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**Employability of international graduates from the field of  
technology and business**

Espoo 7.10.2016

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### Tiivistelmä

Ulkomaalaisten opiskelijoiden määrä on tuplaantunut viimeisen kymmenen vuoden aikana. Suomessa on yhtä pitkään keskusteltu heidän työllistymisestään Suomeen, sillä monet heistä kohtaavat työttömyyttä.

Tämän työn tavoitteena on löytää tekijöitä, jotka edistävät ulkomaalaisten maistereiden työllistymistä Suomeen. Taustana työlle käytetään maistereiden työllistyvyysmallia, jonka on kehittänyt Lee Harvey.

Työssä esitellään aluksi työllistyvyysmalli sekä muita tutkimuksia, jotka tukevat mallia. Lisäksi moninaisuuden liittyviä teemoja esitellään lyhyesti. Näiden pohjalta on muotoiltu kysely Aalto-yliopistosta valmistuneille maistereille. Kyselyyn vastasi 67 henkilöä, jolloin vastausprosentiksi muodostui noin 20 prosenttia.

Tutkimuksessa nousi esille, että valmistuneiden mielestä suomenkielen puute sekä verkostojen puute koettiin isoimmiksi esteiksi työllistymiselle Suomeen. Lisäksi tutkimuksessa nousi esille, että valmistumisajalla on merkitystä työllistymiseen. Näiden lisäksi se, että mille sektorille päättötyö tehtiin, vaikutti työllistymiseen. Monia muita tekijöitä tutkittiin työssä myös, mutta vastaajien määrän ollessa alhainen, ei luotettavaa tietoa ollut mahdollista saada. Yksi ehdotuksista yliopistolle onkin, että heidän tulisi rakentaa toimivampi alumnijärjestelmä, jotta tietoa valmistuneista olisi mahdollista kerätä paremmin.

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**Avainsanat** ulkomaalaiset maisterit, työllistyminen, työllistyvyys, moninaisuus

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## Abstract

The amount of degree students in Finland has more than doubled in the recent ten years. Since then, the employability of international graduates has been in discussion as many of the internationals face unemployment issues.

The goal of this study is to find out what factors increase the employability of international university graduates. As a background for the research, an employability model for university graduates is used. This model is designed by Lee Harvey (2005).

This study first presents the employability model and how other studies support the model. A glance to diversity issues is also presented. Based on the employability model and previous research data, a survey was created for international graduates. The survey received 67 answers from Aalto University. The response rate was about 20 percent.

In this study, it was found that graduates feel that the lack of Finnish language and the lack of networks are the main obstacles for finding employment. Additionally, it was found that time spent to graduate had some impact on employability. Also, the sector where Master's Thesis was done had an effect on employability. Many other factors were also researched but the number of respondents was too low to have accurate information about these. Because of this the main suggestion for universities is to create a better alumni contact database to be able to have research information from graduates.

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**Keywords** international graduates, employability, diversity

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## Esipuhe

Idea tehdä diplomityö kansainvälisten opiskelijoiden työllistyvyydestä syntyi toimiessani Aalto-yliopiston ylioppilaskunnan hallituksen puheenjohtajana vuonna 2015. Aihetta sivuttiin monesti kyseisenä vuonna ja siitä sain kipinän lähteä tutkimaan aihetta syvemmin. Aiheesta kiinnostuneita olivat Aalto-yliopisto sekä Tekniikan Akateemiset, josta lopulta sain toimeksiannon diplomityölleni. Tekniikan Akateemisten lisäksi työni tukemiseen on osallistunut Suomen Ekonomit ja Teknologiateollisuus.

Ensi alkuun haluankin kiittää TEK:ltä Jari Jokista, joka on toiminut työni ohjaajana. Kiitos Jarille myös siitä, että TEK on aktiivisesti pyrkinyt löytämään keinoja ulkomaalaisten työllistyvyyden lisäämiseksi Suomessa. Lisäksi haluan kiittää myös diplomityöni valvojaa professori Eero Elorantaa kaikista vinkeistä työtä tehdessäni. Kiitos kuuluu myös Suomen Ekonomieille ja Teknologiateollisuudelle avusta diplomityöhöni.

Työni aikana olen saanut apua erittäin monelta henkilöltä, eikä yksi sivu riittäisi kaikkien kiittämiseen. Yläfemmat siis kaikille sparraajille, kyselyn laatimisessa auttaneille, TEK:llä jeesanneille, AYY:n tyypeille, oikolukijoille ja muille, jotka olette auttaneet tässä duunissa. Erityisen suuren kiitoksen osoitan rakkaalleni Jonskulle, joka on tsempannut minua eteenpäin työni vaikeina hetkinä.

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Niko Ferm

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## Abbreviations

Cedefop	European Centre for the Development of Vocational Training
CIMO	the Centre for International Mobility
EEA	European Economic Area
EU	European Union
GEM	Global Entrepreneurship Monitor
GPA	Grade Point Average
HEI	Higher education institution
LUT	Lappeenranta University of Technology
SME	Small and medium sized companies
SMS	Short Message Service
TEA	Early-stage Entrepreneurial Activity
TEK	Academic Engineers and Architects in Finland
UAS	University of Applied Sciences

# 1 Introduction

The chapter 1.1 will give background information about the study and point out the reasons why this kind of study is needed. In chapter 1.2, the goals of this study are presented. In chapter 1.3, the entire structure of this study is explained.

## ***1.1 Background and meaning of the study***

This chapter will present some findings that previous studies have concluded in their research. The chapter will also point the reasons why doing this research is relevant.

In 2014, CIMO reported that there were 20 225 international degree students in Finnish higher education institutions of which 10 582 were university students. The amount of degree students in Finland has more than doubled in ten years. (CIMO, 2014a). This has been the goal of the Finnish government when they issued their strategy to internationalize Higher Education Institutions in Finland (Ministry of Education, 2009). CIMO has reported that employment rate for recently graduated International students in 2012 was 45.5%. The number is a few percentages less for the students who have completed the Master's degree in a University. (CIMO, 2014b). This number is somewhat in line with the VALOA-project's research that was done nationwide for Finnish Higher Institutions (HEIs). The study was done in 2012 to International Graduates who had graduated 2009 or 2010. The results concluded that 78% of the surveyed international graduates had stayed in Finland and for them the employment rate was 55%. (Shumilova, et al., 2012).

In the report of Statistics Finland, we see that the unemployment rate for all who have completed a master or doctorate degree is only 4.9% (Official Statistics of Finland, 2016). Which raises the question, what are the reasons for such a big difference in the employment rate?

The VALOA-project study is the most recent done to explore barriers of employment of international graduates. The key barriers to employment in their research were the lack of adequate Finnish/Swedish language skills, the lack of the right networks and the lack of work experience. Additionally, the weak links between higher education and the labor



market and ethnic discrimination in the recruitment process were also found to be obstacles. (Shumilova, et al., 2012).

In the same study, some interviews were conducted for employers who had employed international graduates. In their response, it was highlighted that recruiting of international people was an integral part of the recruitment system, but the focus was always on recruiting the best talent. However, most of the companies did not have any strategy, for example a diversity strategy, to recruit international people. The research also showed results on what kind of skills and attributes companies value. (Shumilova, et al., 2012). Before 2012, there have been few studies concentrating on the perspectives of companies. Söderqvist did one very thorough study in 2005. This study takes into account all the international people, not just the university graduates. In this study it was also found, that Finnish companies do not have a strategy for recruiting international people. Additionally, findings also suggested that international people do not apply for a job as widely as Finnish people. (Söderqvist, 2005).

Additionally, there is not that much in-depth research to answer what are the barriers to employment for international graduates especially in the field of engineering and business. Tekniikan Akateemiset (TEK, 2015) found in their research that international graduates obtain less work experience during their studies and this could be one of the main reasons for bigger unemployment. This is also in line with the Shumilova, et al. (2012) results. However, it is unclear if international graduates know the importance of work experience and do they try to obtain it but face challenges.

In Finland, the extracurricular activities during studies, such as being active in student organizations or clubs, is many times considered to have a positive effect on future career. However, quite a few studies are made on this subject and even fewer studies where the focus is in international graduates.

## **1.2 Goals of the study**

As there is not that many studies on this subject and the number of international students in Finland is increasing, it is relevant to study more the reasons why the employment rate is low and how could it be improved. Finland has decided to implement tuition fees for students coming outside of the European Union (EU) and the European Economic Area

(EEA) countries (Universities Act (558/2009), 2015). The tuition fees will definitely have an effect on the attractiveness of Finnish higher education for international students. In previous studies, the main reason to come and study in Finland has been the free education (Kärki, 2005; Shumilova, et al., 2012). One of the reasons, when choosing an international university to study at, is the employment opportunities after the graduation. Thus to keep up our universities attractive to international students we need to improve their employability. There has been discussion that Finland should invest more in employing the international graduates to decrease the brain drain from Finland. It is also beneficial for the Finnish economy when these talents stay in Finland<sup>1</sup>.

The background of this study comes from the employability model of HEI students which is explained in chapter 2 in detail and analyzed through different studies. From different studies, the factors that effect employability are presented. This study focuses on finding out, how much these different factors enhance the employability of international graduates during their studies. Finally, the goal of this study was to give suggestions to different stakeholders, even if those are subjective. According to this, the research questions are divided into two parts.

**Theoretical part and research question 1: What are the factors that enhance the employability of a university graduate?**

As a background of this study, the modified employability model from Harvey (2005) and later Tuominen (2013) are used. This model is analyzed through comprehensive literature review from different studies that have focused on employability. The idea of this is to verify the effect of the factors in the model and get a deeper understanding of them.

**Survey part and research question 2: How much do these factors enhance the employability of international graduates from the field of business, technology and architecture?**

This study focuses on finding how much different factors effect the employability of international graduates. The impact of the different factors are evaluated through the results

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<sup>1</sup> <http://www.hs.fi/paakirjoitukset/a1454390916346>

of the survey. This survey was created on the basis of the model and literature review but also modified to explicitly to suit for international graduates. To create the survey also previous studies from Shumilova, et al., (2012) and TEK (2015) are utilized. The respondents of this survey were chosen from Aalto University from the fields of business, technology and architecture.

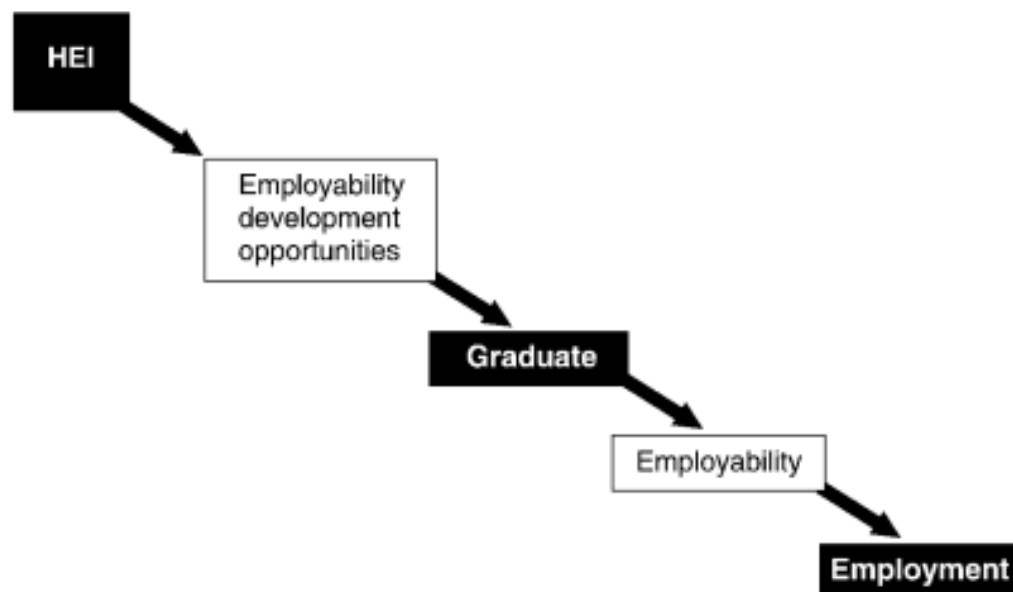
### ***1.3 Structure of the study***

The thesis consists of an introduction, theoretical background, research methods, analysis of the survey results, discussion and conclusions. The theoretical background consists of three chapters. Chapter 2 presents the employability model and previous research results that are used for the background to study the employability factors. Chapter 3 gives a glance to the concept of diversity management in the point of literature review and takes a special emphasis on the diversity of international and cultural differences. It also provides examples how companies could benefit from diversity. In chapter 4 the use of employability model is summarized. The research framework and the chosen quantitative methods are presented in chapter 5, which also analyzes the reliability and validity of the survey. In chapter 6 the results of the survey are presented. In chapter 7 results of the survey are discussed and some suggestions for further studies are offered. The chapter also compares the results to previous studies. Chapter 8 concludes this study and gives suggestions on how to increase the employability of international graduates to labor unions, universities and companies. This chapter also states the limitations of this study and proposes the suggestions for further studies.

## 2 Employability

The chapter describes how employability is defined in this research. In chapter 2.1 the model, which will be used as a theoretical background for the research, will be presented and explained. In the sub-sections of 2.1, the different segments of theoretical model are explained in more detail. In chapter 2.2 the employability situation in Finland for international university graduates is elaborated.

In this study, the main focus of employment and employability is university graduates. For university graduates, there was a time when getting a degree was enough to be employed. Harvey's model explains this situation which is called magic bullet (Figure 1). This model describes how the student will have employability development opportunities in HEI and after graduation will have developed employability skills and therefore gets employed. (Harvey, 2001).



**Figure 1: Magic bullet model of employability (Harvey, 2001)**

However, nowadays this model is not enough to describe the employment situation. For employment factors, there has been a change going on since the mid-1990s (Berntson, 2008). It is argued in several studies that a degree is not enough and that more abilities and skills are needed to obtain a job (Harvey, 2005; Tomlinson, 2008; Tuominen, 2013). Additionally, the skills and abilities are not enough alone but one needs to engage in

different kind of employability development opportunities such as extracurricular activities and work-related experiences (Harvey, 2005). There are multiple definitions about employability which have slightly different point of view. In Table 1 you can find some of the definitions by different researchers:

**Table 1: Sample definitions on employability from different researchers**

Definition	Reference
"Employability is about having the capability to gain initial employment, maintain employment and obtain new employment if required."	(Hillage & Pollard, 1998)
"Employability is the ability of the graduate to get a satisfying job."	(Harvey, 2001)
"The capacity and the willingness to be and to remain attractive in the labour market, by anticipating changes in tasks and work environment and reacting to these changes in a proactive way"	(Sander & De Grip, 2004)
"The continuously fulfilling, acquiring or creating of work through the optimal use of competencies"	(Van Der Heijde & Van Der Heijden, 2006)
The combination of factors which enable individuals to progress towards or get into employment, to stay in employment and to progress during career."	(Cedefop, 2008; Tuominen, 2013)

All of these definitions concur with employability model of university graduates that will be used in this study. The definition that will be used in this study is a bit combination of the above ones. The basis comes from Hillage & Pollard (1998), however, it doesn't only include obtaining a new job but also progressing during career which can happen also within the company as defined in Cedefop (2008). Combining these definitions, this study uses the following:

*Employability is about having the capability to gain initial employment, maintain employability, to stay in employment and to progress during career.*

The model will be explained in chapter 2.1 in detail.

## **2.1 Employability of university graduates**

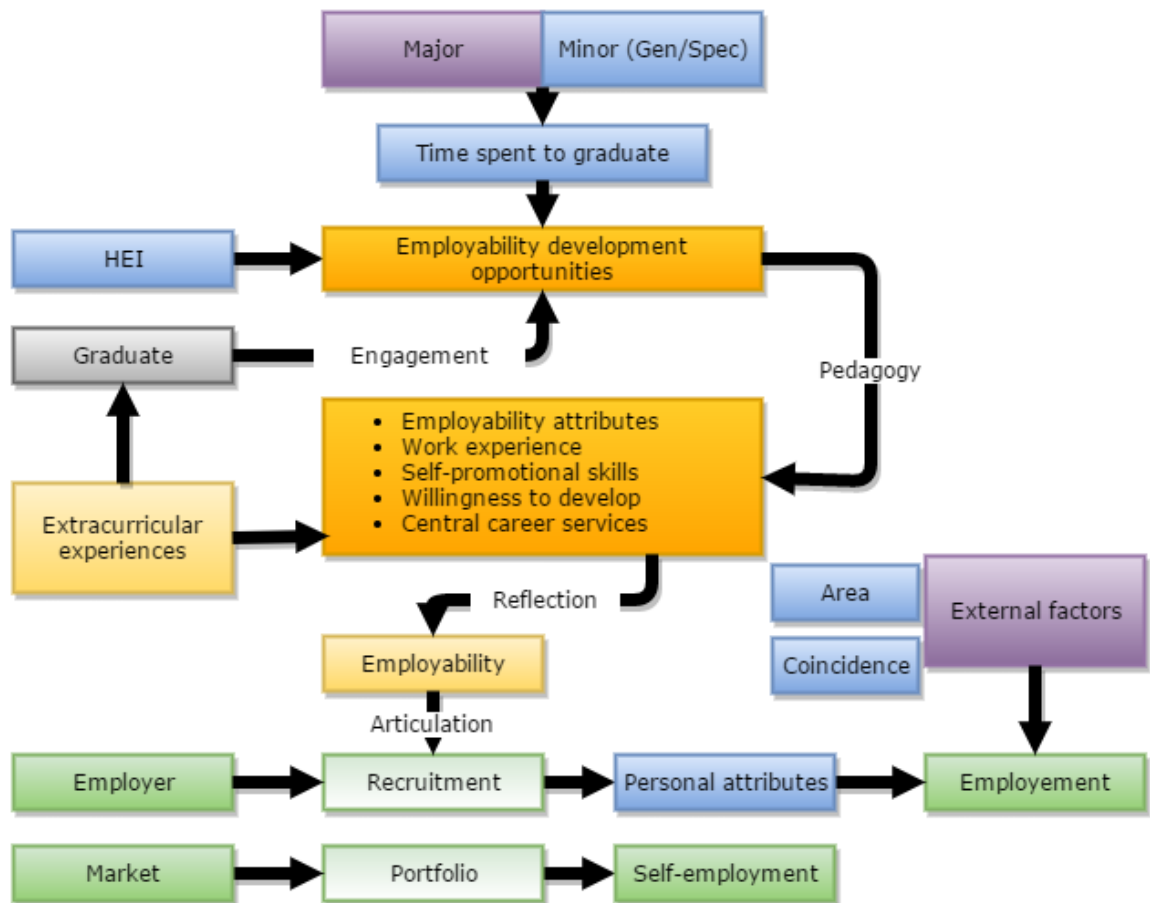
In the introduction of this chapter the term employability was explored. There are various definitions about employability but some of those are more focused on the employability of university graduates. When trying to find factors for employability of university graduates it is very common to conduct a survey that only focuses on the field of study, the skills learned and how these affect the employment rate<sup>2</sup>. According to (Harvey, et al., 2002) there are much more factors contributing to the employability. We also know from the discussion and research that gender and ethnic backgrounds (TEK, 2016) are affiliated with employability. Hämäläinen (2003) argues that the most remarkable factor of employability is the labor market situation and this is something that a graduate cannot affect. Employers, students, companies and universities all know that degree is only one aspect of change of employment and that substance skills alone acquired in the university are not alone enough to get a job (Harvey, 2005; Tomlinson, 2008).

Few researchers have made models that try to explain the concept of employability of university graduates. In Forrier & Sels (2003) model, the focus is on opportunities and willingness of a graduate to enhance one's movement capital. The model also takes into account the external factors. This means that there are factors such as availability of jobs or company policies that may affect the employment of a graduate. (Forrier & Sels, 2003). Another researcher, Harvey (2005) has quite the same kind of approach to factors that contribute to a graduate's employability. However, this model has categorized some key elements of employability such as work experience, the ability to articulate employability attributes, work-related skills and willingness to develop oneself. Additionally, the model also takes into consideration the field of study and extracurricular activities. (Harvey, 2005). Tuominen (2013) discovered how this model worked for the Finnish market. Tuominen made some additions to the model as well. The additions were related to the field of study with the addition of a minor subject and whether it was from a generalist or specialist field. As Finland is sparsely populated and the population is only increasing in few cities, the area factor was also added to the model. Tuominen also included personal attributes to the model e.g. how well the applicant is known to the company beforehand

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<sup>2</sup> [http://www.akava.fi/tyoelama/akavalaiset\\_tyoelamassa/tyottomyystillastot](http://www.akava.fi/tyoelama/akavalaiset_tyoelamassa/tyottomyystillastot)

or how well does the applicant suit the company. (Tuominen, 2013). The model can be seen in figure 2.



**Figure 2: Tuominen's adapted model for employability from Lee Harvey (Harvey, 2002; Tuominen, 2013)**

Harvey (2005) describes the relationship between a graduate, university and employer to be a complex one. It does not just involve development opportunities in HEI but also depends on what kind of extracurricular activities such as work experience or volunteer work the graduate has had. However, the activities and learning are not enough alone. How well the graduate reflects on the experiences also makes a difference. Moreover, the final touch to employment is to be able to articulate and “sell” ones skills to the employer. These are the factors that a graduate can and should try to affect, the area and external factors have an impact to the possible employment as well. (Harvey, 2005).

In Western countries, the amount of highly educated people has been rising steadily. Even though Finland maybe a bit behind on the OECD levels<sup>3</sup> it still has 42 percentage of adults have completed tertiary level education (education after secondary school) and 29 percentage of adults have completed HEI or doctoral degree (OECD, 2015). This has caused inflation to the higher education degree and to educational capital on the job market. Meaning that a university degree does not anymore guarantee a job that would require that level competence (Sainio, 2008; Vuorinen & Valkonen, 2007). This has also been found in the British and European studies; nowadays recruiters need to look for other skills in addition to educational skills (Brown & Hesketh, 2004; Lore, et al., 2007).

### **2.1.1 Employability development opportunities**

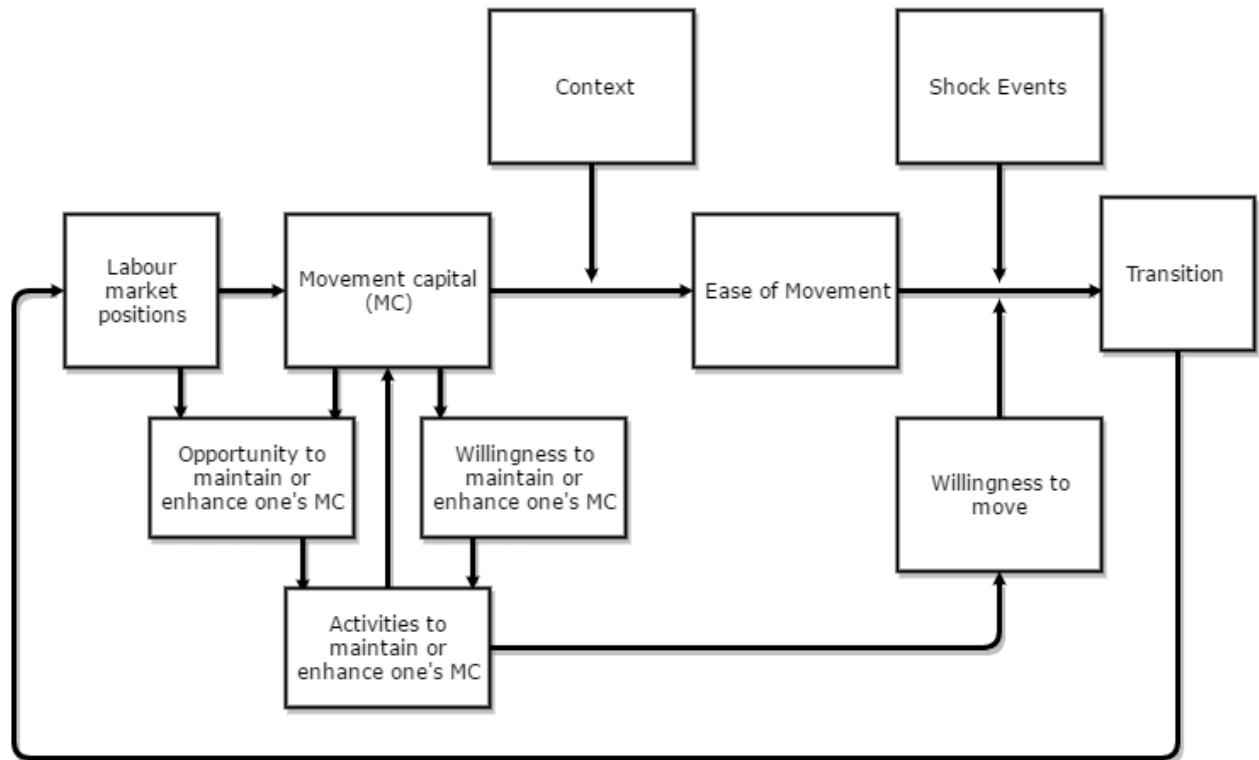
Employability development opportunities are already present in Lee Harvey's magic bullet model shown in Figure 1. However, the magic bullet figure only considers the development opportunities HEI provides. Universities do provide many different kind of development opportunities such as the development of attributes, self-presentational skills, willingness and awareness of the need for continuous learning. (Harvey, 2001). Harvey (2005) later presented a new model that also includes development opportunities outside of the University as well.

In another research by Forriers & Sells (2003), development opportunities are viewed as activities that maintain or enhance one's movement capital. Movement capital refers to an individual's characteristics and competencies that enhance mobility or employment in the labor market (Forrier & Sels, 2003). In figure 3 Forrier & Sels (2003) model is presented. It has many similarities with the Figure 2 model but focuses more on the development opportunities, or as called in the model, enhancing movement capital.

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<sup>3</sup> <http://www.hs.fi/kotimaa/a1402314020205>





**Figure 3: The employability process model (Forrier & Sels, 2003)**

In the model, it is suggested that one should increase the movement capital by engaging activities that improve skills and attributes. It suggests that task enrichment, task enlargement, career guidance and training are important for enhancing movement capital. Except for career guidance and training, the suggested methods are related to the working environment. The same study also categorizes skills into three different subdivisions such as general skills (language, communication, social), job-related skills (skills related to certain job or expertise) and company-specific skills (skills that can be used only in a certain company). (Forrier & Sels, 2003).

In addition to the above preseted categorization, there are many others. For example (Hillage & Pollard, 1998) categorized the elements of employability to assets, deployment, presentation (that is more focused on the chapter 2.1.5) and the situation in the labor market. The first three are factors that individual can develop. The factors are presented in the table below:

**Table 2: Employability factors (Hillage & Pollard, 1998)**

<b>Assets</b>	Baseline assets (such as reliability and integrity) Intermediate assets (such as communication, problem-solving skills and motivation) High-level assets (such as team working, self-management and commercial awareness)
<b>Deployment</b>	Career management skills (such as decision-making skills, self-awareness, opportunity awareness, transition skills) <i>Transition skills include:</i> Job search skills (access to formal and informal networks) Strategic approach (adaptable to labor market developments and willing to be mobile occupationally and locationally)
<b>Presentation</b>	Ability to demonstrate employability assets and present them Presentation of CVs, work experience, references etc. Interview techniques

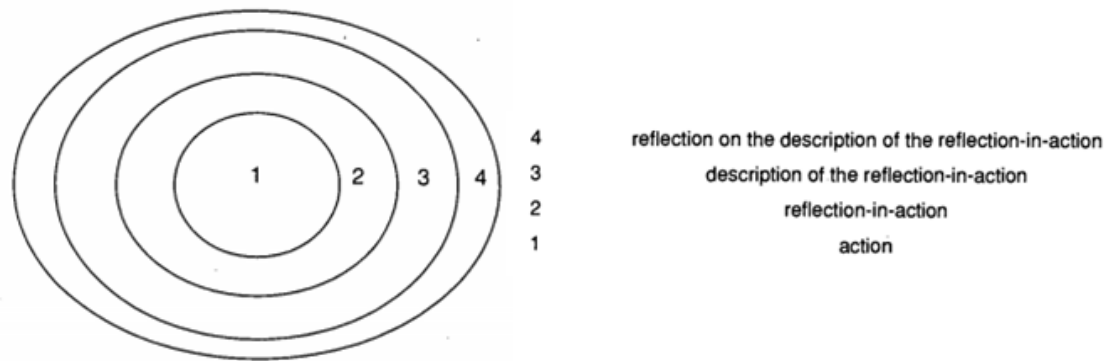
To summarize this, different skills, attributes, assets etc. can be categorized in multiple ways and only a few are presented here now (Bennett, et al., 1999; Forrier & Sels, 2003; Hillage & Pollard, 1998; Yorke & Knight, 2004; Lorraine & Sewell, 2007). There are different kinds of development opportunities for university graduates. The important thing is to recognize these opportunities and to be willing to engage and learn from them. The next chapter focuses more on learning and reflection of this.

### **2.1.2 Reflection of skills, attributes and experiences**

To reflect what one has experienced is a key element of learning. Boud, et al. (1985) have defined reflection as followed:

*“a generic term for those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to new understandings and appreciation.”*

Reflection is a part of thinking and learning and it is included for example in interactions with people, feelings, solving problems and in much more (Mezirow, 1990). Brockbank & McGill (1998) introduced a following four-dimensional model about reflection:



**Figure 4: Four dimensions of reflection (Brockbank & McGill, 1998)**

The first dimension is action, which means any action or situation where there is a possibility to learn something. In this action, the person has a chance to reflect what was done, which is the second dimension. The dimensions three and four go a bit deeper. The model is adapted from Schön (1987), who states:

*“Clearly, it is one thing to be able to reflect-in-action and quite another to be able to reflect on our reflection-in-action so as to produce a good description of it; and it is still another thing to be able to reflect on the resulting description.”*

In the third dimension, a person needs to be able to describe to others the situation; what happened and what kind of feelings and learning happened during a certain action. In the fourth dimension, the situation that is described to others needs to have dialogue and the person then reflects on the dialogue. A comprehensive reflection provides the best learning outcome of the situation. (Brockbank & McGill, 1998).

The model used in this study (Figure 2) raises factors such as employability attributes, work experience, self-promotional skills, willingness to develop and central career services as key factors to employment. However, if you do not understand what you have learned, reflected your experiences or have had a discussion about your learnings, you will not benefit from them.

For example, many studies have stated that work experience is one of the key factors to employment (Forrier & Sels, 2003; Harvey, 2005; Tomlinson, 2008; Tuominen, 2013; Shumilova, et al., 2012). Even so, the reflection of what you have learned from work

plays a significant role in getting a job. In a British research done by Harvey (2005), for the work experience to be effective is defined as listed below:

- It is meaningful or relevant to future career development
- It is planned and intentional from the outset
- It is assessed or accredited and integrated into undergraduate programs
- The quality is monitored and employers, participating academics, and students are all committed to it
- It adds to a work-experience portfolio, as with a mixture of course-embedded placements and part-time working
- There is a process for articulation and reflection

It is also common sense that just to pass courses and to complete the degree will not get you very far. You have to internalize and understand what you have learned to actually be able to use it. However, reflection is not a simple process. In a study conducted to nursing students (Richardson & Maltby, 1995) it was found that, even though writing a reflective diary promotes learning, there should be clear guidelines on how to do reflection. For example, the writing should be promoted to be critical and to have a clear goal why this reflection is done (Richardson & Maltby, 1995).

Reflection is crucial also with the extracurricular activities. The study conducted to students of Lancaster University suggests that reflection programs should be offered to students so that they could realize and benefit the most from extracurricular activities, as the learning comes from self-reflection and metacognitive thought. (Thompson, et al., 2013). Next chapter explains one of the main processes, the articulation.

