OULUN AMMATTIKORKEAKOULU

Oona Huoponen

BARRIERS TO STARTUP ESTABLISHMENT

PRE-INCUBATOR AND INCUBATOR PROGRAM OAMK LABS

BARRIERS TO STARTUP ESTABLISHMENT

PRE-INCUBATOR AND INCUBATOR PROGRAM OAMK LABS

Oona Huoponen
Bachelor's Thesis
Spring 2018
Business Information Technology
Oulu University of Applied Sciences

ABSTRACT

Oulu University of Applied Sciences
Business Information Technology

Author(s): Oona Huoponen
Title of thesis: Barriers to startup establishment : pre-incubator and incubator program OAMK LABs
Supervisor(s): Jouni Juntunen
Term and year of completion: Spring 2018 Number of pages: 69+4

The main aim of this thesis is to provide insight into barriers to startup establishment in business pre-incubator OAMK LABs. Entrepreneurship education is part of Finnish curriculum and entrepreneurship has been an interesting topic in research as well. Pre-incubators and incubators are more unusual concentration area within entrepreneurship, though it has been studied, for example, how these programs affect students' attitude towards entrepreneurship. This thesis will give some insight on motivations of OAMK LABs participants to stay on the program and challenges that they have encountered in the LABs.

The Inspiration for this topic sparked during from my own experience in OAMK LABs and discussing with LAB Master Blair Stevenson about possible topics. My experience of the LAB program was positive yet experiencing many struggles first hand made me wonder if something could be improved.

Topics discussed in this thesis provide an overall understanding of concepts of startup, entrepreneurship and entrepreneurship education. Including brief take on the reasons that tend to make startups fail or succeed. Concepts of pre-incubator and business incubator with their activities and end goals are also reviewed in depth. The findings from the interviews included common themes. Some common themes could be recognized between OAMK LABs and other pre-incubator programs in addition to few differences. The interview results did also present some valid improvement ideas. Main conclusions of this study are that LAB studies do not produce startups effectively. Interest in the project is the most dominant motivational factor to continue working in the lab while the possibility to establish a startup is the least important motivation. Significant external barriers to startup establishment are too big teams and challenging IPR agreements while the most significant internal barrier is motivation. Some of the barriers originate from the LAB model itself.

Keywords: entrepreneurship, business incubator, pre-incubator, entrepreneurship education, LAB studio model

CONTENTS

1 INTRODUCTION

The culture of entrepreneurship is going through changes in Finland. Due to the high average age of Finnish entrepreneurs, many companies will be sold or disbanded completely in the near future. In order to encourage young people to choose entrepreneurship instead of traditional employment, supporting entrepreneurial thinking and entrepreneurship has become an important goal of higher education in Finland. Goals for higher education strategies include for example enhancing the attractiveness of entrepreneurship and strengthening the relationship between working life and education.

Many Finnish universities are already taking action by encouraging students to intrapreneurship, a way of internal entrepreneurial thinking. The pre-incubator programs offered by many universities of applied sciences are another great example of entrepreneurship education in Finland. Actively encouraging their students to utilize their own skill set in the establishment of a new startup business.

1.1 OAMK LABs

OAMK LABs is a pre-incubator and incubator program operated by Oulu University of Applied Sciences. LABs function as a multidisciplinary learning environment that supports students to develop product or service concepts and work on them with the help of the expertise of the many professionals working in the OAMK campuses. Ultimately the goal of the LAB activity is to lead to the creation of new commercial products or establishment of new startup enterprises. The pre-incubators are easily seen as a middle ground between traditional lectures and actual working life and it introduces students effectively to principles of entrepreneurship.

Currently, OAMK Labs offers three different LAB programs, each with its own concentration area. GameLAB projects focus on game industry, EduLAB projects create solutions for the field of educational technology and DevLAB projects focus on health, wellbeing and environment solutions with the help of technology. The LAB concept consists of two paths, a demo path, and a product path, completing both paths takes a full year of studies. The demo path aims to grasp the phases

of product development, creative thinking and project working, improve the competence of the participants. The focused teams that wish to continue developing their demo into a verified product enter the product path. At this point, the project team has familiarized themselves with the phases of product development and allows the product path to focus more on executing the plan. The course of product path entails coaching on different subjects like business development and product testing. It is noteworthy that today demo path is obligatory in some OAMK study programs, which it was not earlier, however, the product path remains voluntary for those who have completed the demo path segment of LAB studies. Product path participants of these three LABS make up the target group of the study. In practice, this group consisted only of GameLAB and EduLAB participants because DevLAB had not produced any product path teams at the time of this study. The target group also represented every participant status and variety of different age groups. Lab model and its functions are discussed later in more detail.

1.2 Objectives

The assignment for this thesis was presented by OAMK LAB-master Blair Stevenson who had many ideas for a study, ranging from growth of companies that labs had generated to researching the transition from finalizing the LAB path to getting the first seed money for a startup. After a while based slightly on that last idea, the goal of the thesis started to form around recognizing factors that prevented these student incubator teams from becoming startups. The LABs are naturally interested in any data to improve their activities. The study aims to present selected cases from Oulu EduLAB and study their paths in the LAB and evolution into a startup or the reasons for not establishing one.

The study aims to examine the topic with the help of following research questions:

What were the factors that motivated participants of OAMK LABs to continue from demo path to product path?

What were the reasons for OAMK LAB participants to not establish a startup after product path?

How do these reasons brought up by LAB participants compare to general motivations and obstacles of establishing a startup?

Challenges related to a university-based pre-incubator program?

Having spent a year of my own studies in OAMK EduLAB the topic was interesting for me too. Experiencing motivation shifts and seeing those in others and learning first-hand how different yet similar the challenges of the teams could be. Today, entrepreneurship education has an increasingly important role in Finnish education and university-based pre-incubators like OAMK LABs are one flourishing form of entrepreneurship education. This for one makes the topic relevant and worth researching, secondly studies on pre-incubators are few.

1.3 Methods

The approach of the research is qualitative as it is reasonable to expect some of the preventing factors to be a subjective matter, and this research requires an understanding of these factors from the viewpoint of a student in an incubator program. To help select the study cases and to gather data an online survey will be conducted and sent to all individuals that have participated a product path in some of the three OAMK LABs. The reason for including individual interviews for the selected cases and not relying only on the online survey is to further investigate the responses and to get a deeper insight on their story the evolution from an incubator team to a startup.

For the interview analysis thematic content analysis was chosen. The entire block of data was read, and transcripts were made. Because the interview questions varied a bit depending on the online answers, however circulating around the same topic general themes were first recognized, making up first hand concepts and categories. These are used as main headings in the results section. Later the interviews were re-examined using these concepts, spotting the relations between the concepts, and pondering the conditions that caused these concepts.

The theoretical framework of the thesis consists of youth entrepreneurship, entrepreneurship in Finland and theories of business incubators. The theory acts as a support for the conducted survey and as a comparison to the data collected from the selected study cases.

Today OAMK Labs has resulted in 15 new startup enterprises. The scarce sample size and online questionnaire as an approach pose a challenge and a possible limitation to this research. Furthermore, many of the responses will be very subjective and it might be challenging to evaluate

factors that have influenced the whole team. Also having no earlier experience of personal interviews poses a challenge especially because the interviews will be semi-structured and very flexible in that sense and often this kind of interviewing is recommended to seasoned interviewers.

2 ENTREPRENEURSHIP

2.1 Concept of entrepreneurship

The concept of entrepreneurship has a wide range of meanings and often it's defined simply as running your own business. While these two have much in common there's also a significant difference between a business owner and entrepreneur. A business owner refers to an individual or entity, owning the business and attempting to profit from its operations. (Business Dictionary, 2018)

The word entrepreneur originates from the French language, where it's counterpart entreprendre, has a meaning "to undertake". According to Merriam-Webster dictionary, an entrepreneur is one who organizes, manages and assumes the risks of a business or enterprise.

However, entrepreneurship is much more than a creation of new business. Bruce Bachenheimer, a clinical professor of management and executive director for Entrepreneurship Lab at Pace University claims that entrepreneurship is about having a certain mindset. It's about dreaming big, having passion, thinking ahead, focusing on scaling and finding creative ways to solve problems and creating value. (Schulte and Sauer, 2014, Chapter 2, p. 41-42). That being said we can conclude that the distinction between a business owner and an entrepreneur lies in the leadership style and how one wishes to run their business.

2.2 Types of entrepreneurship

To better support and understand the needs of entrepreneurs it is useful to distinguish different types of entrepreneurship. Understanding motivation as an entrepreneur and the type of entrepreneur you want to be can be helpful in determining how to grow your business. Recognizing different types of entrepreneurship also helps investors, economic developers, policymakers and even the other entrepreneurs to know what resources are needed and in which direction the businesses are growing. (Constable, 2015)

Entrepreneurship, however, can be classified into different types based on different classifications. For the interest of this work following classifications are based on the goal and aim of the entrepreneurial activity, and how the selection of entrepreneurship career type correlates with entrepreneurial traits.

Running a street cafe downtown or a barbershop can be defined as **small business entrepreneurship**. These types of businesses hire family members or locals to help them run the business. Often this kind of business is barely profitable, and the success is measured by being able to pay bills or not. (Blank, 2010) The difference between small business entrepreneurship and scalable startup entrepreneurship have a similar relationship to the concepts of business owner and entrepreneur. Like entrepreneurs that dream big, scalable startups wish to grow. Founders of scalable startups are the people who know from the very beginning that their vision has the potential to change the world while founders of small business prefer to know what is coming and going and keep steady.

Some more concrete characteristics include building your innovation on a scalable, repeatable business model and turning it into a high growth, profitable company. These startups aim for large markets or even create a totally new one bringing rapid growth to it and this kind of entrepreneurship is referred to as **scalable startup entrepreneurship.**

Scalable startups make up only a small percentage of entrepreneurs and this kind of startup traditionally requires risk capital to create the market demand and reach the scale. However, this is also the type that attracts most investors and venture capitalists due to the possibility of outsized returns. Not all startups are scalable.

Large company entrepreneurship refers to an innovation that happens within an established firm. A successful development process leads to profitability improvement and discovery of new business ventures and enhances the competitiveness of the firm. (Blank, 2010)

Then there are these innovators who are driven by the will to improve the world and to bring positive change. Often this so-called **social entrepreneurship** works so that these innovators tend to bring together parties that are already making an impact for the better. Enterprises of this type are usually nonprofit, for-profit or something of a hybrid of these. (Blank, 2010)

2.3 Characteristics and nature of entrepreneurship

Certain characteristics of an entrepreneur are central in order to understand different types of entrepreneurs and the motivation behind their entrepreneurship path. According to Vu (2016) students that choose entrepreneurship might enjoy an individual type of business and it may be assumed that creative, innovative personalities tend to lean more towards pursuing a career in entrepreneurship.

As entrepreneur often acts as their own boss, it is also a question of self-efficacy factors that are considered entrepreneurial traits. It might be challenging to demand the best out of your skills if you lack the trait of self-motivation.

For over twenty years habit of risk-taking has been recognized as an important characteristic of an entrepreneur. (Vu, 2016). In an entrepreneurial context, term *risk* refers to the chance of losing capital. Szycher (2015, pp 11) Operating well in an uncertain environment is an essential part of entrepreneurship, decision-making skills, facing failure and flexibility are key aspects of risk-taking. However, it important to recognize what kind of risk you are about to take and approach it in a correct manner. Therefore Drucker (2012) has categorized business risks in four types: the risk that is tied to the nature of entrepreneurship, the risk that can be afforded to take, the risk that cannot be afforded to take, and the risk that cannot be afforded not to take. Meaning there is a difference between being a risk taker and being a person who takes risks. No one wants to fail, but there is something called a smart failure. Sometimes it takes failure to gain a better understanding on some aspect of your business, especially on an industry that is as rapidly evolving as IT-industry today. The key is taking risks that will help your company forward if successful. (Kippelman, 2015.)

Motivation is based on different factors causing people also to have different goals, which will affect also the aim of the company. Szycher (as cited in Vu, 2016) presents four classifications for entrepreneurship career types based on the entrepreneurial traits and nature rather than the aim of the entrepreneurial activity even though these two are closely connected. These are lifestyle, innovator, empire builders and serial entrepreneurs.

The inspiration of **lifestyle entrepreneurs** comes from their own personal motivation. This kind of entrepreneurs emphasize the individual characteristic and wish to be responsible for their own income, freedom and self-directed career. Business may be built around any passion, music,

restaurant, marketing but as lifestyle entrepreneurs value freedom they do not wish to expand into a big public company.

Life, energy, and optimism, with these words Szycher (2015) described an **innovator entrepreneur**. The main motivation is based on creativity and innovation and the company is focused on improving the world, not only on a personal goal. Innovators want to contribute and tend to have a keen eye for opportunities.

Not that great **empire builders** would not be also good innovators; empire builder's key motivations are competitiveness and leadership. These entrepreneurs are hoping to build solutions for the world that lead to the birth of worldwide recognized companies like Apple and Google.

Serial Entrepreneur is a type of an entrepreneur who builds his company from end to start, with a clear exit strategy in mind. They are skilled at recognizing opportunities and is motivated by constantly seeking new opportunities and ready to harvest the current company.

It is also important to keep in mind that motivations are tricky, very seldom is it only one motivation behind a decision like founding a startup company. Source of motivation may change along the journey or the entrepreneur might pick up new ones.

2.4 Factors motivating students of higher education to pursue career in entrepreneurship

Gilad and Levine (as cited in Segal et al; Hatammimi & Wulanderi) propose that individuals that pursue entrepreneurship are motivated by either *push* or *pull* theories. Push theory refers to a situation where an individual is pushed to choosing entrepreneurship career because of negative external forces such as dissatisfaction with work, unemployment or non-flexible work hours. On the contrary affecting forces of Push theory are freedom, self-fulfillment, wealth and better income. Suryana (as cited in Segal) recognizes seven reasons for choosing entrepreneurship as a career:

- The desire for higher income
- The desire for a more satisfying career
- The desire to be self-directed
- The desire for prestige that comes with business ownership

- The desire to build around a new idea or concept
- The desire to build long-term wealth
- The desire to contribute to an important cause

The Human Motivation theory presented by David McClelland proposes that individuals who are motivated by achievement, be it, for example, income or prestige are indicated as risk takers. (mindtools.com 2017). Entrepreneurs can be motivated by getting the feel of achievement and recognition. McClellands theory suggests that need for affiliation is another basic human motivation. Meaning that entrepreneurial activities can also be explained as a will to establish and maintain relations with others. Lastly, certain individuals are motivated by power, towards resources available. Market exploitation and high-income act are often key motivators for entrepreneurs who are driven by the need for power. McClelland believes that all three motivations may influence a single individual simultaneously, however high need of achievement is recognized as a dominating one among entrepreneurs. (Tanner, 2017).

Hatammimi & Wulandari (2014) has summarized above motivations into three factors of internal motivation that drive university students. **Self-Efficacy** factors conclude organizational skills, will and confidence to work independently and boldness to face risks. Self-Efficacy highlights also the creative manner and ability to recognize opportunities as well as enjoyment in brainstorming new ideas and tackling challenges.

