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AN EMPIRICAL EVALUATION OF BUSINESS MODEL CANVAS IN SOFTWARE STARTUPS: A TEAM PER-SPECTIVE

ABSTRACT

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Business model canvas is a commonly used tool among software startups. The tool aims to help companies develop business models and new strategies. Even though the model has been widely adapted among software startups a lack of scientific research regarding the topic can be found.

This thesis evaluates how the business model canvas should be further developed when it comes to early stage software startups. This is done with a team perspective. First, an understanding of software startups is created. Secondly, based on the literature the Team Component is presented including the constructs of resources, networks, self-organization and way of working. After this, the scope is widened to business model canvas, and the lack of a team construct in it.

The theoretical Team Component is compared to the empirical data. The primary data consists of interviews conducted to startup teams and secondary data is based on external student observations. The data was collected in qualitative means and analyzed with a thematic analysis. The empirical data validates two of the constructs included in the Team Component, resources and networks. The two other constructs are not seen important in the context of early stage software startups.

Based on the empirical results a further developed version of business model canvas is presented, with the team playing as a core construct. The study claims, that early stage software startups should see the team as a front thought and concentrate on acquiring as versatile resources and wide networks for their team in comparison to strategic planning at early stages. The study confirms, that resources and networks are the most determinate factors to affect an early stage startups success or failure.

Keywords: early stage software startups, business model canvas, team, lean methodology

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1   INTRODUCTION

The number of startups is rapidly increasing in the world. New technical innovations are made on a daily basis, and some of the biggest companies in the world are end results of previous startup ventures. Still, most of the startups founded fail rapidly after the beginning of their existing. This is due to the fact that software startups often lack resources and operate under highly volatile conditions without having a validated business model. There are a lot of different guidelines and procedures to help startups to succeed. One of the most acknowledged is the Lean Startup methodology which praises constant learning, iterative planning and validation of the venture.

One commonly used tool to help startups to succeed is the business model canvas. It is a strategic tool designed to help startups to understand and present their businesses in a simple and visualized way. As a tool, business model canvas is quite well known at least in the scope of startups, but its influence, benefits and properties have not yet been empirically evaluated. But since a lot of tools are available, what is the reason that the vast majority of software startups still fail? Could some of these ventures be saved by the right tools and guidelines.

The goal of this thesis is to examine, whether the business model canvas is really helping software startups to succeed. How could business model canvas as a tool be further developed in a way that it would benefit early stage startups. This will be done with a team perspective when it comes to early stage software startups. The question is, has the meaningfulness of team been left to the background when the number of startups has rapidly grown. Are the failed startups too product-oriented and forgetting to concentrate to their best values, the team itself?

1.1 Research problem

The research problem of this thesis is: How the team perspective can be incorporated to Business Model Canvas?

This research questions is divided into sub questions:

Has the meaningfulness of team been appreciated highly enough in early stage software startups?

Does team as a construct make an early stage software startup team succeed?

These sub questions allow the researcher to examine and build conclusions based on current knowledge and justify the need for the team perspective when it comes to business model canvas.

1.2 Scope of Research

This thesis concentrates on evaluating business model canvas from a team perspective instead of a strategic view. Even though the view is team oriented, the individual capabilities of a team member are also taken into consideration, since a team is the combination of individuals.

The theoretical part of this thesis is focused on the current literature revolving around software startups, the Lean Methodology, business model canvas and software development. As said, this is done from a team perspective, so the product development view is rejected.

The theoretical framework presents the Team Component based on current literature. The Team Component is designed to play as an essential construct in business model canvas regarding early stage software startups.

Even though the focus of this thesis is in software startups the end results are not only valid for software startups. It is possible, that the results could be applied in other fields too, when it comes to early stage startups.

1.3 Structure of Thesis

In Sections 2 and 3 the theoretical framework of this thesis is created and based on this the Team Component is presented. Section 4 explains the context of this study and the research methodology that was applied. Section 5 presents the empirical results based on the analyzed data. Section 6 is a discussion based on

the empirical results including both theoretical and practical implications. Finally, section 7 is a conclusion of this thesis.

The thesis starts by defining the most essential component of this study, software startups. Before defining what a software startups is, the basics of a startup are defined. Since the definition of software startups vary, based on the current literature, a definition is created. This is done in Section 2, which also presents the characteristics for a software startup, these are later on applied in the thesis. Section 2 also presents the Lean Methodology and discusses the meaningfulness of teams is software startups.

Based on the current literature Section 3 describers the essentials of the business model canvas. Each construct of the business model canvas is individually discussed and also other canvases, such as the Lean Canvas are examined. The meaningfulness of the team is also brought up, when it comes to the key constructs of the business model canvas. Finally, the Team Component is presented.

In Section 4 the context of this study is explained. Section 4 also discusses the research methodology that was applied and explains the data collection methods. In Section 5 the empirical results based on the data are explained. Section 5 first presents the background of the study to create a better understanding for the data that was gathered. After this the empirical results are presented through the constructs of the Team Component. Also, other observations are explained. Finally, before presenting the primary empirical conclusions, the secondary data is also analyzed.

In Section 6 the primary empirical conclusions are discussed both from a theoretical and practical view. Section 7 is a conclusion of this thesis and provides the answer to the research question, presents the limitations of this work and makes a suggestion for possible further study.

2 SOFTWARE STARTUPS

Only some to mention, software companies such as Facebook, Dropbox, Linkedin, Spotify, Pinterest and Instagram are good examples when it comes to previous startups that have grown into successful organizations. For software startups it is common to develop technology involved innovative services and products and then rapidly grow their business in markets that allow high scalability. (Paternoster, Giardino, Unterkalmsteiner, Gorschek, & Abrahamsson, 2014.) Today, new software startups are founded on a daily basis and we have seen a lot of success stories among them. The amount of software startups been started is growing and they have faced high popularity. (Bosch, Olsson, Björk, & Ljungblad, 2013.) According to the 2017 Kauffman Index of Startup Activity, in the US, approximately 540 000 startups or businesses were founded every single month in 2016 (Fairlie, Morelix, Reedy, & Russel, 2016). Still, the vast predominance of these companies fail during the two first years of their existing (Crowne, 2002).

According to Untelkalmsteiner et al. (2016) software startups differ from the so called traditional software companies that already have an established position in the market, but also from smaller organizations doing traditional software business. In their study, they state that although researchers have not come to a conclusion of a specific definition for software startups, we still have a general understanding on the basic characteristics of software startups. These companies operate under changing environments, have rapid growth, build innovative services and seek for scalability. The definitions vary based on who is been studied and which constructs are been examined. (Unterkalmsteiner et al., 2016.)

Since the definition of software startups can vary based on the context we will next look more specifically into the characteristics and form an understanding what a startup and a software startup is in the context of this thesis.
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2.1 Definition of software startups

Before we are able to form a deeper understanding on software startups, we need to define what a software startup actually is. In their study, Unterkalmsteiner et. al (2016) found out that we have a lot of definitions for software startups provided by multiple researchers (Unterkalmsteiner et al., 2016). Sutton provided an argument already in 2000, that the characteristics of a startup are as follows; youth and immaturity (startups are new and immature when compared to established software organizations), limited resources (this addresses issues in startups survival), multiple influences (since without resources, startups are easily influenced and these influences are not always consistent) and dynamic technologies and markets (startups often operate in the field of new technology and use cutting-edge technology while doing it) (Sutton, 2000). In his book, Eric Ries (2011) highlights that startups operate under extreme uncertainty. He sees startups as human institutions and states that they are created to develop a new product or service. A recognizable feature to a startup is that they have limited resources when it comes to money and people, and usually they operate under a limited period of time. (Ries, 2011.) According to Steve Blank (2012), a startup is a company or an organization trying to find a repeatable, scalable and profitable business model (Blank & Dorf, 2012). Software startups are simply startups providing software-demanding products and services (Savolainen, Ahonen, & Richardson, 2012). Giardino et al. (2016) describes software startups as companies that are recently founded without existing history. These companies focus in building top of the line products and services (Giardino, Paternoster, Unterkalmsteiner, Gorschek, & Abrahamsson, 2016.)

According to Unterkalmsteiner et al. (2016), a software startup is a company that creates innovative, software-minded products in an environment where they only have restricted time, and low resources, while seeking for a scalable and sustainable business model. This makes software startups differ from the so-called traditional software companies. (Unterkalmsteiner et al., 2016.) Paternoster et al. (2014) ads to this description, that these companies are able to develop products that have a big influence on the market, and this way impacting also global economies (Paternoster et al., 2014). Even though software startups do share some of their characteristics with more mature organizations these features are more extreme within software startups (Sutton, 2000). In order to really understand the fundamentals of software startups we first have to form definition on startups in general.

2.1.1 What is a startup?

According to Eric Ries (2011), startups can be seen as human institutions which are created to develop new products and services while facing extreme uncertainty. In his book, Ries states that one should not define startups too specific, since they can operate in different fields, be different size and have huge differ-

ences with each other. For one to be a startup, it is enough if they operate under extreme uncertainty while developing new products and services. (Ries, 2011.) When it comes to resources, startups often only have restricted amount of people, money and time to cope with. In addition to this, startups tend to be exploratory, operate without fixed requirements and lack customers or even lack a business model to follow. This being said, it is a great importance for startups to operate efficient and systematic, meaning that startups should minimize the time and effort used to develop new services and on the other hand always maximize possible value and continuously validate that your efforts are providing customer value. (Bosch, Olsson, Björk, & Ljungblad, 2013.)

Steve Blank has defined startups as organizations which are temporary and seeking for scalable, profitable and repeatable business models. While existing companies execute existing business models, startups are in so called "search" mode. This means that startups need to play by different rules and tools to maximize the possibility for success. So, startups cannot be seen as only small versions of big companies. (Blank & Dorf, 2012.) It is also important to understand the difference between startups and small businesses, since unlike startups, small businesses do not automatically aim to grow their business and usually their business model is not scalable (Unterkalmsteiner et al., 2016).

2.1.2 What is a software startup?

Paternoster et al. (2014) state that the constructs that define a software startup is that they are new and have no existing history and that they create top of the line technological solutions. Software startups operate under ambiguous conditions and attack growing fields of business without proper resources. (Paternoster et al., 2014.) Similarly, Giardino et al. (2016) refer to software startups as organization that focus in developing products that use top of the line technology and are innovative. These companies lack existing history, and their goal is to rapidly increase their business in markets that allow rapid scalability. (Giardino et al., 2016.) Still, according to Paternoster et al. (2014) even though software development is the essence on these companies, they do not tend to follow scientific understanding when it comes to software development (Paternoster et al., 2014).

According to Unterkalmsteiner et al. (2016), as a term, software startup was first introduced by Carmel in 1994, and ever since researchers have adopted the term and given it their definitions. At the moment, researchers have not come to a completion on the exact definition for software startups. Still, it is globally recognized that like startups, also software startups are in seek for scalability and rapid growth, while creating innovative services under uncertain conditions. All though software startups share most of their characteristics and constructs with non-software startups, for example the lack of history and lack of resources, they also often have to cope with emerging technologies and technology changes that are characteristic for the software industry. This is

what makes software startups interesting and challenging ventures. (Unter-kalmsteiner et al., 2016.)

Giardino et al. (2014) claim that software startups operate under an environment that typically is changing, uncertain, and sometimes even chaotic. This means that startups need to do things quicker than traditional companies; they need to fail rapidly, operate fast and by this teach themselves to find their customers and a scalable business model at once. Along with others, high uncertainty with fast evolution can be seen as key constructs of a software startup. (Giardino, Unterkalmsteiner, Paternoster, Gorschek, & Abrahamsson, 2014.) Table 1 presents the characteristics of a software startup listed by Giardino et al. (2014).