### **2.1.3 Articulation**

As mentioned before Hillage & Pollard (1998) raise one of the key factors of employability to be presentation skills. This means how well one can demonstrate the work experience, extracurricular activities, qualifications, skills, attributes etc. to the employer. Also Foster (2006) states that there is little to be gained if students cannot market their learned skills to employers. Brown & Hesketh (2004) point out that if you have 'star-looking' CV employers will also expect same level of articulation. It is

important, especially for recent graduates who have acquired a lot of new knowledge and skills, to explain how these will benefit the potential employer (Lorraine & Sewell, 2007).

Articulation plays a key role when you need to explain skills acquired in somewhat of an unusual way. For example, employers might not understand the benefits of extracurricular activities and therefore to articulate how these activities have increased your employability is crucial (Clegg, et al., 2010).

In a research conducted in the United Kingdom (Work Experience Group, 2002), one of the key findings was that if you have work experience, the reflection and articulation of what you have learned are what employers really value. According to the employability model the articulation is also the final process that a person can affect. After that, the factors that affect to final employment are applicants' personal attributes and other external factors. These subjects are opened more in chapter 2.1.6, 2.1.7 and 2.1.8.

#### **2.1.4 Field of study and graduation time**

The period spent on completing a degree in HEI has been in discussion for a long time. There have been many studies and suggestions on how to shorten the study period. Major factors argued to prolong the graduation have been working when studying, low study grant or poor study guidance. (Lempinen & Tiilikainen, 2001; Pajala & Lempinen, 2001; Silvennoinen, 1992; Silvonen, 1996).

However, in this study the correlation of graduation time and employment is the interesting factor. In the study conducted by Merenluoto (2004) it was found that students who graduate faster also have better grades. This could also be an important factor for employers when recruiting graduates. However, in a research done at Tampere University it was found that employers do not give big emphasis to grades and graduation time, but those merits can give an idea about the characteristics of an applicant's learning and performing capabilities. In the same study employers also mentioned who people that have graduated fast, but do not have any other experience, are not valued either. The same study points out that long study periods are seen as a negative thing by the employer also, but the most important thing is how the student has spent his time in HEI (Korhonen, 2004).

There are somewhat different results in (Tuominen, 2013) a research where it was found that for recent graduates, it seems that fast graduation is mostly better than slow graduation. This difference could be explained by results received in research conducted by Labour Institute for Economic Research, where no correlation was found between the time of study and employment. In this research, the follow-up time was five years. (Hämäläinen, 2003). Thus it could be argued that the time spent on graduation is relevant especially for recent graduates. This was the conclusion in Tuominen (2013) study also.

In the model, the chosen field is also considered to effect to employment. More precisely, the chosen degree from generalist or specialist type of field. (Tuominen, 2013). The term “generalist”, refers to a field that does not have specific qualifications but rather common work-life abilities. The wider spectrum of knowledge provides a generalist a benefit of applying to more different kinds of jobs than specialists. (Ruohelo, 2008). Specialist degrees are from fields that have more strict requirements for the given education. Very common specialist degrees are for example lawyer, military officer, doctor, architect and priest, these are degrees that give you the right to exercise a certain profession. There have been discussions also that fields such as teachers, engineers and social workers should also be included in specialist fields since they do have a high science-based education. However, it has been concluded in many studies that the separation of specialists and generalists fields is not clear in many cases. (Antikainen, et al., 2006; Haapakorpi, 2000; Haapakorpi, 1998; Ruohelo, 2008; Sainio, 2008).

The differences in these two orientations have been studied from different perspectives. In many studies, it has been found that the career path of a generalist develops in a different way than a specialist career path (Sainio, 2008; Tuominen, 2013). One argument is that a generalist degree does not often include internships (Ruohelo, 2008). However, that study was conducted to a different field than technical or economic degrees in a university, where mandatory internships are very rare. In Tuominen (2013) research it was found that faster graduation helps employment, especially in the generalist degrees. In the same research, it was found that there are no differences between women and men when comparing the employment rate in generalist or specialist fields (Tuominen, 2013). In Vuorinen & Valkonen (2007) study it was found that there are some differences in unemployment rates between university level degrees from fields of technology and

business. Both of these fields were considered to be specialist-oriented fields, but as mentioned before, the segmentation is not that clear (Sainio, 2008).

### **2.1.5 Extracurricular experiences**

Acquiring the skills, attributes and competencies have shifted from schools and companies to the individuals (Roulin & Bangerter, 2013; Tomlinson, 2008; Van Der Heijde & Van Der Heijden, 2006). Companies are not anymore ready to wait for recent graduates to adjust to the work-life, so they rather employ the ones who already own work experience or similar experience (Harvey, 2005; Kanervo, 2006). Work experience is one of the major factors that increase employability, especially in the fields of technology and business. This is not only shown in the research done in Finland (TEK, 2015; Korhonen, 2004), but also in the research done abroad (Harvey, 2005).

As the working life and the world is becoming increasingly uncertain, employers prefer to hire employees who can perform multiple tasks simultaneously (Harvey, 2005). This kind of skill can be achieved by doing work, having hobbies, doing volunteer work or arranging student events etc. at the same time with the studies (Ansala, et al., 2015; Harvey, 2005; Murray & Robinson, 2001).

Extracurricular experiences provide qualities such as interpersonal skills and leadership skills for recent graduates to stand out in the recruitment process (Brown & Hesketh, 2004). Recruiters may also analyze an applicant's personality, especially how extroverted a person is (Cole, et al., 2008). Additionally, a recruiter may look for similarities with the applicant and the current employees. Tuominen (2013) noticed that companies recruit people who have the same kind of hobbies as current employees so that they would feel comfortable with their new colleagues. In a research conducted by multi-national accounting firms it was noted that good academic grades and participation in extracurricular activities resulted in more job interviews. However, there was no exact correlation to final recruitment decision because of these activities (Chia, 2005).

In British studies, it was found that many participate in extracurricular activities because they want to increase their value in the job market and have competencies that employers appreciate (Brown & Hesketh, 2004; Tomlinson, 2007). In the study conducted by Ansala, et al. (2015) it was found that the main reasons for Finnish University students to

participate in student activities was to fix deficits in the study environment, making friends or benefitting from it in the future work careers. It was also mentioned that sometimes it was just by coincidence.

In the studies conducted in the UK it was found that it is important to understand that employers may view engagement to extracurricular activities also negatively and that the nature of extracurricular activities is important (Clegg, et al., 2010; Tchibo, 2007; Thompson, et al., 2013). According to Thompson, et al. (2013) participating in extracurricular activities may have a negative impact on the academic performance. So when doing extracurricular activities, it is important to understand how it affects your employability and how it can benefit your career.

### **2.1.6 Personal attributes**

Personal attributes are added by Tuominen (2013) to Harvey (2002) employability model. In the research conducted by Tuominen (2013) it was found that personal attributes are the most important factor to get employed. In that study, it was found that factors such as liking ice hockey or hunting can have a positive effect on employment if those are also valued by the employer. The study also points out that familiarity of an applicant is an important factor and if an organization knows your good work beforehand, it will have a positive effect on employment. (Tuominen, 2013).

Same results can be found from Sitra (2016) research, where it was found that 20% of jobs are offered without application, 11% are offered inside of a company, 8% go through networks. So in total of 39% of jobs familiarity is one of the key factors of employment. Ruohelo (2008) states that many of the jobs go to ex-coworkers, current colleagues and own friends. Hence, creating networks is a key element for employment.

In Tuominen (2013) research the social skills and whether one is an extrovert one can be considered to be part of personal attributes. This is, however, a bit controversial with the Harvey (2002) model since Harvey includes interpersonal skills already to the employability attributes. That being said, the respondents in Tuominen (2013) study, felt that social skills and the ability to get along with people were considered one of the most important personal attributes. So regardless of whether it is evaluated in the employability attributes or personal attributes it has a crucial effect on employability.



### **2.1.7 External factors**

In the employability model, the personal attributes and external factors are separated. However, in the Harvey (2002) model, where Tuominen (2013) model is developed further, external factors included personal attributes such as age, gender and ethnicity in addition to external economic factors. Harvey also points out that these economic factors can be sector or regionally specific. (Harvey, 2002). In research conducted by Tuominen, the regional factors are separated from external factors. This is due to the fact that in Finland the movement to the large cities is fast and the regional differences are increasing rapidly (Aro, 2007). In the same research, it was found that for those who had a hard time to get employment one of the main reasons was regional economic factors. It is also found that in Finland people who graduate are mostly moving to Uusimaa region, but there is an increase also in the Tampere region. So it seems that to get employed in Finland you need to be ready to move. (Tuominen, 2013).

In addition to locational or regional factors, the economic situation, in general, has a significant impact on employability. For example, when Finland experienced a deep depression in the 1990s the unemployment rose from 3% to almost 20% (Honkapohja, et al., 1999). Even though in the 1990s the HEI graduates did not suffer that badly from the unemployment situation it seems that nowadays the degree from HEI does not guarantee steady work career or 'normal' employment (Rouhelo, 2006).

### **2.1.8 Recruitment practices and criteria**

In Figure 2 the 'recruitment' means the whole recruitment process which especially involves companies' recruitment practices. Very often companies have some kind of criteria or a framework that is used as a basis for recruitment. With these policies a company tries to find out the best applicant who fits into an organization. The big risk in recruitment policies is that a company might have criteria such as to employ only high GPA graduates or people who have graduated from a particular university. (Harvey, 2003).

Even though recruitment practices are not something that a graduate can affect, it is crucial to understand that there are such criteria often set for recruitment. These are set because the organization tries to find out the best talent who at that situation and in the future suits the company. In the recruitment situation it is important to find behavioral

and personal characteristics, since these are more difficult to identify and develop (Nilsson, et al., 2012). To prepare for these, an applicant should get familiar with a company's strategy, mission, values and other information available that can tell what kind of needs the company has. Moreover, friends or even friends of friends can be helpful to understand what kind of people the company is looking for. With this information an applicant can prepare for the interview and bring wanted out attributes more effectively. As Brown & Hesketh (2004) mention, how an applicant phrases a response to a question can make a crucial difference.

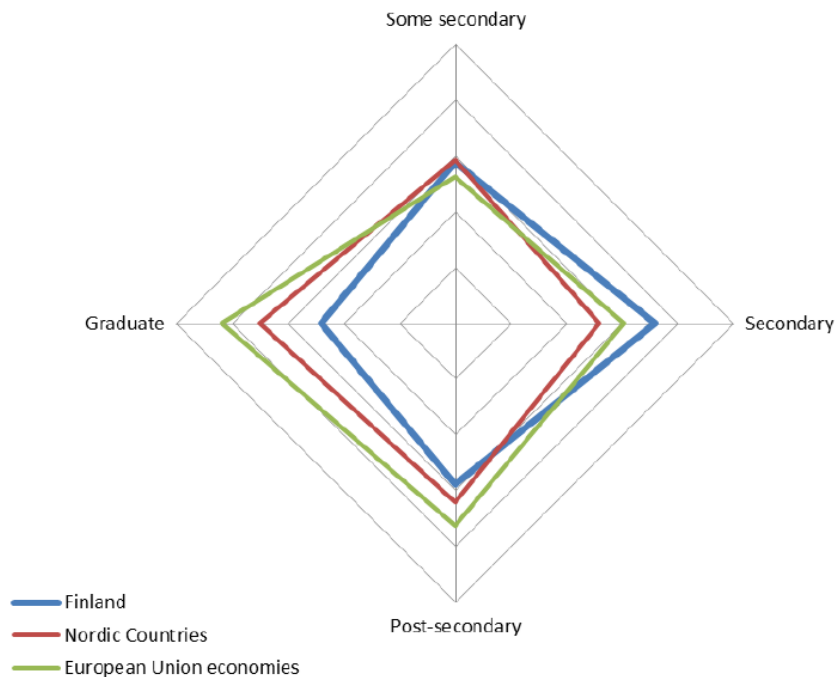
Even though in the previous chapter it was said that most of the jobs still go to familiar people, the use of recruitment offices or assessment centers is increasing. This is due to get this a more objective view for recruitment (Brown & Hesketh, 2004). However, the human nature is to seek sameness in almost everything (Essed & Goldberg, 2002) and this is also the situation when recruiting people (Brown & Hesketh, 2004), even though some studies consider this to be a threat to the company (Kossek & Lobel, 1996).

### **2.1.9 Self-employment**

The employability model also includes a different path, which is self-employment. This means that you work as a freelancer or setup your own company (Harvey, 2002). In the study Puhakka & Tuominen (2011), it was found that five years after from graduation 12% of respondents had been self-employed for some period of time. Self-employment is very field specific. For example, it is very common for architects to set up their own office.

One of the major factors for not becoming an entrepreneur is a fear of failure. In Finland, it was reported that 42% of Finnish adults have this fear, which is lower than the EU average. In Finland especially for young adults, men and highly educated have the motivation to become an entrepreneur. (Stenholm, et al., 2014). It was also found in an American study that women who self-employ invest more in education than men (Roche, 2013).

The Figure 5 below, shows how the education reflects the early-stage entrepreneurial activity (TEA)<sup>4</sup>. In the figure, the closer the line is to the edge, the more common is it to become an entrepreneur. It can be seen that in Finland we are behind the EU and also other Nordic countries when measuring HEI graduates, but actually ahead when comparing in the secondary education.



**Figure 5: Established business ownership by education in 2014 (Stenholm, et al., 2014).**

In the GEM report it is shown that only 6% are starting a new business, but at the same time, it suggests that positive attitude amongst Finnish people is rising (Stenholm, et al., 2014). This can also be seen in the events that are held in Finland, for example Europe's largest entrepreneurial event Slush is from Finland<sup>5</sup>.

## **2.2 Employability of international university graduates**

As mentioned before, the model is designed for employability to all HEI graduates. It does not have any specific notion for international graduates except that ethnicity is

<sup>4</sup> Global Entrepreneurship Monitor's most well-known index, representing the percentage of 18-64 population who are either a nascent entrepreneur or owner-manager of a new business <http://www.gemconsortium.org/wiki/1154> referred 5.5.2016

<sup>5</sup> <http://www.slush.org/> referred 5.5.2016

considered to be an external factor that an applicant cannot change (Harvey, 2002). All of the factors, of course, have weight on the employability of international graduates. Some of these have been researched in other surveys already. One extensive nationwide report in Finland was done by VALOA-project (Shumilova, et al., 2012). From this report, we can find various result that support the model. The report points out that three most important qualities for getting employed were knowledge of the Finnish language, relevant work experience and attitude. Additionally, some major skills that affected to employment were (listed in order):

- 1) work experience in the field or discipline,
- 2) team working skills,
- 3) mastery of own field,
- 4) inter-cultural competencies,
- 5) leadership skills,
- 6) computer skills,
- 7) knowledge of other fields or disciplines,
- 8) ability to coordinate activities/projects,
- 9) analytical/research skills,
- 10) ability to rapidly acquire new knowledge. (Shumilova, et al., 2012).

However, about the same set of the skills is important for any graduate to get employed (TEK, 2015). In the Shumilova, et al. (2012) study it was also recommended by the employers that international graduates spend more time to self-study and be more active during studies. This way they are more likely to expand their social and professional network. In a study conducted by CIMO, the meaning of networks is reported to be one of the key factors for employment and that these networks can be achieved through any sort of activity (CIMO, 2014a). In TEK (2015) report it was found that international graduates have less work experience than Finnish graduates and that work experience is a major factor to aid employment. In an older study by Söderqvist (2005) it was also found that there is potential for improvement with the recruitment policies. For example, companies could try to include diversity into their personnel policies and how their HR is organized. Companies should understand the strategic benefits of international personnel. Additionally, they should not try to recruit international graduates the same way as Finnish graduates. (Söderqvist, 2005).

The employment rate of international university graduates according to CIMO (2014b) was 41,8%. The employment rate does vary depending on the field of study. For example, graduates from the field of social and health care have the employment rate of 68%. For technical field, it has been 42,8% and for social sciences, administration and business it has been 41,5% (CIMO, 2014b). Even though there are some results from international graduates regarding the model, there is still a lot to study and to validate on this subject.

### **2.2.1 Main obstacles for employment**

There are studies that focus on how immigrants or migrants can get work in Finland in general. There are also studies that try focus on some specific migrant groups such as people coming from war zones, people from Europe or HEI graduates. All of these studies, regardless of the focus group, reveal the lack of adequate Finnish being the main barrier for getting work in Finland (Ahmad, 2005; Forsander, 2002; Shumilova, et al., 2012; Söderqvist, 2005). This is, however, questioned to be the exact reason in many cases. For example Forsander (2002) has argued that the language requirements are defined vaguely in many cases so that employers can appeal to them if needed. In a research conducted by Ahmad (2005), he noticed that employers used the lack of Finnish language as an excuse even though in the job advertisement Finnish language was not required nor was it needed in the job. In Ahmad (2010) few other main obstacles for immigrants for getting a job in Finland, in general, are presented:

- Finnish companies do not recognize or value the education or work experience received outside Finland
- The lack of understanding of Finnish culture and workplace norms
- The employers do not trust immigrants
- Discrimination of immigrants

These reasons are relevant for all of the immigrants in Finland, but there is different kind of weight in the findings that are focused on the HEI graduates. In the study conducted by Shumilova, et al. (2012) it was discovered that additionally to the Finnish language the main obstacles were the lack of right networks and lack of previous work experience. Silfver (2010) argues that work experience, even professional level, has to be acquired from Western countries to be recognized in Finland. Ethnic discrimination was also found

to be one of the key reasons. It was found that 44,8% of UAS and 24,8% of university graduates felt that one of the main barriers for getting a job was ethnic, cultural or religious discrimination. (Shumilova, et al., 2012). It could be argued that the more highly educated an applicant is the less discrimination these will face during the employment process. This could be linked in a way that they will also apply for positions that are on the higher level of organization hierarchy, where the recruiters are also more educated and presumably less discriminative. Many researchers actually suggest that we should also focus on the training and creating incentives for the employers rather than focusing just on the immigrants (Ahmad, 2010; Rydgren, 2004; Shumilova, et al., 2012; Söderqvist, 2005).

### 3 Diversity and diversity management in Finland

The purpose of this chapter is to present existing research of diversity and diversity management and how it is relevant for this study. In chapter 3.1 the benefits of diversity management for companies are discussed and a more detailed explanation of what benefits internationalization can bring to the companies is offered.

Diversity and diversity management is a fairly recent issue in Finland. The roots of diversity research are in the English speaking countries where there have been more immigrants for longer now. Especially nowadays, diversity management has risen in the interest of other Western countries as well. (Bairoh, 2007; Louvrier, 2013). The research in Finland started from the perspective of equality of women and soon after continued to equality related to gender, ethnicity, disability and age (Ministry of Employment and the Economy, 2010; Sippola, 2007). In the matter of equality Finland has quite a comprehensive regulation. This legislation has been the main driver for diversity in Finland (Sippola, 2007). Below are listed the current laws of Finland:

- Constitution of Finland (731/1999, renewed)
- Criminal law (39/1889, renewed)
- Employment Contracts Act (55/2001)
- Act on Equality between Women and Men (609/1986)
- Equality Act (1325/2014)

These regulations mainly focus on making any kind of discrimination illegal. However, these regulations do not focus on how the diversity and diversity management should be organized for example in companies.

Bairoh (2007) classifies diversity management research into the following three categories:

1. practitioner/consultant approach
2. mainstream approach
3. critical approaches

The practitioner/consultant approach is a group that tries to get the most out of the diverse workforce. The mainstream approach is a group that focuses more on how diversity can increase performance or get better results from groups. The critical approach is a group that gives more criticisms to the mainstream group (Bairoh, 2007). One of the most famous diversity publications is from Thomas & Ely (1996) which Bairoh (2007) considers a good example of practitioner/consultant approach. Thomas & Ely (1996) present three paradigms for diversity management:

- Discrimination-and-fairness paradigm
- Access-and-legitimacy paradigm
- Learning-and-effectiveness paradigm

Discrimination-and-fairness paradigm has been the most dominant way to understand diversity. This focuses on equal opportunities for everyone. Even though it sounds just like the laws we have in Finland already, it goes a bit deeper. It involves for example mentoring and career-development programs for minority groups. Companies that utilize this approach for diversity management are often bureaucratic in structure. This approach does increase the demographic diversity, but it has its downfalls. This paradigm does not take into account how people's differences can generate benefits in learning, working, managing or viewing the market. (Thomas & Ely, 1996).

The access-and-legitimacy paradigm is built on the acceptance and celebration of differences. In this approach, a company is trying to fulfill multicultural needs to get access to the other differentiated segments. These companies very often operate on a market where there is very diverse customer segment. The main limitation for this paradigm is that it emphasizes the role of cultural differences in a company without really analyzing those differences to see how they actually affect the work that is done. (Thomas & Ely, 1996).

The learning-and-effectiveness paradigm is an advancement from the two before mentioned. It still promotes equal opportunities for all but as individuals. It values and acknowledges cultural differences and tries to find out how to benefit from them and get the full potential out from the employees. In companies that use this approach, the goal is to make the workplace feel safe for the employees. This paradigm needs a lot of effort



from the management. Management needs to invest time and energy to understand different identity-groups that the company has and what kind of skills and needs these identity-groups have. These skills need to be communicated inside that company and only then can the company rethink how work is organized and executed in the future. (Thomas & Ely, 1996).

Thomas & Ely (1996) can be considered to be pioneers of practitioner/consultant approach. Into their three paradigms were added the fourth paradigm was added by Dass & Parker (1999). This paradigm is called resistance perspective, In this paradigm, the growing diversity is considered a threat. This paradigm does not try to benefit from diversity (Dass & Parker, 1999).

The practitioner/consultant approach includes many other theories. It is created to be easy to understand for the reader or as Bairoh (2007) states “take the right steps” logic. The idea behind this approach is that diversity management is good for the organizations, business and employees. Its weakness is that it lacks theoretical background. (Bairoh, 2007).

As the theoretical background has been missing from practitioner/consultant approach and there has been criticism towards it, the mainstream researchers have started to rise. Their research includes theoretical background from Social identity theory and Social categorization or Self-categorization theory (Bairoh, 2007).

The ideas about diversity management are not that different from Thomas & Ely (1996) learning-and-effectiveness paradigm and mainstream approach but include more theoretical background. Mainstream approach also recognizes that there is still a lot to research on diversity management and that current methods need more developing. The mainstream approach also recognizes that not all employees will accept diversity. For example Prasad et al. (2006) state that it is fundamental for humans to have in-group bias and out-group discrimination. Also, “historical” open discrimination has changed now to more subtle discrimination in which the existence of discrimination is denied, but at the same time, there is resistance to demands made by minorities (Dietz & Petersen, 2006).

Bairoh's (2007) critical approaches include, according to its name, many different kinds of critical views about diversity management. Some views think that diversity management can be an effective tool for companies, but some disagree. There is not one definition in 'critical approaches'. (Bairoh, 2007). It is important to understand that there are many different views about diversity management and that it still needs a lot more research. Next chapter focuses more on how companies could benefit from diversity management.

### **3.1 Requirements to implement diversity management**

As mentioned in the last chapter, there is no exact way how to implement diversity management to a company. There are, however, some suggestions that companies should take into account when implementing diversity management into their ways of working. For example, Gilbert & Ivancevich (2000) suggest that at least the following managerial actions should be taken into account when creating a supportive atmosphere in the company:

- CEO support of diversity initiatives
- Managerial accountability
- Fundamental change in human resource practices
- Employee involvement and buy-in
- Overarching corporate philosophy regarding diversity
- Ongoing monitoring and improvement of diversity climate

Thomas & Ely (1996) also point out the managerial responsibility in diversity management. They also bring up organization culture and the mission of the company. They have identified eight preconditions for companies:

1. The leadership must understand that a diverse workforce will embody different perspectives and approaches to work, and must truly value variety of opinion and insight.
2. The leadership must recognize both the learning opportunities and the challenges that the expression of different perspectives presents for an organization.
3. The organizational culture must create an expectation of high standards of performance from everyone.
4. The organizational culture must stimulate personal development.

5. The organizational culture must encourage openness.
6. The culture must make workers feel valued.
7. The organization must have a well-articulated and widely understood mission.
8. The organization must have a relatively egalitarian, nonbureaucratic structure.

Sippola (2007) states that the most important thing is to involve human resource management (HRM) when managing diversity and that the importance of HRM becomes more relevant if diversity is encouraged in the company. Sippola (2007) and Söderqvist (2005) state that unfortunately in Finland, companies have not yet implemented the needed changes to their HRM and also that Finland has not yet put effort into a systematic and comprehensive transform to diversity management. It is also important to understand that diversity needs to be considered as a long-term investment (Caproni, 2005).

Diversity management does not only involve perceiving the changes inside the organization but also the recruiting of new employees. When advertising a workplace, based on diversity strategy or policies, the company also need to take into account how diverse the company currently is. There is a possibility that the job-seeker may get the wrong image of the company and will be disappointed after recruitment if the company communicated image differs from the actual workplace culture. (McKay & Avery, 2005). It is human nature that people want sameness around them (Essed & Goldberg, 2002) and this seems to be in line with the research done in the United Kingdom where results show that, even though discrimination is not allowed, a recruitment process involves subconscious self-replicating biases (Morey, et al., 2003). These biases are something that companies should be aware when recruiting new employees.

### **3.2 Benefits of diversity management**

In a study conducted by European Business Test Panel (2008) it was found that 63% of the studied companies felt that their diversity strategy had improved innovation in their company and 59% of them considered that it had been helpful for their company. McMillan-Capehart considers that well-handled diversity management can enhance company's creativity and problem-solving and in turn increase turnover. It also helps a company to manage and mitigate the amount of emotional conflicts (McMillan-Capehart, 2005).

The reasons to engage in diversity management was studied by Robinson & Dechant (1997). The top 5 reasons for Fortune 100 companies according to their human resource managers were:

- Better utilization of talent
- Increased marketplace understanding
- Enhanced breadth of understanding in leadership positions
- Enhanced creativity
- Increased quality of team problem-solving

The idea behind having benefits from diversity is that through it the organization's skills, experiences, values and cultural dimension are multiplied. When being open to various new capabilities the company can increase its organizational flexibility, adaptability and potential capacity in a changing environment. (Thornhill, et al., 2000).

As the world is becoming more and more diverse, companies can tackle obstacles and maximize the benefits of this change by diversity management. With it, a company can better understand its personnel and customers and what kind of opportunities they bring. A well-executed diversity management can be considered as a competitive advantage. (Ministry of Employment and the Economy, 2010).

### ***3.3 Internationalization and diversity***

As mentioned before diversity is more than just ethnic or cultural differences. However, this study is conducted from the perspective of employability of foreign graduates, so internationalization is explored more deeply in this section. The research on internationalization started a long time ago. When talking about internationalization, it often refers to a process that increases company's international involvement (Johanson & Vahlne, 1977). The reasons of internationalization can be very similar to the reasons to engage in diversity management. The main reason, of course, being always increasing the value of the company. Finpro, which is nowadays government owned company, (Torniainen, 2010), works as an accelerator of internationalization for companies and has stated that reasons to internationalize are:

- Pioneer compared to the competitors
- Spur the growth of the company
- Increasing the profitability
- Benefiting from the global know-how and innovation

It is important to understand that internationalization does not explicitly mean that employees would be international and that the diversification can be just geographical (Lu & Beamish, 2004). Some of the benefits of geographical internationalization are for example:

- Larger economical scale and scope (Caves, 1996)
- Helping fluctuation by spreading the investment risk (Kim, et al., 1993)
- It increases company's market power over its suppliers, distributors and customers (Kogut, 1985)

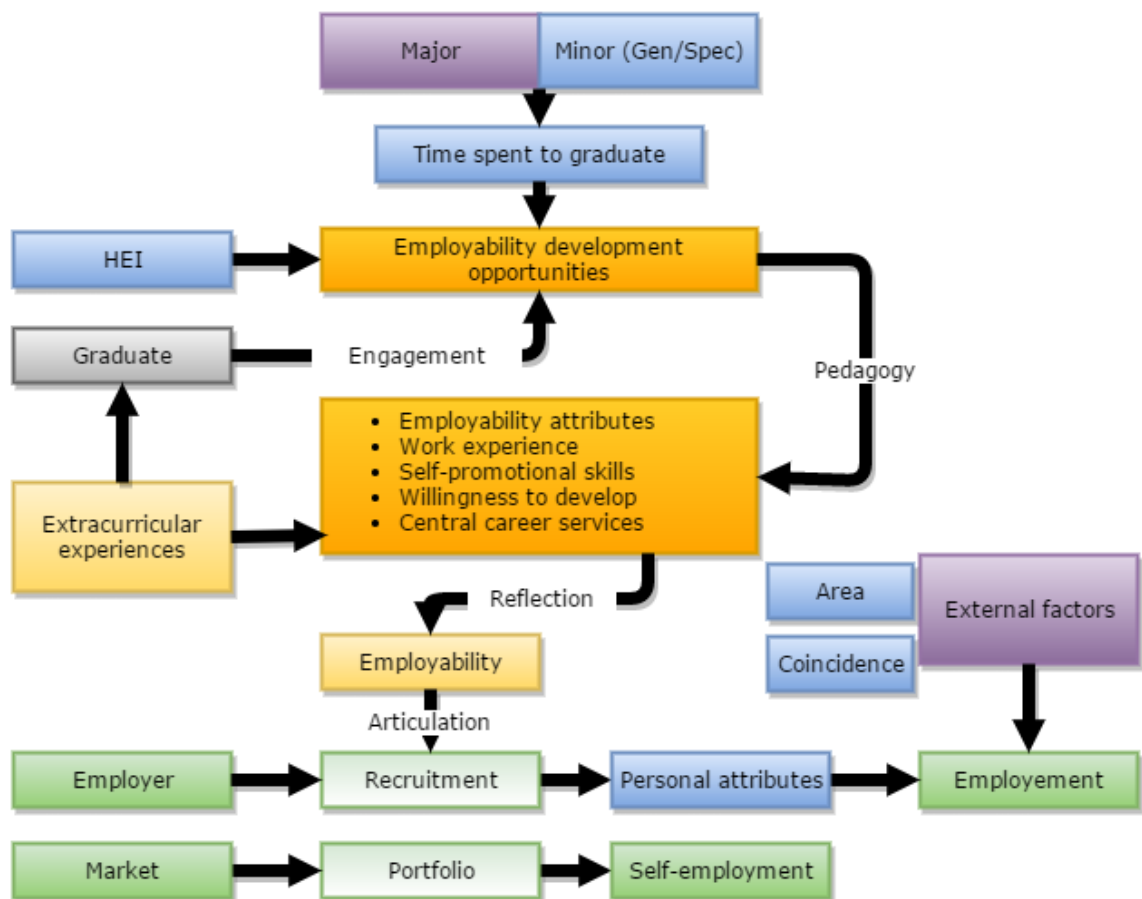
Internationalization can also enhance company's skills and capabilities by learning and using the knowledge base that exists in its' subsidiaries (Zahra, et al., 2000). This corresponds to the benefits of diversity management. There are, naturally, also costs to increasing geographical internationalization. These costs are often linked to being new and foreign and to the company's relation to the new market. Communication issues are also to be considered as there is more distance between people (Lu & Beamish, 2004).

## 4 Summary and adaption to employability model

Chapters 2 and 3 give a background for the employability model that is used in this study. In this chapter, the main points are summarized. The definition for employability in this study is:

*Employability is about having the capability to gain initial employment, maintain employability, to stay in employment and to progress during career.*

Employability model for HEI graduate students presented already in figure 2 also supports the above definition:



**Figure 6: Employability model for this study**

There are various factors that affect the employment of an HEI graduate since the university degree does not anymore guarantee a job that would require that level competence (Sainio, 2008; Vuorinen & Valkonen, 2007).

It is found that study time and the field of studies (specialist or generalist) effects on employment, especially for recent graduates. Tuominen (2013) also found that it is not just the major of your studies that has an effect, but also the type of minor you have completed. (Tuominen, 2013). From these findings, variables such as length of study and type of education (specialist/generalist) are included in the research.