Tolerance for Risk Douglas and Shepherd (as cited in Segal et al., 2005) suggest that our risk tolerance correlates directly with our will to become an entrepreneur. Strong commitment strengthens motivation and capability to take risks. Factors building up this driver are self-confidence, realistic risk assessment ability, and the trait to likely to choose a more challenging path to gain success.

Net Desirability of Self Employment includes all the factors that are based on the individual believing that entrepreneurship is more desirable than working for someone else. Potential of better income, financial security, freedom, and escape from the corporate bureaucracy to fulfilling the need of achievement motivate individuals who value typically patience, trying out new things and personal freedom. (Hatammimi & Wulandari, 2014.)

According to Vu (2016) main inner motivation for establishing a business among Finnish higher education students is to have freedom: self-directness and more satisfying career. The result supports another finding that indicates lifestyle or innovator entrepreneurship being most desirable for students.

Correspondingly significance of risk-taking gained support as the unwillingness to take the risk was recognized clearly as the top affecting factor inhibiting students running their own businesses. Other two significant obstacles mentioned were finance and lack of motivation. However, students seem to believe they have high self-efficacy, desire for self-employment and be even tolerant of risk. Gaining personal freedom and self-directness has a clear impact on entrepreneurial intention. A possibility of financial gain was not considered an affecting factor in the decision to establish a business. However, students seem to believe entrepreneurship could bring a better financial situation.

2.5 Entrepreneurship education

Remeikiene et al (2013) found out that many internal factors can be in fact taught and developed by education. Entrepreneurship education can improve for example risk control and management skills. However, the main and most important goal of entrepreneurship education is to change students' attitude towards entrepreneurship and create awareness of entrepreneurship as a career. Encouraging and towards entrepreneurship leaning staff and success stories from alumni or other successful local entrepreneurs have provided positive reactions from students. Additionally, introductory courses are good support in education, familiarizing students with entrepreneurship concepts early on. (Jansen et al., 2015)

Jansen et al. (2015) present a three-staged student entrepreneurship encouragement model "SEEM" (Figure 1). The model describes the external factors in three groups: education, stimulation, and incubation.

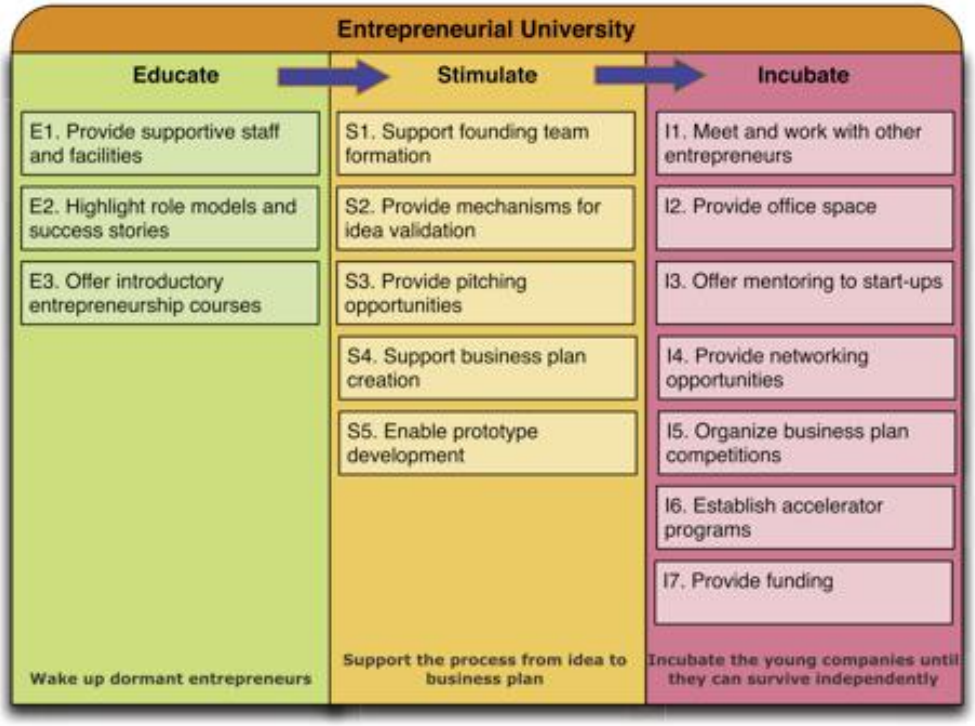

Figure 1: Three stage student entrepreneurship encouragement model (Jansen et al. 2015)

University can still support students at stimulation stage with several risk-free activities. The stage of stimulation is aiming to help transition from an idea into an actual plan of business and giving students' a glance at real-life business operations. In practice, this means helping in founding team formation in a multidisciplinary fashion. Other ways to help are a validation of the idea, finding out if it has potential. Prototype and business plan building and active pitching of the idea are also central activities to ready the team for the future. Vu (2016) highlights the importance of this stage as many students lack the experience and resources to start a business but being well guided by experts the chances of students' choosing entrepreneurship are increased.

Incubation stage aims to launch the actual company. With focus lying on providing access to a common space for young entrepreneurs. Offering mentoring and networking services, competitions are a great motivator, providing access to accelerators and seed funding are central incubation stage activities as well. According to Jansen et. al (2015) especially for software companies, the seed funding turned out to be the least important of the offerings of an incubator.

Vu's (2016) study implies that students perceived education, stimulation, and incubation not supportive in decision making. It can be interpreted that external factors did not have a significant impact on decisions. They might support students, but internal factors are dominant over external factors. However, Penttilä & Salin (2016) point out that external factors like incomplete studies, gaining working experience or getting employment elsewhere did impact significantly on business incubator participants decision not to establish a company.

3 STARTUPS IN FINLAND

3.1 Concept of startup

It is challenging to come by two entrepreneurs or investors that would solely agree on a single definition of a startup. However, the term startup is often associated with technology-oriented companies that have high growth potential.

According to Oxford Dictionary, a startup is a newly established business. (Oxford Dictionaries, 2017). Many entrepreneurs tend to be more selective with their definitions, for example, Kris Gopalakrishnan (2016) who perceived startup as any business younger than 4 years, employing less than 50 people and revenue ceiling for $10 million. Investopedia (2017) has a similar idea of the concept, though it's not as detailed as Gopalakrishnan's view. Investopedia describes a startup as a young company still developing or just starting to develop, small by size run by small group of individuals and bringing innovation to markets.

Steve Blank, Silicon Valley entrepreneur, and academician presents yet another definition in the Startup Owner's Manual, book written by him and a fellow entrepreneur academician Bob Dorf. The definition in their book emphasizes temporary nature of startups as the goal is to grow beyond being a startup. Blank & Dorf (2012) also underline that startups have a tendency to seek for unknown business models while large businesses execute the already known ones. We can understand from this that startups are not smaller versions of large companies. (Blank & Dorf, 2012, p.xvii).

Entrepreneur Eric Ries' definition has a lot in common with Blank & Dorf definition. Ries addresses the concept of a startup as a human institution that seeks disruptive innovation and is designed to work under extreme uncertainty to deliver new product or service (Ries, 2010).

There are many definitions of a startup and often it is easier to concentrate on what is excluded from most of the definitions. While the intention to build something new and scalability seems to be key attributes most definitions exclude for example industry sector.

3.2 Startup life cycle

Like human life, startups go through a series of phases before reaching maturity, before becoming large companies. The model presented in the following is widely adopted in Finland by entrepreneurship education and young entrepreneurs. (Bui, 2016)

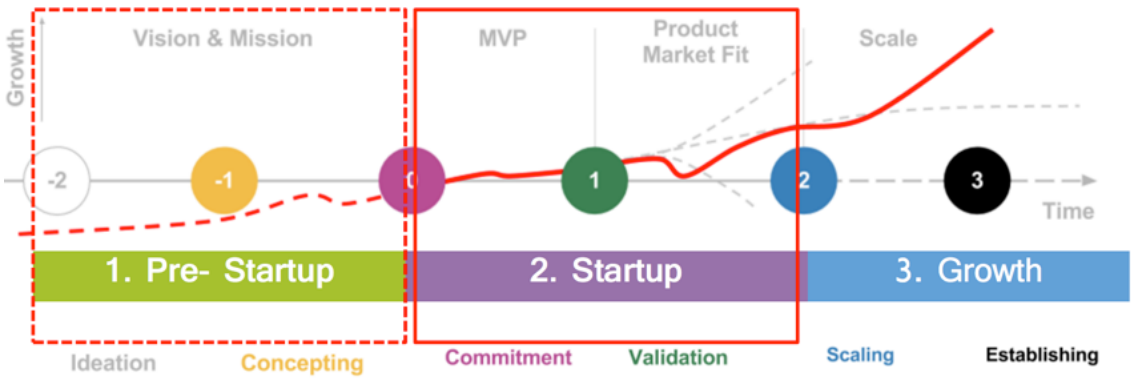

Figure 2: Startup development phases (NewCo Factory, 2015, p.6).

The figure above (Figure 2) illustrates the life cycle of a startup presenting three important phases of startup development: Pre-Startup, Startup, and Growth. Time is presented as estimated years and growth scale illustrates scaling towards global markets.

In the first phase, *pre-startup phase* or even *the Birth* ideation and developing new concepts play most important parts. The entrepreneur identifies a problem and seeks to find a solution that interests the target market. At this stage, the startup founders should be clear on their target, have estimated revenues and a plan to reach the target with directions 3 years' time. (NewCo Factory, 2015, p.7) Legal-wise at this point it would be important to review immaterial property rights (IPR**)**. Check any potential for trademarks patents and designs, reviewing and deciding the company structure, figure out possible needs for developed software or funding, explore the naming rights and check applicable registries. Last but not least terms of a shareholder agreement and option scheme should be negotiated. (Legal Tips and Advice for Startups: A 10-Min Checklist, n.d.)

Startup Phase, also referred as *the life* lies in the middle and functions as a transition phase. Main activities for the startup at this state are commitment and validation. The company entering this phase needs to have a committed founder team with a balanced skill set which is really being tested at this point. They must be able to develop their product or service further and the possible outside

resources need to commit to the cause. The business is expected the show signs of revenue and user growth or to convince their capabilities by continuity in attracting resources for equity (NewCo Factory, 2015, p.7). If the startup fails in either of the main activities it is unlikely they reach the final phase.

Legally the shareholder agreement needs to be signed and option scheme initiated. Further agreements involve anything regarding possible employees and their compensations, terms of seed funding, registration of trademark if require and address privacy and insurance policies in the company. Agreements for manufacture, distribution etc. (Legal Tips and Advice for Startups: A 10-Min Checklist, n.d.)

Finally, when the startup reaches *the Growth phase*, one of two following scenarios will happen. Either the company successfully overcomes the market validation and continues to grow. After reaching this point of life cycle it is very likely that the business is scalable and will grow vigorously conquering the majority of domestic markets or successfully reaching out to international markets. Finnish success stories of this startup stage are for example Rovio and Supercell. The business might also manage to reach the growth stage but fail to raise bigger funding and run out of cash eventually leading to the alternative scenario of this phase which is the death, or they might fail to reach the final life cycle phase at all. In Growth phase further agreements are needed, in addition to agreements in earlier phases warranties, international development and exit agreements are mentionable legal needs. (Legal Tips and Advice for Startups: A 10-Min Checklist, n.d.)

3.3 Failure of startups

Aamulehti (2017) stated that the yearly number of Finnish startups is approximately 4000, of which 6-7% are scalable. Even though the often-cited statistic of 80-90% of startup failure rate has been criticized lately by multiple sources (Cawley, 2017; McIntyre, 2017; Deutsch, 2017) and even if that statistic is close to a myth the reality remains to be that a lot of startups will face their death.
The reasons for failure depend on the case and every startup has own story. CB Insights conducted a study in 2014, involving 101 start-up founders sharing their reasons for failure. According to this study, the reasons concerning most respondents were *having no market need* (42%), *Running out of cash* (29%) and *not having the right team* (23%). This would indicate that a significant number of startups didn't spend enough resources in research and development part before rushing

forward. Understanding the markets and being able to build the product does not straightaway mean that the customers want the product. Failing to listen and understand the customers causes startups to fail. (Bui, 2016)

Both money and time are finite resources and failure to allocate them correctly will cause problems. Running out of money is often closely tied to other challenges the startup has, raising the question how the money should be spent. Skok (2017) adds that oftentimes the real challenge is being unable to reach the next milestone before the startup runs out of money. The composition of the core team is equally crucial as spending the time to R&D to see if your product is wanted on the market or not. If the founding team is not able to build the product on their own they should not be a startup. Another warning signs are founders having differentiated visions or someone on the team not believing in the product (Bui, 2016). Other reasons that reached the top 10 of the CB Insights list were: getting outcompeted, pricing issues, poor product, lack of business model, poor marketing and ignoring customers. It is noteworthy that these reasons are in fact a business and team-related issues even the ones that seem product related as most of the CB Insights reasons are strongly tied to startup management and the leader's ability to pick the first team in the first place. Henry (2017) goes on to claim that all these reasons can be rooted back to a failure in leadership (Henry, 2017.)

3.4 Successful startups

There are certain qualities successful entrepreneurs possess in opposition to those failures discussed above. These qualities do not, however, guarantee the success of the startup. Henry (2017) has listed 9 success factors based on the original 14 indicators of success presented by Startup Genome Report: a new framework for understanding why startups succeed (2011). Passion and motivation are obvious factors and according to the report passionate, impact-driven founders are more successful than driven by experience or money. Right mentoring relationships also highlights the importance of creating networks and goes hand in hand with the fact that startup founders that listen and learn are claimed to raise more money and reach better user growth. Validating the market takes usually more time than the founders expected, and it is easy to get ahead of themselves starting to scale prematurely. Patience and persistence help the founders to handle the mismatch of expectations and reality. A team need to be ready and willing to adjust but only if that is well justified and stay committed to their plan and course. Most successful companies

have one or two changes in course of direction that could affect significantly on the market value of securities (Henry, 2017).

The startup management has to understand business in a general and domain-specific level. Because successful startups are businesses, after all, the establishment of fundamental business principles and practices plays a core part in its success. Also, strong technical knowledge on the targeted field is needed, that being said balanced teams with one technical founder and one business founder tend to be more appealing to investors. Finally, according to Henry startup founders should familiarize themselves with the Lean Startup methodology which aims to lower the risks of starting a company by favoring experimentation, customer feedback and iterative design over the traditional formula of writing a business plan and pitching to investors (Blank, 2013). In order to set realistic milestones and to understand how long things take so money can be raised just enough to hit the next milestone.

Jao (2014) brings up the importance of planning for failure as a success factor. While it is natural for entrepreneurs to dream big planning for failure makes one smarter and it has nothing to do with not believing in your success. It is difficult to let go of your passion project if it is not your motivation to start with but recognizing the facts and creating a viable exit strategy might, in any case, get you into business.