Theme	Description
Lack of resources	Economical, human, and physical resources are extremely limited.
Highly reactive	Startups are able to quickly react to changes in the underlying market, technologies, and product (compared to more established companies).
Innovation	Given the highly competitive ecosystem, startups need to focus on and explore highly innovative segments of the market.
Uncertainty	Startups deal with a highly uncertain ecosystem under different perspectives: market, product features, competition, people, and finance.
Rapidly evolving	Successful startups aim to grow and scale rapidly.
Time pressure	The environment often forces startups to release fast and to work under constant pressure (terms sheets, demo days, investors' requests).
Third-party dependency	Due to lack of resources, startups heavily rely on external solutions to build their product: external APIs, open source software, outsourcing, COTS, and so on.
Small team	Startups start with a small number of individuals.
One product	Company activities gravitate around one product/service only.
Low-experienced team	A good part of the development team is formed by people with less than five years of experience and often recently graduated students.
New company	The company has been recently created.
Full organization	Startups are usually founder-centric, and everyone in the company has big responsibilities, with no need for upper management.
Highly risky	The failure rate of startups is extremely high.
Not self-sustained	Especially in the early stage, startups need external funding to sustain their activities (venture capitalist, angel investments, personal funds, and so on).
Little working experience	The basis of an organizational culture is not present initially.

TABLE 1 Characteristics for software startups

Similar to this listing, many studies suggest that software startups tend to be service/product oriented, use top of the line technology, do not follow a business plan, and develop software under uncertain conditions (Coleman & O'Connor, 2008; Hilmola, Helo, & Ojala, 2003).

Paternoster et al. (2014) state in their study that when referring to startups, it is the researchers duty to define what is meant by this term (Paternoster et al., 2014). According to the picture that existing literature provides, in this study software startups are referred as recently founded companies developing technology involved products/services while operating under uncertain, even cha-

otic conditions when searching for a scalable and repeatable business model. When referring to startups in general it is not specified that it is a software startup producing technological conditions, but it is not either marked off.

2.2   Lean startup methodology

The Lean startup methodology has gained more recognition and its use among software startups has become more common in a rapid way during the past years (Edison, Smorsgård, Xiaofeng, & Abrahamsson, 2017). Rather than highlight a general business plan, the Lean startup suggests to early releases with products to gain customer feedback. Products should be delivered rapidly and developed constantly. The problem is, that as an early stage startup, you rarely know who your customers are and what do they see valuable. Steve Blank suggests that entrepreneurs need to "get out of the building" from the beginning of a company, in other words meet possible customers. This allows them to build a more accurate vision on what is the problem they are actually looking a solution for and find their potential customers. (Blank, 2013.)

The Lean startup methodology has its roots on Customer Development Model, which is structured as follows; customer discovery, customer validation, customer creation and organization building. So, it is built on four steps in a way that the first two parts aim to explain what your customers see as most valuable. The final two steps on the other hand focus on building a market for your service and then scale it big. (Blank, 2013.)

Edison (2015), explains that in Lean startup entrepreneurs need to use a feedback loop which will turn ideas into actual services and products, and then decide whether to pivot or preserve. This can be achieved by building a minimum viable product. This is done by the help of agile approach to get customer experiences on the service or product. This feedback plays as an essential role when developing the product further on. The feedback will determine whether the company should continue with its path and scale the business, or should they take a whole new direction, in other words pivot. (Edison, 2015.)

Unterkalmsteiner et al. (2016) state that even though the recognition and daily use of Lean startup methodology has grown within software-minded startups, it has faced a common issue within emerging methods. In the past the method has been nearly entirely followed by non-academic professionals and though it has lacked interest within researchers. Due to the methods popularity it has now gained more interest within the academic world as well. (Unterkalmsteiner et al., 2016.)

In the Lean Startup approach the process of failing repeatable and doing it rapidly is called validated learning when it leads to changes in business models, products or concepts within startups. These changes are referred to as pivot and presented to us by the Lean Startup approach. According to Ries, pivot is the most common feature of a startup that has gained success. (Ries, 2011.) Lean startup methodology focuses on the elements that bring value to customers,

and minimize all unnecessary, referred to as waste, during the development process. The movement suggests startups to develop their services iteratively and gain customer feedback early on. The essence of lean startup is this so-called Build-Measure-Learn loop. In this loop, startups are able to "build" ideas into actual products, to "measure" the feedback they get from customers, and then "learn" from this process. Though being sort of prototypes, this allows startups to build early on products, referred to as minimum viable products. This learning done in this loop process is called validated learning. It means that every assumption that a startup has on their business model is confirmed (validated) and after this the decision to pivot or not to pivot (preserve) is made. (Bajwa, Wang, Duc, & Abrahamsson, 2017.) Picture 1 describes the build-measure-learn loop.
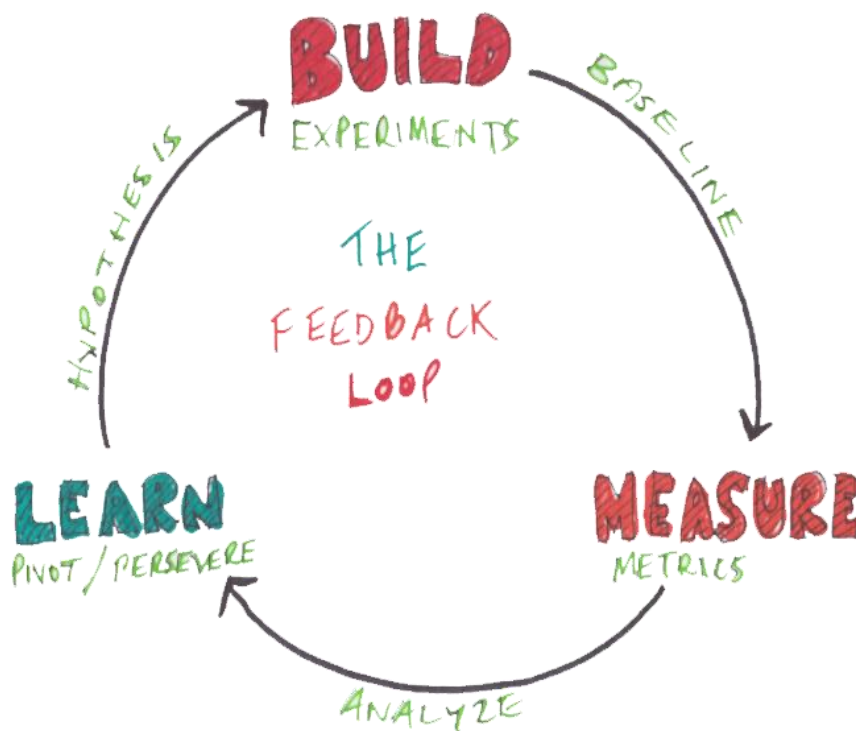
Figure 1 Build-Measure-Learn loop

2.3 Special characteristics of software startups

Already in 2000 Sutton described that the direction of a software startup changes constantly. He talked about "navigators" who lead the startup to the right path by making strategic decisions in uncertain and unpredictable conditions. He also mentioned, that "start-up software companies often must learn to run before they can walk". (Sutton, 2000.) In software startups failure is not only seen as important part of validated learning which might cause startups to piv-

ot but it even is saluted due to its nature. Pivot is a strategic change that can concern either a software startups business model, product/service or their concept. These intermediate failures aim to navigate away from a fatal failure. (Bajwa et al., 2017.) It is typical for startups to pivot, because it might save them from failing, if the pivot is done as fast as possible (Edison, 2015).

In general, startups have a high tendency for failure, and this tendency seems to be even higher among software startups (Wang, Edison, Bajwa, Giardino, & Abrahamsson, 2016). Due to this, pivots can be seen unavoidable for software startups in order to keep on going, grow their businesses and finally find the sustainable business model. It is only a fraction of software startups that find their business logic from the beginning, and actually many software startups eventually started to do scalable business with other features they originally were supposed to. (Bajwa et al., 2017.)

When it comes to resources, according to Hilmola et al. (2003), software startups do not tend to gain cash flow in the beginning of their lifecycle. Usually they have a fixed sum of money gained from various sources, and this sum is invested and hopefully it will generate positive results. This is a phenomenon that was already seen with Apple and Macintosh. (Hilmola et al., 2003.) Usman & Vanhaverbeke (2017) state that due to the lack of resources (both technology and finance) startups might be inadequacy to find and produce continuous growth. This forces startups to find venture capitalist and partners along their lifecycle. When goals are set in startups, it is crucial for startups to get investments to be able to follow their strategy. (Usman & Vanhaverbeke, 2017.)

According to Giardino et al. (2016) startups aim to get validation to their products from customers fast in order to find market penetration. This allows software startups to build only a fraction of the final product in order to get validation instead of creating all possible features to a new service. As resilience and reactiveness are key concerns for software startups, these companies should use evolutionary approaches when building software. Also, the constantly changing conditions force software startups not to have long-term planning without validation, since they are forced to have more than assumptions before committing decisions. Due to this, the initial product is usually a product with only the mandatory functions built with minimum work, in a way that the product allows validation to its core elements. This way software startups do not waste time on irrelevant features. (Giardino et al., 2016.)

2.3.1 Risks

It is commonly known that software startups face a lot of risks while looking for a scalable and repeatable business model. In addition to this, in general, the clear majority of software development projects fail to meet their target completely. Next, we will discuss the main challenges and threats that software startups have.

Crowne (2002) states, that most software startups fail to generate return for their investors, entrepreneurs and employees, in other words they fail.

These failures can be results of incapable sales, marketing and delivery process-es, but product/service development incapability's have to be taken into ac-count as well. (Crowne, 2002.) Similarly Bajwa et al. (2017) state that software startups tend to fail and this failure is even more fatal than with traditional software companies, since typically software startups focus on single projects (Bajwa et al., 2017.)

A study conducted by Wang et al. (2016) revealed that the challenges startups face varies based on the startups current stage. Developing a new product/service is seen as the biggest challenge in software startups, though the weight of this challenge reduces when the product gets more mature. This on the other increases the pressure on scalability and more specially customer acquisition. (Wang et al., 2016.)

Giardino et al. (2015) studied the key challenges software startups face in early stages concerning different constructs. They classified the challenges in to four bigger themes; product, market, finance and team. (Giardino, Bajwa, Wang, & Abrahamsson, 2015.) According to Giardino et al. (2016) there are only few studies conducted that address the general engineering issues with recently created software startups. They argue, that startups are in need for guidance as it comes to software development, since they lack resources and even one failed project can be fatal. (Giardino et al., 2016.)

2.3.2 Teams in software startups

According to Munoz-Bullon et al. (2015), in order a startup to become successful is dependent on how big the scale of resources a startup team owns. The teams experience has an effect whether a startup will successfully create new ventures in a profitable way while using the team's competences and skills. Since a team's resources are highly linked to the individuals a team has, it is important to have multiple team members, since it is uncommon that one individual was to hold all needed capabilities. (Munoz-Bullon, Sanchez-Bueno, & Vos-Saz, 2015.)

According to Drury et al. (2012) it is highly recognized in academic litera-ture among different researchers that teams usually are able to commit deci-sions more efficient than individuals since they have the possibility to discuss and share knowledge in decision making (Drury, Conboy, & Power, 2012). Sim-ilarly, Karhatsu et al. (2010) state that when teams operate under conditions that allow highly self-organization within the team, multiple positive conclusions can be observed (Karhatsu, Ikonen, Kettunen, Fagerholm, & Abrahamsson, 2010).