One of the crucial processes that effect the employment is the development opportunities. Universities do provide a lot of different kinds of development opportunities such as the development of attributes, self-presentational skills, willingness and awareness of the need for continuous learning. (Harvey, 2001). University students need to be ready to engage in different development opportunities. However, maybe an even more important process is to reflect the development situations and experiences that occur. (Harvey 2005). Through reflection, an applicant can better articulate what has been learned through different activities. Hillage & Pollard (1998) state that the presentation skills of how well one can demonstrate the work experience, extracurricular activities, qualifications, skills, attributes etc. to the employer being one of the most crucial skills to obtain a job. From these findings variables such as the development of certain skills, willingness to develop, articulation and understanding the working culture in Finland are included in the research.

All factors related to employment are not related to certain skills. There are also personal attributes that affect employment. For example, if you have some similarities with the employer or are known to the organization already, it can have a huge boost for getting a job. (Tuominen 2013). Familiarity was also found to be one of the key factors in finding a job according to Sitra's research (2016), where it was found that 39% of the jobs include a familiarity factor. From these finding the size of a graduate's network is included in the research.

Companies look for more ready or work experienced graduates to recruit. Therefore, extracurricular activities play a more important role than before. Companies want applicants to have work experience or similar experience already during studies (Harvey, 2005; Kanervo, 2006; TEK 2015). Work related skills can also be achieved by having hobbies, doing volunteer work or arranging student events etc. at the same time with the studies (Ansala, et al., 2015; Harvey, 2005; Murray & Robinson, 2001). From these

findings, the amount of extracurricular activities and work experience are included in the research.

There are also factors that a graduate cannot affect. These are called external factors, which can be caused by the poor economical situation in general or in a certain sector. Another factor that an applicant cannot so much affect is the recruitment practices and criteria. Many companies do have some practices or framework set. However, the human nature is to seek sameness in almost everything (Essed & Goldberg, 2002) and this is also the situation when recruiting people (Brown & Hesketh, 2004). Some studies consider this to be a threat to the company (Kossek & Lobel, 1996). This is also noticed to be especially important for people who come from different cultures or language than native to the country since many studies reveal the lack of adequate Finnish being the main obstacle for employment (Ahmad, 2005; Forsander, 2002; Shumilova, et al., 2012; Söderqvist, 2005). Additionally, many feel that ethnic, cultural or religious discrimination is also considered to be one of the main obstacles (Shumilova, et al., 2012). From these finding variables such as the level of Finnish language, main obstacles that the respondents consider in finding a job and the use of intercultural knowledge are included in the research. Locational factors are also included in the research.

At the same time, studies show that diversity can bring benefits for companies. In a study conducted by European Business Test Panel (2008) it was found that 63% of the studied companies felt that their diversity strategy had improved innovation in their company and 59% of them considered that it had been helpful for their company. The idea behind having benefits from diversity is that through it the organization's skills, experiences, values and cultural dimension are multiplied. When being open to a various amount of a new capabilities the company can increase its organizational flexibility, adaptability and potential capacity in a changing environment. (Thornhill, et al., 2000). However, it is important to remember, that to seek benefits from diversity, you must also make the organizational effort to succeed. Researchers for example Gilbert & Ivancevich (2000) and Thomas & Ely (1996) highlight the managerial effort and organization culture that need to support diversity agenda. From these findings a variable such as 'how diverse the companies are' is included in the research.



Additionally, to finding a job, the employability model presents another option, which is self-employment. This is a more and more popular thought in Finland (Stenholm, et al., 2014). The variable of self-employment is included in the research. However, reasons for this are not explored further in this study.

All of these variables are compared to graduates' employment situation. To goal is to find out what kind of factors increase the employability of an international university graduate.

## **5 Research questions and methods**

The previous chapters outlined the theoretical background for the research and pointed out some of the variables to be researched. The main purpose of this study is to find out factors that either decrease or increase the employability of international university graduates. The objective was to find suggestions to universities, companies and labor unions on how to increase the employment rate of international graduates. The survey focuses on what the students do while studying in university and how these activities may affect their employment. This study does not compare the results between Finnish and international graduates. It focuses only on the activities of international students. It also does not compare results between engineering, business or architecture graduates.

There have been studies about the same subject before that focus for example on the obstacles of employment or in the factors that increase employment. As mentioned before one comprehensive nationwide study (VALOA-study) was conducted before. Additionally to that, TEK has been actively comparing employment results between Finnish and international graduates. These two studies have offered the basic background for this study. This study is focused only on the fields of business, technology and architecture. The main focus is also kept in recent graduates.

As represented earlier in the figure 2, the employability model is used as a background to examine the employability issue of university graduates. This model was also used by Tuominen (2013) to examine how the model fits Finland and what additions are needed. From this model, the form of the survey was created.

In chapter 5.1 the chosen methodology to conduct the research is explained. The conducted survey is presented in chapter 5.2.

### **5.1 Methodology**

In this research, mixed methods were used. For finding opinions and views on the employability of international graduates a quantitative research method was used. From the results of this data short e-mail and phone interviews were conducted to gather qualitative information from companies' representatives. The main results are gathered from the quantitative data.

In subchapter 5.1.1 the quantitative study is presented, and the research variables are explained on the basis of the employability model (Figure 2). The chapter also explains how the quantitative study was conducted. The chapter ends in analyzing usability as well as the validity and reliability of the quantitative study.

### **5.1.1 Quantitative study**

The primary results of this study are gathered from quantitative study. The quantitative study is conducted as a survey for the international university graduates. The respondents were selected from two universities, Aalto University and Lappeenranta University of Technology. These two universities were chosen because in both of them you can study business and technology. Additionally, the students of architecture and landscape architecture from Aalto University were included in the study. Students who had graduated between years 2014 and 2016 were chosen because the main focus of the study is recent graduates. The responses are subjective and reflect the perspective of the graduates who have responded to the survey.

#### **5.1.1.1 Structure of the survey**

The survey was designed using the employability model (Figure 2) and literature review as a background. Also, previous studies such as VALOA-study and TEK's recent graduates study were used to create the survey. The final survey can be found in the attachment A.

After the first versions of the survey, it was presented to representatives of different participants of this projects to receive feedback (Aalto University, Lappeenranta University of Technology, TEK, The Finnish Business School Graduates and Technology Industries). The survey was also tested with a group of ten people. Feedback about the length, structure and understandability of the survey was received. In the final version especially the comments from TEK research unit and the supervisor of this study from Aalto University were taken into account. Finally, survey (Appendix 1) was constructed into the following five sections:

- Basic information and education
- Employment and work experience
- Extracurricular experiences and networks
- Skills and attributes
- Other information related to the study

In basic information and education section, questions asked are related to the respondents' background (e.g. university of graduation, gender, age, citizenship, field of studies, study period and key competencies learned). These information are asked to find out what kind of background the respondents have.

In employment and work experience section, questions relate to the respondents' relation to working life during studies and after graduation. This section attempts to find out if the respondents stayed in Finland, did they obtain a job and from what sector, how relevant their studies were for the job and how diverse is/was the working environment. The section also asks questions about whether the respondents tried to gain work experience during studies since this is considered one of the main factors to increase employment after graduation (Harvey, 2005; Korhonen, 2004; Shumilova, et al., 2012; TEK, 2015). The section also contains a question related to the biggest obstacles to employment.

In extracurricular and networks section, the study tries to find out how active international students are in extracurricular activities and how large networks they have been able to create. Finnish students are very active in clubs and associations. In TEK (2016) study it was found that 40% of students participated in some kind of student activities. This is not that common in some cultures and therefore might present difficulties when obtaining a job. One of the reasons being that from extracurricular activities you can increase your personal networks and as Sitra (2016) reported, 39% of the jobs go through peoples' networks.

In skills and attributes section, the study tries to find out how key skills related to employment have developed during studies (studying, extracurricular activities or work). The section also achieves to find out the respondents' attitude towards working and learning, in addition to how well they consider to understand the working culture, the norms and needs of Finnish companies.

In the other section, questions that did not explicitly fit in the previous section are asked. These questions are related to for example how willing would the respondent be to move for a job, what were the main reasons to come and study in Finland, would they like to stay in Finland and do they consider Finland as a good place to study and live.

The survey also included an open question after every section where the respondents could elaborate on their responses. At the end of the survey, there was possibility to give feedback or openly give some additional information to the survey.

### **5.1.1.2 Respondents to the survey**

The population for the survey was gathered from the Aalto AlumniNET and from the Lappeenranta University of Technology's student register. From Aalto AlumniNET, 383 contact information was found. From these 383, some had a working e-mail address and some a working phone number. For those who had only phone number, an SMS was sent to obtain a working e-mail address. To students from Aalto University the survey was sent only via e-mail. The correctness of contact information from Aalto AlumniNET couldn't be confirmed as updating the information is the responsibility of the graduate. From LUT's student register 309 graduates were found. Unfortunately there was contact information only for 124 and all of these located in Finland. For these graduates, the survey was sent by mail. In total 477 graduates were contacted for the survey. The first deadline for the survey was set on 5th of June. However, this was extended for a week since some contact information were acquired only in the same week that the deadline was set. Final deadline was set to 12th of June 2016. During the response time, a reminder was also sent to the respondents.

Unfortunately, the responses received from LUT were so low ( $N = 10$ ) that these responses had to be excluded from the survey, as it had no possibilities to represent the actual population of LUT graduates. Therefore, after the deadline and exclusion, 67 eligible responses were received from Aalto. Eligible refers to the responses of those whose home country was not originally Finland and that have graduated from Aalto University during years 2014 – 2016 and are from the field of business, technology, architecture and landscape architecture. The response rate for the survey is 19,1%. If we deduct this number to those that we had either e-mail address or home address the

response rate for the survey is 21,1%. All those who participated in the survey were able to participate in a draw also, where an iPad was raffled.

### 5.1.1.3 Usability of the results

In the end, the survey provides data from international graduates who have graduated from Aalto University between the time of 2014 and first of April in 2016 and that have completed a degree in the field of technology, business, architecture or landscape architecture. In this data, there were 67 answers. From these answers 68,7% were male and 31,3% female. This is quite accurate with the ratio of all graduates from Aalto from these fields, which was 67% males and 33% females. Also, the ratio of different fields is quite accurate with the total population. Results can be found below in table 3.

**Table 3: Distribution of gender and study field**

	Total population			Survey
	Female	Male	Total	Respondents
M.Sc. (Archit.) and M.Sc. (Landscape Archit.)	47,8 %	52,2 %	4,2 %	2,9 %
M.Sc. (Tech.)	24,7 %	75,3 %	75,3 %	75,7 %
M.Sc. in Economics and Business Administration	62,2 %	37,8 %	20,4 %	21,4 %
Total	33,3 %	66,7 %	100,0 %	100,0 %

With this information, it can be argued that the respondents represent the total population of international students from Aalto University very well.

### 5.1.1.4 Validity and reliability

The questions are created on the basis of the employability model from Harvey (2005). Harvey has conducted several studies (Harvey, 2001; Harvey, 2002; Harvey, 2003; Harvey, 2005) to find out if these factors have an effect on HEI graduates' employability. Additionally, Tuominen (2013) has conducted research using the employability model in the Finnish environment and made some adjustments based on his findings.

As mentioned in the previous chapter the responses were divided in the same relation as the total population of international graduates of Aalto University would be. Unfortunately, the response rate is quite low, being 19,1% of all of the graduates. So generalization of the responses can only be made when statistical methods provide the possibility for that. Two different statistical methods were used to analyze the data. Chi<sup>2</sup> method was used with clear categories. Mann-Whitney method was used with Likert scale responses. When these methods were not applicable, the results could not be generalized. The results were analyzed by using Webropol's Professional Statistics-tool.

Reliability of the survey was assured in the following ways:

- Before conducting the survey, the questions were tested with a test group to find out if the respondents understand the questions in the same way and is everything explained as well as it should be
- The survey was conducted anonymously as with the response information there were no possibilities to link results to a certain respondent.
- Questions were made simple and answers to them were easy to remember
- There was ample time for the respondents to answer the survey whenever it suited them
- The responses were gathered by using Webropol-tool to reduce the risk of incorrectly recorded responses.

## 6 Results

In this chapter, the results obtained from the survey are presented. The structure of the chapter follows the structure of the theoretical part. First, the general results are presented followed by more specific results observed. In chapter 6.2 different development opportunities for respondents are presented. This gives an overview how much time is spent on obtaining work experience or other extracurricular experiences during university and how these can increase employment opportunities. Chapter 6.3 goes deeper into skills, attributes and articulation and how these effect employment. Chapter 6.4 seeks to find differences with the field of study and time spent to complete the degree compared to the employment rate. In chapter 6.5 the extent of respondents' networks is presented and how the networks compare to their employment situation. Chapter 6.6 will give insight to locational and external factors and how these impact employability. In chapter 6.7 the diversity in the companies is briefly look covered.

To understand the results easier some key figures are presented below:

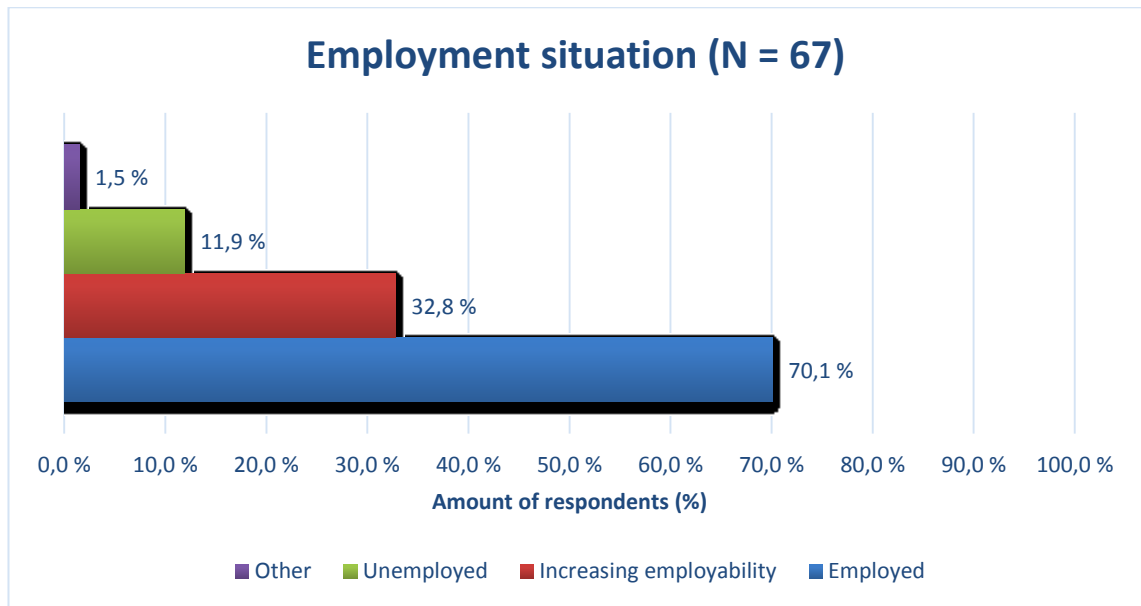
- There were 67 respondents in total (100%)
- There were 53 respondents who have had at least one job after graduation (79,1%)
- There were 47 respondents who are currently employed (70,1%)
- There were 45 respondents who are settled in Finland after graduation (67,2%)
- There were 37 respondents who have settled in Finland and have had at least one job after graduation (55,2%)
- There were 8 respondents who were unemployed currently (11,9%)
- There were 37 respondents who obtained work experience during their studies (55,2%)
- There were 56 respondents who had been active in extracurricular activities in some way (83,6%)

### 6.1 General results

This chapter will give an overview of the employment situation of the respondents. The chapter also presents results on how well the degree is linked to the job that they have had or have now. Finally, the chapter will also present other findings of the study that include the main reasons for the respondents to come to Finland to study and for what reasons would they be willing to stay here.

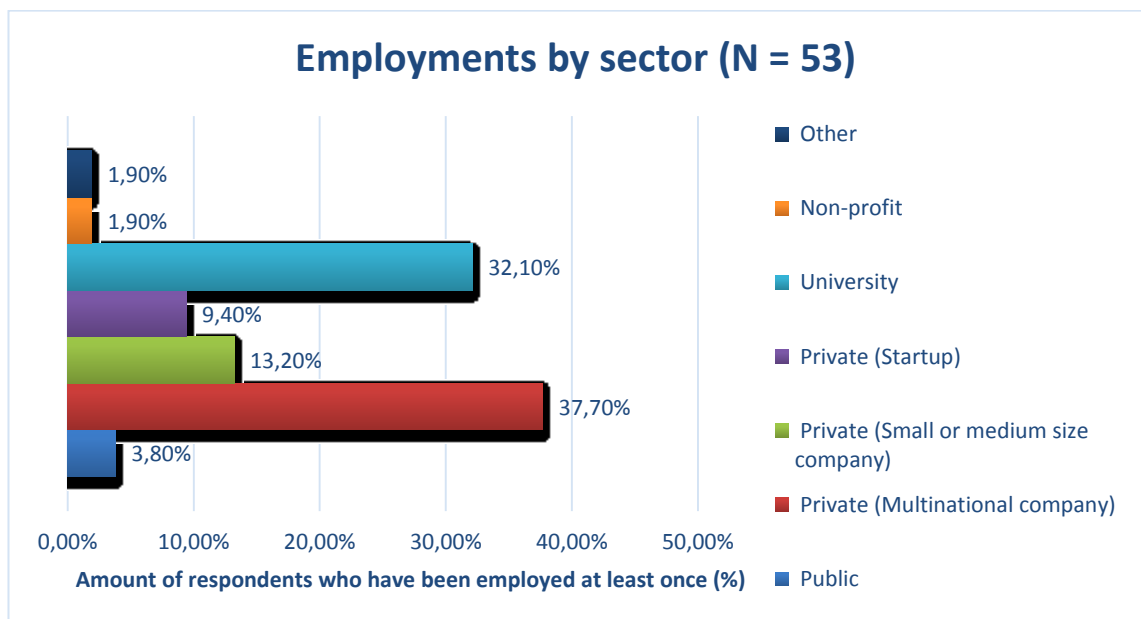


Currently, 70,1% of the respondents are employed and 32,8% are still increasing their employability by participating in a trainee program or undertaking further studies. Only 11,9% of the respondents are currently unemployed. The results can be seen in figure 7 below. Additionally, the respondents were asked if they were employed at least once after graduation and 79,1% answered that they had been.



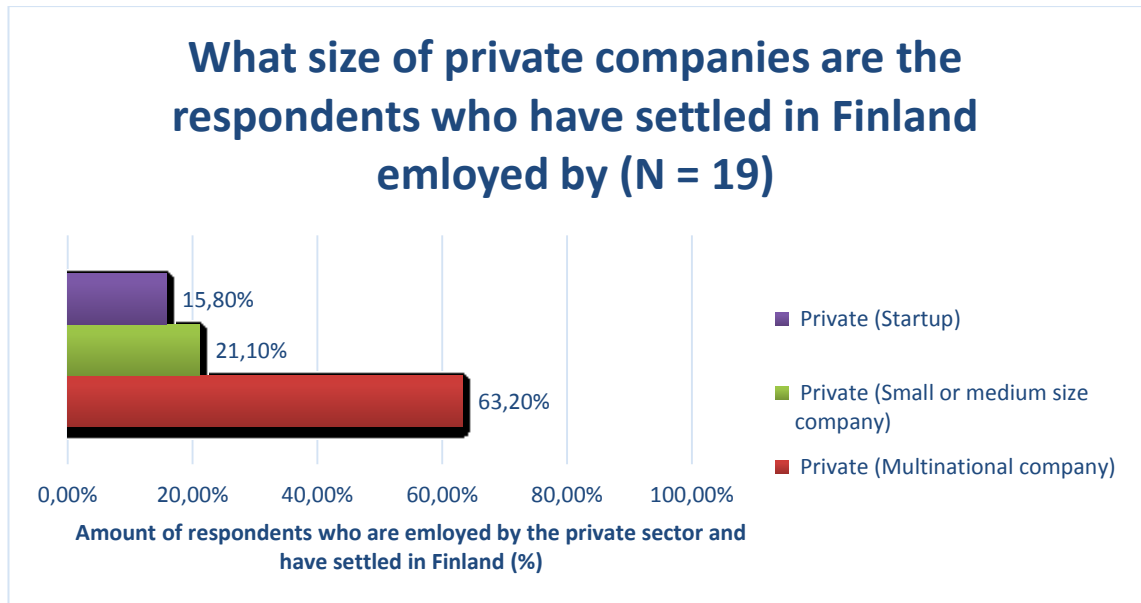
**Figure 7: Employment situation**

The respondents are mainly employed by the private sector (60,3%). Universities are the second biggest employer (32,1%). Figure 8 below shows these results.



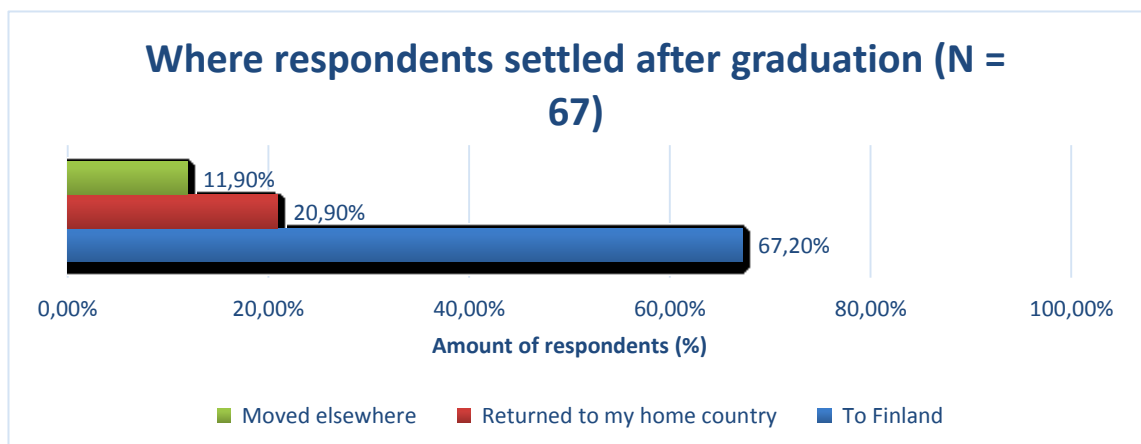
**Figure 8: Employments by sector**

If we exclude the graduates who have left Finland and only look at the private sector (N=19), we can see that there is a big difference between small and medium-sized companies (SME) and large companies in how many people they employ. Figure 9 below shows these statistics.

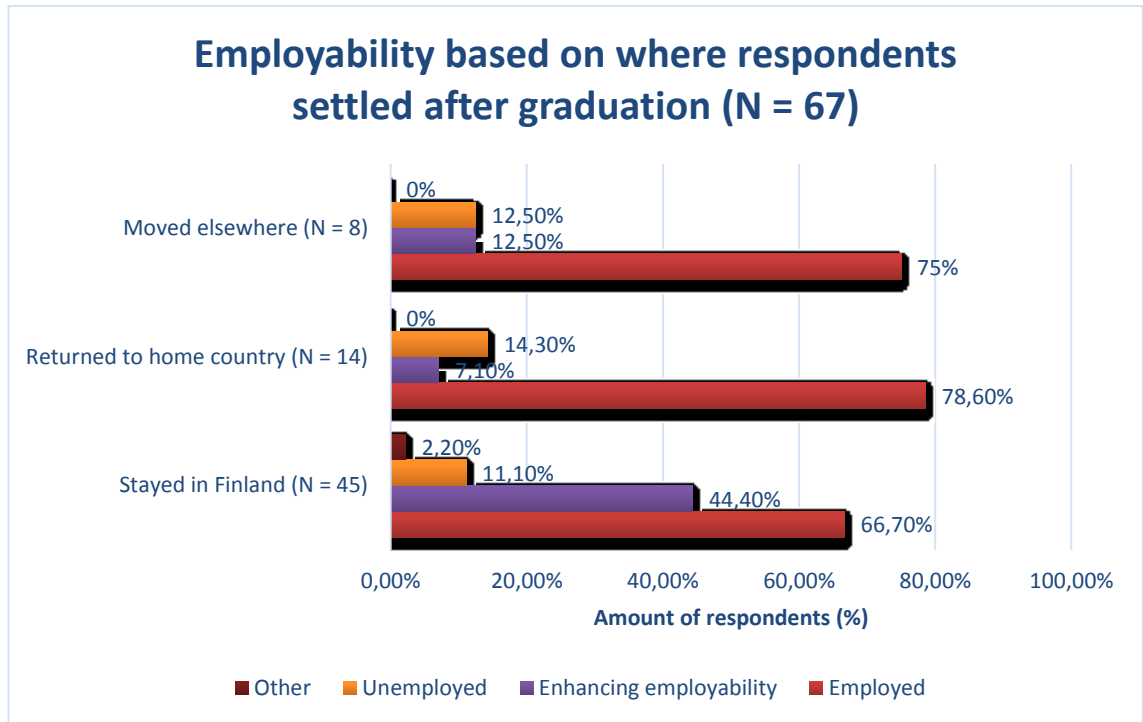


**Figure 9: Respondents that have settled in Finland and got employed in the private sector**

In figure 10, it can be seen that 67,2% of respondents have settled in Finland after graduation. 32,8% either returned to their home country or moved to another country after graduation. In figure 11, it can be seen that there are some differences in the employment status when comparing these groups. However, the unemployment percentage is the lowest for those who have stayed in Finland. Also, it can be seen that those who are still studying or doing an internship, have mostly stayed to enhance their employability to Finland.

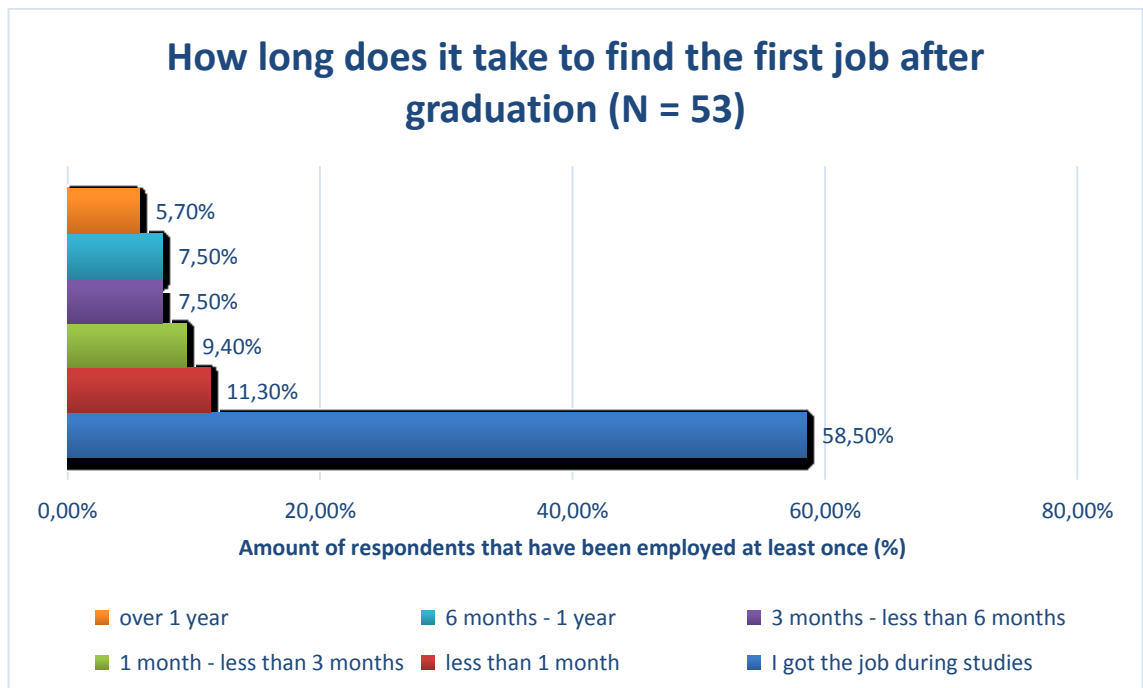


**Figure 10: Where respondents settle after graduation**



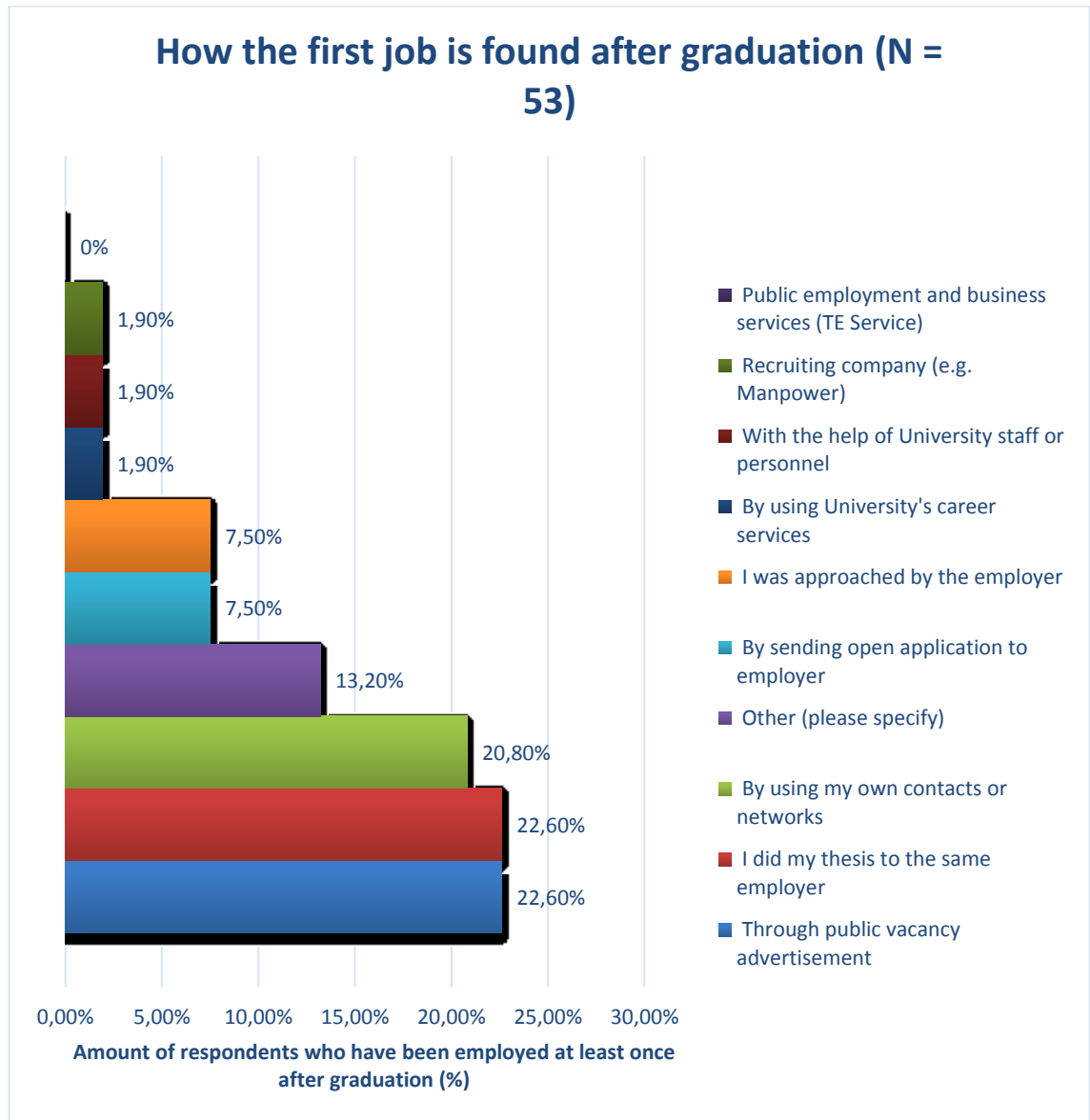
**Figure 11: Employability based on where respondents have settled after graduation**

In figure 12, it can be seen that respondents have obtained a job very fast after graduation as over 50% of them find their first job already during studies. A bit more than 20% of the respondents find a job in less than three months.