In healthy entrepreneurship culture big corporations co-operate actively with the small businesses, the business is marginal for the corporations, but this allows early-stage startups to concentrate on developing their business. If the startup manages to develop the business or they create a hit product its profitable for the corporations to buy the startup which is acquisition known as the exit. Kuusela (2013) points out that for many top corporations in the internet and mobile business, Apple and Cisco, for example, this is a valuable strategy and a requirement for further growth making exits part of everyday business in the world. In Finland however, only 70 exits worth 3,1 billion were listed during 1998-2011. Numbers are low compared to the Nordic neighbors and considering that corporate acquisitions are most common and effective way to succeed as a startup entrepreneur. Exits have a strong impact on the startup culture itself. On the one hand, a success story of one can be a motivation for the establishment of multiple new startups or on the other hand it may boost investing to startups, either way, it improves currency circulation.

4 INCUBATOR ACTIVITIES

Business incubators (BI) have existed in Finland since 1990 (Europaeus, 2004). The goal has been to create places of employment and improving the local economic situation by offering support and a development environment for businesses at the early-stage. Entrepreneur magazine encyclopedia defines business incubator as following:

> "An organization designed to accelerate the growth and success of entrepreneurial companies through an array of business support resources and services that could include physical space, capital, coaching, common services, and networking connections." (Entrepreneur Small Business Encyclopedia, 2018)

Business dictionary (2017) definition agrees. BIs offer different services, shared spaces or some other form of affordable space, management training and entrepreneurship education and marketing support and often also ways to access or apply for some form of financing.

Incubators are often entities that work closely with universities of applied sciences (UAS) and that has been the case from the very start of incubator activities in Finland. (Europaeus 2004; Penttilä & Salin 2016) The original purpose of UAS incubators was to commercialize innovations and new technologies. Later on, promotion of entrepreneurship as well as tightening the relationship between institutions and working life has become an important educational goal for UAS in addition to traditional teaching and research (Hallituksen julkaisusarja 10/2015).

UAS incubators offer a way to try and practice entrepreneurship in a safe environment of an incubator without facing the risks that money brings along. Many programs have working space available but often incubator studies can be completed as virtual studies as well (Penttilä & Salin, 2016).

Incubators run by UAS' can be divided into student incubators and work-based incubators. Student incubators make it possible to both study a degree and get entrepreneurship training by participating in incubator activities while work-based incubators have a broader scope that reaches outside the institution and participants come also from working life. Early practice in entrepreneurship and weighing the career option and its opportunities gives value to students even

though the UAS incubators are forced to focus on early stages of startup lifecycle rather than stabilization of the business due to the often-short incubation time (Penttilä & Salin, 2016)

4.1 Pre-incubators

Some kind of pre-incubator activities has surely existed as long as business incubators have, however, the term pre-incubator is more alien than a business incubator. But as the term pre-incubator itself indicates it is something that predates the BI. Whereas BI focuses on helping startups to grow and survive the business pre-incubator (BPI) offers a possibility to develop business idea and practice running a business before having to establish a company (Deutschmann, 2007). Eventually, by carefully polishing and refining the plan in the BPI, the team will have a possibility to create a viable new startup. (Liedes & Oksanen, 2012) The figure below (Figure 3) illustrates the differences of these incubators from a process-oriented viewpoint.

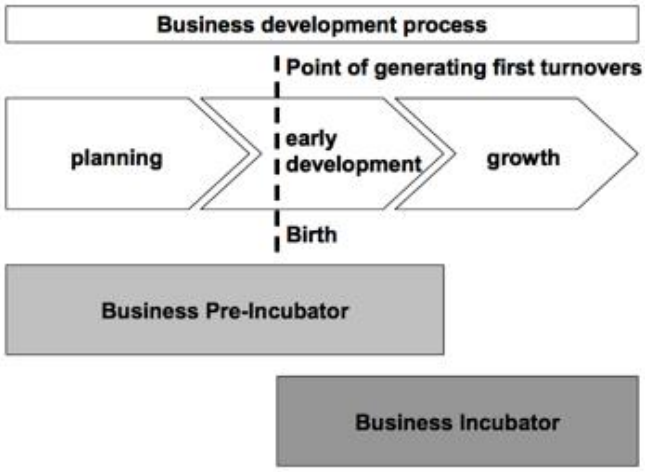

Figure 3: Classification on BIs and PBIs from the development process viewpoint (Deutschmann, 2007).

According to Deutschmann (2007), the main intention of PBIs is to make the transition from an early business idea to establishing a company around that idea easier. Generally, PBIs are also free whilst BI services tend to cost some money and Deutschmann (2007) stresses the importance of the PBIs' being free. As recognized in entrepreneurship literature one of the greatest barriers to starting out a new business is the lack of monetary resources. PBIs have therefore insights to

reduce fixed costs such as renting a workspace while supporting the teams on accessing their first seed money. The challenge is that these embryonic businesses as Deutschmann (2007) descriptively refer to PBIs teams, might not possess any prior business expertise which makes them more vulnerable than startups and placing them in need of more care and coaching. Not only on economic basics like accounting, marketing, human resource, and finance but also on management and leadership skills and most importantly individualized coaching based on the chosen field.

One could think of a BPI as an entrepreneurship school — a safe environment offering first-hand practice in establishing a business and its daily routines. Innovation is developed into a prototype, and if the potential is recognized to a market-ready product.

4.2 University-based pre-incubators and OAMK LABs

Bielefield University in Germany pioneered in university-based pre-Incubator programs already in 1995, Institute for Innovation Transfer was created with the goal to produce startups directly from the University. As any other BPI would, university-based pre-incubators provide a good training environment for potential entrepreneurial teams. The primary aim is to (A) qualify higher education students to establish and maintain a company on their own. (B) to increase academic spin-offs (C) to create sustainable spin-offs and (D) to create and strengthen the entrepreneurial culture within the university.

In the context of universities, the pre-incubators are functioning and regarded as such facility that fills the gap between a university and a science-based business incubator (USINE 2002). Incubatees receive support, initial assessment of their idea, training, mentoring and personal assistance in addition to having access to facilities and some amount of resources during their pre-incubation time. As a next step, the team can be directed to a business incubator.

In the 21st century, Finland, Oulu university of applied sciences runs a LAB program with a similar target in mind and acts as an example of a pre-incubator activity and program in Finland. There are other university-based programs that match the description of PBI, for example, InnoVilla in Laurea university of applied sciences for this work, however, understanding the recent international recognition gaining LAB model is more of the interest.

Built around a LAB teaching model which is currently used also in Japan, Romania, Nepal, and the Netherlands. Less than a year ago it was also introduced in the United Arab Emirates with good results. OAMK Labs have also gathered international recognition by winning first place at The Innovative Youth Incubator Awards of 2017 Global Consortium of Entrepreneurship Centers also awarded OAMK Labs for excellence in Entrepreneurship Teaching and Pedagogical Innovation in 2017 after placing second a year before at European Conference on Innovation and Entrepreneurship. (Good News from Finland, 2017; OAMK.fi, 2016)

The establishment of the incubator program was influenced by the economic downturn that took place 2012-2014 in Oulu region. The high rate of unemployed ICT professionals in the area and recognition of the high potential of the game industry led to the establishment of Oulu Game LAB (OGL) in 2012.

Two more programs, Oulu EduLAB and DevLAB were created with basis on the same model, EduLAB with focus on the global educational technology industry and DevLAB targeting the health, energy and environment industries. Today these three LABs form an incubation community run by the Oulu university of applied sciences. (Seppänen, Heikkinen, Stevenson, 2017).

The LAB studio model (LSM) is an educational model that was created in Oulu University of Applied Sciences, Finland. This interdisciplinary model aims to train new professionals and found industry focused independently capable teams. In practice LSM can be seen as a business pre-incubator as it presents a learning environment with relevant and authentic challenges, offering a more practical way of learning in opposition to traditional higher education. Offering a competitive form of instruction in comparison to earlier studio models with industry professionals as coaches who share their experience. Presenting relevant and work-life connected problems or ideas directly from the targeted industries. (Heikkinen, Seppänen & Isokangas, 2015; Stevenson, 2016)

LAB model framework consists of two study paths: The Demo Path and the Product Path. In total extent, this gives a student opportunity to complete 60 credits, ECTS in OAMK LABS. The Demo Path can be further divided into LEAD and LAB modules. The LEAD module concentrates on concept development trying to give a practical view of the stages of creative solutions development. This phase lasts approximately one month. Typically, the participants are first divided into small teams of two or three to start working on a solution to a work-life oriented problem or a challenge

presented usually by a LAB customer. During the LEAD phase, the teams need to face something referred to as gates on a regular basis in order to progress further. During these gates, teams get to work on pitching skills and get the product or service concept evaluated by a jury. A portion of the projects are cut off and people working on these projects gets transferred onto projects that continue creating bigger teams for the promising projects. (Karjalainen, 2016.)

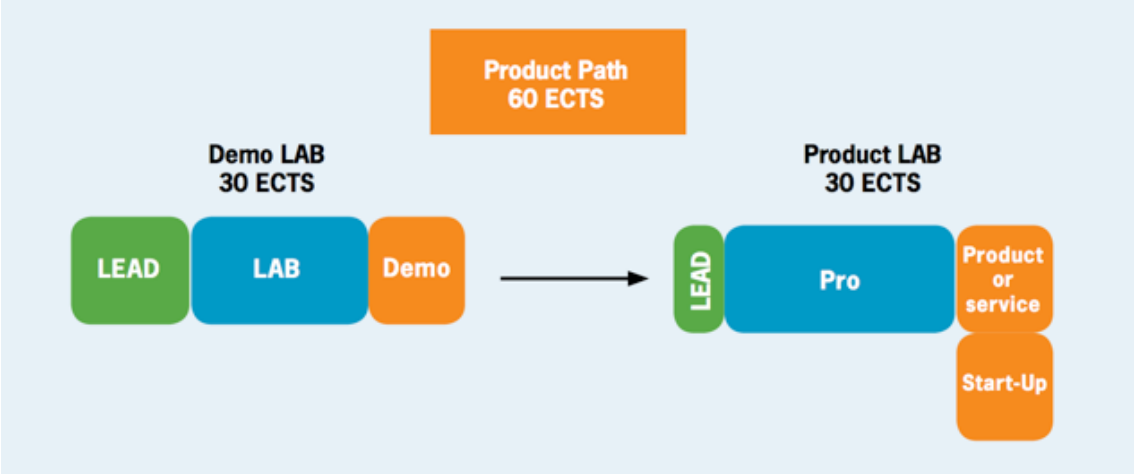

Figure 4: Demo Path and Product Path (Heikkinen, 2014 p.9)

Modules of both LAB paths can be seen in the figure above (Figure 4), as well as an illustration of the OAMK LAB path as a whole. In theory, a team brought together at the beginning of the Demo phase comes up with a solution finally creating a prototype during the LAB module of Demo path. Teams with focus and will to develop the demo further will then continue to Product path. The short LEAD module on this later path is about reviewing the contents and requirements of the product. Assisting new team members up to speed and going through progression plan with a coach and discussing if any additional competence is still needed. The team is pushed into a more business-oriented thinking as one aim of the Product Path is to create startup companies with independent business operations. Again, the PRO module provides resources such as tools, working space and coaching for the teams but the team is to work in a more professional manner. As project-based learning and multidisciplinary teams are definite cornerstones of LAB learning model not only UAS students are qualified to apply but other groups as well. Three different applicant categories can be recognized: UAS students, exchange students and experienced professionals arriving through an open institution such as Open University (Figure 5).

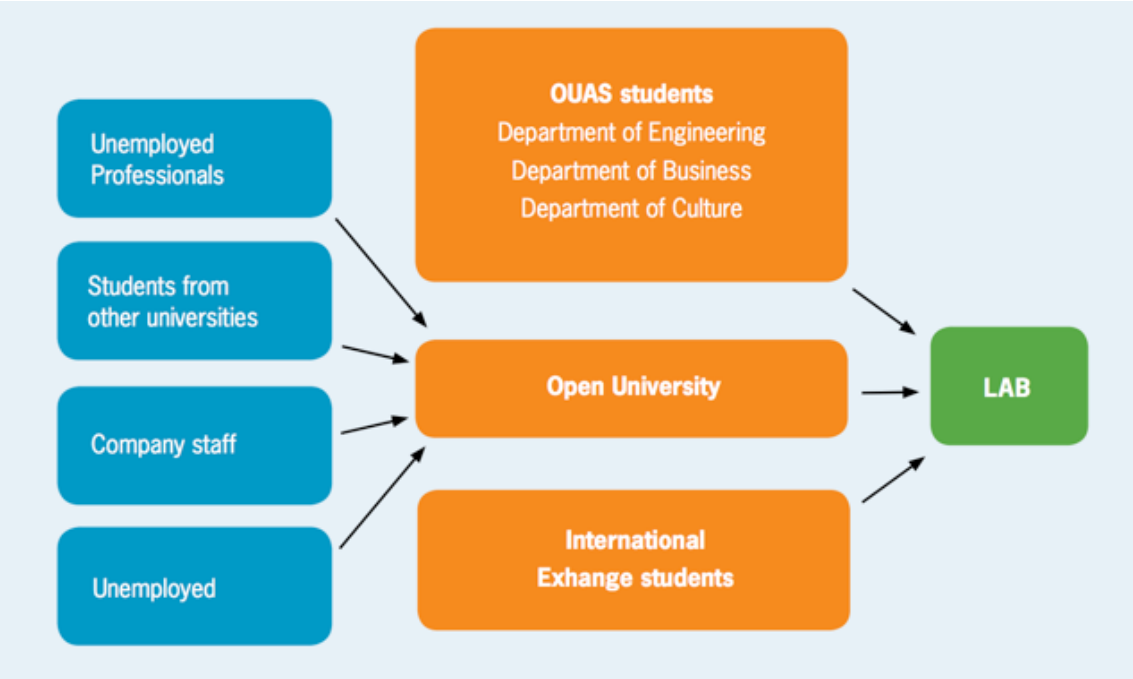

Figure 5: Different backgrounds of OAMK participants (Heikkinen, 2014 p.13)

4.3 Barriers of university-based pre-incubators

Large organizations with academic purposes tend to lack the core functions of entrepreneurship. Institutions like universities are not designed to produce graduates with an entrepreneurial background. The output of these institutions is measured in student enrollment and graduation not in economic or social development. In fact, some of their characteristics function more like barriers for pre-Incubator or Incubator programs which are university-based (Kirby, 2006):

- a Strict and complex organizational structure with multiple levels of approval
- Relationships are of impersonal nature
- Conservative corporate culture, lack of entrepreneurial talent
- Regulations, rules, protocols, and procedures to follow and they are slow to change
- Bureaucracy, red-tapeism, corruption and extensive formalities

- Inappropriate compensation plans

These institutional barriers can be overcome by creating new policies and developing the corporate culture. For example, Finnish universities of applied sciences are much closer to an entrepreneurial university than traditional universities which are often more devoted to critical inquiry and committed to learning and understanding. However, for pre-incubators and incubators to be productive, there is another group of barriers which cannot be overcome by updating regulations. The factors that impede students and their entrepreneurial activity. Pahukar (2015) lists these factors as follows:

- Bad experience of others in the business
- Difficulty in coping with problems arising from business
- Lack of financial security, ease, and comfort of a salaried job
- Economic problems to start a business
- Family responsibilities need for constant income
- Inability to cope with the mental burdens of business
- Limited knowledge of business operations
- No risk-taking ability
- Owning a previous bad experience about a business
- Benefits of a good salaried job like social status
- Culture, Caste, Tradition
- Bureaucracy, tax structure, legislation

Kepenek & Eser (2018) made an observation in their study of Turkish pre-incubators, that many

team members were resistant or slow to change and felt conservative about their projects. Which led to the conclusion that one general problem common with students of different pre-incubators was spending too much time developing the prototypes and forgetting about marketing the product.