According to Munoz-Bullon et al. (2015), early stage startups are more likely to become valid players in the markets if they are able to create teams that have a high contribution rate. The effect of this becomes even higher, if the team members have existing relative experience within the scope the startup is ad-dressed to. If the experience is gathered from a different field of business, it cannot be straight used in the current venture. So, prior experience created by

team members may help the startup to success. The researchers also state, that features such as trust, communication and collective efficiency, when seen in teamwork, will lead to better business results. (Munoz-Bullon et al., 2015.)

2.3.3 Teams input for success

According to Unterkalmsteiner (2016) the meaningfulness of teamwork is recognized within both the academic world and practioners when it comes to software engineering. What makes a startup team unique is that it combines skills form various areas etc. business and software engineering. Even though a good idea is crucial when it comes to the founding of a startup, the glory or the failure of a startup is based on the execution of the idea which is in the hands of the team. (Unterkalmsteiner et al., 2016.)

According to Sutton (2000), project managers within the field of software have a long recognition when it comes to the importance of good people as the success factor for software development. Sutton states that the key is to have good managers and executives for leading technical strategies, since a startup needs to focus in their goal and move towards that goal. The problem is, that this goal may vary, since operating under uncertainty and dynamic conditions. This is why a startup needs to have executives that are able not only to be excellent leaders but also navigate and make decisions that influence a startups future in a radical way. (Sutton, 2000.)

Coleman and O'Connor (2008) state that in startups management usually lets the developers influence seriously on their own work and duties. This practice of trust has also been recognized in literature. (Coleman & O'Connor, 2008.) Since the environment of a software startup is ever changing, the team needs to be able to do collaboration with other stakeholders such as investors and advisors. As the background of the founders can vary a lot, it is crucial that they are able to work as combined during the lifecycle of their startup. (Unterkalmsteiner et al., 2016.) Similarly, according to Sutton (2000), the team members must be flexible and capable to adopt new directions, leave and take on different duties and adopt new roles. If these team members are developers it is important not to only appreciate their core skills, but also highlight their versatility and general knowledge and skills. (Sutton, 2000.) Software startups also have a high dependency on the capabilities of software development managers, since startups usually lack resources. This experience may help software startups to reach their goals and to take future steps. (Coleman & O'Connor, 2008.)

In their study Giardino et al. (2016) suggest that the original employees of a software startup are the core when it comes to good achievements in software development. These employees are expected of several things such as excellent commitment, multi-tasking and self-directing. This can be interpreted so that the team is the stimulant for development of the products. These members of the team can work in a multi-role and usually they are categorized as full stack

developers. When working in a multi-role, developers might even have sales and marketing duties. The study also show that software startups have severe lack of resources. Resources are categorized to time-shortage, limited human resources and limited access to expertise. This results into so called trade-offs, since software startups operate under restrictions, they are not able to do software decisions only based on software development but have to take others means into consideration as well. (Giardino et al., 2016.)

In their study Munoz-Bullon et al. (2015) found out, that when a startup undergoes the change from an emerging business idea into a scalable profitable business model, the team creation done by founders has a dependency towards the team effectiveness when it comes to the venture's success. The researchers found out that the higher the heterogenous of a startups teams resources are, the possibility of a startup to establish its place in the market also increases. Also, the experience a startup team has, had a positive influence when it comes to creating profitable business ventures. (Munoz-Bullon et al., 2015.) In other words, the resources a startup team owns will affect the fact whether the startup will gain success or not.

Based on current literature we are able to conclude that teams have a big influence on startups and their failure or success. Though we can state that further study within this field would be appreciated and we will widen the scope towards a commonly used tool to describe a startups strategy, the business model canvas. Next, we will form initial theoretical framework for Team Component and then widen the scope and look into business model canvas and then observe business model canvas combined to software startups and more preciously software startup teams.

2.4   Initial Theoretical Framework for Team Component

As shown in the previous chapters, the existent literature reveals that the meaningfulness of team is highly appreciated within the field of software development. The phenomenon is seen both in the academic world and literature, but also in the so-called grey literature, such as articles and non-academic circles. The question is, if teams have a crucial effect on whether a software startup gains success, has the meaning of team enough weight when it comes to startup execution and planning? Next, based on the existing literature this section will present an initial framework for team component that describes what are the constructs a team should have in order to successfully execute and find a scalable and repeatable business model.

Based on the previous findings we will next introduce the initial theoretical framework for team component. The component aims to give a basic understanding of what features are to be concerned when building up a software startup team. The idea is to describe that by which constructs a software startup is most likely to find a scalable business model. Other means may work as well

but based on the current research this model should help software startups to succeed.

Figure 2 below describes the constructs a software startup team should own in order to gain success eventually. The Team Component is divided into four parts; Resources, Self-organization, Way of Working and Network. First, we have resources: existing capabilities and relevant history. As stated by Munoz-Bullon et al. (2015), the success of a startup is linked to the resources a startup own and due to lack of money, most resources are provided by team members (Munoz-Bullon et al., 2015). As second, we have self-organization: self-guidance and team autonomy. A research conducted by Karhatsu et al. (2010) showed that teams that had high self-organization rate were linked to multiple positive outcomes (Karhatsu et al., 2010).
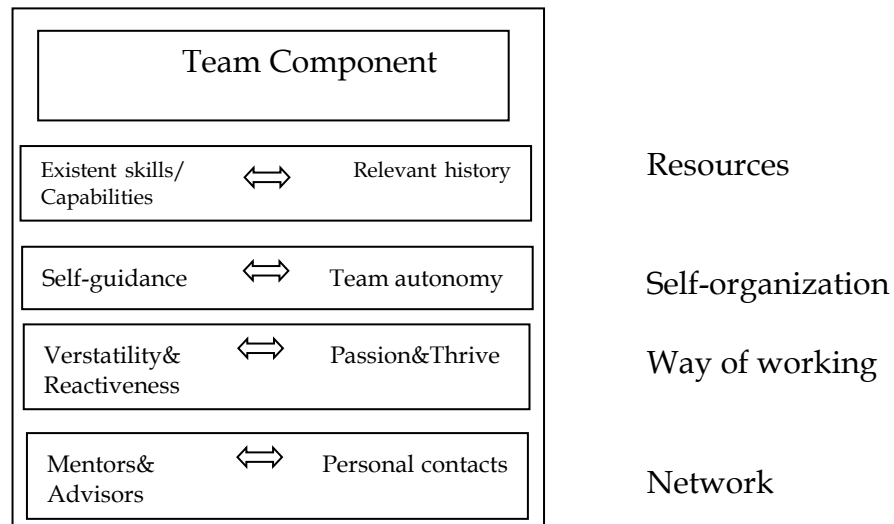
Figure 2 Initial theoretical framework for Team Component

The third element, Way of working (WOW); versatility & reactiveness and passion & thrive aims to explain the working culture and ambition a software startup team should aim for. According to Giardino et al. (2014) software startups have the ability to make fast reactions to changes in the markets, technologies etc., in order to find a scalable business model. On the other hand, Munoz-Bullon et al. (2015) found out that the more heterogenous a software startup team is, it is more likely for the team to create positive outcomes (Munoz-Bullon et al., 2015). The fourth element, networks are used to gain needed capabilities within the startup.

3 BUSINESS MODEL CANVAS

In general, BMC is a commonly used tool to analyze, describe and design business models. The initial idea of the concept was to create a so-called shared language that would allow organizations, companies and entrepreneurs to describe and adjust business models to create strategic options. This eventually would enhance innovation and new ventures. (Osterwalder, Pigneur, & Clark, 2010.)

According to Fritscher and Pigneur (2014), BMC helps companies to design business models. It is a visual modelling tool and method which allows to capture the essence of a companies' business models. It consists of nine different building blocks and it is used by making notes to each block. A complete BMC will provide you necessary information (key elements) of a companies' business model. BMC always represents a certain period of time, so it can show the future, the past, or the current situation. So, when changes in strategies are been made the BMC also changes. (Fritscher & Pigneur, 2014.)

According to Muhtaroglu, Demir, Obali & Grigin (2013), the business model canvas has widely been adopted as a global tool and organizations such as Nestle and P&G are using BMC to generate strategies in order to find new revenue streams. With BMC, these companies are changing their perspective from a product-oriented view to a wider thinking addressing business models. (Muhtaroglu, Demir, Obali, & Grigin, 2013.)

3.1 Definition for business model

According to Osterwalder et al. (2010), business model innovation has been used since the beginning of the 1950s. That time, when Diners Club presented the credit card, they were innovating their business model. To make a provocative statement one could argue, that the innovating of business model can be traced as far back as the fifteenth century, applications for mechanical printer devices were first sold. (Osterwalder et al., 2010.)

The initial idea for business models, and business model innovation is to generate additional value for entrepreneurs, companies, and their stakeholders. The essence is to replace old-fashioned models and accustoms. To give an example, Apple was able to change their business towards the music industry by creating a new business venture and become as market leaders. Similarly, Skype did the same when it comes to global calling, and other examples could be addressed as well. (Osterwalder et al., 2010.)

According to Osterwalder et al. (2010) "a business model describes the rationale of how an organization creates, delivers and captures value". In other word, it is something that describes how a company creates, delivers and captures value. (Osterwalder et al., 2010.) Klang et al., (2014) state that it is a commonly used tool in both business and management. One could easily confuse business model with business idea or business plan, while an idea is only a loose intent of something to be done, and a plan is a more formal description of a business model, business model formally explains the ideas feasibility in a conceptualized way. (Klang, Wallnöfer, & Hacklin, 2014.)

3.2 The building blocks of business model canvas

The business model canvas is based on nine building blocks which cover the main areas of today's business, customers, offer, infrastructure and financial viability. The nine building blocks are as follows; customer segments, value proposition, channels, customer relationships, revenue streams, key resources, key activities, key partnerships and cost structure. (Osterwalder et al., 2010.)

Figure 3 Business Model Canvas

BMC's core is to describe the nine most important constructs of a business and the canvas shows this in a visualized way (Muhtaroglu et al., 2013). Next, we will look more preciously into the individual building blocks of the BMC.

3.2.1 Customer segments

In their study Muhtaroglu et al., (2013) describe customer segments as an element that defines a profile for a group of customers a company wants to sell goods and provide value to (Muhtaroglu et al., 2013). According to Osterwalder et al., (2010) the core of this block is that it characterizes the segments (which can be consumers or businesses) the company is reaching for in order to offer their products/services. If a company does not have paying customers, it eventually will be fatal for them. It is as simple as that. Since companies tend to want to serve their customers as well as possible it is wise to group their customers into different groups, in other words segments. Based on these segments a company is able to make a decision on which segments to prioritize and which not. This decision allows companies to design their business model more speciously, since they know who their most important customers are. (Osterwalder et al., 2010.)

3.2.2 Value proposition

According to Muhtaroglu et al., (2013) value propositions are products and services added with value which is provided by an organization in order to answer to customer needs and provide value (Muhtaroglu et al., 2013). Osterwalder et al., (2010) state, that the essence of this block is to define the array of services and products that a company own in order to generate value to a specified segment of customers. Basically, value proposition can be seen as the explanation for why customers decide to purchase a certain company's products or services instead of competitor's products. By this, it is safe to say that value proposition resolves an issue a customer has or simply just fulfills his needs as a customer. Value proposition generates additional value for a specified segment with the help of certain features that meet the segments expectations. The features may appeal to customers qualitative needs (e.g. user experience or design of the product or service), or they may appeal to quantitative needs (such as price or the fastness of the product). Often, if a company is able to provide the feature of newness, it is technology involved. (Osterwalder et al., 2010.)