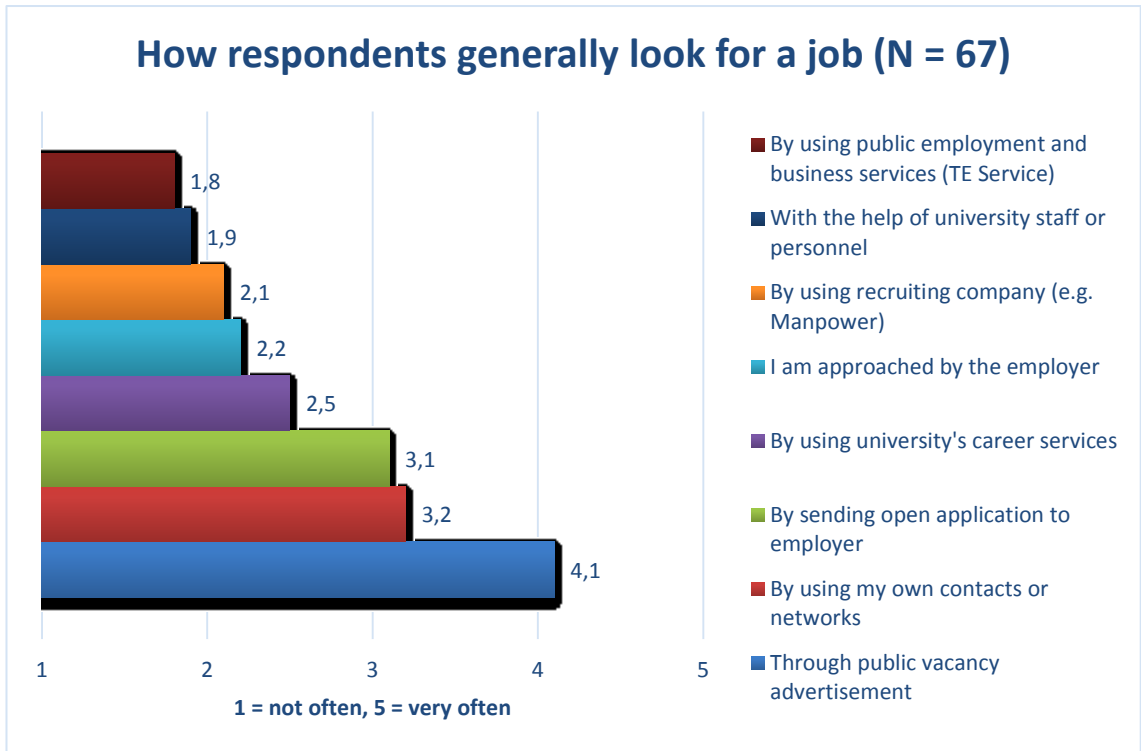


**Figure 12: Time taken to find the first job**

As figure 13 shows, the first job is mostly found by applying to public vacancy, but also using personal contacts and networks or by doing a thesis for the first employer. These results are also in line with the figure 14 that shows how people generally look for a job. However, it is notable that many use university career services to look for a job (fourth common way to apply for a job), yet only 1,9% have found their first job with the help of university staff or personnel.

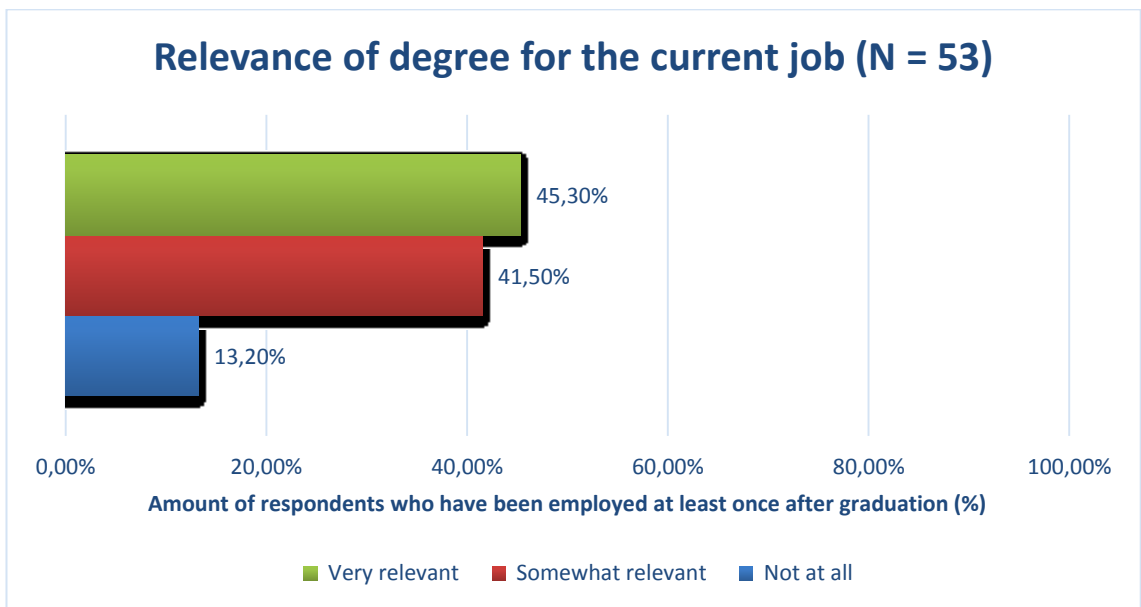


**Figure 13: How the first job is found after graduation**

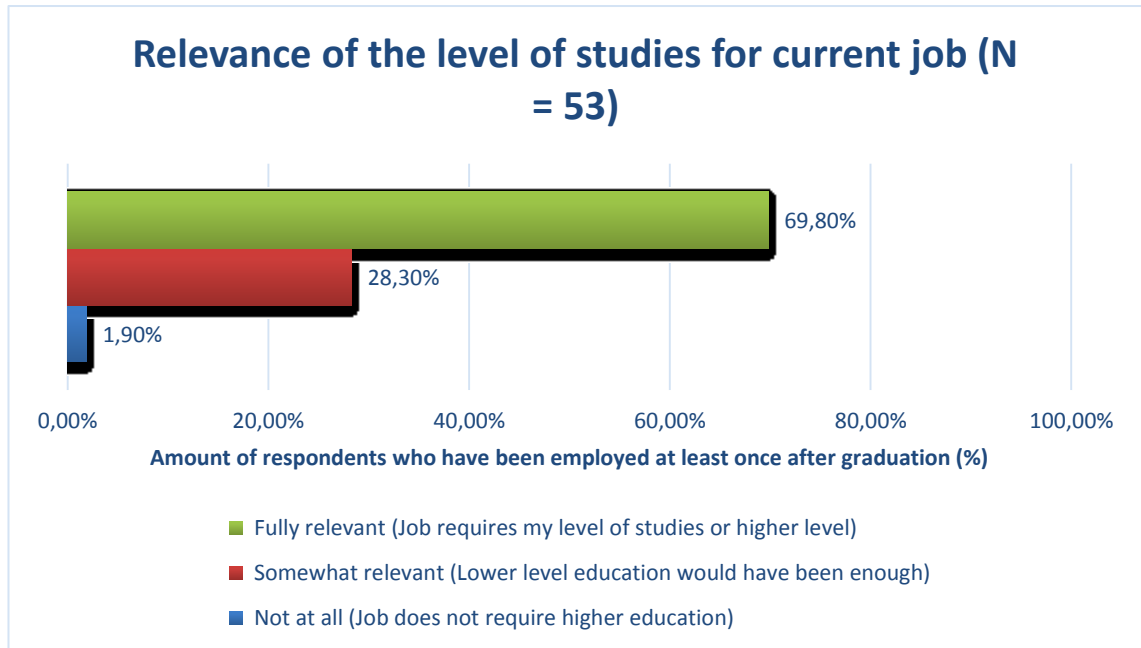


**Figure 14: How respondents generally look for a job**

In figure 15, the results indicate the relevance of their degree for their current or latest job. Figure 16 demonstrates the level of the degree for the current job.



**Figure 15: Relevance of the degree for the latest job**



**Figure 16: Relevance of level of studies for the latest job**

According to the respondents, Finland is not the first choice for international students. Finland was the first choice for 46,3% of the respondents. From figure 17, we can see that the main reasons to come to study in Finland have been free of charge education (64,2%), possibility to study in English (62,7%) and a chance to explore a foreign country (56,7%). These three responses were chosen by over 50% of the respondents. The lowest reasons have been a chance to learn Finnish (7,5%), family ties (7,5%) and geographic proximity (9%). Other interesting results are that while 17,9% seek to immigrate to Finland and 32,8% seek to increase their employability, only 20,9% actually seek to find employment in Finland. The reputation of Finnish educational system and the reputation of Aalto University have also been pivotal reasons to come to study in Finland.

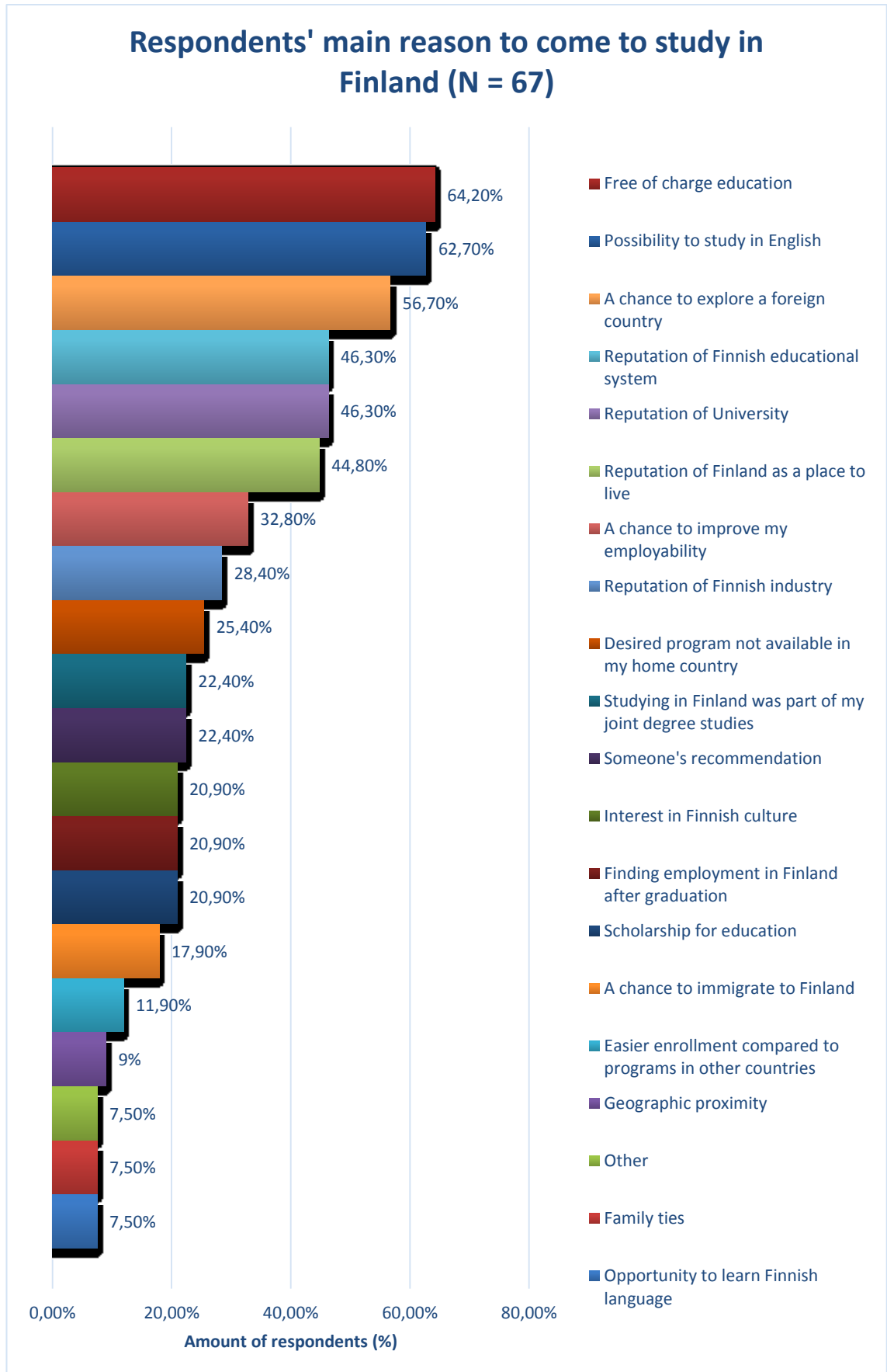


Figure 17: Reasons to come to study in Finland

It is delightful to see in figure 18 that even though Finland was not their first choice, 70,1% would recommend Finland to their friends as a good place to study. Only 4,5% would not recommend Finland. In the open responses, it came up, that most respondents recommended Finland as a good place to study because of the good education. The free education and Finnish society were also mentioned a few times. The reasons to not recommend were poorer employment situation than in other countries and language barriers. However, the language barrier was commented to be low enough in some of the positive comments.

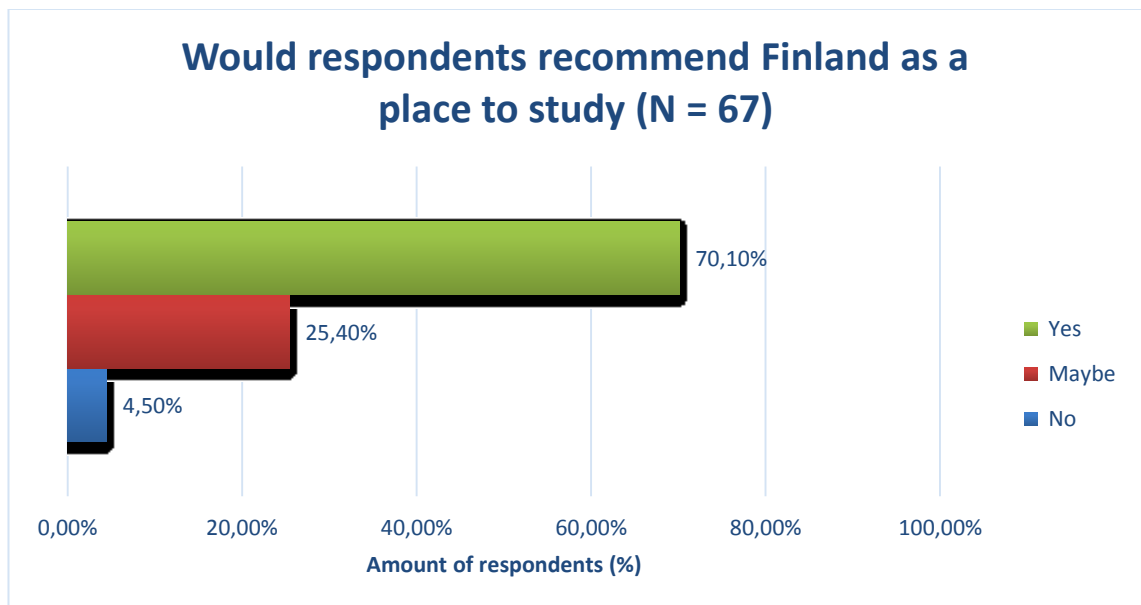


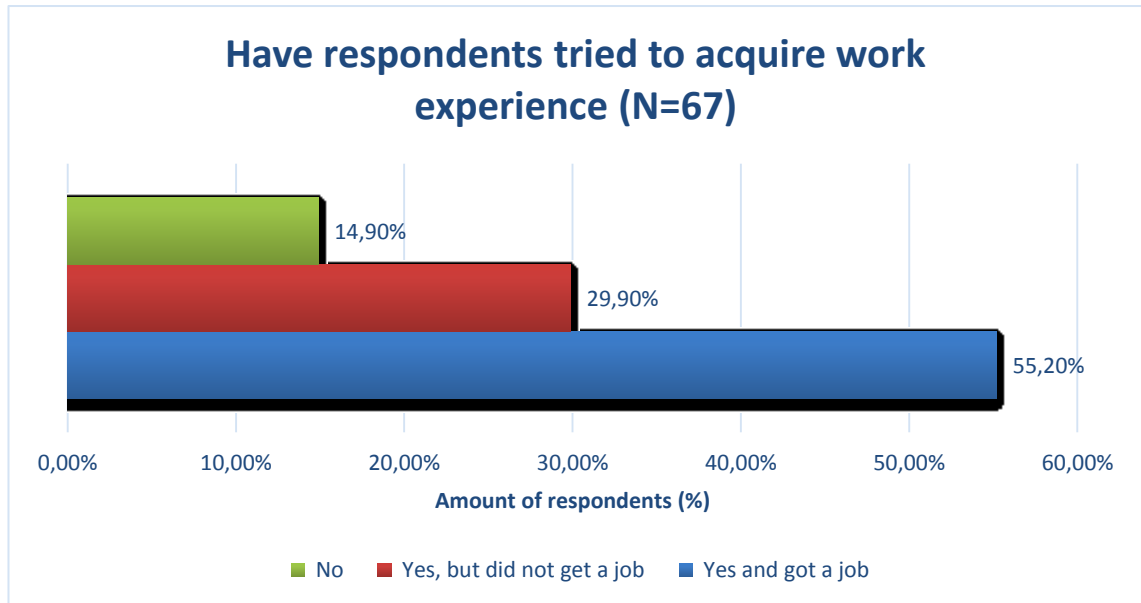
Figure 18: Would respondents recommend Finland as a place to study

## **6.2 Development opportunities and extracurricular activities**

This chapter gives an overview of what kind of development opportunities the respondents have had. For example, how much work or other extracurricular experiences they have gained and what have the reasons been to seek these experiences. The chapter also presents how these opportunities effect employability.

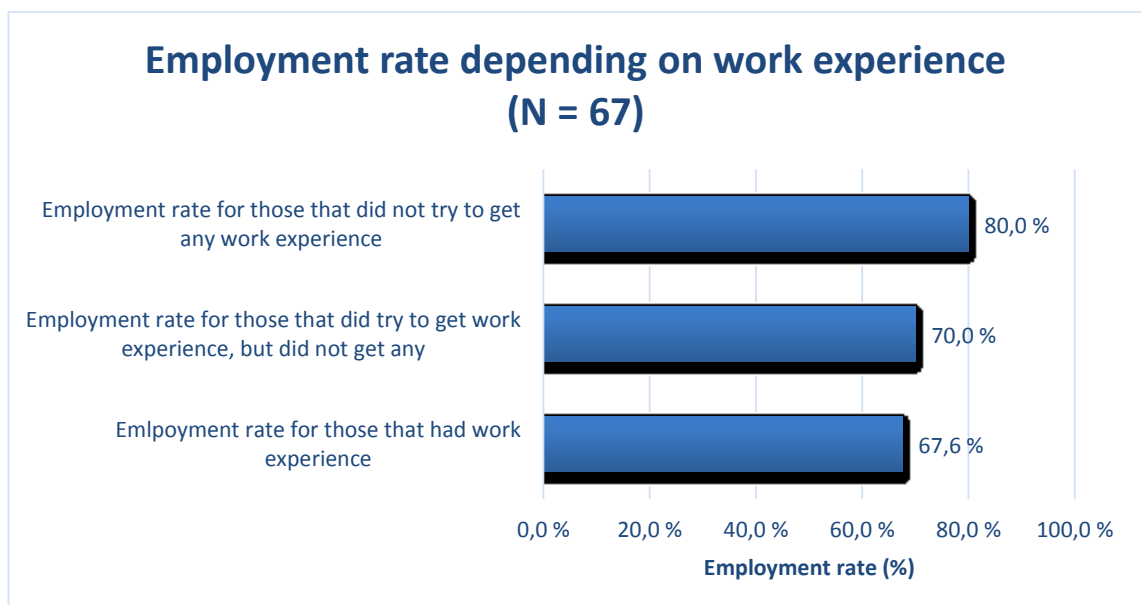
From figure 19 it can be seen that 85,1% of the respondents have tried to get work experience during their studies. From those who have tried to get work experience (N = 57), 64,9% gained work experience.





**Figure 19: Work experience during studies**

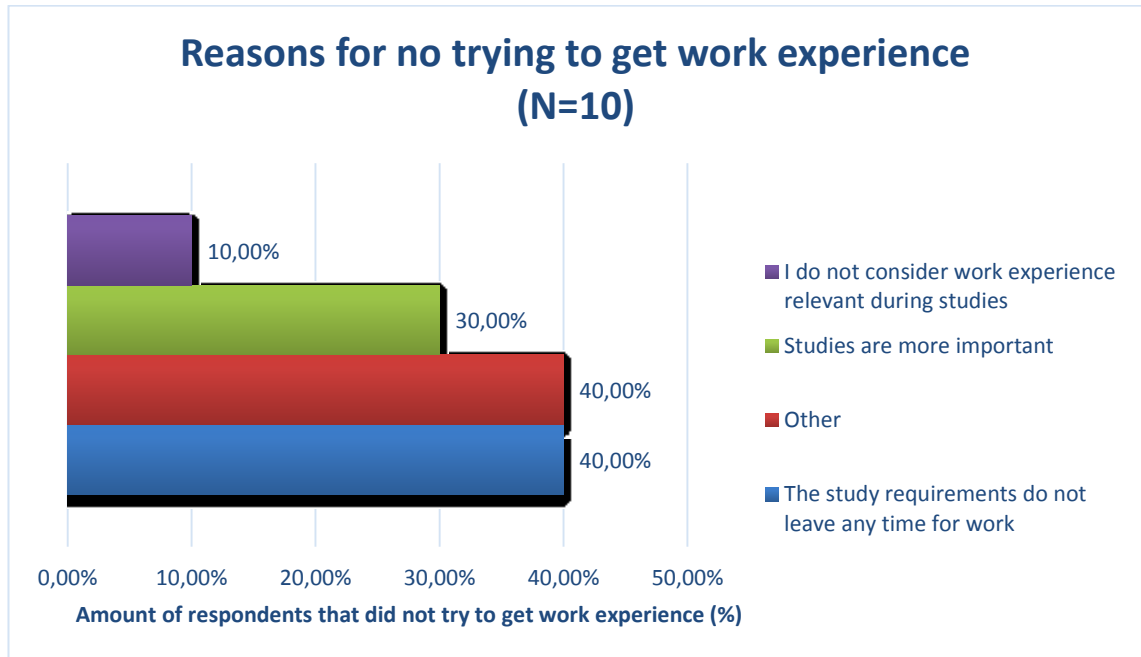
An interesting result is that employment rate does not increase by having work experience. You can see from figure 20 that employment rate is actually higher for those that who not tried to get work experience.



**Figure 20: Employment status depending on work experience during studies**

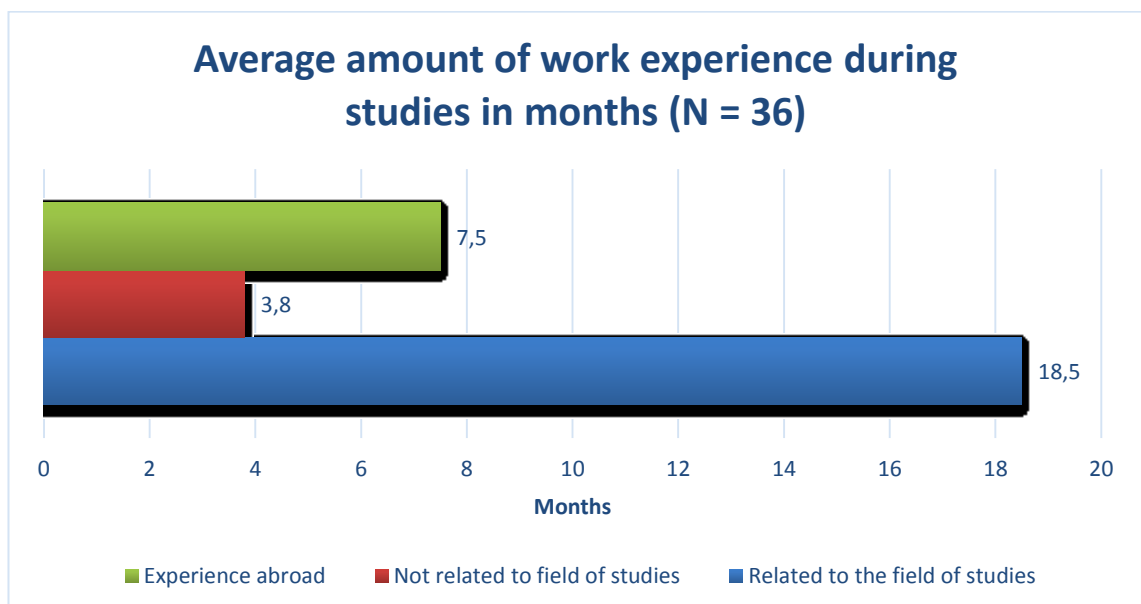
The results above can be partly explained knowing by the reasons of those who did not try to get any work experience. Figure 21 shows the main reasons for not trying get work experience during studies. From 'other' responses, half reported that they already have enough work experience when starting their master's degree. With this information, it

would seem that the employment rate is quite similar whether respondent had or did not have any work experience during their studies.



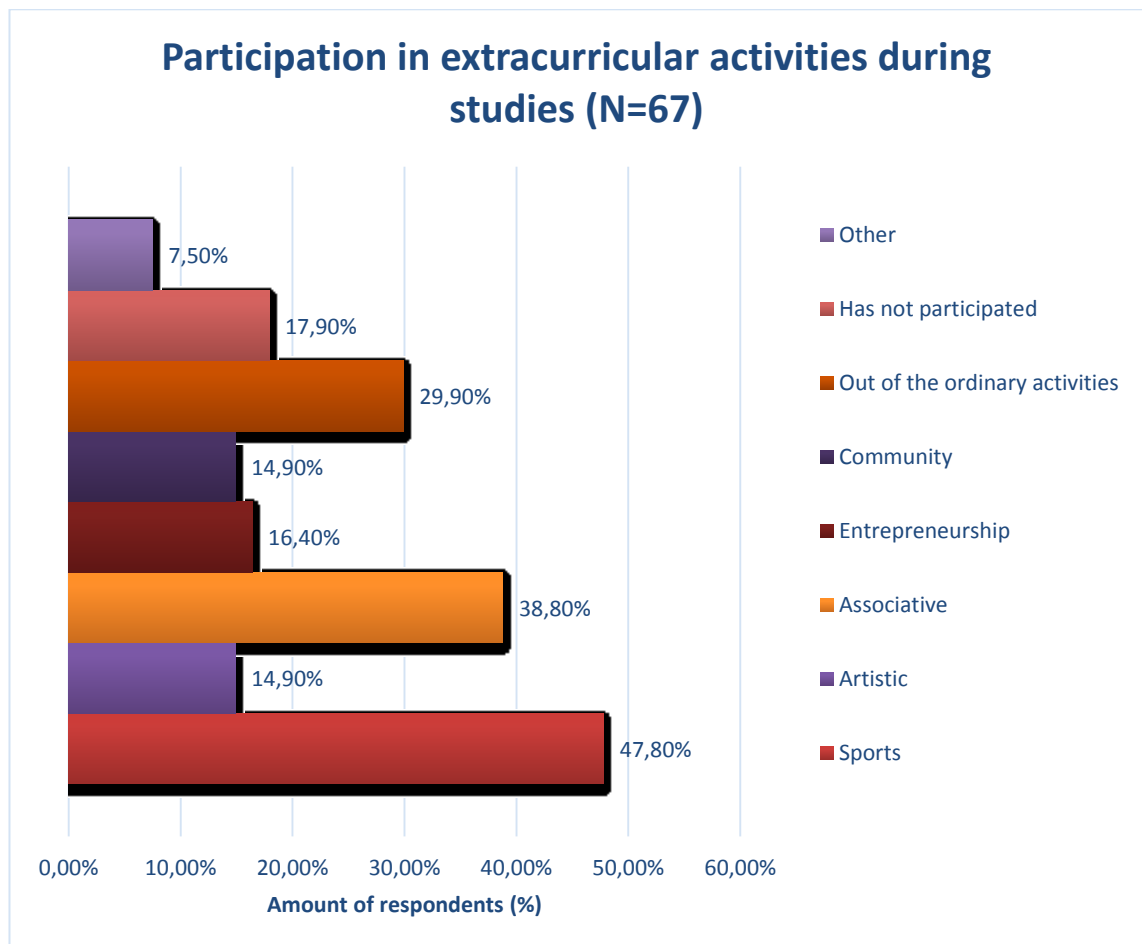
**Figure 21: Reasons for not trying to get work experience**

If the respondents had work experience, it was mainly related to their field of study. In average 7,5 months of the work experience was gained abroad. Figure 22 shows the amount of work or intern experience gained during studies from the respondents who gained work experience (N = 36).



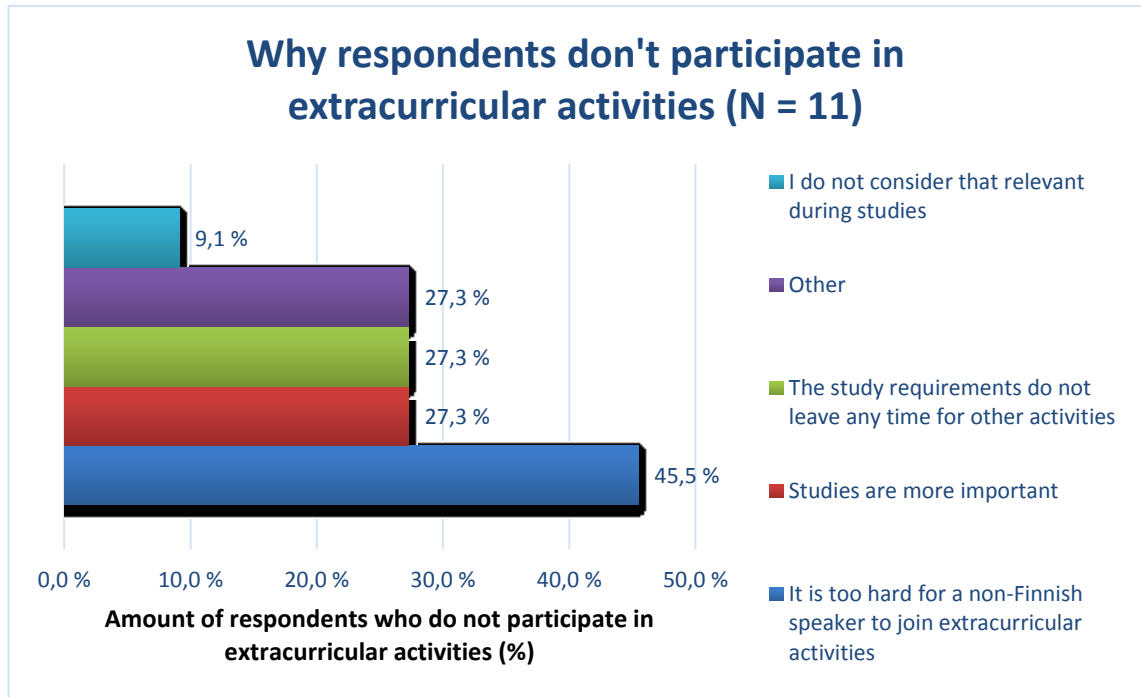
**Figure 22: Amount of work experience during studies**

There are also other development opportunities during studies for students. These are other extracurricular activities in addition to work experience. Figure 23 demonstrates the different kind of activities the respondents have participated in (more than one could be chosen by the respondents). We can see that the main activity has been sports and student associative activities.