In the same study the institutional barriers gained affirmation, Kepenek & Eser discussed for example, how slow decision making in the organization lowered the effectiveness of some pre-incubator centers. As they mostly studied university-based pre-incubators of which many are located on university campuses and existing spaces, lack of physical and financial resources was also recognized as a prohibiting factor. Individualized services could not always be successfully delivered to incubatees, it might be challenging to find a mentor specialized in a particular discipline. That challenge was greatly eased with pre-incubators having a clear focus area.

Kepenek & Eser (2018) found out that there were three major areas where incubatees needed more support: Finding customers, business model generation, and network. Inability to focus market dynamics early on explains why creating a proper business model turned out also a challenge despite the training. Interestingly reasons that made the pre-incubator teams in Turkey fail had seemingly little to do with those three areas. It is not expected that each team of incubatees establish a company after the pre-incubator. There were a variety of different reasons, some of them common between different pre-incubators. Two major reasons listed were lack of commitment and harmony in the group. To some extent cultural behavior or for example lacking entrepreneurial mindset can explain commitment issues. Other reasons that the study discussed were more directly connected to the areas that participants had challenges on the inability to scale the project, lack of financial resources, mismatch among the project and skill of entrepreneur, spending too much time on the prototype and inability to focus on the market.

5 RESEARCH

This research was originally intended as a case study, to present selected cases of OAMK LAB alumni who had established a startup after the lab experience. However, the approach had to be changed during the process.

As planned a short online survey (Appendix A) was first conducted and sent to people who had participated in LAB activities for a whole year, going through both the demo path and then continuing to product path or game path as it is normally referred in Oulu Game Lab.

The aim of the survey was to reach a wide variety of short answers from the target population, giving an opportunity to select few different stories for a closer look and give the respondents also a possibility to inform their willingness for an interview. The people were contacted by email, taking advantage of email listings that the LABs had. A challenge occurred because there was no separate list of product path participants of EduLAB and DevLAB. However, the overall number of participants compared to GameLAB was not too high and lab master Blair Stevenson was able to get these emails.

Challenge with the GameLAB participant list was that many of the listed names lacked emails or contact information of any kind and even though with the help of other available lists some of the lacking contact information was parsed together the survey did not reach everyone in the target population. The online survey was sent to 60 email addresses that could be confirmed to be product path participants.

Few teams that I believed had participated product path were also contacted via Facebook. This proved to be very effective method nearly doubling the number of interviews I got. Together these methods resulted in 18 survey answers and 9 individual interviews and 1 which was held in a group.

Low overall response rate and the fact that only one respondent reported having established a startup after lab product path led to a try to contact few companies that I knew that had a history with OAMK LABS. This did not lead to any results. Since no one of the respondents that agreed to

be interviewed had not started a company, I decided to interview everyone willing and concentrate more on why startup establishment had not happened.

Generally, the survey answers were good and informative, though the response rate was low. Respondents were given a two weeks' time to fill in the survey, a reminder was sent to that group after a week. Despite the low response rate, the real challenge proved to be the fact that there was only one who reported having established a startup and they wished not to be interviewed and the research had to be adapted to the situation, so it was decided instead of comparing very different cases, to interview all the respondents who were willing to take part in an interview.

5.1 Online survey

The online survey (Appendix A) was designed to be a short and effective way to gather a lot of basic information to support the interviews. The form included three parts in total, first one being a merely short introduction to the topic including basic questions about the participation year, the lab they had participated in and the number of group members. Because regardless of the background of the lab participant the product path was voluntary for everyone. I took an interest in finding out what were the motivations to continue the work. The respondents were asked to rate a set of factors including, group dynamics, completing studies, lab concept working well for them, finding the project interesting and establishing a startup. They were ranked on a scale from 1 to 5 according to how much they motivated them to continue to product path. Additionally, respondents had the opportunity to add other motivations that came to mind. The Likert scale was used for this because it was expected that while a person may have a superior motive for an action there are usually other motives present as well and considering new startup establishment as one of the goals of the later path, this was to find out how strong of a motivation that was to the participants who continued.

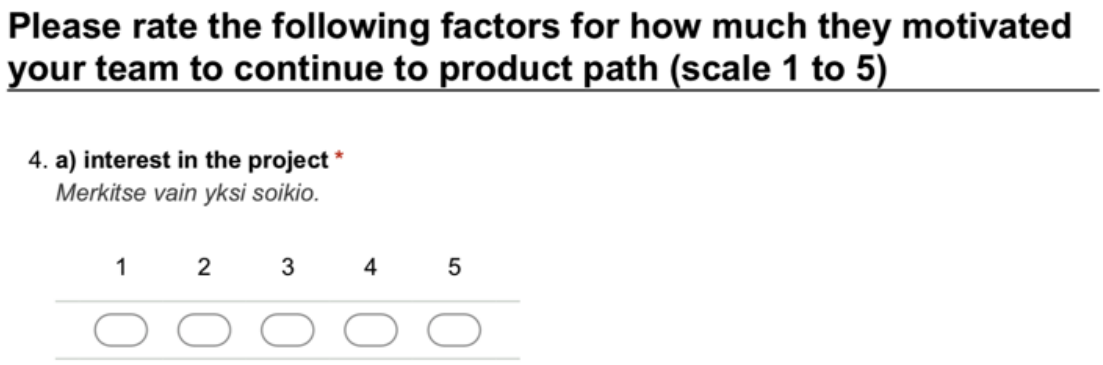

Figure 6. Likert scale was used to evaluate respondents' motivation to continue to product path

The second part was targeted for those who had established a startup after the lab activity. This part contained questions about seed funding, amount and source, how long after the lab the startup was established, and an additional Likert scale to rank the difficulty of finding working spaces, keeping the team together, and the difficulty of transitioning from the product path to a startup. These were designed to be easy and quick to answer questions, laying good basis to start interviewing the person.

Those who did not check establishing a startup after the lab that section was skipped and the respondent was asked to list top reasons for not establishing a startup, obstacles with funding if they tried to raise any. Additionally, it was asked if they talked to potential investors and what kind of feedback they got and finally how they would have improved the product path. The final question of the survey was open for everyone asking if they would be willing to take part in an interview.

5.2 Personal interviews

Interviews were held 21.11.2017-16.1.2018 and organized in Oulu area cafeterias, OAMK campuses and at University of Oulu. Three of the informants had participated in Edu/DevLAB, seven informants in GameLAB. To same extent three of the informants were at the moment of the interview still finishing their product paths. These interviews were recorded, and transcripts made.

Interviews were unstructured around the online survey answers of respective informants. Informants 10 and 11 didn't fill out the online survey however same themes were discussed with them. This method was selected due to its effectiveness in learning about the perspectives of individuals and to gather qualitative data about their experiences in the OAMK lab environment. Though it was not a selection criterion and not asked in the survey, interviews included representatives of different background groups, 36,36% of the informants were degree students. Both labs were represented among students. The absence of the third group, exchange students is quite understandable due to the low participation on the product path in the first place. All informants who participated through open university were participants of GameLAB.

One central theme of the interviews was, of course, digging deeper into the reasons why a startup was not established after the lab, the informants were asked to discuss changes that happened to the team going from demo path to the product path, how these changes affected the team if they felt they did. They were also asked to discuss the challenges on each respective path to see which central challenges teams faced, did all the teams face similar challenges, differences between the labs, and how did the participants' background or status in the lab affect how they felt about the challenge. Finally, they were asked to elaborate on the answers they had given to that question in the survey for not establishing the startup.

Another topic that was discussed with the informants was possible investor contacts and their feedback, why they were not interested in the product or why the team did not try to pursue that opportunity further. One topic I also included was the LAB atmosphere and whether it was encouraged to take any other alternatives than establishing a startup, publisher deals and various exit strategies like selling, merging for example.

Setting up the interviews and times went smoothly. Interviews were based on the survey answers and the conversations varied a bit depending on the initial answers. Main themes discussed were challenges on the product path and the evolution from demo path to product path to find out if the challenges the participants experienced were similar to each other, how these challenges correspond to the reason they gave not to establish a startup. How the respondents felt about changes between demo path and product path was discussed to see if there was something that clearly affected their motivation. A bit depending on the case further questions were asked about investor contacts, the feedback that was gained from them, clarifying questions about the motivational factors, and the reasons behind not establishing a startup. This often led to a final

theme of improving the LAB, thoughts on entrepreneurship and what the informants felt was important when establishing a startup at that point in life.

Like expected the reasons were varied and often connected to other reasons but there were team-related issues many of which interestingly had root cause as an institutional barrier. Following chapters present. Internal barriers referring to factors that had to do with one's individual motivation, barriers within oneself that prevent reaching goals, rather than barriers that sprung from the environment which are referred as external barriers.

The respondents of this research had participated in LAB activities between 2015 and 2017. 66,67% of these respondents had been in GameLAB during their product path and the rest in EduLAB, since DevLAB had yet to produce any product path teams or if it had it might not have been clear as one informant said, "I do not even know which product path I'm part of Edu or Dev -- " (Informant #7. Personal Communication, December 14, 2017).

6 MOTIVATIONS TO ENTER PRODUCT PATH

Because the product path is meant to be voluntary for everyone, it was first necessary to find out what were the dominant motivations to continue working in the lab after the first semester. The respondents were asked to evaluate their motivation to the continue project to product path on a 1 to 5 scale, 1 being low motivation and 5 being the highest motivation. Following figures 7-11 represent the answers given by respondents. Respondents were also asked additional comments on their motivation to enter product path.

6.1 Interest in the project

Participating in a bigger project work was appealing to many LAB participants who had enjoyed the possibility to create something more demanding and extensive than they could achieve by working alone. Generally, either the project idea or the technology used was inspiring to the participants. Following comments are examples from the survey:

"Feeling of empowerment and achievement, that together we could achieve something we couldn't alone."

"Interesting technology used in product"

"Wanting to see the game played and completed."

"Possibility to create something very cool''

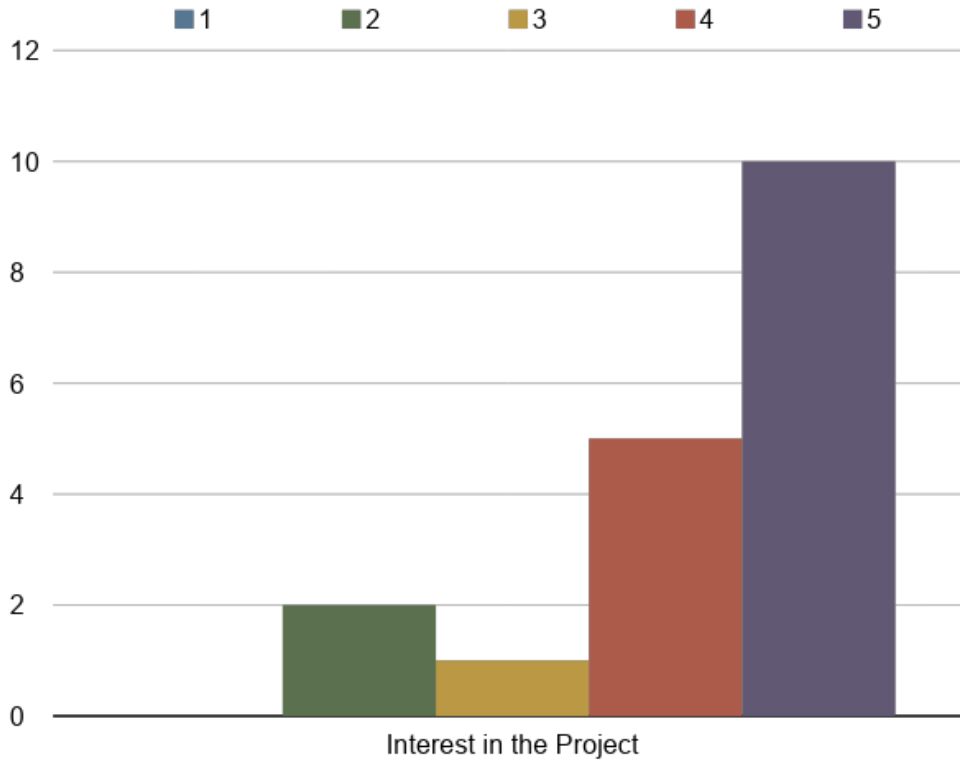

Figure 7. Interest in the project as a motivation to enter product path on a 1 to 5 scale

The strong interest in the project showed also in the interviews supporting the claim that motivation to enter product path was interest in the product and will to finish it. Many informants reported that they had continued their work even after the LAB product path in some form. Few said that they had rented a workspace, which had been funded either by own money or by side projects. As one informant pondered, renting a space was also a good try out to see if people are ready to put their own money into the project. On the contrary, the need to continue working after the this might also be an indicator of too ambitious projects. When discussed improvements in LAB concept many informants brought up the importance of finishing the product during the time in the LAB and killing too ambitious projects in an early stage.

6.2 Team dynamics

Many of the respondents seemed to value well-functioning team and for the majority, it was certainly a factor that made continuing easier even if it was not the deciding factor (Figure 8). Being open and supporting each other when problems arose.

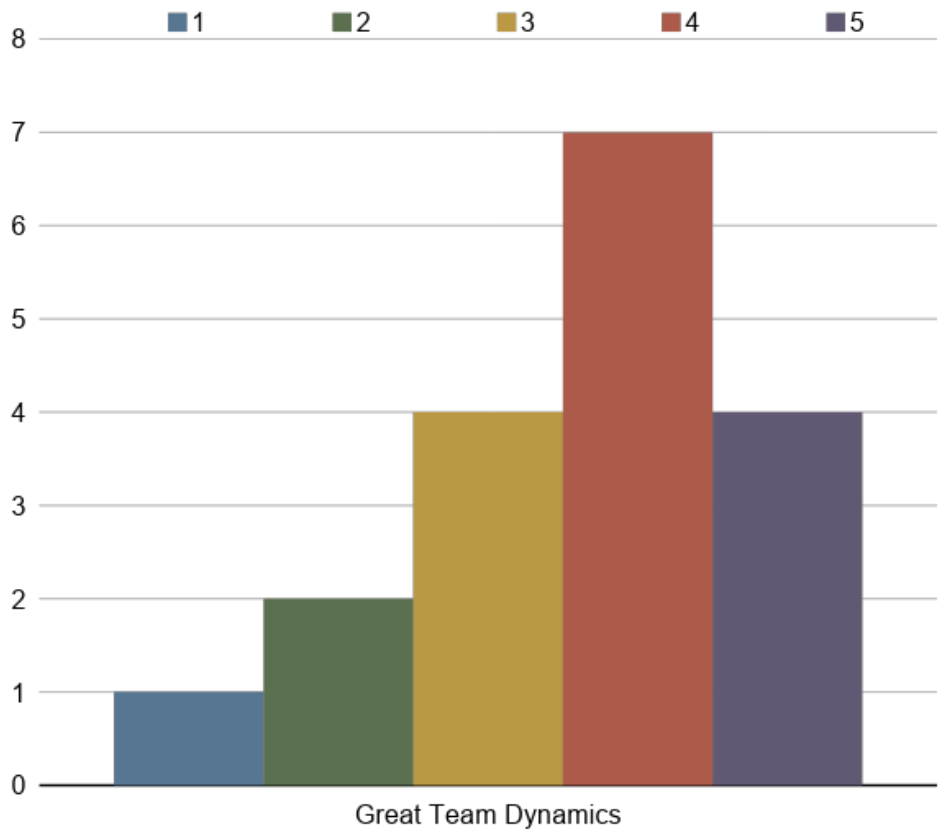

Figure 8: great team dynamics as a motivation to enter product path on a scale 1 to 5

“We talked openly with each other - - and I think it’s one of the core things to do if you cannot be direct and talk about some (troubling) situation, well it obviously causes grudge, problems, and misunderstanding in the team. (Informant #6, personal communication December 14, 2017)

While getting along with your team is certainly a key aspect of the creation of a successful foundation for startup and for many a motivational factor to continue the project after demo path. It was also pointed out that if the atmosphere becomes too relaxed it starts to put on the brake as well.