Muhtaroglu et al., (2013) also state that companies have to improve their offerings constantly with new innovations, meaning that new solutions to provide answers to customer needs need to be found, since new players are emerging different fields of business rapidly (Muhtaroglu et al., 2013).

3.2.3 Channels

According to Osterwalder et al., (2010) this block of the business model canvas is designed to explain how companies reach their customers, and then communicate to them while delivering their individual value proposition. Basically, sales, communication and distribution are the core means how a company is able to communicate with their customers. Since channels are the core on how companies keep contact with their clients, they address a key role when it comes to customer satisfaction. This been said, channels can be used to multiple purposes such as raising awareness, allow customers to commit purchases and for example provide customer service. What then is essential for a company is to know how and through which channels customer want to be served from, and how is this done the most efficient way. (Osterwalder et al., 2010.) Similarly, it is described that channels explain how an organization reaches their customers and delivers their goods and services to these customers (Muhtaroglu et al., 2013).

3.2.4 Customer relationships

According to Muhtaroglu et al., (2013) customer relationships can be seen as so called "lifeblood" for an organization. They describe customer relationships as the communication a company develops and attains with their customers. (Muhtaroglu et al., 2013.) In their book, Osterwalder et al., (2010) state that this block aims to explain what kind of relationships companies have with their specific customer segments. For a company, it is important to understand, what kind of relationships do they want to have with their customers. Some of their customer segments may be served automatically, and some customers might want to be served with a more personalized way. There are several reasons why a certain relationship is built with a certain segment, for example acquisition of customer, the retention rate of customer and customer development (upselling) might influence the nature of relationship. An example can be provided from the mobile world; in the beginning of mobile operators, companies were eager to gain as many customers as possible which lead to giving phones free of charge to certain segments. As the market started to be mature in term of number of customers the key for these companies was to maximize retention rates and this way gain more money from each customer with upselling. It is clear, that the way customer relationships are been taken care of have a big effect on customer satisfaction. (Osterwalder et al., 2010.)

3.2.5 Revenue streams

Simply, this block aims to explain the money flow a company gains from their customers. This should not be confused with earnings, since revenues do not exclude costs. When it comes to business models customers can be seen as the essence of it, and revenue streams follow up to that. Companies have to be able

to know, what their customers are willing to pay. A company may have multiple revenue streams, and they all may work in a different way. (Osterwalder et al., 2010.) Likewise, Muhtaroglu et al., (2013) describe revenue streams as a construct that explain the monetary income of a company when it provides services and value to customers. In other words, revenue streams provide a summary of a company's activities and their prices and explains how a company's revenue increases. (Muhtaroglu et al., 2013.) Osterwalder et al. (2010) claim that there are two types of revenue streams that a business model may own; transaction revenues (payments from customers who only purchase once) and recurring revenues (e.g. revenues gained after the purchase or ongoing revenue from customers). For a company it is important to know, what is the share of each type of revenue stream. (Osterwalder et al., 2010.)

3.2.6 Key resources

What are the most essential assets of a company? That is what key resources aim to answer. Key resources explain what is needed from a company to get their business model successfully working. The type of business and business models effects on which are the key resources for an individual company. Resources can involve factors such as finance, intangible matters and human. In their book, Osterwalder et al. points out, that for knowledge-intensive and creative industries human resources (e.g. team) is crucial. (Osterwalder et al., 2010.) According to Muhtaroglu et al., (2013) key resources can be seen as the capabilities and inputs an organization has to have to offer their value proposition to their clients. They name tangible and intangible skills combined with people skills as important features when providing value to customers. (Muhtaroglu et al., 2013.)

3.2.7 Key activities

What should a company do in order to get their business model working? Key activities provide the answer to this. Key activities are the most crucial things a company have to do to success in their daily operations. Similar to key resources, key activities are also dependent to the business model and when done properly, they generate a successful value proposition. When it comes to software development, it is seen as a part of key activities. (Osterwalder et al., 2010.) In their study Muhtaroglu et al., (2013) define key activities as the actions an organization has to complete to create, market and deliver their products and services to their customers and generate profit out of this process (Muhtaroglu et al., 2013).

3.2.8 Key partnerships

This block of the business model canvas aims to explain what kind of contacts a company needs in order to get their business working. Who are the crucial partners and suppliers that are crucial to the company's success? Partnerships are been made to outsource the non-crucial functions, for minimizing risks and for gaining skills a company does not have. Osterwalder et al. conclude four different types of alliances as follows; strategic alliances (partnership with others than competitors), co-operation (strategically meaningful alliances with competitors), join ventures (this is done to gain new innovation and ventures) and buyer-supplier relationships (this way reliability can be created with manufacturers and suppliers). If three important motivations are found to back up partnership it usually is wise to create them. (Osterwalder et al., 2010.)

3.2.9 Cost structure

Finally, the last block of the business model canvas aims to explain how costs are created within a company and which of these costs are most crucial. Even though one should always try to minimize costs, in some business models low costs are more crucial than in others. According to this, in their book costs are divided into cost-driven and value-driven models. Though, many businesses operate with a cost structure based in the middle of these options. When it comes to cost-driven models, their essence is to minimize costs at all stages and it usually leads to automation and outsourcing. Value-driven models on the other hand focus in creating superb value to their customers, not minimizing costs. These companies usually offer excellent service and are so called premium or luxury companies. (Osterwalder et al., 2010.)

3.3   Lean canvas

Lean canvas is a methodology presented by Ash Mayra and it is based on the original business model canvas. Lean canvas adapts some of the original building block of business model canvas, but most of it is reinvented and the idea is to back the startups founders (Gierej, 2017).

The ultimate idea of the lean canvas is to provide a thorough understanding of the customers' needs. The first step is to identify to problem that will be solved and then reveal who the ideal customer would be. This allows startups to verify that their hypotheses are legit. According to the information received in phases one and two, the next step is to create this so-called unique value proposition. If this cannot be done, the startup should start everything over from step one. Before a startup can start working with the actual resolution or solution, they first need to verify the idea with the ideal customer segment. According to Mayra, this way of working is justified since most software startups

fail because they first create the product and only then test it with the customers. (Maurya, 2012.) Table 2 describes the differences between the business model canvas and lean canvas presented by Gierej (2017).

Business Model Canvas	Lean Canvas
Strengths	
simplicity – the concept is simple, clear and transparent	simplicity - the concept is simple and easily digestible
universality – is appropriate to the different types of business	concept uses natural business logic – problem-solution
inserting value proposition in the center of the model	each in its own logic, focus on human-client, not the concept or technology
	flexible – not close in the structure of resources and organization, but can still think and define human problems
Weaknesses	
static image – the concept is a snapshot of reality	begin from the problem – focusing on the customer
lack of feedback mechanism	does not encourage bold action aimed at creating
low adequacy for dynamically changing solutions	radical innovations

TABLE 2 Differences with BMC and Lean Canvas Gierej (2017)

The lean canvas can also be described with a similar loop to the build-measure-learn loop, as shown in figure 3 below.
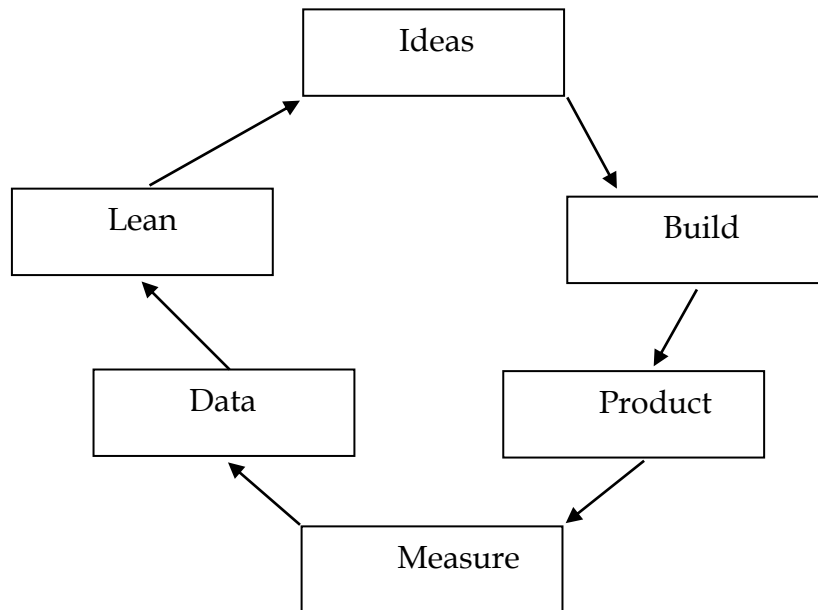

Figure 4 Lean loop

The loop can be interpreted as follows; when the lean canvas is applied in a startup you always start with the idea, the problem. After this a prototype or a minimum viable product is built, and the result are been measured. The data gathered is used and only with this the business can be validated.

3.4 Research Gap: Lack of team in business model canvas

When it comes to traditional software development the development is typically done in teams and the characteristics of a team usually identify hierarchy and different levels of authority. This way the teams do not communicate directly with each other's, and this may lead to inconsistency when it comes to the project itself. (Tomayko & Hazzan, 2004.) According to Hoda et al., (2010) teams applying agile methods vary significantly from traditional software teams. Agile software development teams are often seen as self-organizing teams and they can also be seen as the core of agile software development. (Hoda, Noble, & Marshall, 2010.) The methods used in agile software development are often used together with the lean methodology in order to enhance the possibilities of a startup to succeed (Bosch et al., 2013). Since the empirical studies in the field of IS emphasize the meaningfulness of team as does the literature within the scope of startups, we may argue that a deeper understanding when it comes to meaningfulness of teams in business model canvas is needed. Based on these, in the context of this thesis teams will be interpreted from a self-organizing perspective.

3.4.1 Definition for self-organizing team

According to Hoda et al., (2010) a lot of research has been done when it comes to self-organizing teams. This methodology has also taken a severe part when it comes to software development, since self-organizing teams are today seen as a key element when it comes to agile software development. (Hoda et al., 2010.) According to Moe et al., (2008) the lack of team support and restricted autonomy can be seen as barriers when it comes to self-organizing teams. They also suggest that agile software development needs a high level of autonomy when it comes to individual and team decision making. (Moe, Dingsøyr, & Dybå, 2008.) According to Karhatsu et al., (2010) a lot of positive results have been found when teams are operating with a high level of autonomy, in other words self-organizing (Karhatsu et al., 2010).
In the study conducted by Hoda et al., (2010) the researchers suggest self-organizing teams should be seen through six different roles; Mentor, Coordinator, Translator, Champion, Promoter and Terminator;

1. Mentor, is seen in the team as the person who gives guidance and support to the team, and this way develops the teams agile methods and self-organization.
2. Coordinator, is seen in the team as the person who is the teams representative when it comes to customer expectations and customer dialog with the team.
3. Translator, is the one who works as an interpreter between the technological stuff and business side that comes from the customers.
4. Champion, is a person who speaks highly of Agile benefits to senior management in order to get more support to the team.
5. Promoter, who does basically the same as the champion, but his segment is the customer. So, the promoter's goal is to promote agile to customers and this involve them, and way allow good working conditions for the team.
6. Terminator, the role of the terminator is to delete all activity that may harm the work done in the self-organizing team.

In agile teams, the roles of each member may vary, and team members often have to work outside their usual terrain. So, the roles describer above are not strictly to a single person from the team, but the roles are performed by different members. (Hoda et al., 2010.)

