working in an international research group.

The biggest challenge concerning this research was the extent of it. The topics and data collected left open many options for future research. The extent of the study was closely related to that of the wider research project, which is why it could not be influenced a lot.

So far, there have not been many quantitative researches as extensive as this one in the field of business and administration among the master's theses at the universities of applied sciences. Normally, the theses focus on qualitative research and developing projects based on them. That is why not so many master's theses could to be benchmarked during writing process and hence, the focus was on doctoral theses. I could call this thesis process as a learning journey which created a great ending for my studies in the degree programme of business management and entrepreneurship at HAMK.

I was able to combine the subjects learned in the study modules into this research project, because the research work already started at the beginning of my studies. I was also possible to direct my learning assignments related to this topic. I hope that this master's thesis will help Häme University of Applied Sciences to develop their entrepreneurial activities, but also other universities to develop their operations based on these results.

6.5 Acknowledgements

This research was a part of the international research project examining students' entrepreneurial profiles. Häme University of Applied Sciences participated in this research project with its research partners from Brazil (Feevale University and University of Caxias do Sul). I would like to thank the research partner universities and especially Principal Lecturer Minttu Lampinen from HAMK and Professor Serje Schimidt from Feevale University for their collaboration and guidance.

This research project was a great example of the strategic partnership between HAMK and Feevale. Well-deserved thanks also go to the students of the degree programme of business administration who helped me to collect the great amount of answers and to the staff members at HAMK for helping me with technological issues concerning the analysis of the data.

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INTERVIEWS

Lampinen, M. 2016. Principal Lecturer. Häme University of Applied Sciences. Interview 15 August 2016.

Tuomela, V. 2016. Senior Lecturer. Häme University of Applied Sciences. Interview 12 September 2016.

Appendix 1

COVER LETTER

Dear Recipient

Häme University of Applied Sciences along with its strategic partner university, University of Feevale from Brazil and another research partner, University of Caxias do Sul from Brazil are doing a research on their students' entrepreneurial profile. My name is Eveliina Toivonen and I am a Master's degree student at Häme University of Applied Sciences (HAMK) and I am also working as a Coordinator for the same organisation. I am participating in this research project because of my master's thesis. The research is implemented by HAMK's School of Entrepreneurship and Business and it is guided by Principal Lecturer Minttu Lampinen. Since you are a student at HAMK, I am inviting you to participate in this research study by completing the attached survey.

The following questionnaire will require approximately 10-15 minutes to complete. There is no compensation for responding nor is there any known risk. The answers you give are processed anonymously and they are only used for statistic and research purposes at the universities involved in the research analyses. The outcome of the research will be published as charts and graphs where you cannot distinguish individuals identities or answers. If you choose to participate in this project, please answer all questions as honestly as possible. Participation is strictly voluntary and you may refuse to participate at any time.

The data collected will provide useful information regarding students' entrepreneurial profile and HAMK's contribution to developing it. This research has HAMK's research permit. Answering a survey helps HAMK and the other participating universities to develop their entrepreneurial studies.

The online questionnaire can be found through this link. If you would like to answer more preferably on paper, please contact Eveliina Toivonen (contact information below). Response time is until 30 April 2016.

Thank you for taking the time to assist me in gathering the data needed!

Sincerely
Eveliina Toivonen
Coordinator, HAMK
+358 40 826 0733
eveliina.toivonen@hamk.fi

Appendix 2

ONLINE QUESTIONNAIRE

HÄMEEN AMMATTIKORKEAKOULU
HÄME UNIVERSITY OF APPLIED SCIENCES

Entrepreneurship questionnaire 2016

The following questionnaire aims to measure the entrepreneurial profile and its antecedents. There are no correct answers. Please express your honest opinion.

1. University *

HAMK Via

2. Education *

Current degree program

3. Date *

Date:

4. Percentage of education completed *

less than 25%
between 25% and 50%
between 50% and 75%
between 75% and 100%

5. Age *

20 years or less
between 21 and 25
between 26 and 30
between 31 and 35
between 36 and 40
between 41 and 45
More than 45 years

6. Sex *

Male
Female

7. Number of financial dependents *

None
1 dependent
2 dependents
3 dependents
4 or more dependents

8. Do you have your own business? *

Yes - proceed to the next question
No - go to question 11

9. How long you are responsible for this business?

- Less than 1 year
- between 2 and 3 years
- between 4 and 5 years
- between 6 and 10 years
- more than 10 years

10. Do you consider the performance of your business, relative to your competitors, to be

- much better
- better
- similar
- worse
- much worse

The following statements relate to attitudes towards professional/academic situations. Place an "X " in the column to express your degree of agreement or disagreement: *

	Completely agree	Largely agree	Agree a little	Neither agree nor disagree	Disagree a little	Largely disagree	Disagree completely	I do not know / do not want to answer
11. I believe I am very capable of organizing and executing actions to be successful.								
12. I frequently think of products/services that could be offered in the market.								
13. I consider myself very persistent.								
14. I have a lot of friends.								
15. I always find creative solutions to my academic/professional problems.								
16. I am rarely got by surprise in situations that I could have planned.								
17. Sometimes I financially bet in projects that can bring me advantages in the future.								
18. I frequently influence other people's opinions.								
19. I have control upon the critical factors that influence my success.								
20. I am interested in knowing the market needs for determined products/services.								
21. I never lose my determination when I face daily difficulties.								
22. I can easily relate with other persons, even with those I still do not know.								
23. I do not like routine activities.								
24. I have issues regarding my work/study always planned well in advance.								
25. I occasionally run financial risks for potential benefits.								
26. It's easy for me to inspire other persons to do what I want.								
27. I have all the capacity needed to realize my professional/academic future.								
28. I think I have a good ability to detect business opportunities in the market.								
29. Whenever I find adversities, I employ extra effort to overcome them.								
30. I always remember the persons I don't see for a long time.								