"I learned that workplace should have conformable circumstances. We had a great time and hilarious atmosphere, but when times were tough it was difficult to say things as they were. I found it challenging to be appropriate and firm when it was needed." (Informant #9, personal communication. December 7, 2017)

6.3 LAB environment

It may be concluded that LAB environment was an appealing factor and motivated majority of respondents to continue working in the lab. (Figure 8) This, however, can be due to many personal reasons. From the interviews it was concluded that among these reasons were not coping well with traditional lecture-based teaching and therefore enjoying more LAB models learning by doing methodology. Especially GameLAB participants saw it as a recognizable way to get a job in game industry.

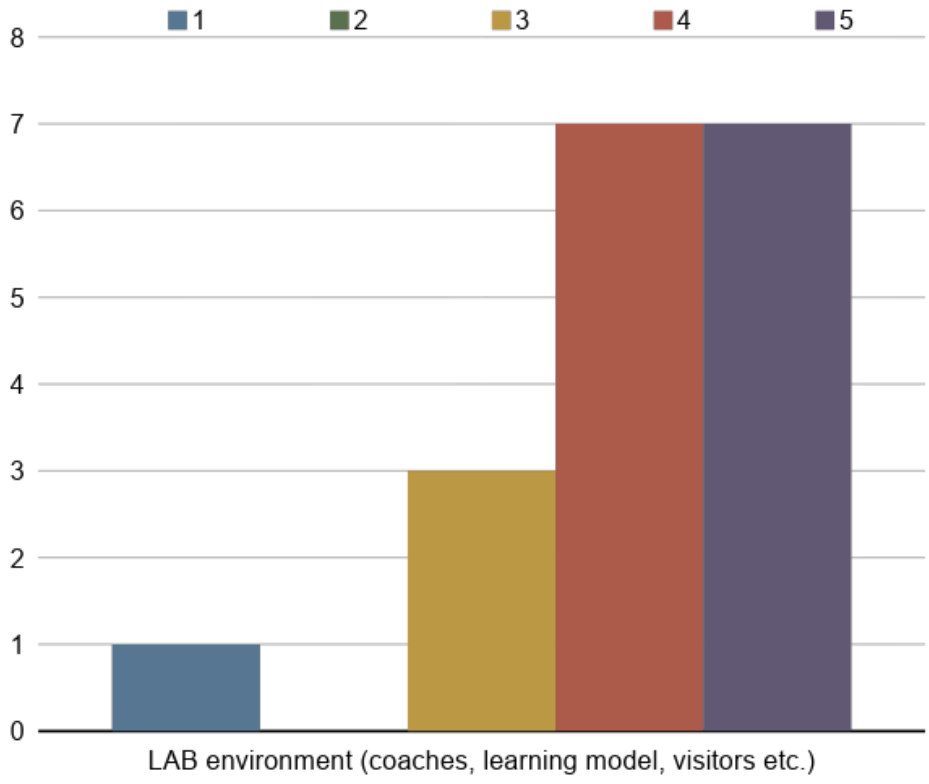

Figure 9. LAB environment as a motivation to enter product path on a scale 1 to 5

“I don’t personally enjoy school very much but the (LAB) environment is not school-like - - it sometimes feels like your workplace”. (Informant #4, personal communication, December 1, 2017)

Positive feedback from gate juries, visitors and coaches gave energy and some mentioned them as a smaller positive force that motivated them to continue. Following comments are from anonymous respondents of the survey:

"Winning gate 3"

"The personal relationships with coaches/lab master and their perceived support for us; their will to push us forward"

Thoughts on the feedback by gate judges, visitors and coaches were twofold. On one hand its motivational impact was valued but on the other hand, it was criticized as a source of delusional thinking. Students without many years of expertise are easier to believe when someone who has been working in the industry for a long time gives a compliment. However, at the same time, they are probably the group that might need that endorsement the most in order to pursue entrepreneurship with their idea due to the unfinished studies.

"Small things, that didn't necessarily have a deeper meaning but it did boost belief in the work. That this could actually become something. Comments like that gave a motivational spark for sure. " (Informant #6, personal communication. December 14, 2017)

"I think some people got delusional (by gate results), they weren't necessarily that interested or wanted, in reality, do something else, but they wanted to be a part of the project just in case." (Informant #11, personal communication. January 16, 2018)

6.4 Completion of studies

Considering also the completion of studies as a motivational factor to continue (Figure 9) it is worth becoming aware of that some might even consider LAB studies as an easier way of earning credits and for that reason feel that the environment was enjoyable.

“But there were a few who figured out that these are easy credits, that you can do what you will and so they were at work those times." (Informant #10, personal communication. January 16, 2018)

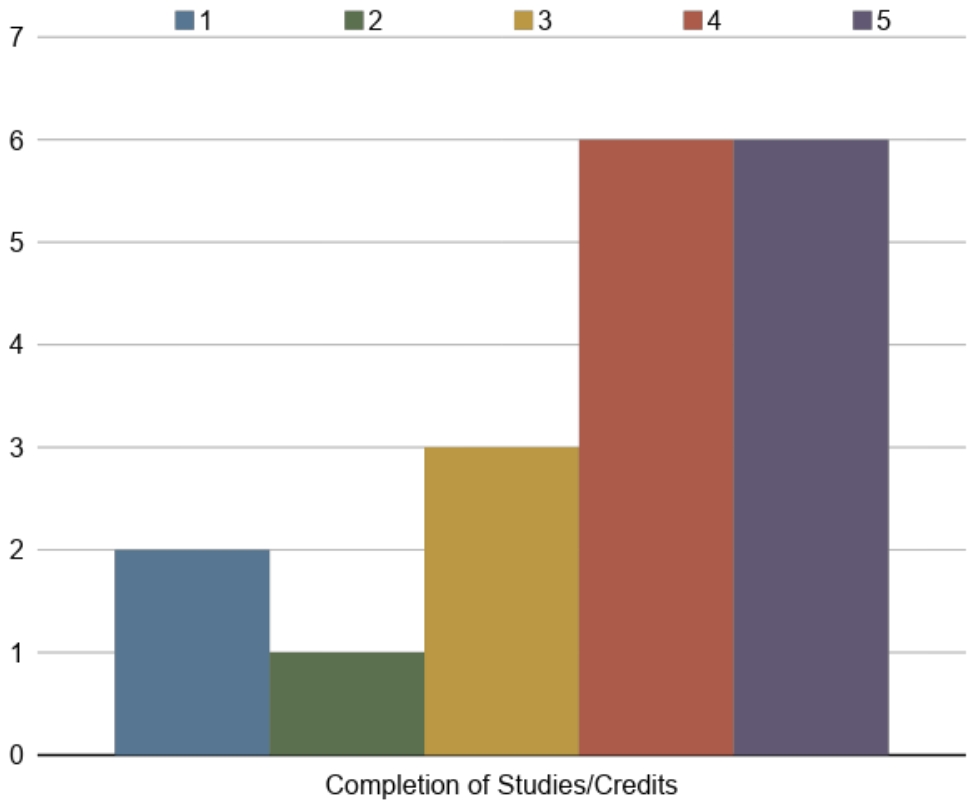

Figure 10. Completion of studies as a motivation to enter the product path on a scale 1 to 5

"Experience from gaming industry, contacts, portfolio material, etc.."

"The opportunity to further increase our skills"

Having the possibility to participate in a bigger group production created an opportunity for great portfolio material as many respondents recognized. Gaining experience of production steps and project work as well as creating contacts inside industry were mentioned as motivators.
The goal of gaining credits and finishing their studies is understandable motivation for those who are still in degree programs.

6.5 Creating a startup

“GameLAB is a recognized concept, many former LAB participants are employed in Oulu area game companies or they’ve founded their own firm. So, it’s really useful path if you want to work in the gaming industry. “(Informant #4, personal communication, December 1, 2017)

"One group just made a demo and published it on play store - - they had no interest in establishing a startup, it was just for work portfolio. It seemed to suffice. " (Informant #1, personal communication. November 21, 2017)

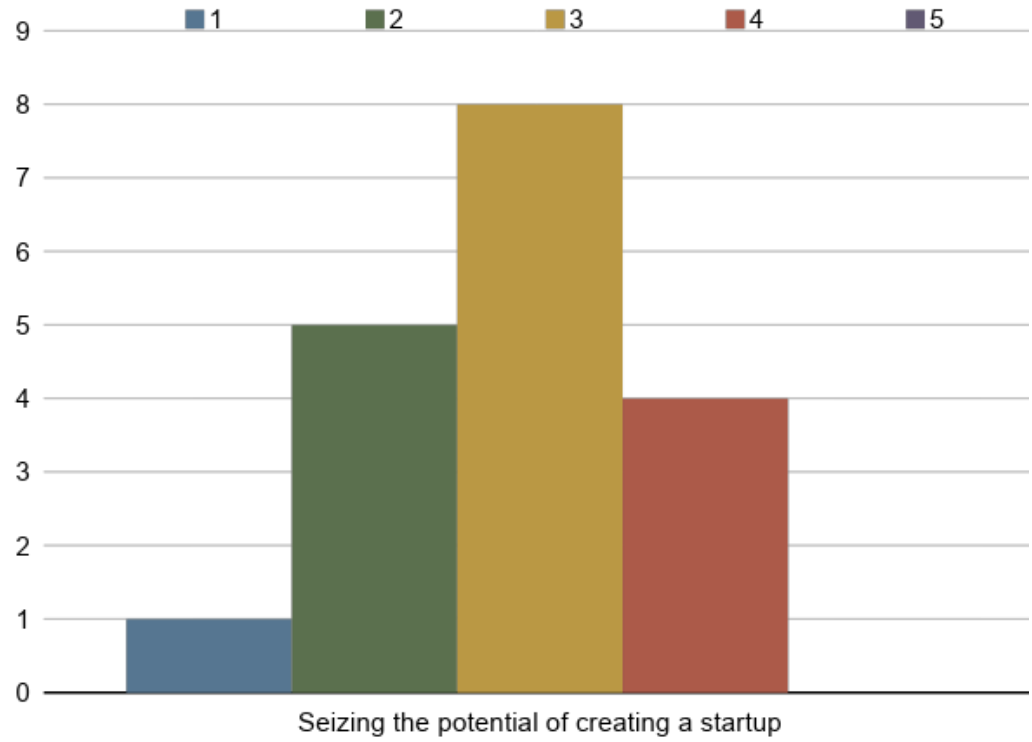

Figure 11: Seizing the potential of creating a startup as a motivation to enter product path on a scale 1 to 5

"Many of the LAB participants are people who want to work in the industry and there are not so many firms that establishing your own firm is really the way to do it. It was somewhat my motivation too, to find those co-founders from the LAB." (Informant #1, personal communication. November 21, 2017)

A couple of the informants expressed stronger interest in startup establishment during the interviews. Generally, LAB participants considered startup establishment as a nice possibility to have but not as a motivation to enter the product path.

By observing the above figures, we can see that most of the weight was put on interest in the project with a mean of 4,2778 and median of 5 (Figure 7). While it is impossible and to draw any major conclusions with so small sampling group it gives an interesting starting point for the interviews to note that seizing the potential of creating a startup had indeed the lowest median value of 3.5. Whilst other factors; completion of studies, team dynamics and LAB environment did reach median of 4 and had a greater amount of supporting comments.

7 INTERNAL BARRIERS TO STARTUP ESTABLISHMENT

Those who come into the lab as degree students have a higher threshold to establish a startup than those portions who arrive via open university or TE-office programs. Even those who might have the motivation and the skill level but are being close to graduating are unwilling to commit themselves to an uncertain future. For teams with the significant amount of student members, this was often enough of a reason to not establish a startup. Institutions of higher education get funds based on the number of graduates they produce which is very problematic for the startup establishment. Establishing a startup and knowingly setting your graduation to risk requires extreme risk-taking ability. This is not helped by external barriers like Finnish legislation on the student allowance and startup grants. However, for a big portion of students, it seems that it was not even an option, to begin with. Some are simply continuing in the lab for easy credits or portfolio work.

"Not many are in working life after that year. Even if the lab was later, that you had like one semester of studies left, well that in practice goes to your thesis work, so you can't just isolate yourself to concentrate on game production. Then again, the team is dynamic, no one has any financial incentive to be part of that. Half a year is a long time to find a job that someone pays you for. Commitment is a huge issue. " (Informant #5, personal communication. December 11, 2017).

"There are certain things in terms of student status if you're in the middle of your studies and you should establish a startup, the whole idea consumes the OAMKs vision of students graduating. But there were also efficient people who were students, the ratio was lower though. " (Informant #11, personal communication. January 16, 2018)

"One most significant factor that influenced the decision (not to establish a startup) was that we are all still students. Our programmer returned to their home country, and right at this moment, we don't have anything to sell. Everyone needs some time for their studies, we haven't given up rather than postponed it." (Informant #3, personal communication. November 29, 2017)

"Hard to say how some third-year student who has been in this education tube since elementary school feel about this (the LAB). Is it a boost forward or just something that you'll need to complete?" (Informant #4, personal communication. December 1, 2017)

"You're in it for the credits so you don't have that same spark that you've when you've been unemployed for a while, might be some sort of naivety of youth, the only year of studies left, that you have time for everything." (Informant #10, personal communication. January 16, 2018)

"One portion comes via TE-Office - - but then there are students who are interested in continuing their studies after the LAB." (Informant #1, personal communication. November 21, 2017)

"People just want to continue with their own things. It's understandable because many are students and have gotten a feel of what game development is in practice." (Informant #2, personal communication. November 22, 2017)

7.1 Initiative and self-motivation

Interestingly the single most discussed factor among the informants was the freedom of work given on product path which appeared to be too much for the most. Participants felt that working was not organized anymore, many were unable to set realistic deadlines for themselves due to lack of a clear goal for the production or could not prioritize the work correctly. It was not the competitive situation that the informants missed rather than outside pressure. The inability to effectively exploit freedom of work can result from various things: one certainly is the high level of external motivations, for example completing credits or lack of internal motivation due to delusional ideation, ending up in a wrong role, or lack of entrepreneurial traits. It is good realization that entrepreneurial mindset consists of traits that cannot be forced on people. Some people are not self-imposed by nature thus need more guidance and if traits are forced on people it leads to internal conflict. Concerning this topic, it is also necessary to mention that team leaders tend to lack the authority in the teams, which is a challenge related to the institution and the way how LAB model works. The causal connection between these two, however, is obvious.