According to Karhatsu et al., (2010) the key elements for a successful self-organizing team are team orientation, shared leadership, autonomy, redundancy, learning, and communication and collaboration. Their model is based on two core elements which are autonomy and communication and collaboration, since any team wanting to work as a self-organizing team cannot work without autonomy. Autonomy can be seen as the most vital feature for self-organization to work. Basically, it means the ability for a team to affect their own work. (Karhatsu et al., 2010.) Autonomy then can be divided to three different levels which are external (how much the team is influenced by external members), internal (how does the team organize tasks) and individual (what is the level an individual can make decisions when it comes to their own work) (Hoegl & Parboteeah, 2006). On the other hand, communication and collaboration is vital when it comes to the execution of the four remaining constructs, since they cannot be applied without communication and collaboration within the team. According to the study, the other four elements (team orientation, shared leadership, redundancy and learning) are supposed to support the activity of a self-organizing team. By redundancy the team should aim at the opposite of individualism, in a way that tasks are not to identified to a single member. (Karhatsu et al., 2010.) Learning is needed from different views. First, in order for a team to have redundancy, they need to able to learn from other members. Since a single team members success has an effect on the team's success the individuals need to learn from the team and vice versa. (Janz, 1998.) Team orientation allows the team to take part in planning and goal setting and shared leadership lets teams to work cross-functional (Karhatsu et al., 2010).

3.5 Summary

The previous chapter presented and essential piece of the theoretical framework of this study. In this chapter the constructs of the business model canvas were described and an understanding for the business model canvas based on the current literature was created.

Chapter three presents the core elements of business model canvas which are customer segments, value proposition, channels, customer relationships, revenue streams, key resources, key activities, key partnerships and cost structure. Other canvases such as the Lean canvas are also briefly described and compared to business model canvas.

The research gap of the study is also presented in chapter three: Lack of team in business model canvas. Typically, software development highlights the meaningfulness of team. This is also suggested by empirical studies. This is presented as the research gap since business model canvas does not value team as its core features but focuses in other means.

Since the value of team is highlighted within empirical literature the team perspective is described and examined. This is dome from a self-organizing perspective. Also, a definition for self-organizing team is presented.

Chapter two and three form the theoretical framework of this thesis and in the following chapter four the research design and methodology of this thesis will be presented.

4 RESEARCH DESIGN AND METHODOLOGY

The primary goal of the empirical part of this thesis is to validate, enhance and test the validity of the suggested theoretical model associated to Business Model Canvas. The following part explains the context of this study, the used methodologies and the data collection methods that were applied in this thesis.

4.1 Context of the study

The empirical data used in this thesis was collected based on a Lean Startup course held in University of Jyväskylä starting in fall 2017. The course was held for the first time in Jyväskylä, but it has its roots coming from multiple universities all over the world. The course was held by Professor Pekka Abrahamsson who is also the supervisor of this thesis.

The goal of the course was to develop students' abilities to systematically develop their existing business ideas and create a minimum viable product using the guidelines and metrics existing startup knowledge offers in order to validate their businesses. The course started in fall 2017 and ended in January 2018 in a public pitching event where the teams pitched their ideas to investors. Startup characteristics are described in table 3 above.

Team	Team size (Course attendees)	External members	Business idea	Established	Currently active		
Mynum	1	0	Personalized clothing	2017	NO		
INNI	1	NA	Nail stickers	2015	YES		
GimmeSpot	2	0	City planning with data	2017	NO		
Unibyte Studios	2	2	Mobile gaming	2016	YES		
Give and Take IO	1	3	Empty screen advertisement	2017	YES		

Zerocode	3	1	New way of coding	2017	YES		
Foodime	2	0	Food application	2017	NO		

Table 3: Startup team characteristics

The course attendees were all students but as shown in table x, some of the teams also had other members than the course attendees. Since some of the startups were started prior to the course, the level of startups varied a lot as well as the competence or prior knowledge and experience of individual team members when it comes to startups, software startups and entrepreneurship in general.

Table 4 presents the experience of the interviewed course attendees. As shown, the level of experience varied a lot among the attendees. The most experienced entrepreneur and programmer had relevant working history for over 32 years, while some had their first experience during the course.

Prior experience on software startups, startups or entrepreneurship	
none	4
1-2 years	3
2-5 years	1
5-10 years	1
10+ years	1

Table 4: Team members prior experience

4.2 Methodology and Data Collection

The empirical data used in this thesis consist of two different sources. In both cases the data was gathered based on the Lean Startup Course mentioned before. When it comes to empirical examination both quantitative and qualitative or either one of them can be applied. The primary data used in the context of this thesis is qualitative, although some quantitative data is also applied. This is due the fact, that the ultimate purpose is to evaluate nonnumeric, but qualitative date. According to Nowell et al. (2017) for qualitative research it is important that it is done using methodological ways to produce results that are useful and important to its audience. The analysis needs to be done in an accurate, uniform and a thorough way by systematizing, recording and revealing the methods that were used for the analysis. This done so that the reader can trust the trustworthiness of the study and decide whether it is credible. (Nowell, Norris, White, & Moules, 2017.)

As other research methods, thematic analysis also includes risks. One noticeable fact is that the lack of academical literature revolving thematic analysis

exists. (Braun & Clarke, 2006.) One of the advantages of thematic analysis is flexibility which can also lead to inconsistency if used wrong.

As a novel researcher, thematic analysis allows a good way to start analyzing data since it does not require knowledge regarding other qualitative research methods and though provides an easy access to analysis (Braun & Clarke, 2006).

The primary data was gathered through semi-structured interviews. In semi-structured interviews the questions were prepared in advance, but it lets room for the interviewer to make further and more detailed questions based on the respondent's answers. Since the semi-structured interview have often also unstructured questions it is best to record and transcript the interviews for later analysis. (Cohen & Crabtree, 2006.) The reason why semi-structured interviews were chosen was because it allowed the researcher to lead the interviews towards the constructs that were vital for the study.

The data gathered from the interviews were analyzed using thematic analysis. According to Nowell et al. (2017) thematic analysis is a method used in qualitative research that can be applied with different kind of research questions (Nowell et al., 2017.) According to Braun & Clarke (2006) thematic analysis can create new visionary and trustworthy results (Braun & Clarke, 2006). Thematic analysis can be seen as an approach that is applied for analyzing, identifying and reporting different themes that can be found from qualitative data (Cruzes & Dyba, 2011).

According to Nowell et al. (2017) thematic analysis should be conducted in six different phases listed below.

1. Familiarizing yourself with your data
2. Generating initial codes
3. Searching for themes
4. Reviewing themes
5. Defining and naming themes
6. Producing the report

This method was applied by the researcher in this thesis when the thematic analysis was done. Based on the analysis empirical results are presented in Section 5.

In qualitative research the concept of reliability and validity can be seen as trustworthiness, thoroughness and quality when it comes to the paradigm of qualitative research. Through the mentioned themes validity and reliability can be found in qualitative research. (Golafshani, 2003.) In this study the researcher focused in eliminating his own perspectives when analyzing the data and when conducting the interviews, to ensure highest level of validity and reliability.

4.2.1 Team interviews

The primary data of this thesis was collected in qualitative means using semi-structured interviews. All together five startups teams with eight respondents were interviewed after the completion of the course.

All the interviews were recorded and transcript to increase the validity and reliability of the study. The interviews were conducted in English and one interview lasted approximately 60 minutes. The respondents attended the interviews in teams whether via Skype or face-to-face depending on their personal schedules. Most of the interviews were done face-to-face All together the interviews produced nearly 50 pages of written material which then was analyzed.

4.2.2 Canvas material

The secondary material was gathered from student observations. A group of students (altogether 23 students) observed the pitches that the startups that were introduced held in the end of the Lean Startup Course. Based on their observations the students filled a Lean Canvas for every startup. All in all, 154 canvases were filled. The intent was to study how well do the canvases gather information and the core idea from the pitches that were given. In other words, how do the canvases help organize the information that is received from the pitches and also to understand which are the things and matters that attract the viewers' attention in the pitches. The idea was to see if the students were able to fill the canvases properly or not, and if the information met what to startups wanted to communicate from their startups. This data was analyzed as secondary data and the primary focus is in the primary data, which were the interviews that were conducted.

Figure 5 Lean Canvas

5 EMPIRICAL RESULTS

The following section presents the findings based on the empirical material and research. This section will go through the findings from the interviews and also the secondary data based on student observations. First, the background of the study will be explained. This will give a deeper knowledge regarding the respondents' expectations and backgrounds, as well to the progress of the startup projects and finally present the end results of the startup projects from the team members view.

Section 5.2 presents the empirical findings that are divided into six different themes based on the thematic analysis. After this, section 5.3 presents the primary empirical conclusions that are conducted from the empirical findings. The following chapters include quotes from the collected material. Each quote has a specific code that identifies it to the interviewee. Each of the startup teams are divided into teams 1-5, for example "TM5". If a team had more than one person present at the interview, they are categorized as A and B, for example "TM1A". So, the number refers to the team, letter to the person. If a comment includes a reference to a person, they are not identified, but mentioned for example as "Team member X", or "Mentor X". All the interviews were conducted in English. Since none of the respondents spoke English as native language, if a reference had misspelling or similar, they are corrected by the author to make the quotes more understandable.

5.1 Background of the Study

As mentioned in section 4.1, the level of expertise among the respondents varied a lot. This was related to both technical knowledge and business skills, even though all of the attendees were information system science students. Some of the attendees were experienced entrepreneurs while others were bachelor students. Also, some of the startups had existing history prior to the course while some of the startups were created during the course. When asking about their existing skills only some of the respondents mentioned technical features such as coding.

> My main competences are divided to two sections. I have basic knowledge from the system point of view and technical side and maybe a little bit stronger competence in business side and thinking business vide. (TM4B)

> I've been an entrepreneur for 32 years and I am a good programmer, backend programmer and I have been learning frontend programming too lately. And I consider myself a very experienced programmer and a good programmer. (TM2A)

More often the respondents focused on other capabilities related to business and general interpersonal skills. This might be due to the lacks concerning technical knowledge. It raises the question whether these software startups had versatile enough resources to execute their ventures successfully in the field of IS. Though it should be said, that some of the teams had external members who were not interviewed.

> I feel like I am really good with people because of my background where I have worked. I am not afraid to approach people and investigate things so thinking of from a startup way these would be my strengths. Also, I get along with all kind of people, that's one. When we think about knowledge on something, maybe my skills in already having knowledge is not so good. But I think that today we are more about how to search for knowledge, so I think searching for the information, the right information that is something we have been learning here at the university. (TM4A)

> My skills are presenting a product or a business, change management, entrepreneurship. I am trying to start my own company, both in Finland and Nepal, all because of the courses I have took in my masters. I would say those are my strengths, change management, analysis, entrepreneurship, leadership, something related to that. (TM3)

It soon become clear that the respondents had a better knowledge on technology than maybe the average person has, but their individual resources where lacking the technical side in a whole.

> I have always been interested in computers. I have been playing with them and see what we can do with the electronics we have around, but software startups I can say that my history starts in 2017 autumn when we did have this competition in Jyväskylä entrepreneur society's discovery Tuesday. (TM5)

> So, I could start, my main skills are mostly related to marketing, networking, business developing and things like that. I fancy myself as combination of growth hacker, CEO type, I think I am pretty good at leading a team and things like that and meeting new people and things like that. And getting leads, so pretty good business developer and salesman as well. (TM1A)

> I don't have an extensive job history at this point, but I consider my professional strengths based on what I have experienced so far, being mostly people oriented, as well as general communications including writing. I consider my strengths synthetizing data and basically modelling things in the sense that my job basically revolves looking at data and making, basically looking at data and looking at trends and mak-

ing reasonable conclusions based on the data. People skills, communication skills, writing. I wouldn't say data analysis since it usually refers to quantitative things but working with data I suppose. (TM2B)

As shown above, the starting points of an individual were versatile which might have affected the end results of the ventures. Since, the starting points varied a lot, also the expectations for the course varied among the respondents.