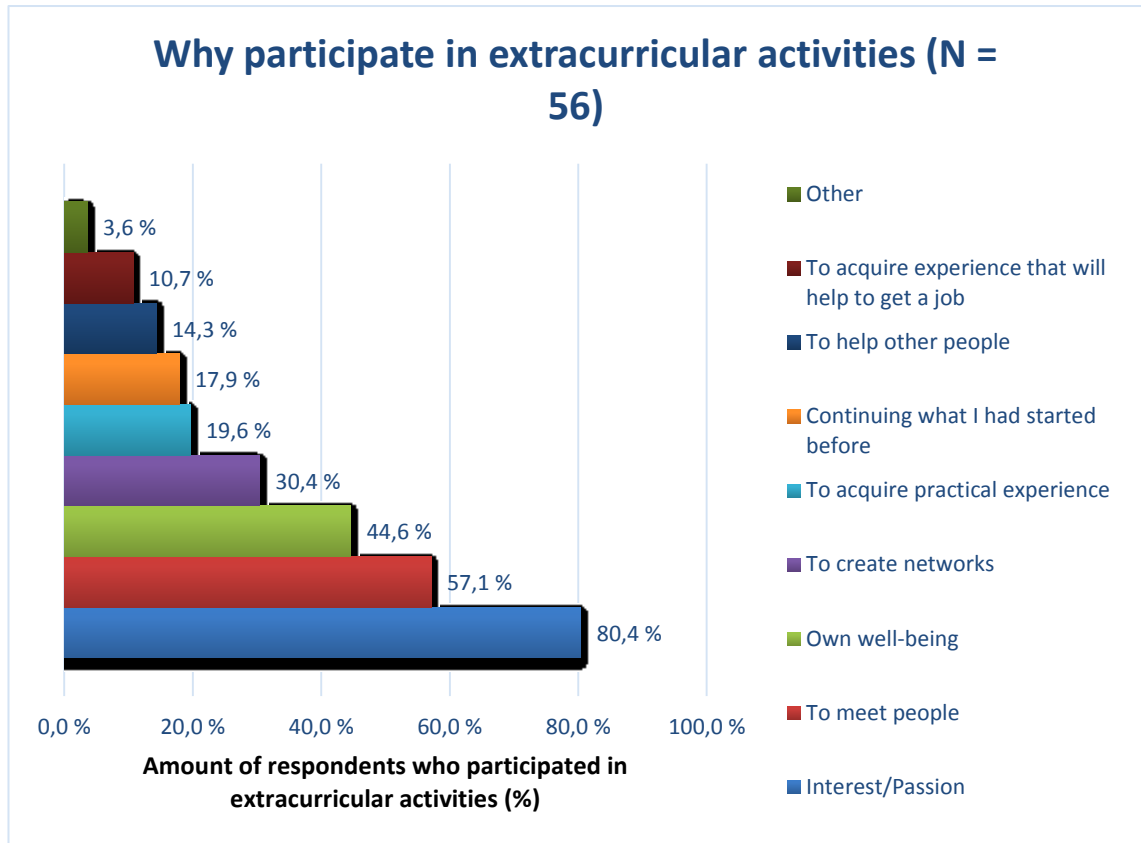
**Figure 23: Participation in extracurricular activities**

It seems that most of the international students participate in some kind of extracurricular activities during their study time. Less than 18% do not participate in any activities. In figure 24, it is alarming to see that the main reason for not participating in extracurricular activities is that the respondents consider it to be too hard for non-Finnish speaking students to get involved.



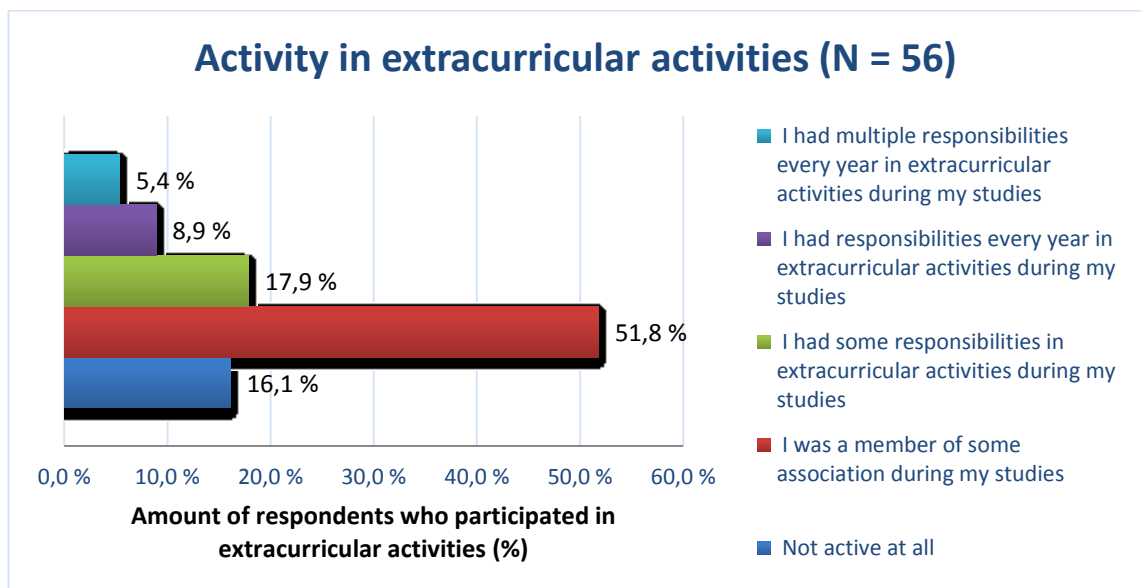
**Figure 24: Why respondents do not participate in extracurricular activities**

Many of the respondents joined in extracurricular activities to meet new people (57,1%). Clearly, the main reason for extracurricular activities is not to increase employability, but to participate because of own interests (80,4% of respondents) and well-being (44,6%). Only 10,7% participated to increase their employability and 19,6% to acquire practical knowledge. These results can be seen in figure 25 below.



**Figure 25: Reasons to participate in extracurricular activities**

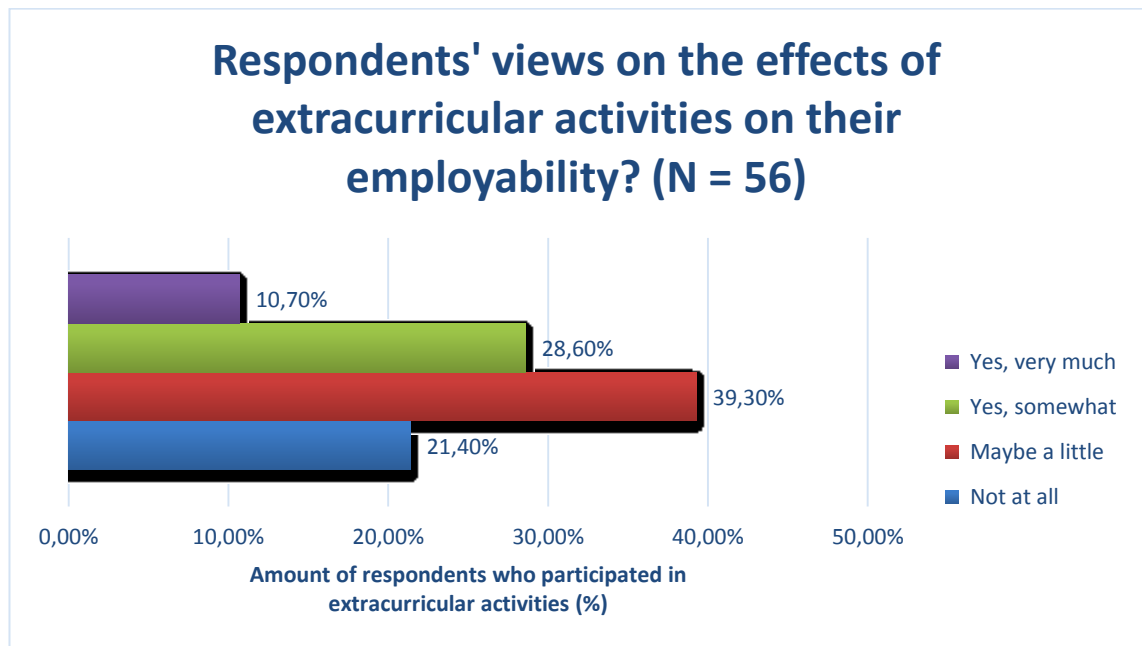
In figure 26, it can be seen that 32,2% of the respondents also had some responsibilities in extracurricular activities, while most of the respondents were only participants.



**Figure 26: Activity in extracurricular activities**

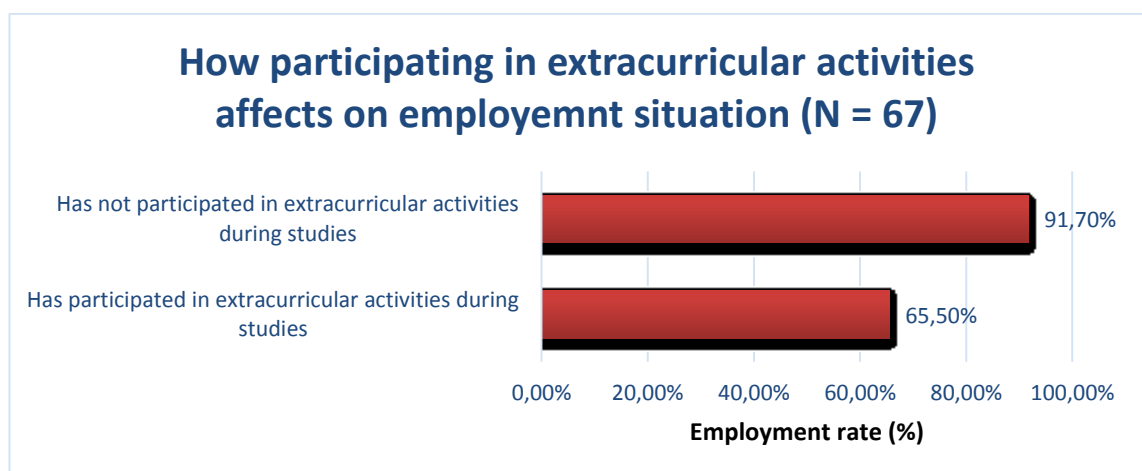
Most of the respondents (78,6%) consider that participating in extracurricular activities has increased their employability at least a little. 39,3% of the respondents considered

that these activities had increased their employability in a considerable way. These results can be seen in figure 27 below.



**Figure 27: Respondents' views on the effects of extracurricular activities on their employability**

From figure 28 it can be seen that participating in extracurricular activities may have a negative effect on employment. This can also be observed when we look into unemployment rates, where we can find that those who have participated in extracurricular activities have 14,6% unemployment rate and those who have not participated are all employed.



**Figure 28: How participation in extracurricular activities affects on employment situation**

From figure 29, we can see the negative effect of extracurricular activity on employability as the ones who have been very active are not currently employed. However, this is explained when looking more deeply into the results, where we can find out that actually those who have been very active in extracurricular activities are all either in a trainee program or continuing their studies. Also when we look into figure 30 of how unemployment rates are divided in terms of extracurricular activity, it is found that those that have not been active at all, have been just members or have had only some responsibilities, are the ones who have challenges.

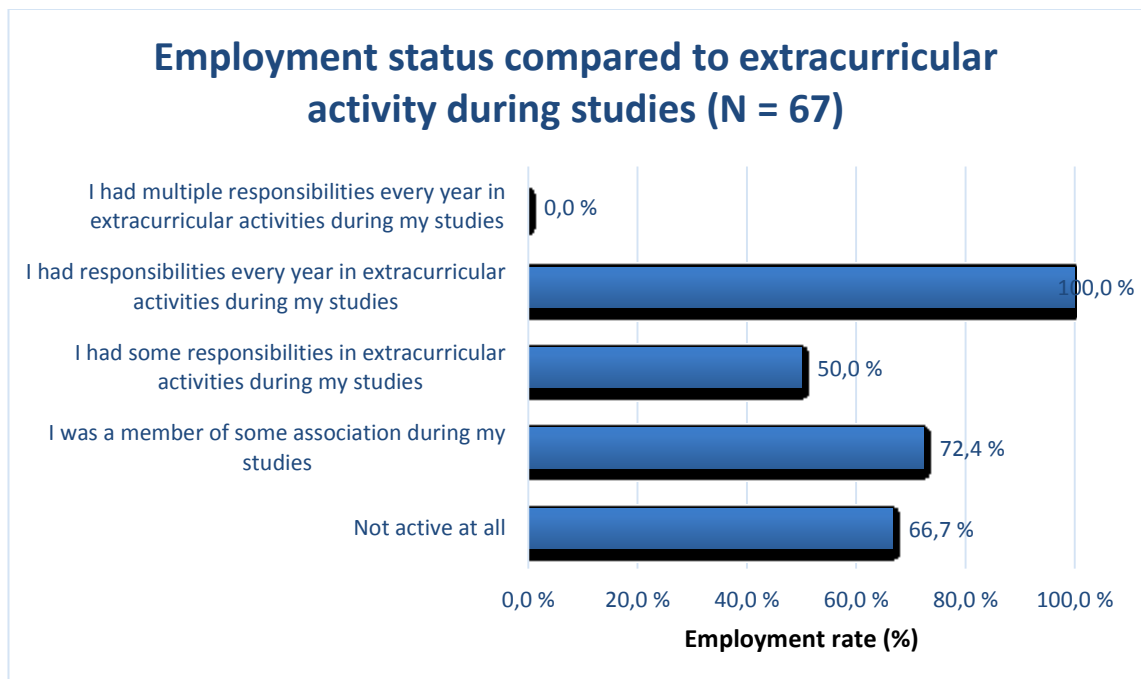


Figure 29: Employment status compared to extracurricular activities

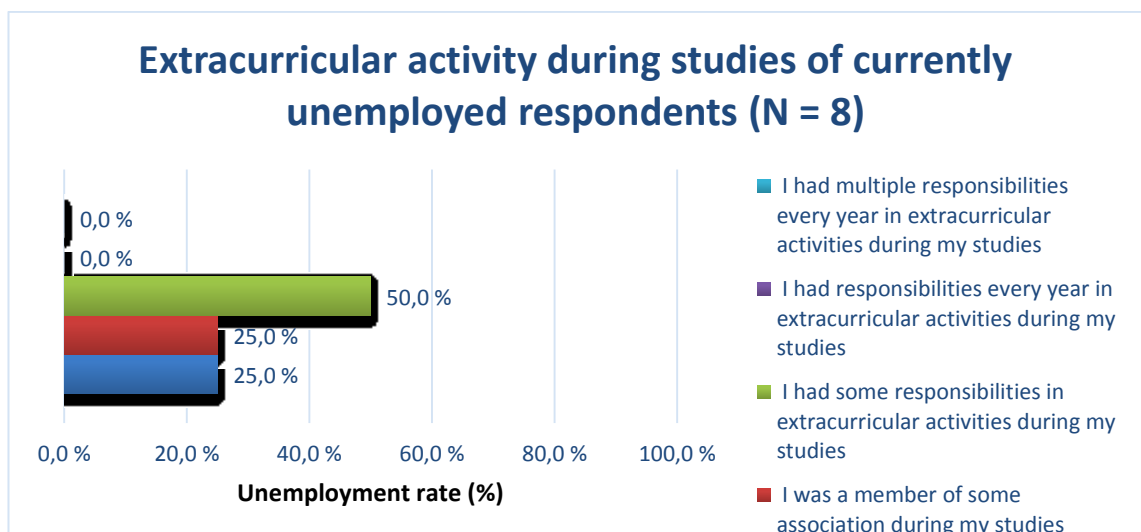


Figure 30: Unemployment status compared to extracurricular activities

### 6.3 Skills and attributes

This chapter focuses on how certain skills have developed during studies and how do these skills effect on employability. Additionally, this chapter presents the data that respondents consider to be their key competences for enhancing their employability.

The respondents were asked to evaluate their current level of certain skills based on previous studies and research. They were also asked how these have developed during studies, work and extracurricular activities. The skills were mastery of their own field, Finnish language, English language, team working, inter-cultural competence, articulation of own skills, career management skills and ability to rapidly acquire new knowledge.

Table 4 shows in the first column the level the respondents consider their skills to be at. Next three columns demonstrate their evaluation on how they consider these skills to have developed during studies, work or extracurricular activities. Table 4 shows that respondents evaluate their skills to be quite high except in the level of the Finnish language. Moreover, respondents do not see that extracurricular activities would develop their skills as much as studies or work.

**Table 4: Level of skills and how skills have developed during studies**

Current level of skills and how the skills have developed during studies, work and extracurricular activities (N=67)				
	Current level	studies	work	extracurricular
Mastery of own field	3,8	3,6	3,6	2,1
Finnish language	1,6	2	1,5	1,5
English language	4,5	3,9	3,8	3,4
Team working	4,1	3,9	3,8	3,4
Inter-cultural competence	3,9	4	3,6	3,4
Articulation	3,7	3,2	3,6	2,6
Career management	3,5	3	3,5	2,5
Ability to rapidly acquire new knowledge	4,2	4	3,9	2,9
1 = lowest, 5 = highest				



However, it is interesting to see that the group that was active in extracurricular activities (N = 18) evaluate their skills to be higher than the average of the respondents. Active means that they were not just members. They also consider extracurricular activities to have more impact on their development than studies or work. These results are shown in table 5.

**Table 5: Skill evaluation of the group that was active in extracurricular activities**

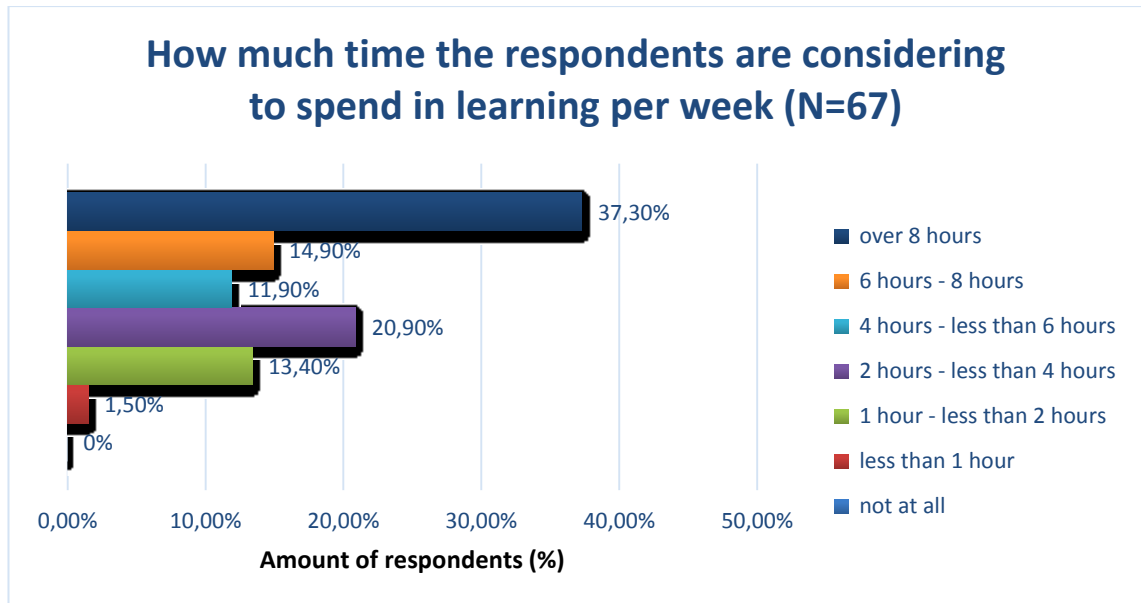
The group that was active in extracurricular activities (N = 18)				
	Current level	studies	work	Extracurricular
Mastery of own field	3,9	3,6	3,7	2,7
Finnish language	1,8	2,1	1,7	2,1
English language	4,7	3,9	3,9	3,9
Team working	4,4	4,1	3,7	4,3
Inter-cultural competence	4,3	4,2	4	4,2
Articulation	4,1	3,3	3,9	3,6
Career management	3,9	3,3	3,7	3,3
Ability to rapidly acquire new knowledge	4,1	4,1	3,9	3,5

When we divide skills into two groups; low (answers 1,2 and 3) and high (answers 4 and 5) we can get two bigger groups to observe. Since there are very few 1 and 2 responses, it is better to combine them. One quite conflicting result (can be seen in table 6) is that the respondents who have evaluated their skills to be high are not employed as often as the ones who have evaluated their skills to be low. Only those who have evaluated their Finnish skills to be high are more often employed than the ones with low level of Finnish. The same is also seen in the unemployment rates.

**Table 6: Employment rate based on the level of skills**

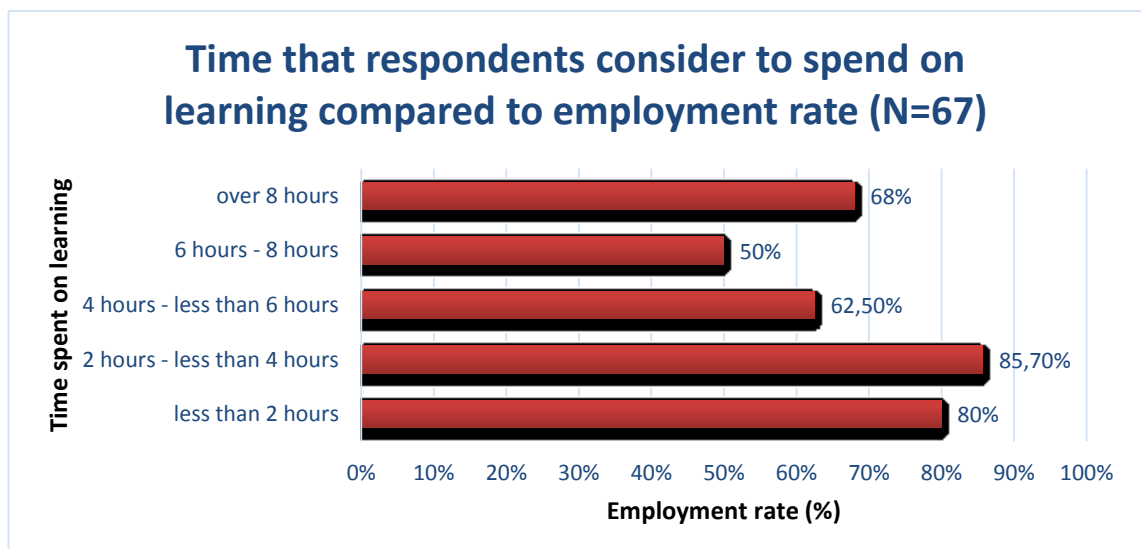
(N = 67)	Employment rate		Unemployment rate	
	among low	among high	among low	among high
Mastery of own field	82,30 %	66 %	5,90 %	14 %
Finnish language	68,30 %	100 %	12,50 %	0 %
English language	100 %	68,80 %	0 %	12,50 %
Team working	90,90 %	66,10 %	0,00 %	14,30 %
Inter-cultural competence	77,80 %	67,40 %	11,00 %	12,20 %
Articulation	77,30 %	66,70 %	0,00 %	17,80 %
Career management	71,40 %	69,20 %	10,70 %	12,80 %
Ability to rapidly acquire new knowledge	83,30 %	67,30 %	8,30 %	12,70 %

One of the key elements, according to the employability model, is the willingness to develop. This factor was studied by asking the respondents how much time they are considering to spend in learning per week. Figure 31 shows that more than 50% of the respondents are considering to spend over six hours per week to develop their self.



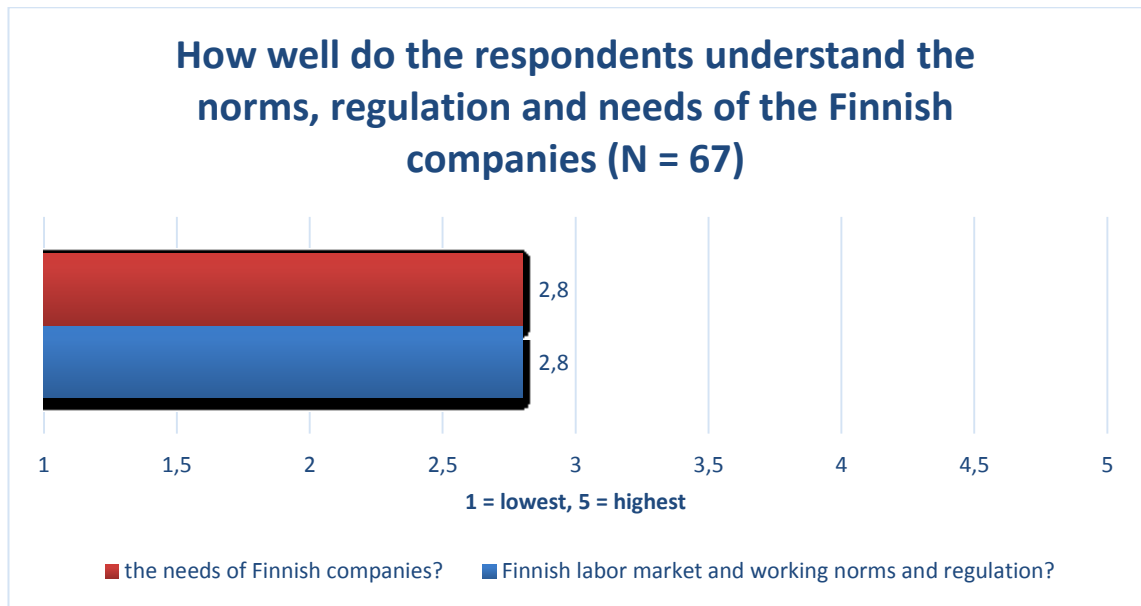
**Figure 31: Time spent in learning per week**

To get larger groups to observe, the groups that spend less than two hours were combined. Figure 32 shows how the employment rate is divided between these groups. The time spent on learning is larger in the unemployed group and in the ones that are still enhancing their employability by conducting further studies or trainee program.

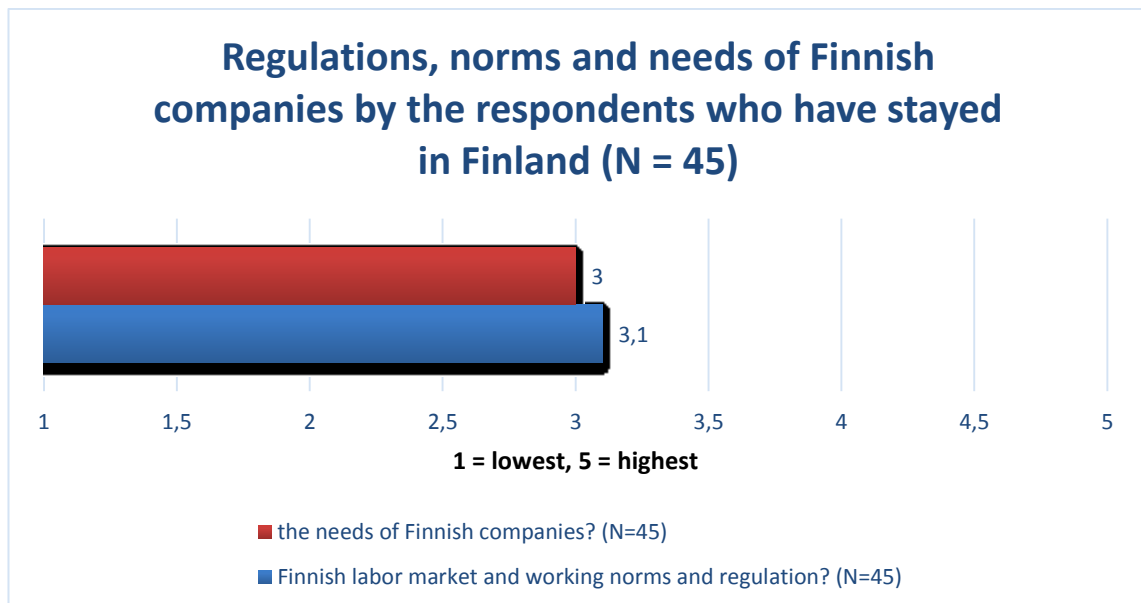


**Figure 32: Time spent on learning compared to employment status**

The respondents were also asked how well they consider to understand the regulation and working norms in Finnish companies and what kind of needs Finnish companies have. Figure 33 shows the results that are quite low as both got an average of 2.8. To have more insight on this, figure 34 shows the results of the respondents who have stayed in Finland after graduation. This shows a slight increase to the average value of 3 and 3.1.



**Figure 33: Understanding of the norms, regulations and need of the Finnish companies**

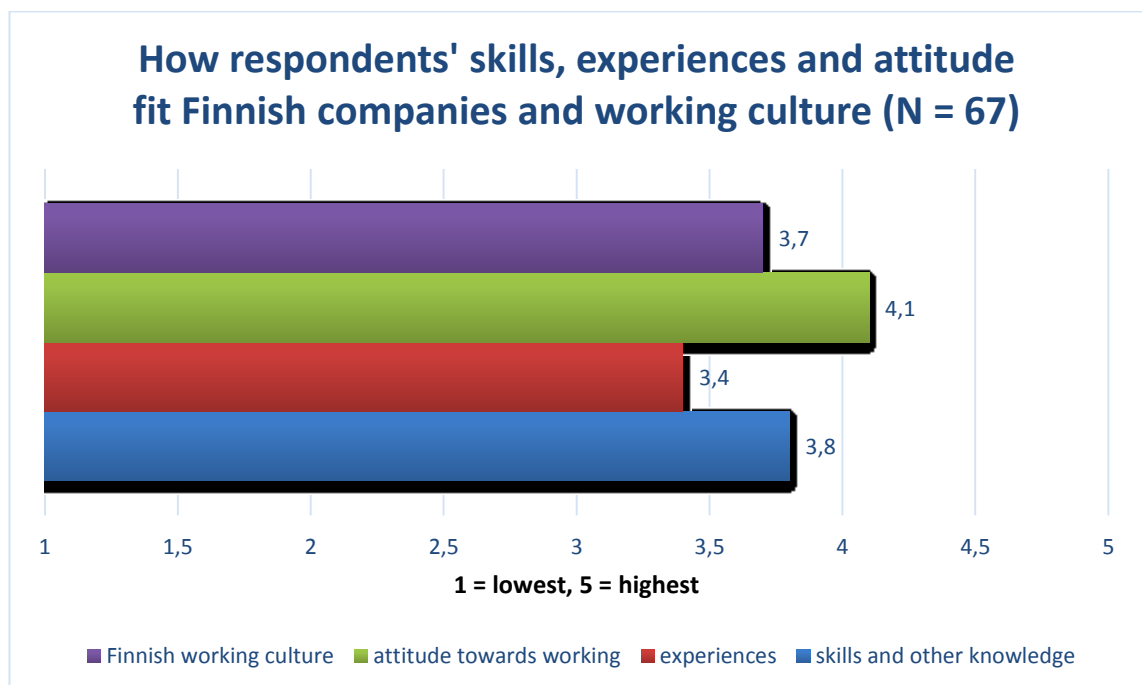


**Figure 34: Understanding of the norms, regulation and need of the Finnish companies of those respondents who stayed in Finland**

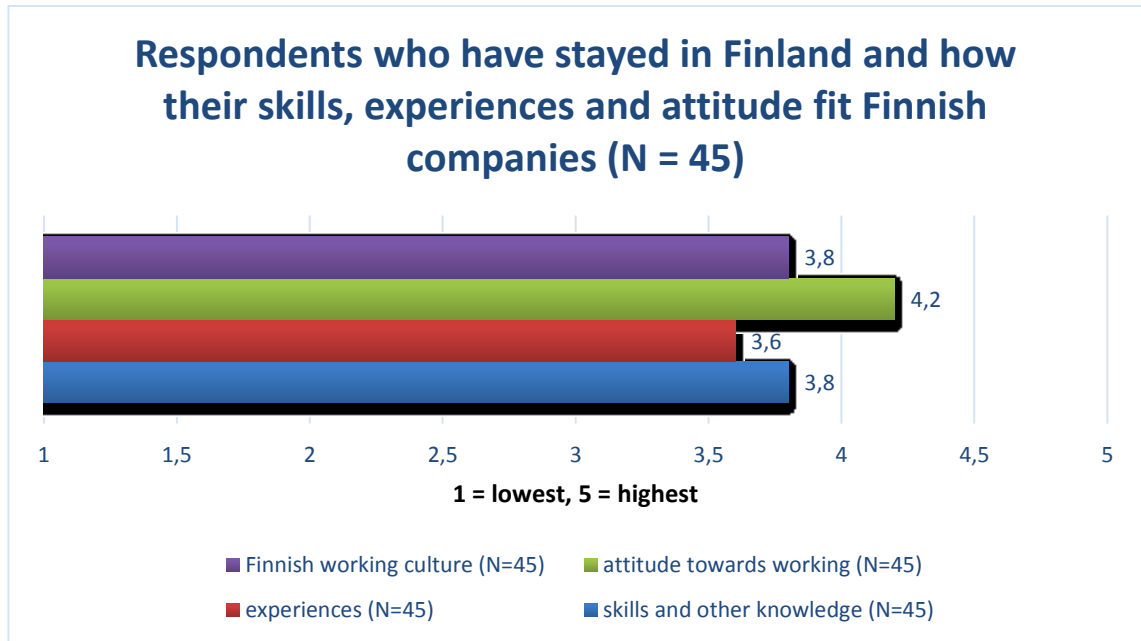
When these results are compared to the employment rate, it can be seen that those who had evaluated to understand norms and regulation poorly were more likely to get

employed. The same result was found in “understanding the needs of the companies”, but the difference was not as large. These same results also apply when the respondents are filtered to the ones who have stayed in Finland.