"We hung out like rock stars without a debut record. Maybe the lack of routine on product path played its part, nothing happened. Events created a small spark here and there but otherwise, there were no deadlines." (Informant #10, personal communication. January 16, 2018)

"Compared to demo path, we were left alone a lot. On one hand, we could concentrate on the work at hand and didn't need to go on lectures etc. On the other hand, it felt like we had been swept off the list of priorities in the LAB." (Informant #9, personal communication. December 7, 2017).

"Suddenly there was too much freedom, no big deadlines because we could decide them ourselves - - In the end it wasn't a good thing that you could decide yourself that probably the goal is that. It wasn't the same as someone else telling that." (Informant #7, personal communication. December 14, 2017).

"Working wasn't active anymore and it felt that some people took advantage of that. If someone starts to slip or others feels that one guy neglects their part of is not as involved as others, it starts to eat away the whole team." (Informant #11, personal communication. January 16, 2018)

"It was like dawdling. The project advanced but guidance was minimal. There were no gates, you had to decide the goals yourself. Fortunately, we had a couple of people who had good work morale, so the essential parts of the work were developing." (Informant #10, personal communication. January 16, 2018)

"Product path became sort of dilly-dallying; the problem was that there were milestones in principle, but they weren't similar to requirements on demo path (the Gates) - - Not necessarily the lack of competitive situation, but the lack of similar kind of pressure that demo path had. "(Informant #6, personal communication. December 14, 2017).

"Lot of people can't get much done if they have total freedom. They are unsure what to take on or do whatever irrelevant. But if you get people to understand during the lab that you can do anything and that you get help if you just ask - - It is a characteristic which you can't teach or force on people but it's crucial if you want to pursue entrepreneurship." (Informant #8, personal communication. December 14, 2017)

Risk-taking is often considered one key trait of entrepreneurs. As Kepenek & Eser (2018) suggested lack of commitment might be explained partly by culture. Finns as a nation value stability over uncertainty and tend to avoid uncertainty and this showed in few comments directly:

"If you have to choose between the uncertainty and a job in a company which is a much more stable option. Especially when you consider all those factors that drag your project down and increase the uncertainty of its future." (Informant #8, personal communication. December 14, 2017)

"I'd say team's unwillingness to take the risk, originating from a financial situation." (Informant #11, personal communication. January 16, 2018)

"You need the money to live, people want to have families and so on. Working your ass off and hoping for the best doesn't carry very far." (Informant #6, personal communication. December 14, 2017).

One topic related to self-motivation and freedom of work was the ability to work remotely. If a team wishes to continue project even after the product path, and the whole LAB experience, they need workspaces which creates a resource issue, an external barrier. Teams with exchange students who return home naturally face this challenge even before, but also unwillingness to rent a space and rather believing in one's ability and motivation to work remotely was an issue.

“Yeah well, at first I thought that people have agreed to do 15 hours per week it’s going to work out. But now I can say that it doesn't.” (Informant #7, personal communication. December 14, 2017).

“If people decide to work from home that’s it. I’m not saying that remote work is impossible to, but it requires a whole different skillset which students might not yet possess. “(Informant #8, personal communication. December 14, 2017)

"Some didn't bother to take part in weekly meetings and worked remotely as it were. Few actually did, but like very little." (Informant #10, personal communication. January 16, 2018)

7.2 Role distribution

Role distribution was another team and motivation related issue that showed glimpses of institutional challenge behind it. During demo path, it was greatly encouraged to test out skills in different roles which lead to people ending up in positions that they find no interest in or cannot execute. This creates a major inner conflict and during time leads to an external one too: the team starts to underachieve.

This topic clearly evoked most emotions among informants since almost all the teams had struggled with one or more members of the team slowing the production down in some way. The reasons varied from lack of interest or motivation to lack of skill. It seems that the LAB model does not have a simple solution to answer this kind of a challenge and often these struggles present themselves

as trust issues, uncertainty, and time-loss. When they are combined with other challenges, like agreements it can cause giving up on the project and killing the possible vision of a startup.

"I don't want to say that it was motivational decrease. I think that we didn't quite understand the life cycle of game development. If you have a story, it has certain elements and these certain elements relate to technical solutions" (Informant #3, personal communication. November 29, 2017)

“The demo path policy, to bravely test out your skills conflicts with the fact that you should then possess those skills to continue in that role later on.” (Informant #5, personal communication. December 11, 2017)

“- -There were also other members who could have done the job, but one person can’t do all the things, so it was distributed to others - - “(Informant #3, personal communication. November 29, 2017)

"Perhaps we didn't understand the project hierarchy well enough at that point. You could have chosen a role from the top of the hierarchy, but you didn't really want to be there. These kinds of things surely played their own parts." (Informant #3, personal communication. November 29, 2017)

One aspect that was rather easily tied to students was lack of experience or skills. This was a factor that seemed to cause overambitious production plans and challenges in planning. It may be concluded that this is also the major cause for informants to feel that there were too much freedom and no organization in the production. If the productions are not scaled down early enough they most likely end up unfinished. Teams that didn't manage to scale down the production early enough finished only 25-33% of the originally planned production. This, of course, could take an effect from failed role distribution and diminished efficiency as well.

Uncertainty in co-operation possibilities was also common, nearly all informants reported to have had an opportunity of some sort, varying from side projects to publisher contacts, but only a few had taken those chances. Of course, many of the publishing fronts require a certain type of product and it is quite understandable that if the product is developed for eight months changing the platform is out of the question, this explains a portion of the opportunities being turned down. However, few informants reported also having too little understanding on choosing the best course of action.

"If you don't have someone with producing experience it easily leads to overestimating one's abilities - - I for one overestimated my capabilities. I thought that I could produce, design and lead the team." (Informant #6, personal communication. December 14, 2017)

"It (asking for help) was on our own responsibility, so if I was unaware that I did not understand something, we were in trouble." (Informant #3, personal communication. November 29, 2017)

"I spent three weeks on a thing that simply was not possible. It would've been great if somebody then had said that you're doing a wrong thing." (Informant #3, personal communication. November 29, 2017)

"We were not professionals, not even close. We could not predict or recognize many of the problems before it was too late to fix them." (Informant #9, personal communication. December 7, 2017).

"There were a lot of small opportunities and maybe we should have taken them, but we didn't have enough understanding. We didn't understand, and I was a bit disappointed in the business coach, they could tell where the market is, but we would've needed more concrete advice." (Informant #6, personal communication. December 14, 2017)

"We didn't possess the programming skills that were required so we had to scale down a lot. We had to redesign basically the whole thing to get something done." (Informant #11, personal communication. January 16, 2018)

8 EXTERNAL BARRIERS TO STARTUP ESTABLISHMENT

There were also factors that made the startup establishment more difficult, but on which the participants could affect only a little or not at all. Two most discussed barriers were Intellectual Property rights and having too little power on team construction.

8.1 Intellectual property rights

During the time in the LAB, the participants had to first grant the rights of their work to OAMK labs, the rights which are transferred back to the teams once the lab program is finished and if the team wishes to continue. All agreements in between are supposed to demonstrate the commitment of existing and the new members to the teams. Figure 12 describes how those agreements evolve during the demo path.

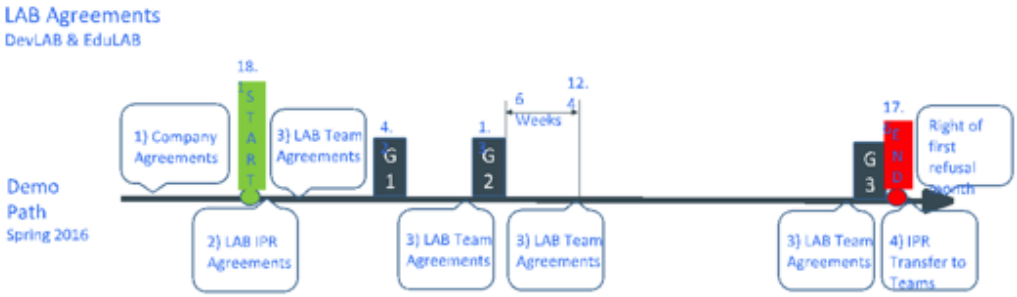

Figure 12: LAB Agreements on demo path of EduLAB & DevLAB (Oulun ammattikorkeakoulu Oy, 2016)

When new members join the team after each gate (G1, G2) a new LAB Team Agreement (LTA) has to be made to display the contribution and ownership of the project of each member. After finishing the LAB program and if the team wants to continue their work as an incorporated business the IPR are transferred back to the team members based on the most recent distribution of ownership on the LTA or any presented legal documentation transferring the ownership to an incorporated business.

"When the production rights were transferred to OAMK, who then managed them until the rights were claimed back, it was once discussed that we have to make an IPR agreement between each other. But that never happened. " (Informant #5, personal communication. December 11, 2017).

“It (IPR agreement) was made once we made it on our own.” (Informant #11, personal communication. January 16, 2018)

In practice, the IPR agreements were much more problematic. Statements were also found among short online survey responses, it was indicated that multiple teams were unable to reach a satisfactory agreement or felt that there were too many IP owners to establish a startup.
However, getting people out of the project seemed to be problematic as well. If discussion did not proceed and started to dwell for a long time it was easier to ignore the agreement or to give everyone few percents of the rights to the project which then led to huge teams that did not look good in the eyes of investors.

"If the graphical lead leaves the team, the person that has done all the character designs and graphics and if they aren’t enough can anyone else continue to create similar graphics? If not, do we actually have any use for the graphics this person had done?" (Informant #1, personal communication. November 21, 2017)

"If we have a person who has done stuff, but the work can’t be used because it is half-baked, and we need to do it again. Should they get some sort of compensation if this leads to a startup establishment? Things became complicated because there wasn’t clear continuity." (Informant #1, personal communication. November 21, 2017)

"It makes the startup establishment more difficult because the company will not get all the profit, but you need to distribute X amount money to parties on the agreement - - If you take a publisher aboard they have probably something to say as well. That kind of burden of agreement just makes everything more difficult." (Informant #11, personal communication. January 16, 2018)

"The person didn’t want to compromise their own position as the main creator. It became difficult since they turned down many ideas that were possible and didn’t want to grant their work to joint distribution without rather extensive compensation." (Informant #5, personal communication. December 11, 2017)

Approximate team size (Figure 13) of a product path team was from 5 to 8 persons but also bigger teams were well represented in the respondent group, 33% reporting 11 or more members in their teams. In general, the GameLAB teams tend to be bigger in size. From the viewpoint of startup creation, these team sizes were huge, and it is highly unlikely that groups with 5 or more members would share a mutual vision of a company or even the product. With this number of team members, it becomes difficult to make decisions that appeal to everyone. When every one of them has an equal share of the ownership it makes decision making even more difficult, slower and there will often at least one party left unhappy.

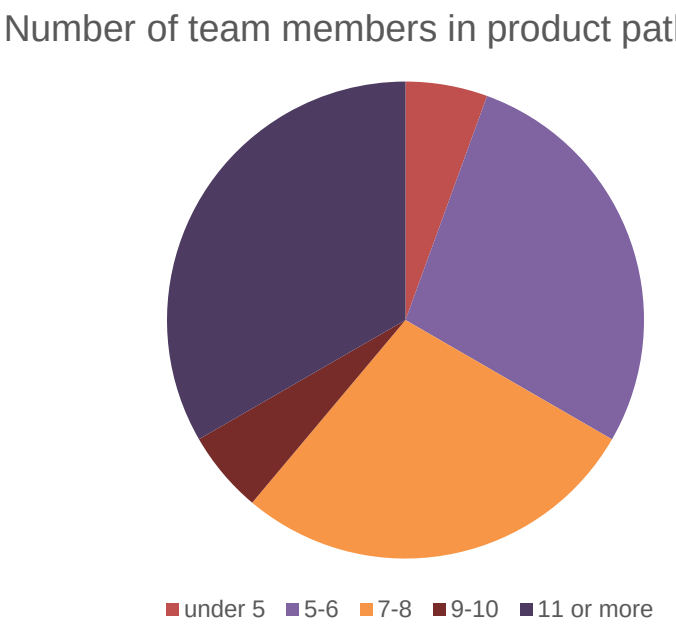

Figure 13: Number of members in product path teams

“One problem was obviously that we had 11 IPR owners, it was a red light for investors.” (Informant #6, personal communication. December 14, 2017)

"Establishment of a startup requires like-minded people, and per se if you have 11 people with whom you need to reach that goal, even if only 5 wishes to be part of the company it is too much. It’s optimistic to think that these people would reach that kind of consensus that they’d seriously consider startup establishment." (Informant #5, personal communication. December 11, 2017)

It is safe to assume that it is recognized that these agreements are insufficient since they have evolved quite a bit during past years. On one hand the following clause which informant #6

mentioned, is great addition in the agreement for making sure that people do not just leave the project and take important parts of it with them, ensuring the project continuity in a way, on the other hand it might cause some people to persistently hang onto their share of the work or stay in the project just in case of money but with a little interest in the project itself.

“Now there’s a clause in the agreement that if you leave the project, you lose your rights and they remain in the project. So that’s being controlled a bit more.” (Informant #6, personal communication. December 14, 2017)

8.2 Grants and support

Finnish legislation evoked some emotions as well. Majority of lab participants enjoy some form of TE-Office benefits. Be it unemployment security or student allowance it places certain terms for those enjoying these benefits and if you make money by working or by publishing projects you might lose your benefits. This would not be a problem should you hit a gold mine with your project but that is hardly the case and being active and entrepreneurial can end up being costly. It is quite understandable that as a nearly graduated student you do not wish to immediately apply for a loan. The Finnish legislation does not help the cultural uncertainty avoidance.

“I find also the startup grants in Finland problematic.
I got 100 e or so from the project and TE office cut off my benefits because they had to find out if I’m an entrepreneur.” (Informant #8, personal communication. December 14, 2017)

“If you operate on your own field of business and aim to publish something your activity can be determined as entrepreneurship. If you think about GameLAB, the point is to produce the game after all and if you’re studying that field you’re indeed creating a product of your own field which you aim to publish. In practice, TE Office could see every LAB participant as an entrepreneur rather than students.” (Informant #8, personal communication. December 14, 2017)

"Even the startup grant, it has not been designed for a team with multiple persons. There's no proper system for that." (Informant #11, personal communication. January 16, 2018)

8.3 Concept origin and development direction

One significant factor separating GameLAB and EduLAB is an aspect of innovation and the origin of the product development. In GameLAB your product is always a game and while there are different methodologies to support brainstorming, you are free to come up with any concept, In EduLAB and DevLAB, however, the problems were given by outside commission. Which on one hand supported innovative thinking, on the other hand, it set limitations to productions and you could end up doing something that you were not so passionate about, or the limitations could present themselves with the business planning.