When it comes to the expectation's respondents had towards their startups the answers varied a lot. Some of the startuppers had a firm believe for the future and high hopes and expectations for their success. Meanwhile others felt that they only attended a course that would start at one point and end at another and had no real goals to proceed with the startup after the course.

> I felt like, when I started this course I thought it was going to be a course. It starts at one point and ends at one point. I wasn't mentally or actually in any way ready to make a real business. (TM4A)

> To be honest, as I said, I thought that this course will start and end at one point. So, I didn't have big expectations that this course is going to bring me an idea that we are going to concur the world with it. (TM4A)

Some of the teams on the other hand were eager to succeed. They were looking for rapid expansion and scalability as startups tend to do.

> The idea is how to turn a business where you sell 1-2 products a year into a business where you sell millions of products in one year. (TM2A)

After the course, some of the teams still proceeded with their business ventures. Some had already pivoted their prior idea and were proceeding with another business plan, yet others did not proceed at all. Still nearly all of the respondents saw that their startup experienced had been positive and they even if they could not categorize their projects as a success. When asking if they would categorize their startup as success or a failure the response was as follows.

> It is kind of a tricky question,, The course itself had some goals, but I wouldn't say we were that focused on the course. I suppose it was in the constrains we had in terms of time, it succeeded giving Founder X something to build on for the future. But it didn't really solve the fundamental issue on what Founder X wanted to do. So I wouldn't really call it a success, but I wouldn't define it as a failure since we did make some progress. (TM2B)

> I wouldn't say it was a successful in business meaning but it was a success for me and Team member X in other ways. (TM4A)

What was common among the respondents was that the success of a startup team was not evaluated from a business view but from other points. This could have been affected by the fact that startups were conducted under university conditions, so the teams had other values than monetizing.

> I think it was a success. It really made me think where to go. It was not a success at that point. But how do you define success, if you have money, no? No. The success was in a way it really waked me up to think what this should be. We were running out of time during the course but now, it has given me really clear view where to go. This new idea was started because of the course. But any way it was success, since it made me clear my thoughts. Billions of ideas into one. (TM2A)

Others also had challenges defining success. If the passion for their own business was big, the respondents believed in the future even if they had not had any paying customers yet. Since startups operate under uncertain conditions seeking for a scalable business model the founders need to have belief in what they are doing.

> No fucking idea. It is too early to say; I hope we are a success and it goes great. But you have to like kick, hit your head on the wall enough many times and then something might happen. We are going to a great way and think it will be a success, but I have absolutely no idea will it be a success, I have faith, but nobody knows. (TM1A)

In this chapter the backgrounds of the respondents were analyzed. The level of expertise among the respondents varied and also the knowledge when it came to the field of IS. The respondents had more skills when it comes to general business knowledge and interpersonal skill instead of software development.

Next, we will look more closely to data and use the theoretical framework for Team Component as a baseline, as see, if the theory can be justified by the empirical research. Other themes found in the material will also be further discussed.

5.2   Characteristics for team element

The following chapter describes how the characteristics of the team component were visible according to the data. The characteristics are divided into themes based on the results and analyzed individually. Based on the findings primary empirical conclusions are made.

5.2.1 Theme 1 / Network

The theoretical framework presented in chapters 2.3.3 and 2.4 suggests that networking, as a critical success factor for the startup team, can be seen as one of the dependent factors when it comes to the success or failure of a startup. If a startup does not have the required connections it might be hard for them to gain the needed resources to succeed. Vice versa, if a startup, or a single member of a startup has the right connections it might open doors and help them gain the needed knowledge to succeed. Networking can be classified with per-

sonal contacts (internal) and mentors & advisors (external). As one of the respondents commented:

> Then of course at the top of the cake we have team member X, and team member X is our treasure. He has provided us so much contacts and he has boosted us into what we are doing. And I think he is one of the reasons why we can be successful. (TM1B)

Since the interviewed startup teams were participants at the Lean Startup course, they all got weekly feedback from the course administrates and though had mentors for granted. The data revealed that 80% of the teams benefitted from their contacts also from outside the course environment. As an example, one of the teams named one of the biggest and most important steps during their startup progress as hiring a new co-founder and an advisor board to the team. When asking what the reasons for this to happen were they answered;

> I am friends with this Person X, who is tutor, she asked me to her pre-freshman party and I went there. Everyone drank something, and I didn't, then I asked if anyone is interested in game graphics. One of the girls raised her hand and then we talked, and I sold her on our company and got her in. (TM1A)

Regarding the advisor board the answer was:

> I thought what we needed, Advisor 1 was in my network, Advisor 2 was and Advisor 3 was. They were someone who we needed ok, we need a gaming advisor, and we met Advisor 4, and I knew he was a serial entrepreneur, and I heard he has been a game entrepreneur, and we asked him, and he came along. So, networking. (TM1A)

Another respondent stated that even though their startup owned multiple resources, acquiring a new advisor was the missing link that was needed for the startup to succeed. In this case, the advisor was found based on previous projects.

> And the newest member and also the business angel of this startup company is as a business advisor who has great experience on business models and monetization and making things run and make it alive and avoid some stupid typical startup mistakes. He has great experience from Silicon Valley also. So, we are really lucky and grateful to have him around because he was the missing link that we need to make this company run. (TM5)

Also, other benefits were found through internal networks. For example, if startups hired or thought about hiring new members or employees, it was mainly done through internal contacts.

> So basically, who were interested who did have passion for this startup to keep going and keep working on that and after that the members and their friends have been joining to the team and by that we have been finding pretty good people around on different aspects. So first it was random, and it was luck, but after that it was okay,

we need this person, we need this person. Does anybody know anybody on this sector and we have found it out based on that. (TM5)

First, I would need a COO, which I already have in mind, who can run the company. (TM3)

I feel like we would have been able to find the right persons to have the possibility to do this. But if talking about just me and Team member X, I don't think so. (TM4A)

Similarly, another respondent pointed out, that the reason why he was the right person to execute the idea was due to his contacts. Since the idea was to outsource an existing concept abroad, the respondent served as the missing link between the existing company and internationalization.

I think I am the right person, since I've been in contact with Mister X, founder of the existing company, it has numerous branches in five cities in Finland. They are also my potential investor, and I will get experience from them and they will guide me. They don't know how to do business in Nepal, so they will be my helping hands and I will be the bridge, that's going to build this new startup so I think I am the right person to execute this. (TM3)

Depending on the team, the level of networking varied, but what repeatably came up among the respondents was the lack of certain capabilities within the team. What was interesting, is, that most of the respondents saw these lacks as lacks in their networks, not as inherent resources. So, in order for the startups to succeed better, the respondents saw that they were missing something. In most cases the respondents saw that this was due to lack of contacts, in other words networking.

I think we were missing experience in the startup world, but we were students... (TM2A)
I think related to what I said earlier... We were thinking about what we should or could do, but in the end, I had no experience on how to actually do these things. We could have used more people, but where do we find them, how do we recruit them? The practice of it was missing. (TM2B)

As mentioned, the use of networks varied between the teams, but what was consistent was that the startups used networks for something, even though the reason to use contacts varied as well as the source of network (internal or external). For example, networks were used for marketing causes, for idea building and coaching, getting funding and team building.

I already have these connections, for example a guy with 30000+ followers. Whenever he posts, I comment, and he comments back. And then we talk sometimes. So, there are a lot of people like this that I already talk with. So, it is not hard for me to get in contact with them. They are the one who are running the accounts, rather than the managers. (TM3)

> In the course a lot of people came to the lecture to talk about startups and we had these rehearsals and got feedback from people who know startups and we got feedback that maybe we are not, we had the initial idea about our startup. (TM4A)
> We are not ambitious enough. (TM4B)
> Yes, we have to have a bigger plan, bigger picture to concur the world, stuff like this, so we made a bigger picture. We just took advice from other people. (TM4A)

One of the most successful startup teams was founded as a result of a networking event. In this case the founder benefitted from his internal networking skills and this way familiarized himself with new acquittances. These acquittances later on became his business partners.

> Our team was founded at the first by luck and some random aspects because I was applying for this Discover Tuesday with a friend and they were putting team members randomly on some teams and we just started working on there. There was eight persons, if I remember right on that time, and only three of us continued that after the winning. (TM5)

An observation that was made based on the data is that the use of networks was often also linked to resources. Many of the teams faced issues when it came to the idea explanation to others than team members. In most of the cases with the right networks the pitching process could have been sparred and though developed. If the startup did not find help to these issues through networks, they seemed to be incapable to handle these communication issues themselves.

> Also, it was really helpful to have some practice and startup coaches because first time we tried to explain this, it was like okay we know this in our own heads and we were accepting that. Because of this everybody else knows what we are looking after, but the true fact was totally different. (TM5)

> This is some big problem that we have been facing. Even these days, because explaining our idea and simplify it, maybe half of the people get it and half of the people get it some way wrong. So, what we figure out after couple first rounds when we do some pitches in some smaller competitions is that we need to show the customers or the people we are talking something physical, so basically we are start carrying this raspberry PI with us and we were showing that this is the device that you can put on your screen and stuff and by that it is unique and we control and we get to this and this and stuff. And that helped a lot. It is really simplified version of what we can do but people need to get some basics before they can like understand more features or more opportunities of that. So, we did have some problems and we still have. (TM5)

As respondent (TM5) above explains, their team faced challenges when it came to the idea explanation. Even though they tried to fix the issue by other means than by improving their communications they did not come to a good end result.

> That was one of the biggest challenges we were also trying to tackle. Even after we started having a better idea what actually was the idea, it was still a challenge to communicate it since it is really complex field. (TM2B)
> That was absolutely problem number one, how to communicate the ideas. (TM2A)

I think when we talked about it to other people, everyone understood us, what is this all about, but when we had the lean startup event, where we had a particular time and pitch time, that was pretty small. We were not able to execute so, that people would understand the core idea. Somehow our video and pitch made it more like the mobileapp was the number one thing even though we talked about this many times with Team member X, that we try to make... (TM4A)

They thought the parking was the main issue. But from our point of view, the main issue was that the cities don't gather any data. (TM4B)

We tried to bring it out in the pitch but somehow, we were still not able to make it strong enough so that people got the idea what is the main point of our startup. (TM4A)

The challenges among multiple teams when it comes to the idea communication raises the question if communications skills should be valued at a higher level. To say it in another way, what kind of tools, capabilities or networks does a startup need in order to able to communicate their vision effortlessly? Business model canvas aims to help startups to explain their businesses in an easy and visualized way to external members such as stakeholders, mentors and investors. In this case most of the respondents saw business model canvas (among other tools as well) useless for the purpose it was created to.

The collected data confirms that networks have a role when it comes to the success or failure of a startup. With the respondents the lack of networks was seen as a factor that negatively affected the startup. The same time a single team members contacts could affect the success of a startup extremely. The material reveals that internal contacts should be highly appreciated in a startup. The reason why the focus should be on internal contacts, is that the material suggests that internal contacts will lead to external contacts. Even if a single founder of a startup has wide personal contacts, these contacts can be benefitted from in business and lead to external contacts etc. advisor boards.