Additionally, the respondents were asked to evaluate how their skills, experiences and attitude fit Finnish companies and the Finnish working culture. Figure 35 shows that the respondents consider especially their attitude towards working to be good and their skills and knowledge of Finnish working culture to be on a good level. Figure 36 shows slightly better results for the respondents who have stayed in Finland after graduation compared to the whole respondent group.



**Figure 35: How skills, experiences and attitude fit Finnish companies and working culture**



**Figure 36: How skills, experiences and attitude fit Finnish companies and working culture of the ones who have stayed in Finland**

In the results above, there were only a few answers for 1 and 2, so these answers were a group with level 3 answers and renamed as low. Answers 4 and 5 were combined and renamed as high. Table 7 shows results of those who have evaluated their skills as low have actually employed better than the ones who have evaluated their skills as high.

**Table 7: Employment status based on how well respondents considered to fit Finnish companies (Only the ones who have settled in Finland)**

(N = 45) How do you or your attributes fit Finnish companies		
	Employment rate	
	low level	high level
Skills and knowledge	80,0 %	60,0 %
Experiences	65,2 %	68,2 %
Attitude towards working	71,4 %	65,8 %
Finnish working culture	75,0 %	62,1 %

The survey included an open question where the respondents were given a chance to elaborate more on which competences they considered to be the most crucial for their employability. These answers were categorized into four different groups that were soft skills, hard skills, experiences and personality. Some of the answers that were quite similar were edited to project the same kind of answers. Original responses can be found

in the attachment B. The word clouds of these groups can be seen in figure 37, 38, 39 and 40.

In soft skills different kind of learning abilities and problem-solving skills arose in many of the responses. In addition to those, also team-working and communication skills were frequently listed by the respondents.



**Figure 37: Key competences of the respondents' soft skills**

In hard skills, field or industry related skills were clearly mentioned in most of the answers. In the word cloud, those are combined as 'industry' skills. Also languages in general, in addition to English and Finnish, were mentioned. Business-related skills and project management skills were also common answers.

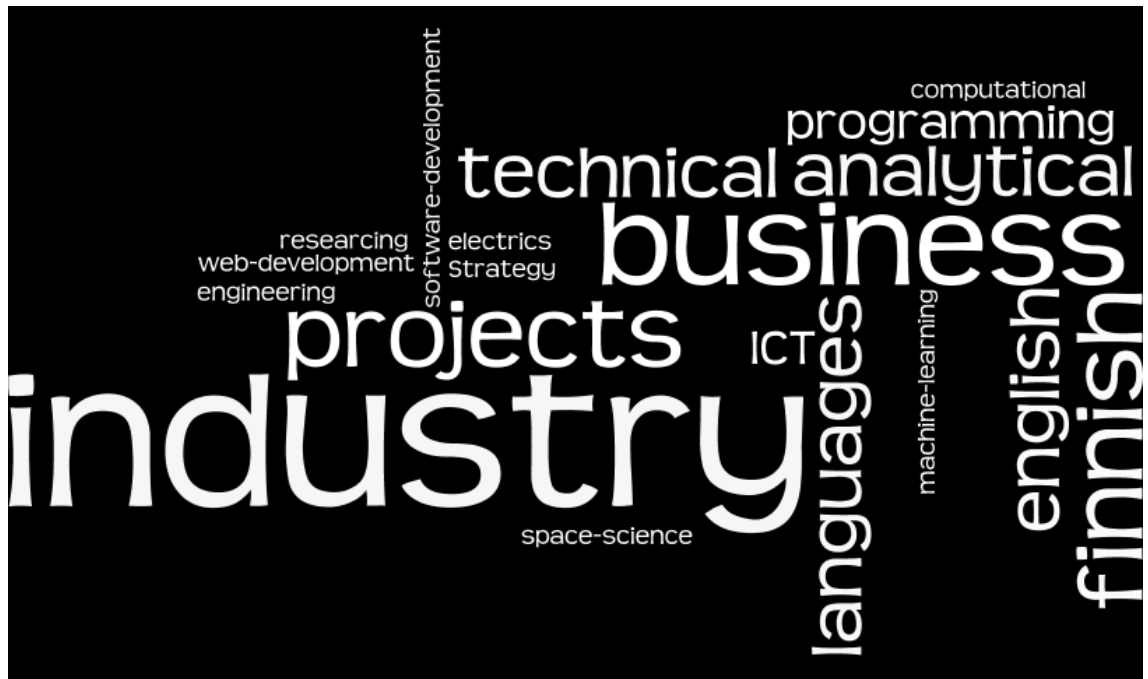


Figure 38: Key competences of the respondents' hard skills

In experiences group, work experience was a clear winner of key competence. Good education and reputation of the university was often brought up. Those answers are combined as education in the word cloud. Quite a few also listed multidisciplinary and international experience as key competences.

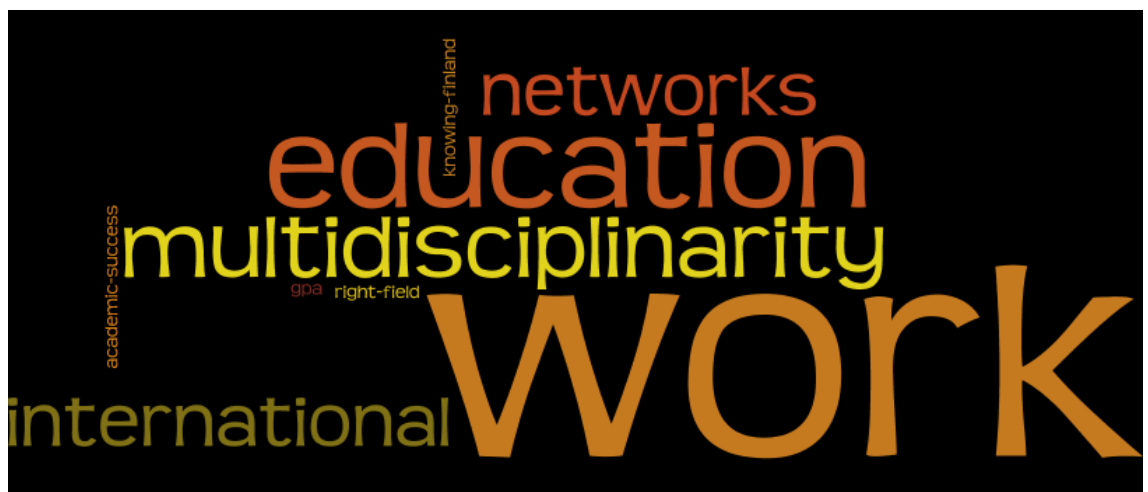


Figure 39: Key competences of the respondents' experiences

Hard-working and responsible were the clear highlights in the personality group. In general there were very few answers in this category.



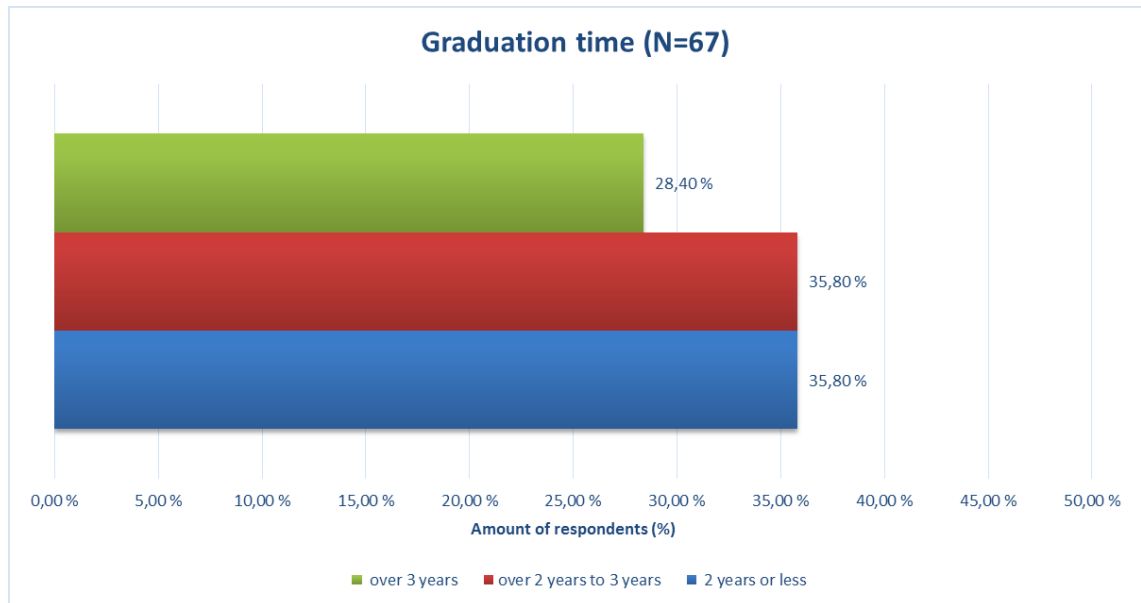
Figure 40: Key competences of the respondents' personality

#### **6.4 Field of study and time spent in university to graduate**

This chapter gives insight to how the field of study effects employability. It also establishes the employment difference between a specialist and a generalist. The impact of time spent to graduate on employability is presented.

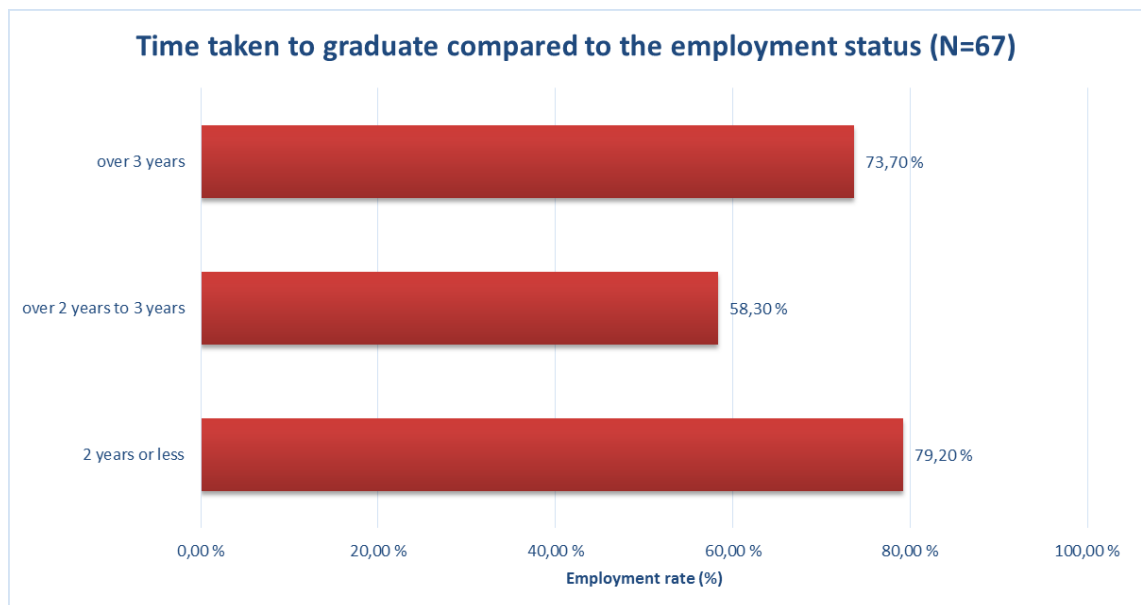
The respondents were asked how long their studies lasted and whether they were absent from university at any point. From these, the time spent to graduate was calculated. The minimum time spent to graduate was nine months and the longest period was 64 months. The average period spent to graduate was 31,79 months which is 2,65 years. Median was 29 months which is 2,42 years. These are somewhat faster graduation times than Aalto University has in average. Aalto University's average graduation time for international students, graduated in the term 2014 – 2015, was 3 years and the median was 2.8 years (AYY, 2016). Figure 41 shows graduates divided into groups of the ones that have graduated in two years or less (which is the target), graduated in three years or less (which is the Aalto University's average) and ones whose graduation has lasted more than three years.





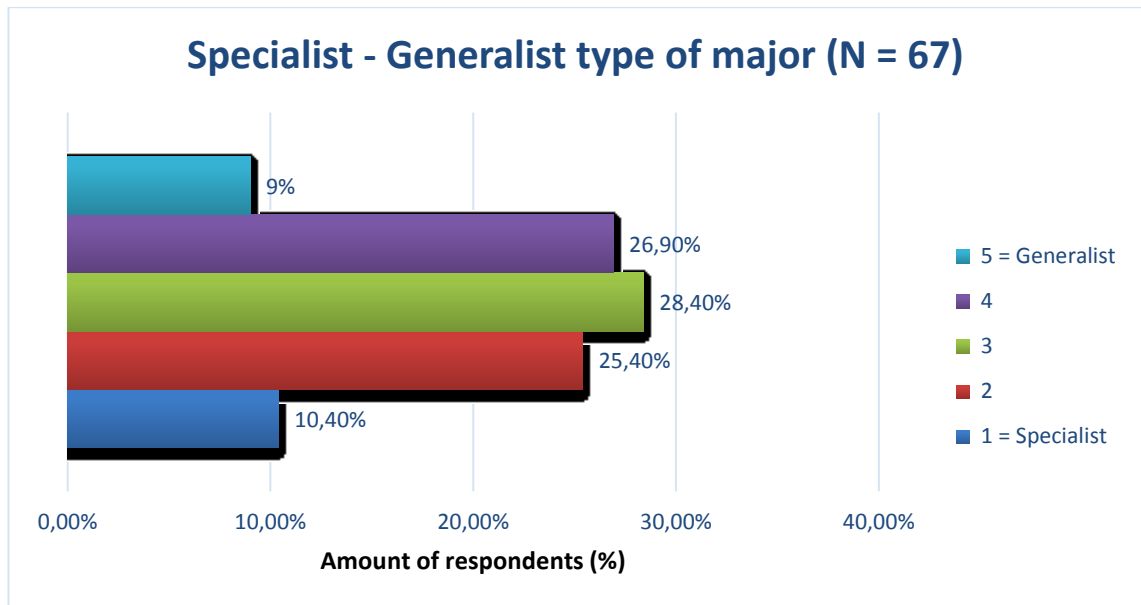
**Figure 41: Time spent on graduation**

Figure 42 shows the employment situation of the different groups. It can be seen that those who graduate fast have employed the best (79,2%) and those that have spent over three years have also employed well (73,7%).

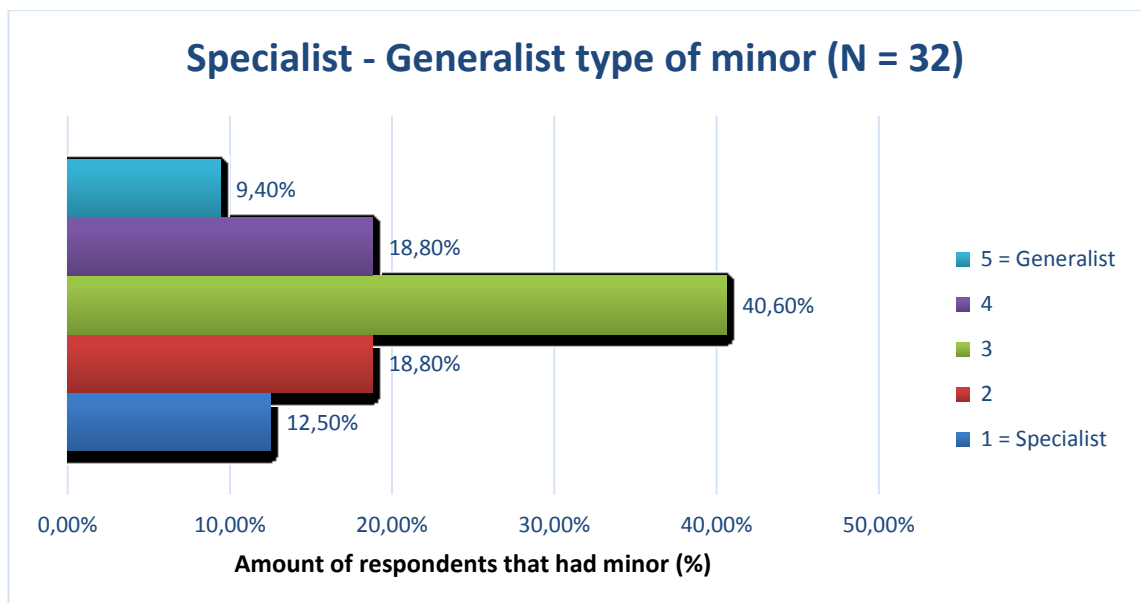


**Figure 42: Employment rate compared to time spent on graduation**

Respondents were asked to rate their field of study as specialist or generalist type of field. This was asked from their major (figure 43) and from their minor (figure 44) if they had one. From these figures it can be seen that majors and minors distribute quite evenly.

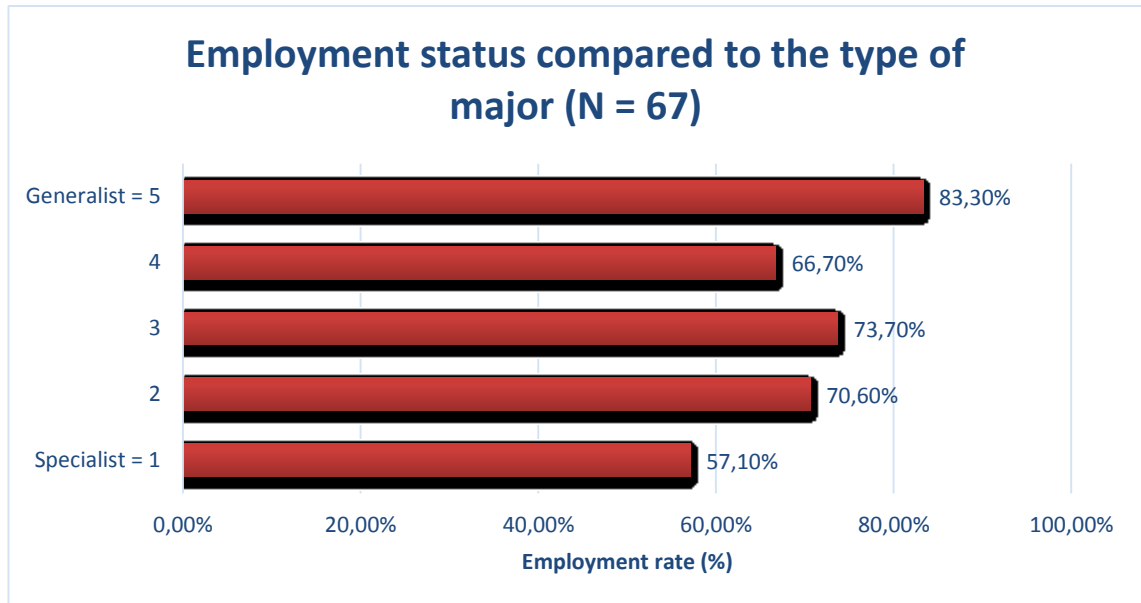


**Figure 43: Specialist or generalist type of major**



**Figure 44: Specialist or generalist type of minor**

When comparing these results to the employment status in figure 45, it can be seen that the ones who have a generalist type of major have employed better than a specialist type of major students. The same is not applicable to the comparison with minor field and employment status.

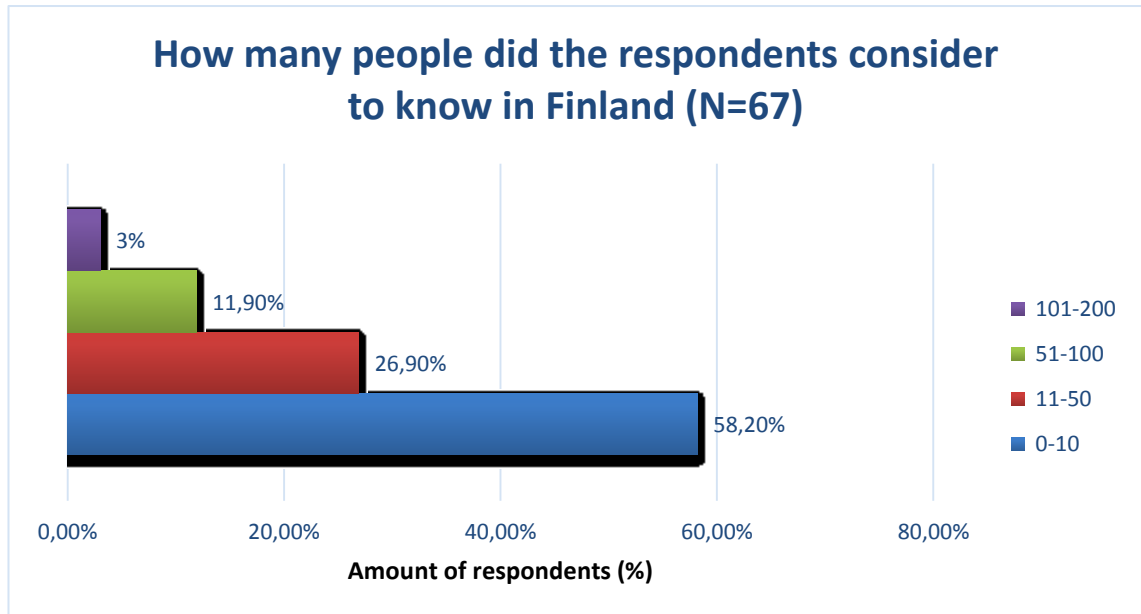


**Figure 45: Employment status based on type of major**

### **6.5 Networks (personal attributes)**

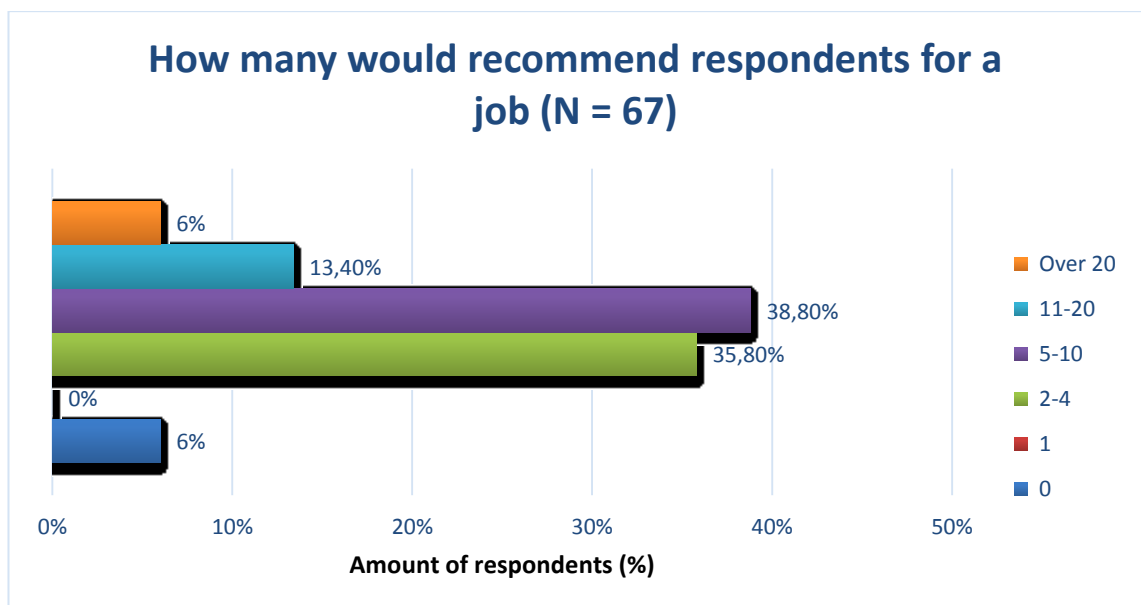
This chapter presents the results of how large networks the respondents have and whether this has any impact on their employment status.

The respondents were asked how many people they consider to know in the world and in Finland. These two questions correlated quite strongly, having a 0,74 correlation coefficient. Figure 46 shows the results of how many people the respondents considered to know in Finland. It is troublesome to see that more than 50% consider knowing only 10 or fewer people in Finland.



**Figure 46: How many people respondents consider knowing in Finland**

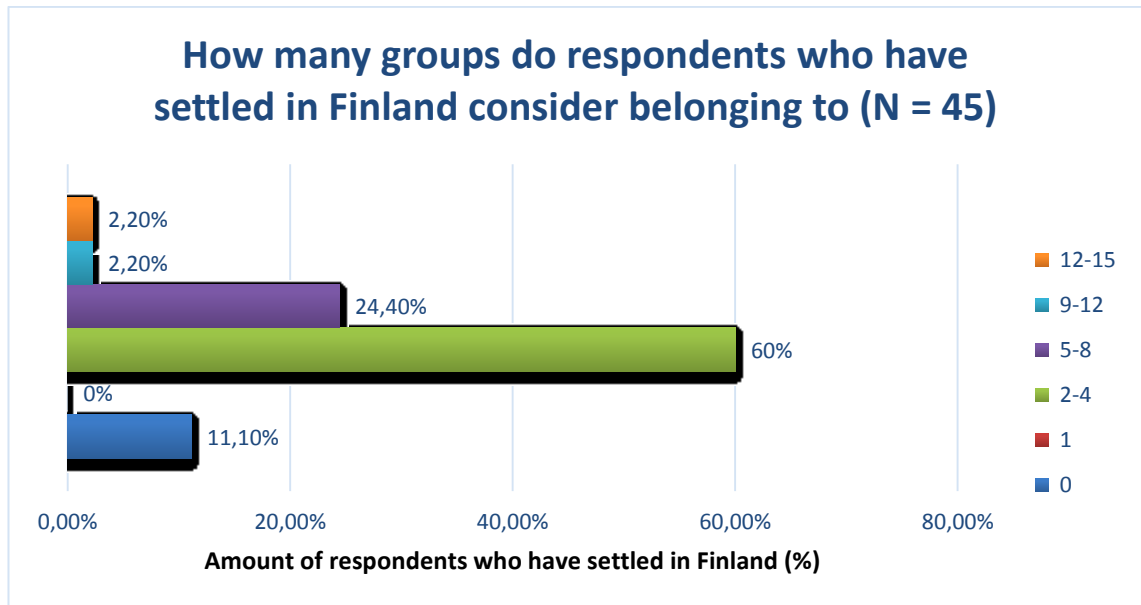
There is still a correlation between how many people the respondents considered knowing in Finland and how many of those people the respondents think would be willing to recommend them for a job. The correlation coefficient in this was 0,48. Figure 47 below shows the results of how many respondents consider that would recommend them to a job.



**Figure 47: How many people would recommend for a job**

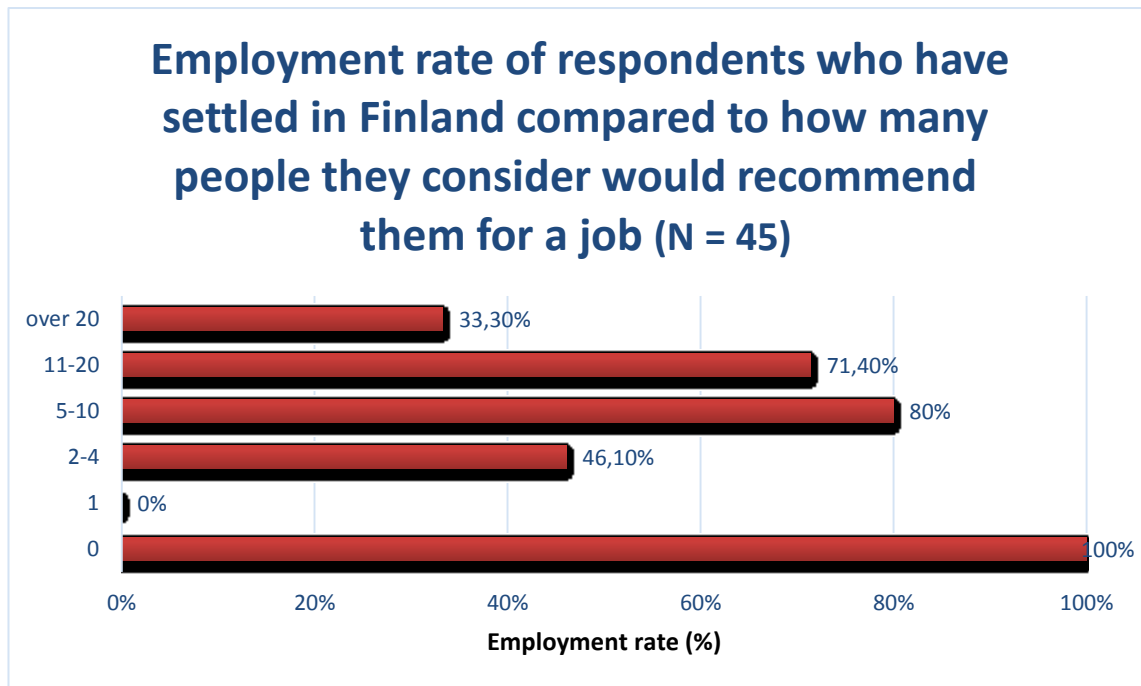
A weak correlation (0,3) can be seen with how many people respondents know in Finland and how many groups they consider belonging to in Finland. Figure 48 shows

how many groups the respondents who have settled in Finland (N = 45) consider belonging to. The worrisome result is that 11,1% don't consider themselves to belong to any group, not even school or work friends.



**Figure 48: How many groups do respondents who have settled in Finland consider to belonging to**

Figure 49 below shows the employment status based on how many people the respondents consider to know in Finland who would recommend them for a job (only those who have settled in Finland). When the results from 0 to 4 recommending people are combined in figure 49, it shows an employment rate of 53% for respondents who know less than 4 people who would recommend them for a job. This is because there are so few answers in the lowest group. From the results we can also conclude that it would be beneficial for getting employed to know around 5 to 20 people who would recommend the respondents for a job.