31. I repeatedly change the way I study/work.								
32. I have a detailed plan for my academic/professional issues.								
33. I like to be exposed to situations that involve some kind of risk.								
34. I am frequently chosen as leader in academic/professional projects or activities.								
35. I am sure I am competent enough to develop my career successfully								
36. Whenever I observe people complaining about some products/services, I think of the market opportunities that may be opening.								
37. I face the difficult situations of my daily activities as personal challenges.								
38. I can easily memorize people's names and faces.								
39. I like to invent new things.								
40. My professional/academic goals are very clear to me.								
41. To be successful in life, it is necessary to run some risks.								
42. I consider myself very convincing.								
43. My academic/professional success depends heavily upon me.								
44. I frequently imagine the possibility of success that certain products/services could have in a certain market.								
45. The obstacles I face make me increase my energy to overpass them.								
46. I like to be in contact with other persons.								
47. I like to do tasks that are completely new everyday.								
48. I like to have the activities of my next year always well planned.								
49. A person that do not run some risks will rarely achieve a successful academic/professional life.								
50. Other persons frequently ask for my advice about academic/professional issues.								

Intentions to open own business: *

	Completely agree	Largely agree	Agree a little	Neither agree nor disagree	Disagree a little	Largely disagree	Disagree completely	I do not know / do not want to answer
51. I like the idea of having my own business								
52. I already have an idea of business in mind.								
53. I will open my own business soon.								
54. I do not have any intention of opening my own business.								
55. I want to close the business I have.								

Motivations to open own business: *

	Completely agree	Largely agree	Agree a little	Neither agree nor disagree	Disagree a little	Largely disagree	Disagree completely	I do not know / do not want to answer
56. I seek my financial independence.	○	○	○	○	○	○	○	○
57. I do not want to have a boss.	○	○	○	○	○	○	○	○
58. I do not have other job opportunity.	○	○	○	○	○	○	○	○
59. I want to follow my family tradition.	○	○	○	○	○	○	○	○
60. I want to exploit a market opportunity.	○	○	○	○	○	○	○	○
61. I want to earn more money.	○	○	○	○	○	○	○	○

I consider the following factors as obstacles to opening my own business: *

	Completely agree	Largely agree	Agree a little	Neither agree nor disagree	Disagree a little	Largely disagree	Disagree completely	I do not know / do not want to answer
62. Financial resources.	○	○	○	○	○	○	○	○
63. Entrepreneurial knowledge	○	○	○	○	○	○	○	○
64. Recessive market	○	○	○	○	○	○	○	○
65. Too much bureaucracy	○	○	○	○	○	○	○	○
66. I would pay too much taxes	○	○	○	○	○	○	○	○
67. To know what to sell	○	○	○	○	○	○	○	○
68. Personal skills	○	○	○	○	○	○	○	○
69. The risks involved.	○	○	○	○	○	○	○	○
70. Entrepreneurs are not perceived as nice persons.	○	○	○	○	○	○	○	○

71. Do you know someone who has or had his/her own business? *

- ○ Yes
- ○ No - go to question 81.

Think of three persons from your family or closest relations that have or had his/her own business. For each of them, point out:

1. Person

72. Degree of closeness
- ○ Very close
- ○ Close
- ○ Neutral
- ○ Distant
- ○ Very distant

73. He/she still have or had its own business how many years ago?
- ○ Have nowdays.
- ○ He/she had, but shut it down.

74. Quality of the experience
- ○ Very positive
- ○ Positive
- ○ Neutral
- ○ Negative
- ○ Very negative

2. Person

75. Degree of closeness
- ○ Very close
- ○ Close
- ○ Neutral
- ○ Distant
- ○ Very distant

76. He/she still have or had its own business how many years ago?
- ○ Have nowdays.
- ○ He/she had, but shut it down.

77. Quality of the experience
- ○ Very positive
- ○ Positive
- ○ Neutral
- ○ Negative
- ○ Very negative

3. Person

78. Degree of closness

- Very close
- Close
- Neutral
- Distant
- Very distant

79. He/she still have or had its own business how many years ago?

- Have nowdays.
- He/she had, but shut it down.

80. Quality of the experience

- Very positive
- Positive
- Neutral
- Negative
- Very negative

How do you assess the degree of personal benefit in the following activities proposed by your university?

Obs.:

- Select " 1" to " 4" only if you participated the activity;
- If you did not participate in the activity , mark "0".

Think my degree of personal benefit was: *

	Not participated 0	Very low 1	Low 2	High 3	Very high 4
81. Course about entrepreneurship.	○	○	○	○	○
82. Course about project development, directed to open a new business.	○	○	○	○	○
83. Dissertation or thesis about opening a new business	○	○	○	○	○
84. Course about market research	○	○	○	○	○
85. Case study activities in other courses	○	○	○	○	○
86. Business incubator	○	○	○	○	○
87. Business pre-incubation	○	○	○	○	○
88. Events about business incubator or science parks	○	○	○	○	○
89. Junior consultancy	○	○	○	○	○
90. Course with practical projects developed in companies	○	○	○	○	○
91. Oriented or supervised traineeships.	○	○	○	○	○
92. Internal or external events related to entrepreneurship	○	○	○	○	○
93. Technical visits to companies.	○	○	○	○	○
94. International experiences	○	○	○	○	○
95. Events about business cases	○	○	○	○	○