Based on the data, networks are highly linked to recourses and often seen as same. If a startup needed resources, they were gathered through networks. If the networks were missing, the startups found it difficult to gain new capabilities and resources to the team.

Finally, we can conclude that networks should be highly appreciated when founding or building a startup team. As Section 2.3.3 confirms, the capabilities a startup team owns have an effect on whether the startup will gain future success or not. Though we can present the first and second primary empirical conclusion PEC 1: Early stage software startups should concentrate in acquiring multiple resources and a good network which are the core constructs of Team Component. PEC 2: Internal and external networks that a startup owns can be seen as determinate factor for a startup's success or failure. Startups should focus on internal networks, since they can lead to external mentors.

Next, in section 5.2.2, we will look into the resources and firm a deeper understanding regarding the connection between networks and resources.

5.2.2 Theme 2 / Resources

A software startup team consists of its members and their resources. Since software startups usually lack money and other crucial resources, their resources are built on an individual team members capability (see Section 2.3.3). The theoretical framework claims that recourses are built on team members existing skills and capabilities, and relevant history to the context the startup is doing business with. First, we will look more closely to the constructs of resources and after that investigate the dependency between networks and resources.

What was consistent with nearly all of the startups is the fact that they mentioned their team as one of their crucial resources. When talking about their team, themes such as previous knowledge, personal skills, networking skills and teamwork came up.

> I think we have a wide range of different skills. And good people in our team and we work very well together. I think that is something that makes us differ from other gaming companies. (TM1B)

In this study most of the respondents felt like their team was something that made them stand out from others rather than the product itself or a certain new innovation.

> As I mentioned earlier, really good team. Because we are early stage startup, not getting any money on this and it is based on our own idea and passion. If the team is strongly on this and nobody is like doing any solo teams, it is a great feature and it is like what have been learned and studied, if you don't know nothing on startup phases. If the team doesn't work, the startup won't work either. I think that and also that we have been on right place on the right time, has been also some reasons for our success. (TM5)

> We had pretty curious minds and some good people for example Mentor X and Mentor Y who gave some ideas. Yes, we had great people with curious minds. (TM4B)
> Yes, that is the only thing that comes to my minds, we dint have any extra knowledge on or superficial knowledge on parking or parking solutions or IOT or anything, so it was more like the thing we would be competing with was our curious minds and good people. (TM4A)

The individual skills of a founder or a team member were highlighted among the respondents. The findings backed the theoretical framework, which among others suggested that previous history of a team member can be linked to the possible success of a startup. The level of experience varied a lot among the startups but the startups that had an extensive working history also highlighted the meaningfulness of it.

> I would say that Team member X is an experienced entrepreneur, most startups tend to be inexperienced so having a person with actual experience does make the startup somehow unique. From the point of investors as well. (TM2B)

> I think one unique aspect is a really good team. From myself I do not have great, so great technological experience but second co-founder has great experience on the AI and software development like for 15-25 years. So, for myself I am good in controlling the big package or big picture or seeing the vision on possible opportunities. Also, some other members of our teams are based on the media and experience on like advertisement and handling people and stuff. I would say the team is our greatest strength or most unique aspect because we have little bit skills of every sector. And we can feed each other with our ideas and solution and make them better. (TM5)

The previous experience of a team member did not automatically correlate to the age of the exact team member. So, when talking about previous experience, the relevancy should not be in working history in a numerate way but more in the persons actual resources in other words existing skills and capabilities and relevant history.

> And then we have only one programmer Team member X who is exceptional in what he does. (TM1B)
> He is like 10 programmers. (TM1A)

In some of the startups new resources where acquired, even if they would have managed to them internally. This was due to time management and better quality of work. This enabled the startup to use their resources to their core competences and outsource other needs that would have taken too much valuable time. Also, the acquisition of a new co-founder let the other team members focus in what they did best. In this case networks played a role when it came to the acquisition of these external resources.

> The amount of time we would have had to spend on those things and the quality of the tasks wouldn't have been the same if we wouldn't have had Team member X. We could have done the same things, but it would have taken more time and resources and the outcome wouldn't have been that great. (TM1B)

> We had like freelancers make a video for us, with us like some of us could have made, but it would have taken 10 times more time, and it wouldn't have been as good as it is. Also, we had a freelancer do our brand identity and marketing graphics and things like that. Team member X could have done that, but it would have taken time from her and resources and allocation to a freelancer was more wise. I could have also designed a brand identity. (TM1A)

In the interviews, one of the teams named hiring a new co-founder to the team as one of the biggest and most important steps during their startup progress. When asking what their biggest steps were and why they answered;

> Hiring team member X and new founding, and advisor board. We desperately need-ed an artist.. (TM1B)
> Yeah when we saw what she had done compared to what others had done, we were like blown away, yes, we got something. (TM1A)
> It was more productive and efficient, it was what we needed and more. (TM1B)

Another respondent claimed that they were missing technical resources. They were discussing the possibility of acquiring new skills by getting new team members from the IT-faculty. When asking about the missing resources the respondents answered as follows.

> Yes, the technical side, programming, technical side as a whole. (TM4B)
> One move we could have made would have been like looking from the IT department looking for students who would have been interested in startups and would have a strong background having hobbies in it stuff. That could have brought us cheap resources. (TM4A)
> Knowledge from the IT and hardware. (TM4B)

Among the startups the most common challenges were seen as different kind of lack of resources. In most cases if a startup was missing a certain skill or capability it was associated to resources that could be handled by hiring new members with the specific resources, rather than learning the skills themselves. Also, the amount of time startups had to use effected their working. This is backing the theoretical assumption that a startups success is highly linked to an individual team members existing skills and resources.

> Biggest reason is I don't have time. I have the money and the investors, I don't have time. Otherwise I would have started it in the summer. But I am too busy with myself right now and I haven't completed my masters and I have to come to Jyväskylä every Tuesday. And I have a lot to do until December and this is why it is not going anywhere. (TM3)

The startups seemed to be lacking time due to other responsibilities. This can be a consequence of the fact that most of the startups were run by students and if other responsibilities came up they overtook the work that needed to be done with the startup.

> Yes, it is not moving as fast now we want because lots of the members had been working some other projects also for example the CTO did get a new job. He was a student when we found the company and he graduated on the end of the year 2017 and he did get new job as a senior developer so that has been taking little bit of his time. Also couple of the members were having longer holidays in their home countries and one member is currently at Hong Kong as exchange student. So, basically people are having a little bit of their free time. We made decision together that after Slush and after December we have a little break and we sleep and then we get back to work and choose were to aim next. Because the biggest events were on December and we put lots of energy and resources on that so we need that little break to put our own lives back in order. But, currently we are applying, we have been applying

for three funding panels with this company. So, we are still moving not as fast as autumn, but I think we are still progressing pretty good on this. (TM5)

On the other hand, some of the startups hade clear visions for the future and for their future resources. Though it is obvious that not all of the startups had future plans, since as described in earlier over 40% of the interviewed startups where not currently active.

> We need a technical game designer and then we would like to hire animator or an 3D-artist (we have an intern now) and we would like to hire him fulltime later. We would need of course more developers and graphic designers, of course we were talking about management positions and things like that then CFO etc. for the future. I actually have a list of everybody we could need in the future, which is like next year. Of course, chairman and to recruit the advisors to the board. Then COO, CFO, CMO then like employees, which would be like technical game designers, sound developers, managers etc. For scaling purposes but currently we are needing the technical game designer. Somebody that kind of does what Team member X does but also codes. (TM1A)
> It is like the hybrid of me and Team member X. We need someone in the between to understand both sides. (TM1B)

To conclude, the conclusion that resources have an important meaning to a team's capabilities can be justified based on the material. The hypothesis that that a software startups team has a big effect on the final outcome of the startups failure or success is backed by the material. The material confirms that the existing skills and capabilities combined with relevant history effect on the teams and the startups future. Now the third primary empirical conclusion can be drawn, PEC 3: The team itself is the most crucial resource an early stage software startup owns. Until now, the team of an early stage software startup has been seen as an afterthought, but it should be seen as a front thought, where the team itself is the key to success.

When it comes to the dependency of resources and networks which was brought up in Section 5.2.1, it is hard to put a definite line between the two constructs. The material confirms that it is clear that the networks a startup team has effect clearly to the resources the team can get their hand's on. This does not mean that all of the team members need to be experts in networking (even though it would not do any harm to the startup) but underlies the fact that a software startup team should own resources from multiple sectors. By this, the fourth primary empirical conclusion is made, PEC 4: Versatile resources are crucial for a startup's success. The lack of resources may lead to failure. Since networks lead to resources and new resources are most likely to be found through networks, networks and recourses as constructs are highly linked to each other.

The networks a startup has can also be seen as resources and the resources a startup has, are most likely existing because of the networks, whether they are internal or external.

5.2.3 Theme 3 / Way of Working

The theoretical framework suggests that one of the core constructs that effect a team's capability to successfully steer a startup is the working culture within the team, this can be described as the way of working, WOW. The data revealed that the teams did have certain ways of doing things, without following any certain manners or ways to work that have established a valid position in literature. The working culture was more seen as an iterative process that varied between the tasks, rather than a process that was planned in advance.

> It is that we are focusing our members to tasks they are good at, so they can specialize in their own areas. But at the same time we do understand the different ideas for example I have done graphics and I know about digital arts so, that way I can easily help Team Member X in what she is doing, so I am not currently doing graphics for our game, maybe some little aspects. Mostly Team Member X is doing everything and I can help her in what she is doing. (TM1B)

Some of the startups had plans for future regarding their culture. If their ventures would become real life businesses, they had plans for how work should be done on a weekly basis.

> I am thinking of weekly or a monthly meeting. So that all the employees and everybody involved would talk together. Then we would talk how the plans are executed, what the problems are, how can they be solved. I am going to take feedback from all the customers, as well as the employees and implement them. I want to make a team, rather than a group of individuals working for a company. I want to give back to the employees as well, so I think making the employee happy is the key for a successful company, so they need to feel like it is their company as well. So, I am going to make them involved in each and every task so that they feel like it is their own company. And then when it comes to taking decisions, they have their say in the decision making process as well. (TM3)

In some cases the respondents did not see themselves in certain roles, but more as a "general task manager". This might be due to the fact that since some of the startups were missing crucial resources, they were unable to further develop their startup. In these cases the team members were just taking care of daily manners rather than developing the startup further on and actually building a minimum viable product.

> I don't know if we had any specific roles. We worked well as a team and just managed the tasks we had, prototypes or connections or people anything we had. I don't know did we have any specific roles? What would you say? (TM4B)
> Yeah, we were not like that every time some kind of work came up, it wouldn't be like you are better at doing this and I am better in this, we didn't really think like that we just.. (TM4A)
> Yes, we just discussed the solutions, if it requires some calling just I can call, or please call you or whatever. We didn't have that kind of roles I think (TM4B)
> We both did like all of the things there were in the whole process. (TM4A)

In some cases it seemed as if the team members did not have clear vision on what do, like they were missing the core of their businesses. If the startup did not know what should be done the daily work was more brainstorming and general discussions than actual acts to proceed with the ventures. The data also revealed that the fewer members a team had, this kind of activity was more likely to happen.

> I think when two idealistics start doing startups, it is not the best start. (TM2A)

> I wouldn't say we basically knew what should be done, but we new what maybe should be done. Perhaps that's also why we didn't do those things. We were thinking about hiring people, u know hiring the actual doers. In the end we were considering how do we do this, do we go online? (TM2B)

When it comes to startups that were more successful, a certain way of working could be seen within the teams. These teams also had on average five or more members with the team, which also increased the importance of a certain way to do things. Even if some kind of guidelines within the teams could be found, no certain patterns for how startups should work were discovered.