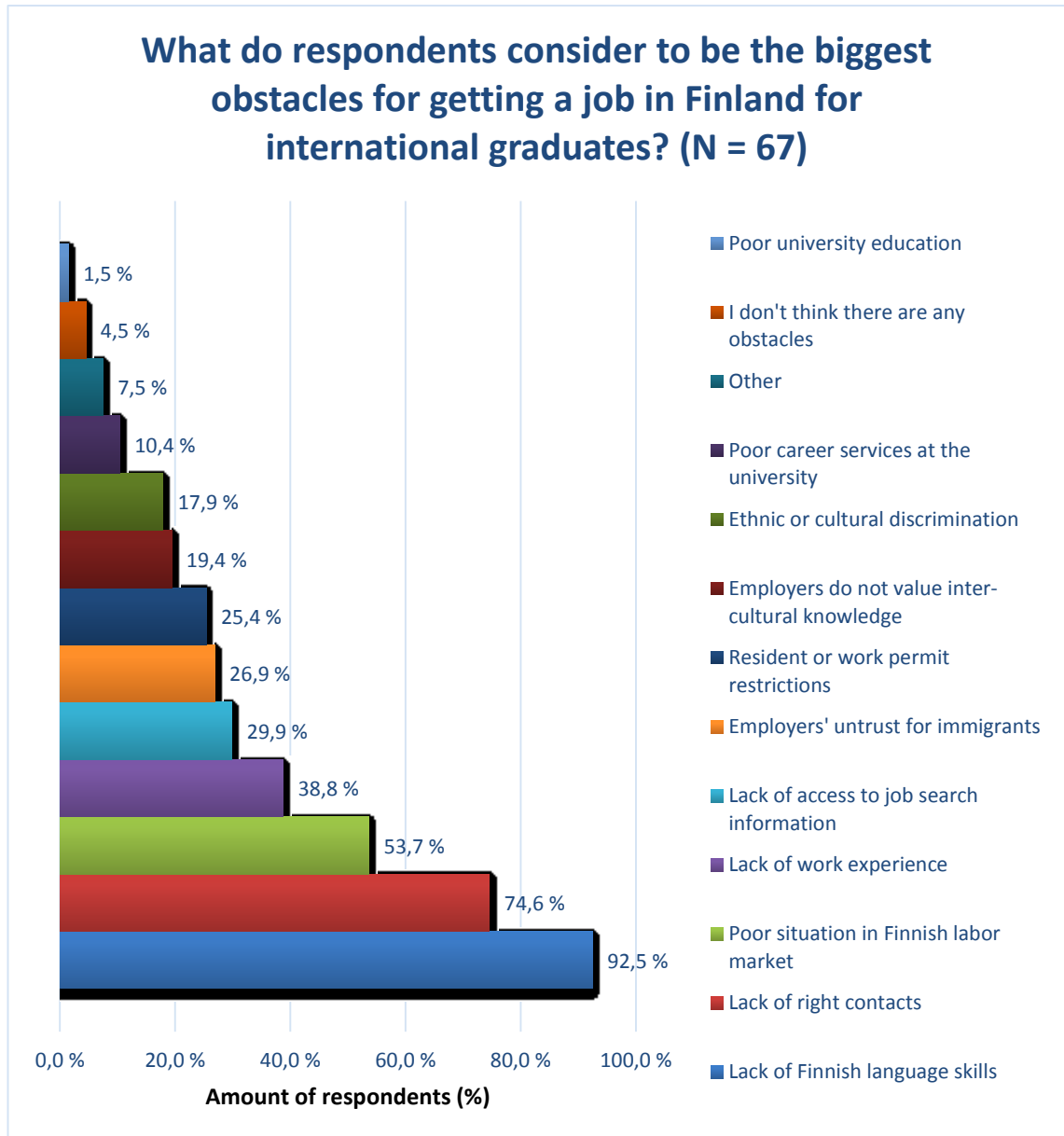


**Figure 49: Employment rate of respondents who have settled in Finland compared to how many people they consider would recommend them for a job**

## **6.6 External factors**

This chapter focuses on external and locational factors. First, the main obstacles of finding a job are presented. These results are compared to the employment status of the respondents. Furthermore, the chapter gives insight to where the respondents come from and where they are currently working. The chapter concludes with comparing the respondents' employment situation to their willingness to move for a job.

To find out what kind of external factors impact the international graduates' employability, the respondents were asked what they consider to be the major obstacles for their employment. From the figure 50, it can be seen that the respondents consider the lack of Finnish language skills to be the biggest obstacle for gaining a job in Finland (92,5%). In addition the lack of right contacts (74,6%) was considered to be a major reason. A poor situation in the Finnish labor market (53,7%), employers' untrust for immigrants (26,9%) and ethnic or cultural discrimination (17,9%) can be considered to be external factors influencing the employment opportunities.



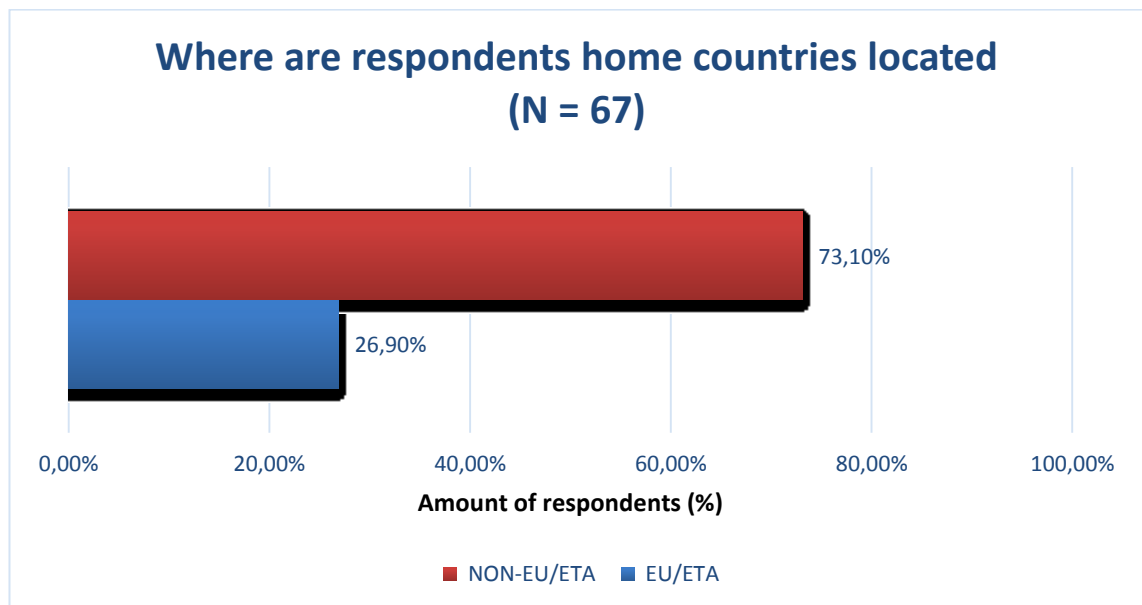
**Figure 50: Biggest obstacles for employment in Finland**

When results above are statistically analyzed using Chi<sup>2</sup>-method, statistical differences can be observed between employed and those who are not employed. Table 8 below shows that with these groups there is a difference in responses depending on the employment status. From table 8, it can be concluded that those who are not employed consider the poor labor market to be an obstacle more often than the ones who are employed. Furthermore, the ones who are employed consider work permits to be the main obstacle more often.

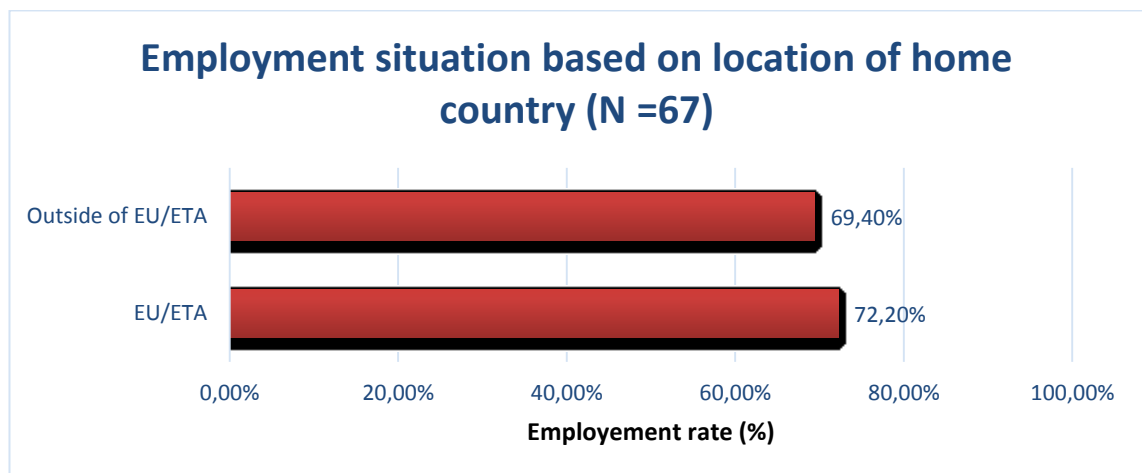
**Table 8: Differences between employed and not employed when asked about the biggest obstacles for employment**

The biggest obstacles for employment (N = 67)	Chi <sup>2</sup> (p)	Amount of respondents (%)	
		Unemployed (N=20)	Employed (N=47)
Poor situation in the Finnish labor market	0.023	75 %	44,70 %
Resident and work permits	0.012	5 %	34 %

Respondents home countries are mainly outside of EU/ETA area as only 26,9% live in EU/ETA area (figure 51). Additionally, there doesn't seem to be any real difference between employment rate between the groups as figure 52 shows.



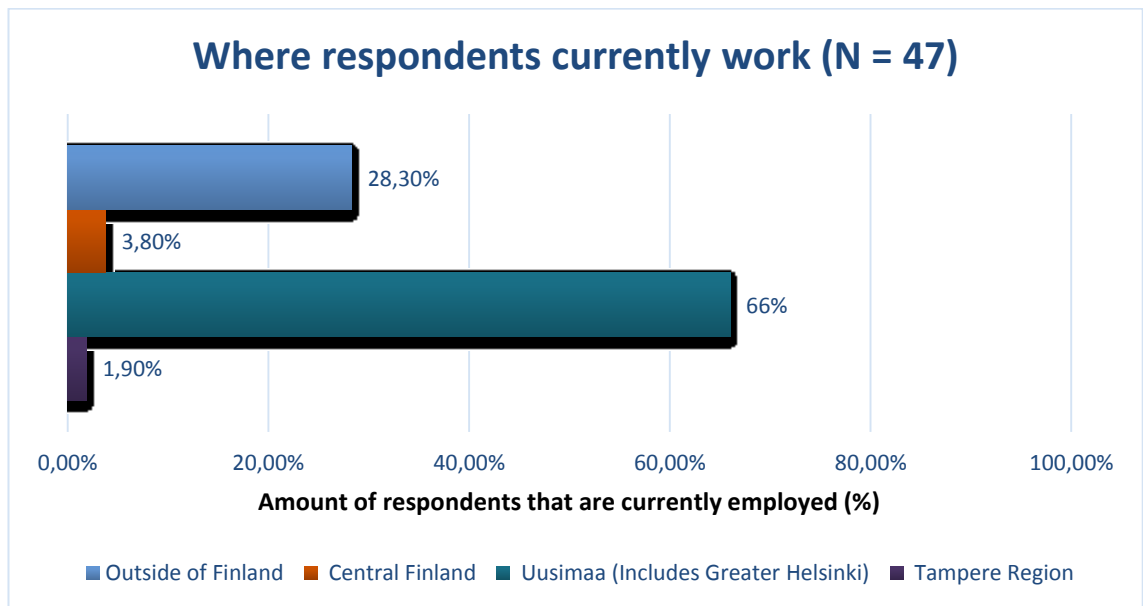
**Figure 51: Where respondents' home countries are located (EU/ETA or outside)**



**Figure 52: Employment situation based on location of home country (EU/ETA or outside)**

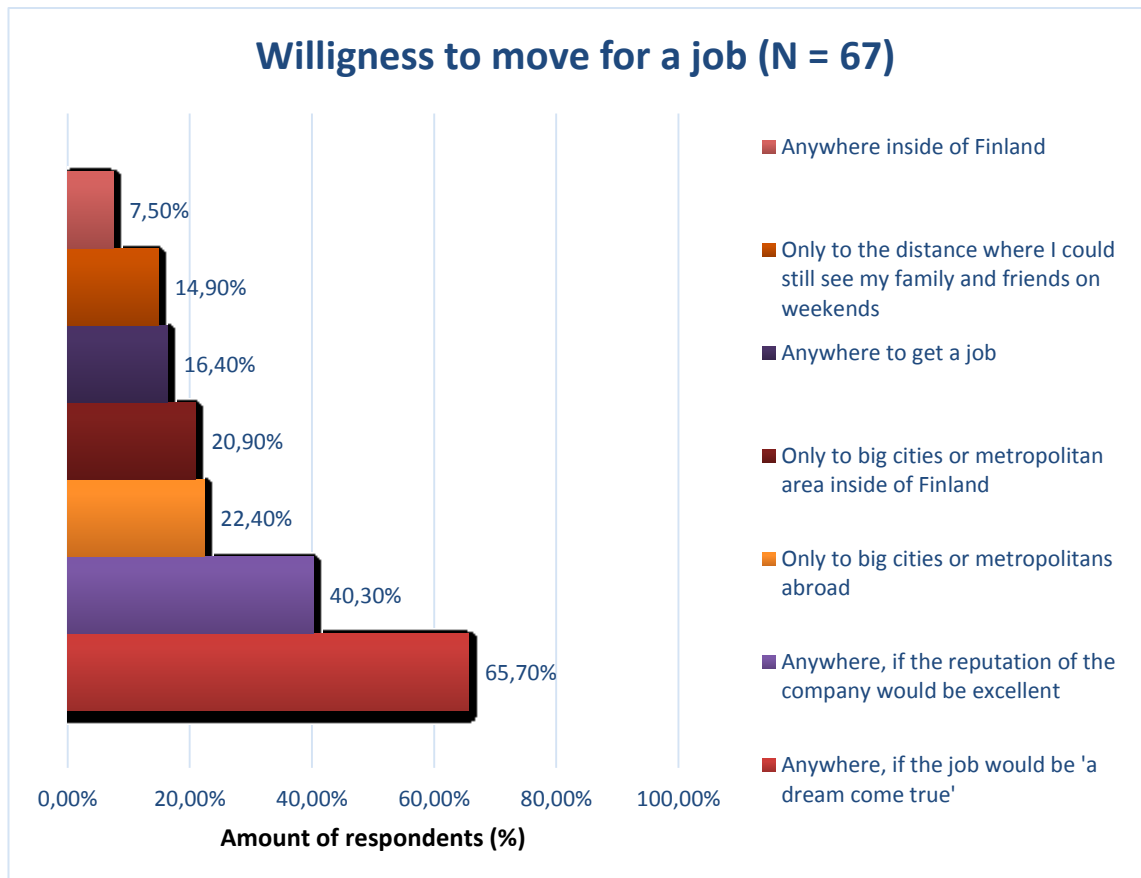


Figure 53 shows that currently, the respondents work mainly in the Uusimaa region as only 5,7% work in another region in Finland.



**Figure 53: In what location respondents currently work**

The respondents were also asked whether they would be willing to move from where they currently live. Figure 54 shows that a dream job (65,7%) and the reputation of a company (40,3%) are the biggest factors for the respondent's willingness to relocate.



**Figure 54: Where would the respondents be willing to move for a job**

Table 9 demonstrates that the employed respondents were more willing to move for a job. Unemployed respondents were only more willing to move to big cities or metropolitan inside of Finland for a job.

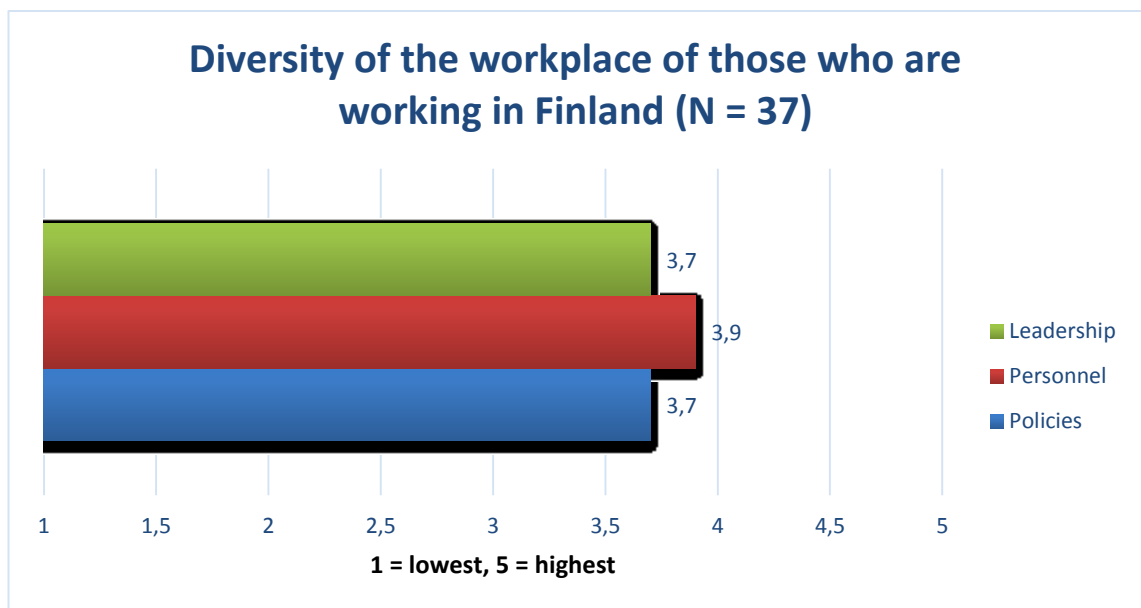
**Table 9: Willingness to move to get a job compared to employment**

When would respondent be willing to move (N=67) (respondents could choose all that apply)	Amount of respondents (%)	
	Unemployed (N=20)	Employed (N=47)
Anywhere, if the job would be 'a dream come true'	65 %	66 %
Anywhere, if the reputation of the company is excellent	35 %	43 %
Only to the distance where I could meet my family on weekends	10 %	17 %
Anywhere inside of Finland	5 %	9 %
Only to the big cities or metropolitan inside of Finland	25 %	19 %
Only to the big cities or metropolitan abroad	15 %	26 %
Anywhere to get a job	15 %	17 %

## 6.7 Diversity and recruitment practices

This chapter presents the results of how diverse do the respondents who have worked at least once after graduation, consider the employment environment to be. The results are filtered so that only those who have settled in Finland are presented. This chapter also present results on how well the respondents have been employed based on how they look for a job. At the end of the chapter, the employment situation is compared to the sector of where the respondents did their master's thesis.

From those who have settled in Finland, 82,2% have been employed at least once. Figure 55 below shows, how diverse the respondents consider their workplace to have been or to be. The median for all groups was 4 and the standard deviation for all is very close to one.



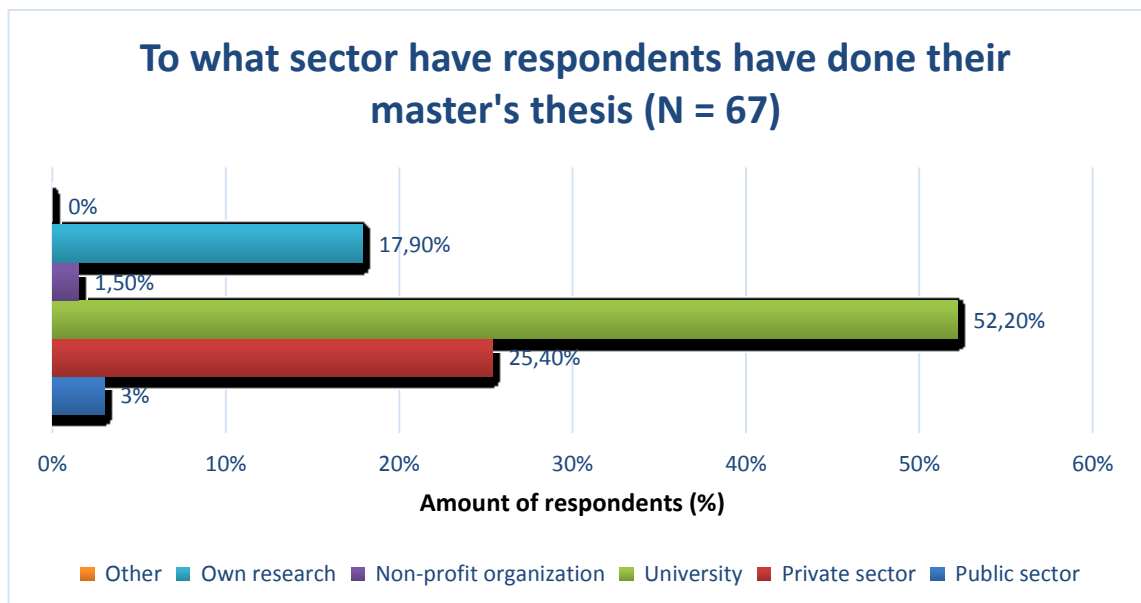
**Figure 55: Respondents views of how diverse their workplaces are in Finland**

As was presented in chapter 6.1 , the most common way to look for a job is through a public vacancy, using personal networks or sending an open application. Table 10 shows the results divided by the ones who are currently employed and the ones who are not. According to statistical analysis (Mann-Whitney) these groups differ statistically only in the answer “approached by the employer”. In this option the difference is 0,73 with  $p=0,032$ .

**Table 10: Differences in job searching methods for those who are unemployed and the ones who are employed**

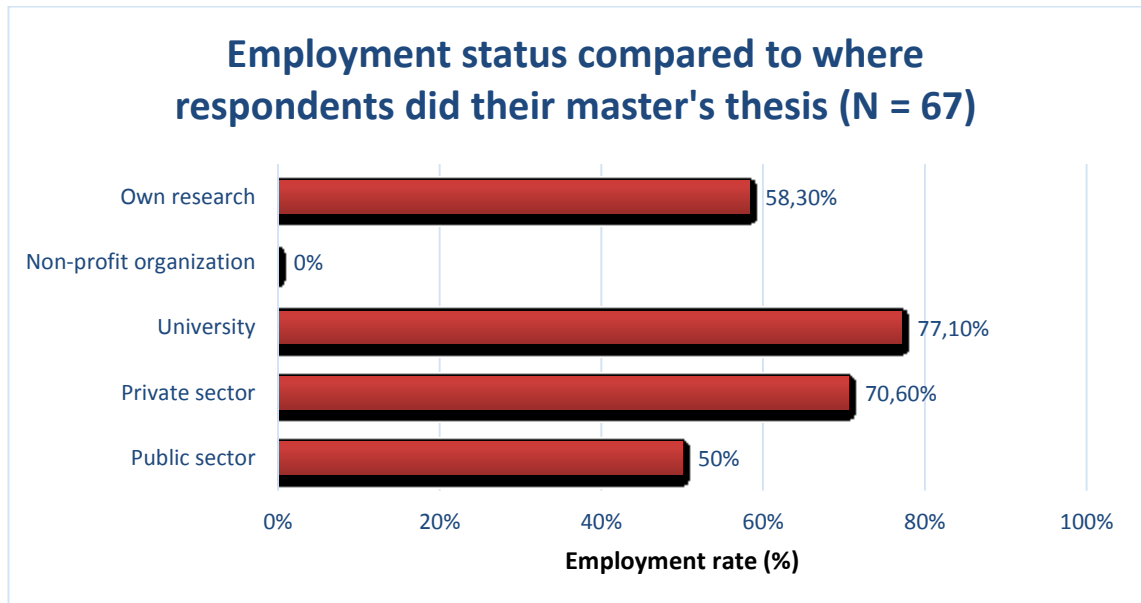
	Average rate (N = 67) 1 = lowest 5 = highest	
	Not employed	Employed
Through public vacancy advertisement	4,15	4,11
By sending open application to employer	3,2	3,02
By using my own contacts or networks	3,25	3,19
By using university's career services	2,85	2,32
With the help of university staff or personnel	2,05	1,89
I am approached by the employer	1,65	2,38
By using public employment and business services (TE Service)	1,95	1,79
By using recruiting company (e.g. Manpower)	2,35	1,96

Respondents of this study had mainly done their master's thesis for a university (52,2%). What is interesting is that 17,9% of the respondents have done their own research that has not been commissioned by any sector. These results can be seen in figure 56 below.



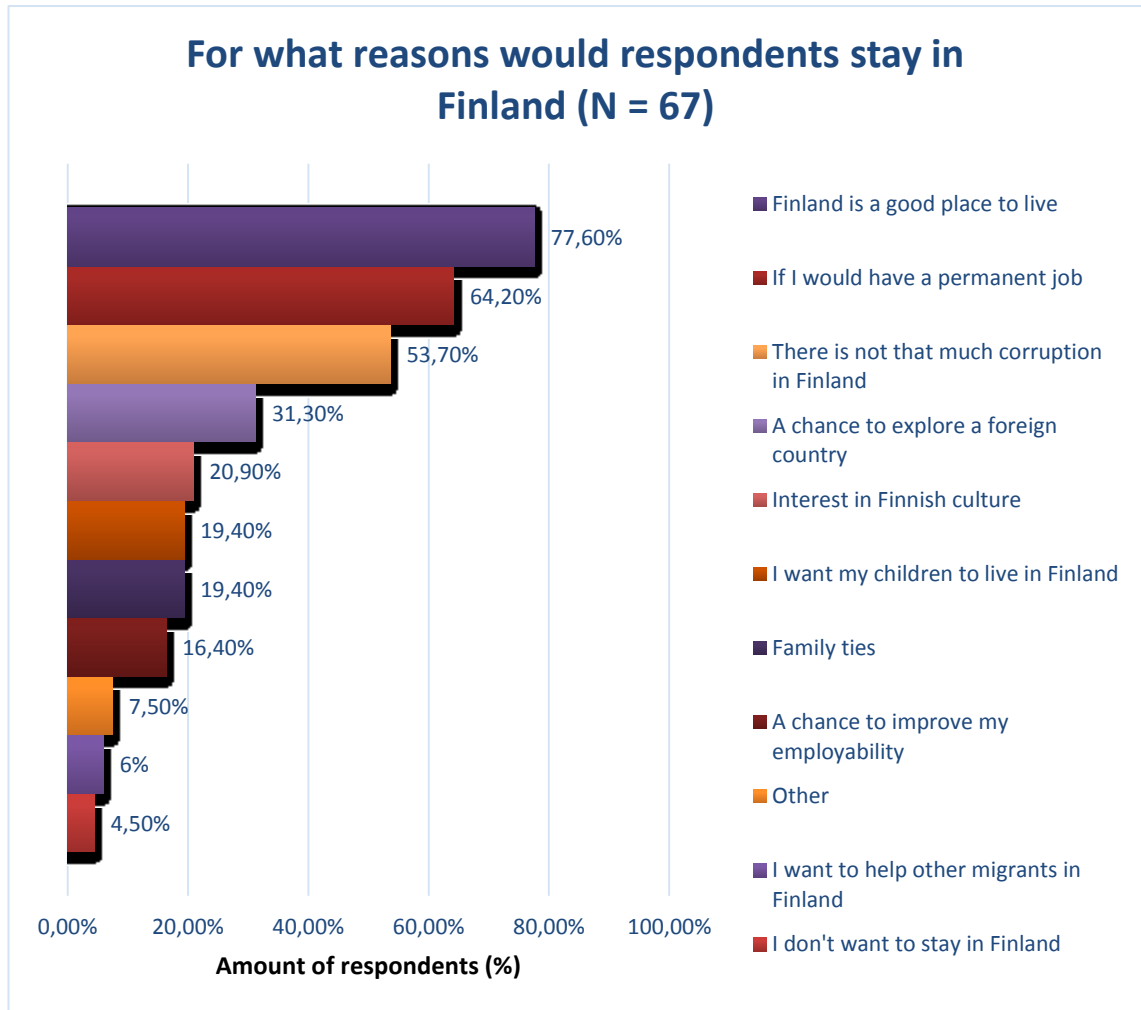
**Figure 56: To what sector master's thesis was done**

If these results are compared to the employment status of the respondent, it can be seen that doing a thesis for a university or private sector has been the most beneficial for getting employed afterwards. Figure 57 also shows that doing a thesis for the public sector or doing it by oneself has not significantly increased employability. In figure 57 'non-profit organizations' has zero percentage of employment, but the group had only one respondent.



**Figure 57: Employment status compared to where respondents did their master's thesis**

The reasons to stay in Finland for the respondents were mainly related to Finland being a good place to live. This reason was chosen by 77,6% of the respondents. The low level of corruption in Finland was chosen by 53,7% of the respondents as a reason to stay. Among the top reasons was also a permanent job in Finland, which was chosen by 64,2% of the respondents. It is positive to see that only 4,5% of the respondents do not want to stay in Finland. These results can be observed in figure 58 below.



**Figure 58: Reasons to stay in Finland**

## 7 Discussion

This chapter aims to discuss how the findings in this survey support or conflict with the theoretical part of the study and other previous research. First, the chapter will describe on the employability model and how the results compare to this model. Chapter 7.2 will focus on the finding that Finland is not the first choice of countries to come study and also what do respondents think about Finland after living here. Chapter 7.3 will discuss the sectors where international graduates are employed and where there could be more potential for getting employed. In chapter 7.4 the networks of internationals are discussed and some development suggestions are offered.

### ***7.1 Employability model usage to international graduates***

Even though the employability model is not specifically designed to be used for international graduates but for all HEI graduates, the model gives solid basis of what factors to look into. The survey cannot easily answer to all questions in the model, but it can give valid insight on many of the factors. Unfortunately, because of the low number of responses most of the results could not be statistically tested, so these results cannot be generalized.

It was interesting to find out that time taken to graduate from HEI had an impact on employability. The employment rate for fast graduates (less than two years) was 79,2% and slow graduates (73,7%). This is the same kind of finding that Tuominen (2013) had. This could not be explained by thinking that slow graduates had more time to make larger networks during the time spent in a university or had more time to obtain a job. No markable differences was found when these groups were compared to graduation time.

The original Harvey (2005) model did not include the specialist versus generalist categorization but was later added by Tuominen (2013). This was something that could not be easily compared to previous research since all of the respondents' fields (technology, business and architecture) are in many cases considered to be a specialist type of fields (Sainio, 2008). However, in this study the orientation to a specialist or a generalist type was determined by the respondents. When extremitys of these groups were compared, the difference in the employment rate was 26,2%, where the generalist group had 83,3% employment rate and the specialist had 57,1% employment rate. These results

differ from Tuominen (2013), where it was found that a generalist has more employment challenges. However, as said, the grouping was done differently in that study.

This study does not give any exact answers to how well extracurricular activities affect employability. This is something that does not have any clear results in previous studies either. According to the results of this study, it would seem that just occasionally participating in extracurricular activities may have a negative effect, but being very active and having responsibilities, may increase employability. It would seem that if someone is to participate in extracurricular activities, one should also understand and reflect on how it can increase employability. These activities should be possible to articulate well to employers as well, as studies that are done in the UK present that the employers may view extracurricular activities also negatively (Clegg, et al., 2010; Tchibozo, 2007; Thompson, et al., 2013). Results in this study also give somewhat controversial results related to the impact of work experience. In this study, no remarkable difference in employment status was found when compared to the work experience that was gained during studies. This is listed as one of the key elements in the employability model and also studies conducted for example by TEK (2015) or Shumilova, et al., (2012).

The model does not explicitly reveal what are the attributes that increase employability. These different attributes were tried to be discovered using other studies and given the opportunity for the respondents to openly answer what their key competences are. Many of the same skills were listed in the open questions as is highlighted in theory, for example, learning, social skills, communication, problem-solving and team-working. Also, work experience was mentioned frequently. However, when comparing the evaluated level of the skills to employment status, it seemed who those that had evaluated their skills as low were employed better. No clear reason for this was found in the results. It might be that the ones who have not employed well have a different perspective on their skill level. These answers also included articulation skills, so at least the respondents considered that they could articulate their competences well. To get more realistic results, it could be better if these kind of competences were evaluated in a different way than asking the graduate themselves since people have different limits and levels for evaluating themselves.



Graduates' willingness to develop was analyzed by asking how much time they are considering to spend on learning. This question alone does not give much clarity since it would seem that the ones who are not currently employed are spending more time on learning, which is, of course, understandable since they should be increasing their employability. To analyze this, it could be better to have an open question where respondents could describe in what way they are developing themselves and try to find links to employment from these development opportunities.

The graduates' personal attributes were evaluated only by looking into their networks. Even though there were alarming results, in the lack of networks of the respondents, the employment rates did not increase after knowing more than 10 people who would recommend the respondent for a job. Using personal networks was reported to be a second common way to look for a job and in fact, 20,8% of the respondents had found their first job using their personal contacts. In addition, the lack of right contacts was reported to be a second biggest obstacle for getting a job in Finland (74,6% of respondents considered this to be an obstacle). These results are in line with Sitra (2016) findings, where it was discovered that 39% of new jobs that are fulfilled include some kind of familiarity factor.