"There's not a lot of encouragement for innovations, or thinking outside of the box, how could you create the game differently than everyone else before you. Sure, it's risky to try out something different in the game industry but it doesn't mean that the risk wouldn't be worth taking." (Informant #4, personal communication. December 1, 2017)

"I felt that in EduLAB the innovational thinking was better represented. You received a problem which you created a solution for, so the product wasn't necessarily a game." (Informant #3, personal communication. November 29, 2017)

However, when a commission is given by someone else they often have a very specific purpose for the product and along with that come requirements. This might cause the product not to be scalable in a convenient way, which is on its own a requirement for the majority of successful startups. This was the case for example with informant #3:

"The project has been developed to fit the needs of the client, and the project runs within their concept. It has become clear that our clients are not big enough for us to run this as a separate business." (Informant #3, personal communication. November 29, 2017)

Another challenge with this kind of commission-based ideation is that you may end up doing something that you are not passionate about. There may be enough reasons to stick with the project until its done, yet it is understandable if a startup is not the end result of that process. This kind of challenge was encountered in Edu and DevLAB. Another scenario is highly possible too, leading to a similar situation. The original innovator of the concept might leave, and the rest of the

team continue to build someone else's passion project and in the long run, it becomes more challenging to stay motivated.

"Our project was someone else's idea. It was quite clear that the team members wanted to do something different, something own. But then it just faded away." (Informant #9, personal communication. December 7, 2017)

Feedback and pushing towards some practices, for example, choosing a certain monetization model or platform are factors that also set limits on production and could cause an inner conflict if followed. One informant told that they had intentionally chosen to take a different route even though it was clear that it would not be the most profitable selection.

Fingersofts close co-operation and location created opportunities for Game lab participants if they were willing to take that direction. It was admitted that this also showed in the ways the lab teams were supported and given direction. Which on its part divided opinions, some thought that it was a good thing that the concentration lies in making the product viable for the market, for other individuals it seemed to cause moral dilemmas.

"In a way, it's great that the LAB is about creating a commercially viable product, something that you could actually make some money with. You can do the passion projects on your own time. But yeah some create just game for their portfolio, they develop it for a year and that's it." (Informant #4, personal communication, December 1, 2017)

"Mobile games get much more attention than any other type." (Informant #4, personal communication, December 1, 2017)

"On an individual level, you wish to do something that interests you but then again it might not meet the expectations of the judges during the qualification rounds. Especially here next to Fingersoft, sure they want to emphasize mobile games." (Informant #2, personal communication, November 22, 2017)

8.4 Lack of follow-up route

The interest in the project and will to complete it reflects in multiple comments by informants who discussed their project continuing for a time after the lab. Finding a working space proved out to be a difficult task. This was reported also by the one survey respondent who had established a startup.

"We didn't pay anything of our own pockets to rent the working space. We could cover the costs with the money earned from the side project. Afterward, I've thought if it had been better if everyone had to pay that themselves. "(Informant #10, personal communication. January 16, 2018)

"We have continued to work on the project after the studies with that group of people" (Informant #1, personal communication. November 21, 2017)

"We actually rented a space where we could work. The rent was something like 100 euros per month, so it was operating loss for us. - - On the other hand, it was kind of a reality check if you were willing to invest your own money to the thing, the amount of money was not huge when divided between the team members, twenty euros or so. But if that is a limit, it is not going to succeed. " (Informant #8, personal communication. December 14, 2017)

"It is still ongoing. We should now make an agreement on project delivery to our client and then hope to get some funds to carry on with it later. "(Informant #3, personal communication. November 29, 2017)

Difficulty to find a working space may suggest lack of logical follow-up route which also few informants brought up. Joining an intensive business accelerator or general business incubator did not seem alluring for the product path alumni. The LAB is described as a pre-incubator and incubator program but seems that it does not fully prepare the participants to hop on a business incubator after the LAB experience.

"When the LAB ends, you end up in a very critical phase. It seems that many have a false assumption that it is easy to work from home especially when it (the LAB) ends." (Informant #8, personal communication. December 14, 2017)

"There are all sorts of accelerators but to my knowledge, there is nothing that would be suitable after the LAB. There are general entrepreneurship incubators etc. but those are not places where

people from the LABs are inclined to go. “(Informant #8, personal communication. December 14, 2017)

In 2015 first game-oriented startup accelerator Game Brewery was founded in Oulu and could be thought as a good follow-on for GameLab teams, another option that the informants were familiar with was Spawn Point, a game development co-operative which offers a way to practice light entrepreneurship. (Pikkarainen, 2015)

“We discussed few times with a couple of guys from the game brewery and they gave us a brilliant advice that we are young, so we should establish a startup right away, which would have been the ghastliest mistake ever.” (Informant #11, personal communication. January 16, 2018)

"Our mentors and coaches regarded startup as the last option. Until you have a product that someone will fund, until then anything else. Like Spawn Point." (Informant #4, personal communication. December 1, 2017)

8.5 Institutional barriers of OAMK LABs

As some of the other barriers have shown OAMK LABs even though free from many burdens of the science universities still faces many institutional barriers.
It seems that when there were entrepreneurial persons they did not find each other and found themselves in different groups as a minority. If entrepreneurial people meet things start to progress, groups should be united, not just people with different backgrounds but uniting the entrepreneurial minds. Informant #11 compiles the challenges well:

"The firm policy is difficult. First, you can't mostly affect the decision on who joins your team after a certain point. Second, the team is way too big for startup establishment, and if you create a game with that huge team and it seems that the project gets finished, IP agreement must be rational. It should be somehow possible to communicate that you are doing this just for the credits - - so if few people want to establish a startup they can get started and don't lose the development time. " (Informant #11, personal communication. January 16, 2018)

Other informants agreed that if there are people who have joined the lab for example via open university and are paying for it, it would be wise to find out if they are serious about finding like-minded people for a startup.

"- -They could monitor a bit who wants to create games and who doesn't, after all, there are those who are just doing their studies." (Informant #4, personal communication. December 1, 2017)

"Right at the beginning, it should be encouraged to find those like-minded people, who enjoy similar things and are willing to take the same direction. No more than three people and already start to create the basis for the firm, talk about finance possibilities, present sketches - - and concentrate on the business plan in a way that it makes sense later, it doesn't matter if it's well-done schoolwork." (Informant #5, personal communication. December 11, 2017).

Informants felt frustrated about their teams suffering from trust issues due to having unmotivated persons on the teams. Unfortunately, this introduces one of the biggest external barriers to startup establishment: while the LAB demo path is clearly school program teaching entrepreneurial values, the product path is something between that and a business. The team is expected to be able to work independently, set deadlines and finish the product but at the same time, there is very little that can be done to issues inside the team. One aspect of this is that the talent available depends solely on the LAB and semester, and the participants cannot affect hugely on the team building.

The lack of contribution by fellow team members starts to hamper one's own motivation as well. Many pointed out that the situation had to be very severe in order for the lab masters to act on it. If the person was totally absent or cause a real disturbance in the LAB environment, they were talked to and in most serious cases kicked out. But if the person was difficult to work with, lacked the skill or the will to contribute enough or they did not pay respect to team policies for example by keeping to time schedules, there was little that the team could do about it. Especially because you cannot simply hire new people due to the agreements, or lack of money.

"These conversations took a huge amount of time, we had to figure out how to solve this thing instead of knowing a month ago that there's no-one to do this - -" (Informant 1#, personal communication. November 21, 2017)

"Sure, we could have pushed forward and kicked out those people. But that would have been a loss to our operational strength. The Lab masters could not help us in that situation. " (Informant #1, personal communication. November 21, 2017)

"There were situations, I was to give a presentation the next day and I get the build at 12 am and have to test it and it then it does not even work. It is very frustrating. Do you want to start a firm with that kind of person? " (Informant #11, personal communication. January 16, 2018)

“It is problematic with this kind of student projects when you don’t have clear firm owners who tell you that do this thing, or you won’t do anything in this firm anymore. The situation is more like if you won’t do it, we can’t really get anyone else to do it either.” (Informant #1, personal communication. November 21, 2017)

“The downside is that it is not an actual business where you’re as employees. The only facet to contact is OAMK - - if the situation is so serious that you’re not able to work with that person. “ (Informant #4, personal communication. December 1, 2017)

"It is challenging because it (the LAB) is startup incubator and school at the same time." (Informant #8, personal communication. December 14, 2017)

"The co-operation is highly dependent on everyone’s input and if you can't trust that you're going to get that input from everyone, you spend your time worrying what to do if that one person doesn't do their own part, instead of continuing your own thing. " (informant #8, personal communication. December 14, 2017)

" - - We had a weekly meeting on a specific day and everyone else is on time and then we need to wait for this one guy for half an hour to one hour - - It was like pushing a huge rock uphill road and became burdensome. " (Informant #11, personal communication. January 16, 2018)

9 CONCLUSIONS

OAMK LABs have produced 15 startups during its time of operation. Based on the experience of the informants in the game lab product path had approximately 2 to 3 teams each semester. In Edu/Devlab the number was lower 1-2 teams. Only one of the 18 survey respondents had established a startup and it appears that the LAB studies do not carry out their goal to produce startups.

9.1 Motivational factors

It is hard to distinguish a single motivation for each person to enter the product path, it would have been unlikely that a person would have only a single motivation for an action. It can be concluded, however, that factor that was most dominant among most respondents was interest in the project or technology and will to complete the product. The least important reason was the possibility to establish a startup.

Other factors; team dynamic, completion of credits and LAB environment were seen equally motivating. Nowadays the demo path of the LABs is obligatory part of some degree programs in OAMK and many other courses may be compensated with studies in the lab as well, which may be seen as an alluring alternative for those who do not enjoy the traditional lecture-based studying — or for those who feel that LAB studies are easy credits. If a portion of participants is on the product path to earn credits, it leads us to a troubling conclusion that this does not support the goal of LAB product paths startup creation at all.

Based on the sample group it seems that in the GameLAB there are quantitatively more participants coming through open university or TE-office than from degree study programs. This might be partly explained with GameLAB having a specific focus area and recognition from earlier years.

9.2 Barriers to startup establishment

The most significant barriers presented themselves in different forms of challenges already during product path. Behind those challenges were two recognizable external barriers for startup

establishment: too big teams combined with lack of means to deal with it or the other challenges in the team, lack of financial backbone was also a considerably significant factor for not establishing a startup. The IPR agreements should enable the interested core team to continue the production without the inactive members of the team. It is not beneficial to anyone that teams have members who do not necessarily have a crucial part in the production. This only leads to huge teams with members who have no real interest in the production or a startup.

A significant internal barrier was motivation. It seems that big portion of the product path participants had no interest to establish a startup at all. For those who wished to find like-minded people as co-founders for a startup and thought of it as a possibility, having team members with very different motivational drivers led often to a personal motivational decrease. One's personal motivation suffered also loss due to having a position in the team which was uninviting, or they had no experience in it.

When discussing improvements to the product path it turned out that it was not the competitive situation that was missed rather than outside pressure, and there is a point in that. If a person does not feel passionate about the project and internally motivated, they are subjected to pleasant or unpleasant consequences.

In the early stages of the project, it is easier to take notice of progress and get the feel of accomplishment. At further stages the development changes, the product is being built and fixed, the progress is not easily spotted anymore and compared to the demo path the development starts easily to feel frustrating, emphasizing the need for milestones and rewards on product path.
In practice, the lack of authority and means to deal with motivational problems resulted in situations where on one hand there was no unpleasant consequence if a task was not completed in time, and on the other not enough of a pleasant consequence to finish the task it in time. These barriers do in fact reflect certain challenges of poor team management and leadership.

9.3 In comparison with recognized barriers

In a way, these results resemble Kepnek & Eser's conclusion of team commitment and harmony being the biggest obstacles for startup establishment. LAB studies are a mix of different background and motivations and the probability of people who possess entrepreneurial qualities, and the

mindset ending up on the same team is low. Big team sizes also make it unlikely to have a mutual vision in the production team.

Internal barriers such as lack risk-taking ability and the comfort and security of salaried job reflect a generally acknowledged challenge with startup establishment. During the first years of GameLAB, the higher rate of startups can be explained by the downfall of Nokia during that time. LAB participants had more experience and savings making it easier to face the risks. Contrariwise many LAB participants of today are working on their first bigger production, so it may be concluded that general awareness of the legislation and the risks of failing in comparison to the potential of the business idea are well understood. Another noteworthy matter is that being self-imposed is a valued quality and those who possess it tend to get employed fast. Choosing between salaried job and uncertainty of startup life is an easy selection for the majority of people even if the team building is successful.

9.4 Unique challenges of the LAB model

These challenges informants of this study discussed have a little in common with reasons Pahurkar (2015) listed in his study as institutional barriers. Without knowing the application criteria of the LAB program and how the participants meet that criteria it cannot be concluded how much of an influence OAMK as an institution has on that. Some level of presence of this institutional bureaucracy is recognizable as the LAB studies need to be evaluated for example. It is tricky because LAB participants practice very different things in the LAB which often can lead to something that is a valuable learning experience for the individual but difficult to measure as a learning result.

It can be concluded, however, that some of the barriers originated more or less from the LAB model and the way it functions. These barriers have a certain institutional hue in them. The major problems regarding team building and there is a major change already between demo path and product path in attitude and the way that the teams are expected to function. In practice that does not happen very well.

10 DISCUSSION

The main goal of this thesis was to research barriers for startup establishment among OAMK LAB participants with comparing case study. However, due low response rate the approach and concentration were adjusted, presenting the theory of barriers in other pre-incubators and to see if there were any common themes. This was still achieved through an online survey and semi-structured personal interviews of lab product path alumni.

Taking into account the original research plan, the survey contained a section targeted only to those who had established a startup which ended up being rather irrelevant for any conclusions. Considering the changed concentration of the study afterward, it would have been a good idea to include a question about education, through which route they had come to the lab and even their age. Perhaps including an open question about why the respondents had applied to the lab in the first place could have offered some valuable background information.

It would also be interesting to further study the limitations of the LAB model from the more institutional viewpoint, interviewing also staff members and LAB masters. It would be great to interview also those who have established a startup, see how they are doing and how their journeys were different from those who responded to this study. It could be worth finding out for example estimates on how long after the lab the startup was established. In this study, it was pointed out several times that there is no good follow-up for the lab product path the team members easily continue their own things and the project is forgotten.

The eclectic effect of agreements on intellectual property rights was bit surprising. My own experience of these agreements was positive, but during the interviews, it became clear that these agreements were not either taken seriously enough nor are they designed to support the establishment of a startup. The IPR agreements turned out to be a significant barrier for startup establishment and a key topic of the interviews. There should be a way to somehow separate those who wish to complete studies or portfolio work, from those who aim for a startup and early on prepare those teams towards startup creation. Perhaps even the transition from demo path to product path is bit surprising. During the demo path, there was not a lot of talk about the product path or a startup creation and if the end goal of product path is not only to finish the product but to establish a startup that should be the focus already on the earlier stages. Considering how to

continue after the LAB as a student or unemployed it comes to mind that the idea of game-development operatives like Spawn Point that allow practicing of light entrepreneurship could be perhaps utilized further.

This research raised also a question if Edu & DevLAB could benefit more from free concept development. It was noticed that informants representing EduLAB had more experiences of the project being done for someone else's purpose or the project not feeling own, which set own limitations to motivation and startup establishment.

It is worth pondering if something could be done to role distribution as well. Informants who discussed that aspect of teamwork made some valid points. On one hand, it is great that one has the opportunity to bravely try out own skills, on the other the development time in the lab is very limited and as many of the informants stressed it would be beneficial to finish the product during the time in the lab. In this sense the transition from demo path to product path feels challenging, the role of the participant can change radically, or even the team. The agenda of product path is, after all, to finish the product.

While it is great that projects were interesting for the participants, the downside of continuing the projects after the time in the lab is an indicator of too extensive plans. Not allowing too impossible or large projects to continue would be the best action, the working spaces are challenging to find and cost money and often that would mean working on the side of studies or day job – for free. Finishing a simpler project and publishing it is far more rewarding in the long run than stumbling with tight schedule and skills that team does not yet have. It is not often that very first products become commercial success stories. Finishing the product in the lab would allow the participants to experience the full product development cycle which would benefit any future projects.

Collecting more data on product path participants would be beneficial considering future research and development. Accurate listings of former participants were difficult to find come by now. Having feedback discussions as after demo path could be considered a method after product path as well that data would also help further studies.

Co-operation between the LABs could be utilized further, some teams in Edu and DevLAB are using gamification as an approach and GameLAB could offer more support for those teams. While GameLAB is very concentrated on entertainment games it perhaps would not hurt to include some

awareness of other types of games there as well. That could increase the co-operation between the LABs and improve innovative thinking.

Overall the writing process ran smoothly. I learned not only about the theory behind entrepreneurship education and how that is constantly being improved but also about doing personal interviews. The biggest challenge was certainly the fact that I had to change the research aspect after the online survey was already done and sent. On the positive side, a very good amount of people agreed to be interviewed. One challenge that occurred was solely due to my own miscalculation on the time that was needed to organize and analyze the interviews. I was aware that it would be the most time-consuming part of this study, but it still surprised me a bit.

While OAMK LABs is getting innovation awards and recognition I had a chance to discuss with product path alumni and learn about their experiences in the OAMK LABs. Within the discussion, there were many similarities with my own LAB journey. I was surprised to see how different experiences people had from the LAB studies. Discussions left me wondering why my team did not encounter some challenge or surprised that we had even found a solution to it which made me wonder if we gave up too easily. Learning about others' experiences was insightful and helped me see where my team went wrong and what could have been done better.

REFERENCES

Bui, A. (2016). Startup Ecosystem in Finland. Helsinki Metropolia University of Applied Sciences. Degree Program in International Business and Logistics. Bachelor's Thesis

BusinessDictionary, (2017). Business Incubator. Cited 5th December 2017 from http://www.businessdictionary.com/definition/business-incubator.html

BusinessDictionary, (2018). Business Owner. Cited 9th April 2018 from http://www.businessdictionary.com/definition/business-owner.html

Blank, S. (2010). You're Not a Real Entrepreneur. Cited 1st November 2017 from https://steveblank.com/2010/06/10/you%E2%80%99re-not-a-real-entrepreneur/

Blank, S. and Dorf, B., 2012. The Startup Owner's Manual. California: K and S Ranch Inc.

Blank, S. 2013. Why the Lean Start-Up Changes everything. Harvard Business Review, (May), 4-9.

Cawley, C. (2017). The '8 out of 10 Startups Fail' Statistic Is a Myth. TechCo. Cited: 4th December 2017 from https://tech.co/startup-failure-statistic-myth-2016-04

Constable, K. (2015).The 5 Types of Entrepreneurs. *Entrepreneur.* Cited 3rd April 2018 from https://www.entrepreneur.com/article244210

Deutsch, W. 2017. Surprising numbers behind start-up survival rates. Chigacoboothreview, Summer 2017.

Deutschmann, M. 2007. What difference a 'pre' makes: University business preincubators in Germany. A national survey. Cited 6th December 2017 from https://www.econstor.eu/dspace/bitstream/10419/41948/1/534378161.pdf

Drucker, P. (2012). The Risk One Cannot Afford to Take. *Drucker Institute*. Cited 8th December 2017 from http://www.druckerinstitute.com/2012/05/the-risk-one-cannot-afford/

Europaeus, J. 2004. Ammattikorkeakoulun hautomo tekee opiskelijoista yrittäjiä. Tekniikka & Talous.

Entrepreneur Small Business Encyclopedia, (2018). Entrepreneur. Cited 5th December 2017 from https://www.entrepreneur.com/encyclopedia/business-incubator

GCEC Awards |. (2017). Globalentrepreneurshipconsortium.org. Cited 31st March 2018 from http://www.globalentrepreneurshipconsortium.org/gcec-awards/

Good News from Finland. (2017). Oamk LABs lands prize for innovativeness. Cited 30th April 2018 from http://www.goodnewsfinland.com/oamk-labs-lands-prize-innovativeness/

Gopalakrishnan, K., (2016). Government must clearly define what a startup is. Cited: 26th October 2017 from
http://tech.economictimes.indiatimes.com/catalysts/government-must-clearly-definewhat-a-startup-is/1138

Heikkinen, K.-P., Seppänen, U.-M., & Isokangas, J. (2016) Entrepreneurship Education in Studio Based Learning Practices. Proceedings of the 11th European Conference on Innovation and Entrepreneurship, 247-256.

Henry, P. 2017. Why Some Startups Succeed (and Why Most Fail). Entrepreneur, (February 2017).

Investopedia, 2016. Startup. Cited 26th October 2017 from
http://www.investopedia.com/terms/s/startup.asp

Jansen, S., van de Zande, T., Brinkkemper, S., Stam, E., & Varma, V. (2015). How education, stimulation, and incubation encourage student entrepreneurship: Observations from MIT, IIIT, and Utrecht University. *The International Journal Of Management Education*, 13(2), 170-181.

Jao, J. 2014. Why Entrepreneurs Should Plan for Failure, Not Success. Entrepreneur, (April 2014).

Karjalainen, J. (2016). Design Thinking in Teaching: Product Concept Creation in the DevLAB Program. Proceedings of the 11th European Conference on Innovation and Entrepreneurship, 359-364.

Kippelman, S. (2015). Why it sometimes takes failure to achieve new understanding. The Enterprisers Project. Cited 8th December 2017 from https://enterprisersproject.com/article/2015/8/why-it-sometimes-takes-failure-achieve-new-understanding

Kirby, A.D. (2006) Creating Entrepreneurial Universities in the UK: Applying Entrepreneurship Theory into Practice, Journal of Technology Transfer, 31, 599-603.

Legal Tips and Advice for Startups: A 10-Min Checklist. *Appster*. Cited 10th April 2018 from https://www.appsterhq.com/blog/startup-legal-advice-tips/

Kuusela, S. (2013.) Hupparihörhö ja bisnesmies: opas startup-kulttuurin ymmärtämiseen (pp. 26-30). Unigrafia, Helsinki: Taloustieto Oy.

Marmer, M., Herrmann, B., Dogrultan, E., & Berman, R. (2011). A new framework for understanding why startups succeed. Startup Genome Report (pp. 5-7).

McIntyre, G. (2017). What Percentage of Small Businesses Fail? (And Other Similar Stats You Need to Know). Fundera Ledger. Cited 4th December 2017 from https://www.fundera.com/blog/what-percentage-of-small-businesses-fail

Mindtools. (2017). McClelland's Human Motivation Theory: Discovering What Drives Your Team. Cited 9th December 2017 from https://www.mindtools.com/pages/article/human-motivation-theory.htm

Oamk.fi. (2017). Cited 31st March from http://www.oamk.fi/en/about-oulu-and-ouas/current-topics/?ak_osio=uutisjuttu&id=56403&from=groupmessage

Oamk.fi. (2016). Cited: 31st March 2018 from http://www.oamk.fi/fi/tietoa-oamkista/ajankohtaista/?ak_osio=uutisjuttu&id=51610

Oulun ammattikorkeakoulu Oy, (2016). LAB Team Agreement. pp. 4.

Oxford Dictionaries, (2015). Definition/ English/ Start-up, Oxford University Press. Cited 26th October 2017 from http://www.oxforddictionaries.com/definition/english/startup?q=startup

Pahurkar, R.N (2015) Creating Entrepreneurs through Entrepreneurial Universities, Management, 5(2), 48-54.

Penttilä, S. and Salin, J. (2016). Oulun ammattikorkeakoulun yrityshautomon merkitys opiskelijoille. Yrityshautomo-opintoja suorittaneiden kokemuksia ja näkemyksiä yrittäjyydestä. Oulu University of Applied Sciences. Degree Program in Bachelor's Thesis.

Pikkarainen, A. (2015). Ouluun pelialan yrityskiihdyttämö. Oululehti.fi. Cited 31st March 2018 from https://www.oululehti.fi/uutiset/ouluun-pelialan-yrityskiihdyttamo-6.255.10509.de26f79517

Reko, V. (2017). Tuleeko jokaisesta opiskelijasta lopulta yrittäjä? "Startup-maailma tarvitsee hypeä, se vie asioita eteenpäin". Aamulehti.

Ries, E. (2010). What is a start up?. Startup Lessons Learned. Cited 30th April 2018 from http://www.startuplessonslearned.com/2010/06/what-is-startup.html

Schulte, A. and Sauer, B. (2014). Entrepreneurship. Nova Science Publishers, Inc., pp.41-42.

Segal, G., Borgia, D., & Schoenfeld, J. (2005). The Motivation to Become an Entrepreneur. International Journal of Entrepreneurial Behaviour & Research, 11 (1), pp. 42-57.

Stevenson, B. (2016). Finland's EduLAB expands ed-tech pre-incubator program - Nordic Startup Bits. Nordic Startup Bits. Cited 31st March 2018 from http://www.nordicstartupbits.com/2016/03/03/finlands-edulab-expands-ed-tech-pre-incubator-program/

Stevenson, B., Seppänen, U.-M. & Heikkinen, K.-P. (2017). Oamk LABs. In Dr. Kenneth A. Grant (Ed.), Innovative Youth Incubator Awards 2017: an Anthology of Case Histories (pp. 17-27). Reading: Academic Conferences and Publishing International.

Skok, D. (2017). 5 Reasons startups fail. For Entrepreneurs. Cited 5th December 2017 from http://www.forentrepreneurs.com/why-startups-fail/

Szycher, M. (2015). The guide entrepreneurship. London. New York: CRC press.

Tanner, R. (2017). Motivation – As Simple as The Three Needs Theory. Management is a Journey. Cited 10th December from https://managementisajourney.com/motivation-as-%E2%80%9Csimple%E2%80%9D-as-the-three-needs-theory/

USINE, University Start-Up of International Entrepreneurs (2002). Cited 4th April 2018 from http://www.usine.unibonn.de

Valtioneuvosto. 2015. Ratkaisujen Suomi. Pääministeri Juha Sipilän hallituksen strateginen ohjelma 29.5.2005. Cited 5th December 2017 from http://valtioneuvosto.fi/documents/10184/1427398/Ratkaisujen+Suomi_FI_YHDISTETTY_netti.pdf/801f523e-5dfb-45a4-8b4b-5b5491d6cc82

Vu, N. 2016. Entrepreneurial Intention. Analysis of the influencing factors for choosing an entrepreneurial career among students in Finland. Turku University of Applied Sciences. Degree Program in International Business. Bacherlor's Thesis.

APPENDIX 1 SURVEY FORM

Survey for OAMK LAB product path participants

* In Oulu Game Lab product path is usually referred as Game Path

*Pakollinen

1. **Which LAB did you participate in?**
   Merkitse vain yksi soikio.
   - ◯ Oulu Game LAB
   - ◯ Edu LAB
   - ◯ Dev LAB

2. **What year and semester did you participate product path? ***

3. **How many members were in your team while you were in the product path? ***

Please rate the following factors for how much they motivated your team to continue to product path (scale 1 to 5)

4. **a) interest in the project ***
   Merkitse vain yksi soikio.

1	2	3	4	5
◯	◯	◯	◯	◯

5. **b) seizing the potential of creating a startup ***
   Merkitse vain yksi soikio.

1	2	3	4	5
◯	◯	◯	◯	◯

6. **c) completion of studies/credits ***
   Merkitse vain yksi soikio.

1	2	3	4	5
◯	◯	◯	◯	◯

7. **d) great team dynamics** *
Merkitse vain yksi soikio.

1	2	3	4	5
◯	◯	◯	◯	◯

8. **e) LAB environment (coaches, learning model, visitors etc.)** *
Merkitse vain yksi soikio.

1	2	3	4	5
◯	◯	◯	◯	◯

9. **In addition to above, was there something else that significantly affected in your team's decision to enter product path?** *

10. **Did the product path lead to establishment of a startup company?** *
Merkitse vain yksi soikio.

- ◯ yes *Siirry kysymykseen 11.*
- ◯ no *Siirry kysymykseen 19.*

startups

11. **What was the top factor that made you finally establish a startup?** *

12. **How long after finishing product path was your startup established?** *
Merkitse vain yksi soikio.

- ◯ 1-3 months or less
- ◯ under a year
- ◯ more than one year later

13. **Source for seed funding?** *
Valitse kaikki sopivat vaihtoehdot.

- [ ] personal investment (personal savings, family, friends etc.)
- [ ] crowdfunding campaign
- [ ] Private equity investment (angel investors, VC, etc.)
- [ ] startup grant (Tekes, ELY, etc.)
- [ ] Loan (bank, Tekes, Finvera, etc.)
- [ ] No seed funding
- [ ] Muu: _____

14. **Name the sources for funding** *

_____

15. **approximate amount of the seed funding** *
Merkitse vain yksi soikio.

- ◯ under 20 000
- ◯ 20 000-50 000
- ◯ 50 000-100 000
- ◯ over 100 000

16. **In scale of one to five, how difficult it was to find a place to the work?** *
Merkitse vain yksi soikio.

1	2	3	4	5
◯	◯	◯	◯	◯

17. **In scale of one to five, how difficult it was to keep your team together? (how well could team members commit)** *
Merkitse vain yksi soikio.

1	2	3	4	5
◯	◯	◯	◯	◯

18. **In scale of one to five, how difficult the transition from product path to start up was?** *
Merkitse vain yksi soikio.

1	2	3	4	5
◯	◯	◯	◯	◯

Siirry kysymykseen 23.

not startups

19. **What were the top three reasons for not establishing a startup after product path?** *

20. **If you did try to raise funding for a start up, what were the main obstacles of getting funding?** *

21. **If you met with potential investors what kind of feedback you received?**

22. **How would you improve the product path experience?** *

Siirry kysymykseen 23.

willingness to interviews

23. **Would you like to participate in an research interview?** *
Merkitse vain yksi soikio.

- ◯ yes *Siirry kysymykseen 24.*
- ◯ no *Keskeytä lomakkeen täyttäminen.*

Contact Information

24. **email or phone number** *