In general, the model gives solid background on what to study regarding the employability of any kind of HEI students. However, some of the factors should be studied in a different way than using survey and to get more accurate results, more respondents would be required.

## ***7.2 Reasons to come and stay in Finland***

The Ministry of Education (2009) set a goal to increase the amount of international students in Finland. One of the reasons for this was to get international graduates to migrate to Finland to get more taxpayers to help in the worsening maintenance ratio of Finland. According to the received results in this study, only about half of the students have Finland as a first choice. The biggest reason to come to Finland is the free education and only 17,9% come to Finland to migrate here. However, these are the results about deciding where to go. Most of the respondents would recommend Finland as a good place to study (70,1%) and live (68,7%). These results are lower than the VALOA-project findings where it was found that 86,7% would recommend Finland as good place to study (Shumilova, et al., 2012). Additionally, 64,2% of the respondents reported that they

would like to stay in Finland if they got a permanent job while only 4,5% reported that they don't want to stay in Finland. It would seem that, even though Finland is not the first choice for many, the experiences gained here are mainly positive and therefore, there is still a good opportunity to get them to stay. One of the things that could be investigated further is how the motives to stay in Finland change, starting from coming to Finland and graduating to two or five years after graduation. To be able to do this, much better alumni records and contacts would be needed.

32,8% of the respondents are still currently increasing their employability by doing trainee program or pursuing further studies. According to Tyni (2005) every third who starts doctoral studies, reports the reason for this to be that there were no suitable jobs available. This number could be even higher for international graduates since international graduates continue to further studies three times often (TEK, 2016). One of the reasons to have many doctoral students could be that 52,2% of the final theses are done for the university. To have more information on this subject, there should be some studies carried out to research the employability of the doctoral candidates and graduates to know more about the motives to start doctoral studies.

### ***7.3 Where to employ the internationals?***

The respondents of this study are mainly employed by the private sector, which is quite usual for engineering and business graduates. The largest group in the private sector was multinational companies that employed 37,7% of respondents. However, in the recent years, the small or medium-sized companies (SME) have actually employed more people than other sectors (Tilastokeskus, 2011). Currently, as Finland is facing nationwide economic problems, one solution could be to increase the exports<sup>6</sup>. This is where international graduates could be a huge asset. This way we could be solving the maintenance ratio issue as well as exports issues of Finland and at the same time increase the employment rate of international graduates. This would also make Finland more attractive place to come to study.

To have an impact on this issue, there should be systematic encounters for internationals and small and medium-sized companies already during their studies. The SME companies

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<sup>6</sup> <http://rohkeasuomi.fi/2014/10/pk-yritykset-suomen-johtotahtena/>

should be made more aware of the potential of the international graduates and the graduates should also be assisted to seek opportunities from SMEs. Luckily CIMO has started a project<sup>7</sup> to help the situation, but universities could also launch project to increase their alumni' employability.

#### **7.4 Networks of internationals**

As mentioned in chapter 7.1 there were worrying results found about the size of the networks of the international graduates. Even though employment rates were not too much affected by the network sizes of graduates, the lack of them is worrying. More than 50% of the respondents considered knowing ten or fewer people in Finland and 11,1% did not consider to belong to any group in Finland, even when some of the group examples were family, school friends or work friends. One of the ways that respondents have tried to get to know more people and increase their networks were extracurricular activities, as 57,1% reported the reason to participate was to meet new people and 30,4% reported the reason to participate was to create networks. From those who did not participate (17,9%), 45,5% reported the reason to be Finnish language barriers.

If we want international graduates to be integrated to Finland, we need to make an effort for them not to feel lonely or unintegrated to the Finnish society. As Sitra (2016) reported, many of the jobs are given by familiarity factor. This is also noticed by the respondents as lack of networks was considered to be one of the biggest obstacles for getting a job and using personal networks was the second most common way to look for jobs for the respondents.

Even though less than ten friends could be enough for many, the group of 11,1% of the ones that don't consider to belong to any group is more alarming. However, this number is on the same level that the average university students feel. In a study conducted by Finnish Student Health Service it was found that every third of the university students don't consider to belong to any student group and 5% of the women and 6% of men consider feeling lonely very often (Kunttu & Pesonen, 2012). It would be interesting to compare these results with the Finnish respondents and see how much does the network size differ and how do these develop during the time spent in the university.

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<sup>7</sup> [http://www.cimo.fi/palvelut/tutkimus-\\_ja\\_selvitystoiminta/uutta\\_osaamista](http://www.cimo.fi/palvelut/tutkimus-_ja_selvitystoiminta/uutta_osaamista)

## **8 Conclusions**

This chapter summarizes the main findings of this study and provides some recommendations to the stakeholders. In chapter 8.1 the general employment and post-graduation situation is presented. The goal of this study was to find factors that have an effect on employability and these results are presented in chapter 8.2. Key barriers to employment are viewed in chapter 8.3. Chapter 8.4 discusses the attractiveness of Finland and challenges that are ahead next year after tuition fees are to be implemented. Recommendations for stakeholders are reflected in chapter 8.5 and finally limitations of this study and recommendations for further studies are presented in chapter 8.6.

### ***8.1 Employment and post-graduation situation of international graduates***

Generally, the employment situation is quite good for international Aalto university graduates as 70,1% are currently employed. From all the respondents actually only 11,9% were unemployed as many were either pursuing further studies or taking part in an internship or trainee program. This result is quite similar compared to VALOA-project's results in 2012 where it was found that 70% were employed (Shumilova, et al., 2012).

From the ones who stay in Finland after graduation (67,2%) two-thirds were currently employed and 44,4% were pursuing further studies or taking part in a trainee program while 11,1% were unemployed.

An interesting finding is that international graduates mostly get employed by the private sector, and mostly to multinational companies (37,7%). Excluding all other sectors but the private sector and considering only those who have settled in Finland, large companies employed 63,2% and small and medium sized companies employed 21,1%. When looking into the 2013 numbers of Statistics of Finland the SME companies employed 39% and large companies 35% (Statistics Finland, 2013). In light of this information, it can be said that there are big employment opportunities in the SME sector.

### ***8.2 Factors increasing employability***

As the number of responses in this study is only 67, more studies on this subject should be conducted with more respondents in order to have more accurate results. Therefore, it can only be said that the following results increased the employability of the respondent

group. Furthermore, it is important to remember that these factors have an impact only on recent graduates from Aalto.

- Time spent to graduate. It was found that fast or slow graduation is better compared to the average time taken to graduate
- Generalist type of major get employed better than a specialist
- To increase employability by doing extracurricular activities. One should regularly have responsibilities of arranging these activities.
- To create professional network and to have a network of the size where the one has about 5 to 20 persons to recommend them to a job
- To do a master's thesis for the private sector or for a university
- To learn Finnish language
- To have the willingness to move for a job

### **8.3 Key barriers for employment**

According to the results, the main barriers for employment were the lack of Finnish language skills, lack of right contacts and the poor situation in the Finnish labor market. In the VALOA-project study, it was found that major reasons were also a lack of work experience (Shumilova, et al., 2012). This was the fourth most often mentioned factor in the study as well.

When making Chi<sup>2</sup>-test for reported barriers and cross-tabulating it with the employment status, it was found that there are statistical differences with those who were employed (N=47) and those who were unemployed (N=20). The difference was found in opinion of the poor situation in the Finnish labor market and residence permits. The unemployed respondents considered more often the poor labor market to be an obstacle while employed considered work permits to be an obstacle. With the same test it can be determined, that there is no statistical difference in the responses related to employers' untrust for immigrants, lack of right contacts, lack of access to job information or lack of work experience. In other options, the statistical test could not be tested.

It is notable that actually 26,9% of the respondents mentioned untrust for immigrants to be one of the biggest obstacles. Additionally, 17,9% reported that there is ethnic or cultural discrimination. This is something that should be addressed if we want to get the

full potential of the international talents in use. Starting point for this could be to have more interaction between the employers and international graduates. Currently, many student organizations arrange excursions with company representatives, but these are many times organized in Finnish. Also, more university-company linked courses and projects could advance the situation. The lack of Finnish language is considered to be the biggest obstacle for employment as was also in Shumilova, et al. (2012). There should be some actions from the university side to increase the level of Finnish language skill for internationals. There could be sessions arrange by universities and labor unions to educate new students how they can increase their employability in the Finnish labor market and at the same time motivate international students to study Finnish.

#### ***8.4 Why do international students come to Finland?***

As presented in the discussion already, the biggest reason for coming to Finland is the free education. Other two top reasons were the possibility to study in English and a chance to explore a foreign country. As Finland has decided to set tuition fees starting from 2017, these reasons do not give any competitive advantage for our universities anymore.

However, the reputation of the Finnish educational system and the reputation of Aalto University was chosen by 46,3% of the respondents. Most of the respondents would recommend Finland as a good place to study (70,1%) and live in (68,7%). These results give something to work on, as only 7,5% of the respondents chose Finland based on someone's recommendation.

#### ***8.5 Recommendations for stakeholders***

Based on the findings and literature, these recommendations for universities, student organizations, labor unions, companies, policy-makers and international students are provided.

Main suggestion for universities is that they should create an alumni register that has accurate information. In addition to that, there should also be active communication between the university and their alumni, so that the contact information would be actively updated and studies like this could be properly conducted. As this would help doing research, it would also very likely help universities to have a better link to companies and

fundraising campaigns. With a good alumni network, it would also be easier to have mentors for new students on how to integrate to Finland and find a job.

Universities should also use the alumni to market their educational system as only 7,5% are coming to Finland based on someone's suggestion, but at the same time about 70% would recommend Finland as good place come to and study in. When creating alumni network, positions such as Aalto ambassadors should be created, where the job of the ambassadors would be to advertise Aalto in their home countries.

Universities should also invest in their career services. University career services are the fourth most common way to look for a job after graduation. However, only 1,9% of the respondents have actually found a job with the university's help. This issue becomes even more crucial now that tuition fees are implemented next year and it will most likely increase the expected service promise of students from the university. This could also be a good promotional effort to have more international students to apply if more jobs would be found with the help of the university.

40% of the ones that did not participate in extracurricular activities reported the reason being that it is too hard for a non-Finnish speaking person to join. This should be improved in organizations as currently about 20% of the master students are international. However, this is not something that can entirely be fixed with arranging more events in English. The biggest obstacle for employment was the lack of Finnish language, so to lower the barrier to participate, international students should also learn Finnish more. So Universities should arrange more effective and even mandatory Finnish language courses.

This leads to a recommendation for universities and labor unions. When international students arrive in Finland, they should be informed about how they can increase their employability, for example, inform the students how learning Finnish skills will open them many new job opportunities. Also, the needs and desires of Finnish companies should be made more transparent to them.

A suggestion for companies is that they should be more open minded about the needed level of Finnish language and seek to improve their competitive advantage by adding diversity into their company. Especially SME companies are currently employing less

international talent than private companies generally. To have growth and to grow to a bigger company, internationalization is suggested to be one of the solutions. At the same time, this would help Finland in general as exportation would likely increase.

A suggestion for policy-makers is that as tuition fees might drop the number of international students, we should excel in keeping the ones that come to study here in Finland. To improve this, the employment of them should be increased as 64,2% of respondents would stay in Finland if they would find a permanent job. They already consider Finland a great place to live, there is no need for improvement in that regard. International talents should be considered as a special group and could be given some benefits. For example maybe something similar that e-Residency is in Estonia<sup>8</sup>. Or maybe the solution could be taxation benefits for companies if they recruit international talents. These are just some suggestions that could ease the feeling of work/resident permits to be obstacle (25,4% of respondents) or give incitement to companies to hire more internationals. As Finland is facing worsening maintenance ratio, one way to ease that could be to recruit highly educated international talents to Finland.

Above there have been suggestions for universities, companies, student organization and policy makers to increase the employability of international graduates. At the same time, the international graduates should put more effort into learning the Finnish language and to actively try to create a larger professional network if they wish to increase their employability in Finland. It is also important that these efforts start already when starting studies in Finland.

## ***8.6 Limitations of this study and suggestions for further research***

The main limitation of this study is the low number of responses and not that high response rate in general. The contact information received from Aalto University were missing much information and most of the contact information were likely incorrect. From LUT contact information could not be received and the survey was only possible to do by mail.

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<sup>8</sup> <http://www.wired.co.uk/article/estonia-e-resident>



It is also important to remember that these results cannot be generalized to all international graduates since the respondents were eventually only from Aalto University. The respondents are from the fields of technology, business and architecture who have graduated between the years 2014 and 2016. The study is also missing the perspective of the employers and is only based on the subjective opinions of the graduates.

To have more information about the employability of international graduates following ideas are suggested for further studies:

- To compare the received results to the opinions of the employers.
  - During this thesis, some opinions were gathered from employers, but due schedule issues these results were not added in this study.
- What are the reasons to start doctoral studies? What is the employability situation of the graduated doctors?
- To have insight on how the employability of international graduates is developing a yearly or every second year conducted study on the employability of certain fields or maybe even nationwide research would help.
- A study to compare the employability of Finnish graduates and international graduates.
- A study conducted to international graduates who decided to leave Finland. To find out the reasons for leaving and if they still have relations to Finland through friends or work.
- A different study on the usability of the employability model, using different research methods. Especially to evaluate the impact of employment attributes, willingness to develop, reflection and articulation. Recruitment practices should also be studied from a different perspective.

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# Attachments

## Attachment A: Survey questions



### Survey on employability of international graduates

#### Basic information and education

##### 1. Which university did you graduate from? \*

If you have not graduated yet, the survey will jump to the last question.

- Aalto University
- Lappeenranta University of Technology
- Other (Where?)
- I have not graduated yet

##### 2. Gender? \*

- Male
- Female
- Other

##### 3. What year were you born? \*

##### 4. What is your home country? \*

##### 5. Have you acquired Finnish citizenship? \*

- Yes
- Not yet, but I will
- No

##### 6. Which degree have you completed? \*

- Master of Science in Technology  
 Master of Science in Architecture  
 Master of Science in Landscape architecture  
 Master of Science in Economics and Business Administration  
 Other (please specify)

**7. How long did your master studies last? \***

approximately is enough

Year you started your studies?   Year you graduated?  

**8. Were you absent from school for some period of time? \***

eg. 1 month, 13 months

**9. What was your major in your Master's degree? \***

**10. Would you consider your major to be: \***

Rank in a scale of specialist to generalist. How do you consider your degree to be?

Specialist = Major is from more narrow field of study, but goes deeper

Generalist = Major is wide and consists of information from many fields of study

The same rank applies to the scale of theoretical to practical.

	1	2	3	4	5	
Theoretical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Practical
Specialist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Generalist

**11. If you had a minor in your Master's degree, what was it? \***

- I had (please specify)   
 I did not have a minor

**12. Would you consider your minor to be: \***

Rank in a scale of specialist to generalist. How do you consider your degree to be?

Specialist = Major is from more narrow field of study, but goes deeper

Generalist = Major is wide and consists of information from many fields of study

The same rank applies to the scale of theoretical to practical.

	1	2	3	4	5	
Theoretical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Practical
Specialist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Generalist

**13. How long had you lived in Finland before your studies started? \***

- less than 6 months
- 6 months - less than 1 year
- 1 year - 3 years
- over 3 years

**14. What do you consider to be your key competencies that enhance your employment possibilities?**

**15. You have now answered questions related to basic information and education. If you wish you can elaborate on your answers here**

## Employment and work experience

**16. Where did you settle after graduation? \***

- In Finland
- Returned to my home country
- Moved elsewhere

**17. Where did you do your Master's thesis? \***

In what type of organization did you work when doing your thesis?

- Public sector
- Private sector
- University
- Non-profit organization
- Own research
- Other (please specify)

**18. What describes best your current situation? (choose all that apply) \***

- Employed
- Entrepreneur or freelancer (Self-employed)
- Doing internship or trainee program
- Undertaking further studies
- Unemployed
- Other

**19. Have you been employed at least once after your graduation? \***

- Yes
- No

**20. How long after graduation did it take to find a job? \***

- I got the job during studies
- less than 1 month
- 1 month - less than 3 months
- 3 months - less than 6 months
- 6 months - 1 year
- over 1 year

**21. How many different jobs have you had in total after your graduation? \***

If you were employed at the time of graduation it counts as one

Number of jobs

**22. How did you get your first job after graduation? \***

- Through public vacancy advertisement
- By sending open application to employer
- By using my own contacts or networks
- By using University's career services
- With the help of University staff or personnel
- I was approached by the employer
- Public employment and business services (TE Service)
- I did my thesis to the same employer
- Recruiting company (e.g. Manpower)
- Other (please specify)

**23. If you work in Finland, where is your workplace located? \***

- Åland
- Central Finland
- Central Ostrobothnia
- Häme
- Kainuu
- Kymenlaakso
- Lapland
- North Karelia
- Northern Ostrobothnia
- Northern Savo
- Ostrobothnia
- Päijät-Häme
- Satakunta
- South-West Finland
- South Karelia
- South Ostrobothnia
- Southern Savo
- Tampere Region
- Uusimaa (Includes Greater Helsinki)
- Other (please specify)

**24. In which sector are you employed? \***



- Public
- Private (Multinational company)
- Private (Small or medium size company)
- Private (Startup)
- University
- Non-profit
- Other (please specify)

**25. How relevant is your Master's degree for your current or latest work? \***

- Not at all
- Somewhat relevant
- Very relevant

**26. How relevant was your level of studies for your work? \***

- Not at all (Job does not require higher education)
- Somewhat relevant (Lower level education would have been enough)
- Fully relevant (Job requires my level of studies or higher level)

**27. Can you use your intercultural knowledge in your current job? \***

Can you for example use your cultural knowledge about your home country in your work?  
Do you think that you can use your multicultural background as a benefit in your work?

	1	2	3	4	5	
Not really	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	All the time

**28. How diverse was the working environment in the company that you are now working or were employed last time? \***

1 = not at all  
5 = Very much

Diversity is the range of human differences, including but not limited to race, ethnicity, gender, gender identity, sexual orientation, age, social class, physical ability or attributes, religious or ethical values system, national origin, and political beliefs.

Policies refer to eg. company's values, strategy or recruitment policies

Personnel refers to eg. how diverse are the people who work for the company

Leadership refers to eg. that does the acts of company's executive personnel take diversity into account

	1	2	3	4	5
Policies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Personnel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leadership	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**29. How do you generally look for a job? \***

1 = Not at all 5 = Very often

	1	2	3	4	5
Through public vacancy advertisement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
By sending open application to employer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
By using my own contacts or networks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
By using university's career services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
With the help of university staff or personnel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am approached by the employer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
By using public employment and business services (TE Service)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
By using recruiting company (e.g. Manpower)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please specify) <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**30. Do you think you will be working in Finland after 5 years? \***

- Very unlikely
- Unlikely
- Possibly
- Very possibly
- Definitely

**31. Have you tried to get work experience during your studies? \***

- Yes and I got a job
- Yes, but I did not get a job
- No

**32. Work and/or internship experience during studies (in months) \***

Work experience and/or internship (related to my field of studies)

Work experience and/or internship (not related to my field of studies)

Work experience acquired abroad (all)

**33. Why haven't you tried to get work experience? \***

- Studies are more important
- I do not consider work experience relevant during studies
- The study requirements do not leave any time for work
- Other (please specify)

**34. What do you think are the biggest obstacles or barriers for getting a job in Finland for international graduates? (choose all that apply) \***

- Lack of Finnish language skills
- Lack of work experience
- Poor university education
- Poor career services at the university
- Lack of access to job search information
- Lack of right contacts
- Poor situation in Finnish labor market
- Employers' untrust for immigrants
- Employers do not value inter-cultural knowledge
- Ethnic or cultural discrimination
- Resident or work permit restrictions
- I don't think there are any obstacles
- Other (please specify)

**35. You have now answered questions related to employment and work experience. If you wish you can elaborate on your answers here****Extracurricular experiences and networks**

**36. During your studies have you participated in extracurricular activities? (choose all that apply) \***

- Sports (e.g. football, basketball, cricket, tennis)
- Artistic (e.g. music, dance, painting, acting)
- Associative (e.g. associations, guilds, subject clubs, committees, student union)
- Entrepreneurship
- Community (charity, NGO volunteer)
- Out of the ordinary activities (running marathon, climbing mountains, sailing, making films)
- No, I have not participated
- Other (please specify)

**37. Why haven't you participated in extracurricular activities? \***

- Studies are more important
- I do not consider that relevant during studies
- The study requirements do not leave any time for other activities
- It is too hard for a non-Finnish speaker to join extracurricular activities
- Other (please specify)

**38. How active were you in extracurricular activities during your studies? \***

- Not active at all
- I was a member of some association during my studies
- I had some responsibilities in extracurricular activities during my studies
- I had responsibilities every year in extracurricular activities during my studies
- I had multiple responsibilities every year in extracurricular activities during my studies

**39. Do you think these activities have had positive effects on your employability? \***

- Not at all
- Maybe a little
- Yes, somewhat
- Yes, very much

**40. Why did you get involved in these activities? (Choose all that apply) \***

- Interest/Passion
- Own well-being

- Continuing what I had started before
- To meet people
- To help other people
- To acquire practical experience
- To acquire experience that will help to get a job
- To create networks
- Other (please specify)

**41. How important do you think extracurricular activities are for employers? \***

- Employers consider extracurricular activities to be very important
- Employers consider extracurricular activities to be somewhat important
- Employers do not consider extracurricular activities to be important
- I don't know

**42. How many different groups do you consider yourself belonging to in Finland? \***

Some examples of different types of groups:

Family

Chess club

Football team

Learning group in university

Freshman group in university

Student association or subject club

Co-workers

Group that was formed when doing part-time work

- 0
- 1
- 2-4
- 5-8
- 9-12
- 12-15
- over 15

**43. How many people do you consider yourself to be familiar with? (in the world) \***

People that you can see yourself spending time with or that you could call them and ask for help

- 0-10
- 11-50
- 51-100
- 101-200

- 201-300
- 301-500
- 501-1000
- Over 1000

**44.** How many of these people live in Finland? \*

- 0-10
- 11-50
- 51-100
- 101-200
- 201-300
- 301-500
- 501-1000
- Over 1000

**45.** How many of these people, that live in Finland, do you think that would recommend you for a job? \*

The person does not need to have been your boss before

- 0
- 1
- 2-4
- 5-10
- 11-20
- Over 20

**46.** You have now answered questions related to your extracurricular activities and networks. If you wish you can elaborate on your answers here

## Skills and attributes

Below there is a list of different kind of skills and attributes. You need to evaluate you current level of a certain skill and how it has it developed during your time in the university.

1 = Low level / not at all

5 = high level / very much

### 47. Mastery of your own study field \*

	1	2	3	4	5
Your current level?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed when studying at the university	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed by having work experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed when doing extracurricular activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 48. Finnish language \*

When evaluating your level and required level you can use European language levels (CEFR)

1 = level A1-A2, elementary

2 = level B1, intermediate

3= level B2, upper intermediate

4 = level C1, advanced

5 = level C2, mastery

[https://en.wikipedia.org/wiki/Common\\_European\\_Framework\\_of\\_Reference\\_for\\_Languages](https://en.wikipedia.org/wiki/Common_European_Framework_of_Reference_for_Languages)

	1	2	3	4	5
Your current level?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed when studying at the university	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed by having work experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed when doing extracurricular activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### 49. English language \*

When evaluating your level and required level you can use European language levels (CEFR)

1 = level A1-A2, elementary

2 = level B1, intermediate

3= level B2, upper intermediate

4 = level C1, advanced

5 = level C2, mastery

[https://en.wikipedia.org/wiki/Common\\_European\\_Framework\\_of\\_Reference\\_for\\_Languages](https://en.wikipedia.org/wiki/Common_European_Framework_of_Reference_for_Languages)

	1	2	3	4	5
Your current level?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed when studying at the university	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed by having work experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Developed when doing extracurricular activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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#### 50. Team working skills \*

	1	2	3	4	5
Your current level?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed when studying at the university	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed by having work experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed when doing extracurricular activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### 51. Inter-cultural competences \*

	1	2	3	4	5
Your current level?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed when studying at the university	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed by having work experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed when doing extracurricular activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### 52. Articulation of own competencies \*

Ability to demonstrate employability assets (that you have learned during your studies, extracurricular activities and work) and present them. Also presentation of CVs, work experience, references etc. This includes also interview techniques.

	1	2	3	4	5
Your current level?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed when studying at the university	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed by having work experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed when doing extracurricular activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### 53. Career management skills \*

Career management skills mean such skills as decision making skills, self-awareness, opportunity awareness, transition skills (job search skills and strategic approach applying jobs)

	1	2	3	4	5
Your current level?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed when studying at the university	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed by having work experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed when doing extracurricular activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



#### 54. Ability to rapidly acquire new knowledge \*

	1	2	3	4	5
Your current level?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed when studying at the university	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed by having work experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed when doing extracurricular activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### 55. Evaluating your willingness to develop and learn more: how much time are you planning to spend on learning during one week? \*

Developing yourself and learning can come from various things:  
 Reading articles and publications from your field or another  
 Doing extracurricular activities that develop your working skills and attributes  
 Doing courses in university  
 Having another degree or continue further in your studies  
 Attending conferences and seminars

- not at all
- less than 1 hour
- 1 hour - less than 2 hours
- 2 hours - less than 4 hours
- 4 hours - less than 6 hours
- 6 hours - 8 hours
- over 8 hours

#### 56. How well do you consider yourself to understand ... \*

1 = not at all 5 = superbly

	1	2	3	4	5
Finnish labor market and working norms and regulation?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
the needs of Finnish companies?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### 57. Evaluate how your skills, experiences and attitude suit Finnish companies? \*

1 = not at all  
 5 = superbly

	1	2	3	4	5
skills and other knowledge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
experiences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
attitude towards working	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finnish working culture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**58. How certain are you that you will get a job in Finland in the future? \***

- Not at all
- Unlikely
- Maybe
- Likely
- Very likely
- Definitely

**59. You have now answered questions related to your skills and attributes. If you wish you can elaborate on your answers here**



### Other information related to this study

**60. Would you be willing to move to get employed? \***

- Anywhere, if the job would be 'a dream come true'
- Anywhere, if the reputation of the company would be excellent
- Only to the distance where I could still see my family and friends on weekends
- Anywhere inside of Finland
- Only to big cities or metropolitan area inside of Finland
- Only to big cities or metropolitans abroad
- Anywhere to get a job

**61. What were your main reasons for taking up education in Finland? (choose all that apply) \***

- Geographic proximity
- Opportunity to learn Finnish language

- Someone's recommendation
- Scholarship for education
- Family ties
- Desired program not available in my home country
- Finding employment in Finland after graduation
- Easier enrollment compared to programs in other countries
- Free of charge education
- A chance to immigrate to Finland
- Reputation of University
- Studying in Finland was part of my joint degree studies
- Reputation of Finnish industry
- Reputation of Finnish educational system
- A chance to explore a foreign country
- Interest in Finnish culture
- Reputation of Finland as a place to live
- Possibility to study in English
- A chance to improve my employability
- Other (please specify)

**62. For what reasons would you stay in Finland? (choose all that apply) \***

- Family ties
- There is not that much corruption in Finland
- A chance to improve my employability
- If I would have a permanent job
- I don't want to stay in Finland (Why?)
- Other (please specify)
- I want to help other migrants in Finland
- A chance to explore a foreign country
- Interest in Finnish culture
- Finland is a good place to live
- I want my children to live in Finland

**63. Was Finland your first choice when choosing your destination to study abroad? \***

- Yes
- No

**64.** Would you recommend Finland to your friends as a good place to study? \*

- No (why?)
- Maybe
- Yes  
(why?)

**65.** Would you recommend Finland to your friends as a good place to live? \*

- No  
(why?)
- Maybe
- Yes

**66.** You have now answered others questions related to this study. If you wish you can elaborate on your answers here

**67.** Anything else you wish to say about the subject or the study?

## Attachment B: Key competences

1. Being professional and practical. Also, being open minded and easy going.
2. Being in a high demand field such as Computer Science, with demanded skills like programming and Machine Learning. That and having my own Toiminimi and finding work abroad. For example I have remotely consulted for two years for US companies that have no presence in Finland whatsoever.
3. Know people and be proactive.
4. Skills on practical tools used in the industry
5. Leadership, project management, business management
6. - previous experience of working abroad in same company-employer - fluent English
7. Ability to adapt, quick learner, good people skills, solid foundational knowledge of business and strategy
8. Business skills , analytical skills, past experience
9. Not relevant outside Finland
10. Problem-solving and presentation skills.
11. Openness to learn new thing outside of the profession, agility, international experience, project management skills, communication skills and hands on approach
12. Hard working, responsible, and reliable.
13. General engineering skills, technical knowledge, soft skills
14. Versatility Ambition
15. Be in Finland already
16. Multidisciplinarity, knowledge of sustainability in different fields,
17. Knowledge of another language and culture
18. Speaking the Finnish language
19. - young and fresh graduate - Ability to learn fast and have good analytical skills - Responsible and good teammate
20. more work experiences communication skills
21. The ability to show a nice picture of my work / present it. The chosen area to work with: data graphics and communication design is very visual and easy to talk about.
22. Computational and Analytical Skills
23. Connection, hard skill, hands on experience
24. (a) My past work experience (three years) - I believe this to be both, a reason for my selection to the Master's program as well my current employment. (b) Master's degree
25. My area of studies!
26. I think of myself as a T shaped person in terms of skills, having a solid basis which allows me to expand quickly into various technologies. Also, I consider I am quite a fast learner when it comes to interacting with new notions and technologies.
27. European and International experience.
28. Good education, research experience during studies
29. Good technical skills, good understanding of the research process. excellent problem solving and critical thinking abilities, familiarity with a wide range of fields.
30. Finnish language, which I do not equip enough Also Higher GPA score
31. diligence

32. I dont know..
33. project management
34. Technical knowledge Interpersonal skills Language Cultural awareness
35. key competencies: - Hard worker - Skilled in many areas (electronics and electrical engineering, software development, web development, space science ...) - communication skill (in English)
36. My research skills and academic success.
37. abstract thinking, learning eagerness, proficient communication, effective individual as well as group work, problem solving, lead effectively, and think creatively
38. Experience and skills in the related field (in my case, Data Analytics). If you are familiar with the softwares & coding program the company is using and the algorithms, you got more chance.
39. programming skill
40. Knowledge of different languages/cultures and work experience in different areas of my field
41. Languages, work experience in similar tasks
42. fast learner
43. Subject matter expertise, International experience, Previous work and Internship experience
44. Internationality, group works and business orientation (i.e. workshops with companies)
45. Business development & management software project management enterprise architecture ICT enable service related skills
46. Technical knowledge, Problem solving abilities, Teamwork
47. mastering several languages at mother tongue level (English, German, Russian) and good proficiency of French. previous work experience and dual education in cooperation with a company (during bachelor studies in Germany)
48. Native English. Prestigious degree. Previous work experience from the U.S.
49. Two engineering degrees from Finland, and some relevant work experience. Also, very good IT skills, good Finnish, and excellent English language skills.
50. Generalistic/holistic thinking, enhanced sustainability perspective
51. I try to keep my skills updated. Mt degree education does not directly apply to many employment opportunities today. Jobs are in software and web technologies predominantly. I have attended hackathons both to learn and to network with companies. My minor in IDBM also helped me in this, but indirectly.
52. 1. The side projects I've been working on 2. The previous working experience 3. The fame of Aalto University 4. The fame of the University I got my bachelor
53. Business and practical experience
54. - Adaptability to a new environment and culture quickly - Getting the relevant information and solving problems quickly
55. 6+ years of experience in electronic circuit design before arriving to Finland. Also, Aalto gave me hands-on knowledge in micro-nano-electronic circuit design
56. Masters degree Work experience Passion for my topic and to continue learning
57. teamwork, responsibility, organisation, problem solving
58. -Fluent Finnish language -Know people in the industry -Work skills