> We are completely remote, it is hard, but possible to build a culture within a remote startup. But there is like of course no office cultural etc. Of course, this is coming from the CEO, I think like we get along really well. Everybody is friends and we have same kind of interest, of course different opinions at times. Very inclusive and everyone is really straightforward, if something is bothering someone then people talk to each others. We give critic when critic is due and we give positive feedback all the time. I have heard that in company life usually they give a lot of critic, but usually positive comments are not given, but it should be 3-5 positive comments vs one negative, with us it is like 10-1. I love our culture and I think it works really well. (TM1A)

As seen, the members focused more in the general atmosphere of the team, rather than forming a certain way on how duties should be done.

> It is easy to communicate with the team, there is more than just business features because we can call us now as friends. So, the team work on this team is really good. People know their places and they can still be how do you say, elastic on their roles so if there is something that needs to be done even though it is not your role, you go there and do the things for the company. And also, it is, I would say maybe the that we are really international team, I am the only Finish one on this company and I was seeing the end results from all of the different countries and cultures working so well together it has been really a blessing. Everybody's work attitude on this sector has been really good. (TM5)

What was consistent with the respondents was that the more members a team had, the more structured their roles where, and these roles could also be named. This does not mean, that these startups would have been somehow extremely hierarchy, but since the team had several members, the startup also had more resources and capabilities to use. This way members could be identified with

certain tasks and responsibilities, since they had special skills to these tasks in comparison to other team members. This gave the startups the ability concrete right resources on right tasks.

> As mentioned, my role could be simplified as CEO. The co-founder as CTO has a great experience on software development and stuff and programming. So, he is the technical guy and he has made the things running. Third person of this startup is, he has great experience on like presentations and he has been running some theaters in his history, so he has great experience on like human psychology and stuff. He knows what we need to do get people interested and stuff. Fourth person is designer he helps us to put things look better on the simple pictures and simple templates and other stuff because he has some eye for that. Fifth person is the CTO's wife and she is basically we could say she, she, is some kind of secretary and also she has a great network around the business world because of her work background. And the newest member and also the business angel of this startup company is as a business advisor. (TM5)

As shown, when a startup had multiple resources (in other words team members) they were able to divide the tasks in a reasonable way within the startup and focus on the things an individual does best.

As mentioned before, and what can also be seen from data, is that most of the startups did not have any certain manners of plans on how to execute their daily tasks. A conclusion that can be made by the data is that many of the startups used an iterative approach when it comes to handling daily tasks or strategic planning or receiving advices from mentors.

> It was kind of an iterative process, Founder X had the, Founder X held the presentation to Mentor X and others and it was already an iterative version. Then we built on that, looked at the content what Founder X said, tried to pick the most relevant parts and make it even more consist so that we could have a very short and to the point presentation. (TM2B)

> I think iterative planning is better, if we create like a seven-year plan and something changes so it is like, we had this plan we did for one year and everything changed, so let's make a new plan. So, I think it is more iterative planning and setting milestones, and things like that and figuring out how we get there, and iterating based on what happens. It is better than creating a hard-core business plan. I will create a hardcore business plan if an investor wants it, but even they know it is not going to happen like the business plan says. (TM1A)

An interesting element that the data revealed was that despite that the respondents and the teams did not have a long history so far, some of the teams had already changed due to different kind of challenges inside the teams. This demonstrates that even though the startups were executed in a university environment, the goal was to execute well.

> Me and Team member X were the first two, Team member Y came in like two hours later. Of course, Team Member X was the developer guy, that's a given, Developing is needed. I was the business guy, businesses need business guys. Team member Y

actually was more like, he was a game designer, but he was also our graphic design-
er. The two guys who left were pretty much hang-arounds, one of them a financial
guy, but we didn't need a financial guy at that point. Now it would probably be bet-
ter to have one, but we have one in our advisors. (TM1A)

Another team faced challenges when it come to internal communications and
due to this the team separated. The founder of the startup was unable to explain
his visions to the rest of the team and this made the other participants frustrat-
ed.

We had another project before on this course and we were working with someone
else. We were three people, the problem was we did not get into the idea. We felt like
we just didn't find the, we didn't find it, like we didn't get the idea why this was
such a good idea, that we should be doing this. (TM4A)
We were not that passionate about the idea and we didn't get it as a whole. (TM4B)

To conclude, the collected data did not give indisputable evidence backing
the theoretical assumption that the way of working would play as a core ele-
ment for the success of the team. In general, as early stage startups seek for a
scalable business model, the lifespan of the company is just beginning. This was
the matter also among most of the respondents. Based on the data an assump-
tion can be made that the way of working is not crucial for early stage startups
success. Though primary empirical conclusion number five is drawn, PEC 5:
Early stage startups do not have a certain way of working. The work that is
done is seen as an iterative process that changes even on a weekly basis.
By saying this it is important to understand and highlight the fact that if
and when a startup hires new members and expands rapidly, the way of work-
ing becomes more crucial. But when looking at startups only just starting their
journey, the focus shouldn't be on WOW. The startups need to focus on the core
elements that based on the data so far are networks and resources. It is obvious
that some matters acquainted to WOW are also meaningfulness to an early
stage software startup, such as the passion and ambition of the team.

5.2.4 Theme 4 / Self-organization

The theoretical framework states that the self-organization within the team can
be seen as a determinate factor for a team's success. Based on the interviews
most of the startups did their decisions internally and only on some parts with
the help of external stakeholders such as mentors or advisors. Though it cannot
be said whether these decisions were made based on facts or just gut feeling.
When it comes to self-organization and early stage startups, it is crucial to
understand the context and the circumstances early stage startups operate in.
As stated previously, early stage software startups lack resources, such as time,
money and networks. Due to this these startups are forced to use self-
organizational means. Based on the data, it seems, that this is not a choice a
startup makes, but since there are no external stakeholders who could make

decisions for them, if the startups do not act in a self-organizational way, no decisions will be made. This on the other hand will inevitably lead to failure.

Mostly the respondents stated that the decision-making process in the startup was done together with the other members. Since all of the startups had at most around five members, it allowed the startups to let all of the members to participate in the decision-making process. Obviously, the decision-making would have been different if the startups would have been more mature and have more employees.

> We have been making those decisions together with the second co-founder, so basically company is not registered yet but we have been shared the stakes already. I as the founder, I have 51%, so basically I have the, I am the dictator. I can make decisions what is it going to be, but every decision we have been making it is trough with me and co-founder and some other decision we make also with the whole team, because we are still not big company and we respect everybody's opinion. And it is usually me and co-founder only stick together and we might have great visions but we then forget the reality and by that it is really good to hear teams opinions. (TM5)

Since some of the startups had previous history, it also affected their current stage. In one of the cases the respondent saw that actually it would have been a good thing, if the startup would have had to rely on outside influencer for example to gain funding. This maybe would have helped the startup to develop it business more effectively.

> I suppose also what made it unique is that typically startups are very affectable to external influencers, not the least because they rely a lot on outside funding typically and also because they operate in highly volatile markets they really race the time to market and try to concur the current trends. Meanwhile in this case there was no financial pressure we did not rely in outside investors, we did not have that kind of influence going. Founder X was free to do work the way he wanted. To code properly without having the debt to get something out. Also it is not that popend technology, it would be like it would currently trending like AI etc. The thing is that it is kind of an old field, only the way it is done is new. I would say it was more stable, more stable than the average tech startup. (TM2B)

Based on the data it seems that self-organization in an early stage software startup is more a given fact than a choice that can be made within the startup. Based on the interviews the self-organization was not seen as a determinate factor for an early stage startups success, mainly because it was not a choice that was intentionally made in the startup. So primary empirical conclusion number six can be presented, PEC 6: Early stage software startups are forced to be self-organizing, since the team usually has only a few members. The choice of being self-organizing becomes more crucial when a startup grows and has more employees.

It seems that it is natural for early stage software startups to act independently and choice of self-organization is something that will have to made later on when the startup grows to new dimensions.

5.2.5 Theme 5 / Other observations

One of the goals of this thesis is to examine the use of business model canvas among early stage software startups. Relating to this the idea was to gather information based on the interviews that would provide information about different blocks of business model canvas, and how these features are affecting the strategic planning of a startup. The noticeable fact is that the themes revolving around business model canvas were not visible in the interviews. Since most of the startups were early stage startups, they maybe could name their hypothetical customer (actually they had made no revenue) or possible future revenue streams, but the respondents were incapable to have any deeper conversation regarding the topic. It seemed, that for an early stage startup it is more important to focus on certain core elements that will serve as the baseline for the future ventures. If the early stage work in a startup is done properly, and it owns lots of resources, the possibility to succeed would be higher.

What was consistent among the respondents was the lack of use when it came to strategic or planning tools. Many of the startups used some kind of tools for communication but actual planning was done in an iterative and not formal way.

> It was basically a weekly based plan, what are we going to do this week and where we should be next Monday? (TM4A)

> Actually, when we first did the planning face we did those things, we never used them since everybody new them when we made them and then we through them away, but everyone knows them by heart. I could probably do our BMC in 5 minutes to paper. (TM1A)

When asking a team did they follow a plan during their process the answer was as follows.

> Yes, but it didn't work and we had a new one, and that didn't work, so now were just having.. I love this quote by Eisenhower; plans are nothing, planning is everything. So, we are iterating all the time. Of course we have roadmaps. (TM1A)

Even though the material did not support the use of business model canvas among startups, the material did show other typical features for software startups. Since early stage startups operate under volatile conditions while seeking for a scalable business model pivot are a typical feature for startups. This was also represented among the respondents.

> Yes, I think the idea changed during the course almost every day with some kind of new idea. At the end maybe 1-2 weeks before the end we had some kind of good stable idea. In reality that idea has changed after that. (TM2A)

The pivots had different reasons, some of them were done due to internal observations based related to challenges in early stage products. If the startup

wanted to succeed it was clear that they were critical to their own ideas and wanted to create something great.

> We had some graphical issues and the concept did not feel good after a couple of months. We had some major issues with the concept. We were thinking there is not really a good platform game in mobile and we had this idea.. Since you have poor controls in mobiles, so we were thinking about, what if we would make a small paced platform game. So, we have this goal and it was pretty slow and it is more puzzle focused gaming. Then we started figuring out that there are major challenges when we are making a slow-paced puzzle focused mobile game and made the characteristics the goal and it was a major problem. (TM1B)

When challenges were faced, the startup wanted to develop their idea and business further on. They were not too committed to the initial idea but had the guts to change the plan and start it all over again.

> The concept didn't work, so we took the best parts of it and used in our new idea. (TM1B)

In this case the startup had already gathered data from a test group and though validated that they needed to take another approach in order to succeed in their ventures.

> Then we figured out that fast paced work on mobile and in platforms. We found it out in usability test and alfa test and personal test. And it works and the controls actual feel more natural when they are done well. (TM1A)

Also others were eager to make changes to their idea and further develop their business in order to gain funding from external investors. It seemed, that pivots were seen as a normal way to increase the possibility of success and a typical part of a startups journey.

> I could say it is little bit pivot because the original ideas are mentioned first, were really simple and just really simplified. And some solution with their channels and pricing and other stuff was really like first edition so based on the feedback we get from other people and some startup coaches and mentors they give us some good feedback and by that we did pivot it to better and we left some features outside and we bring some new ones on the game also. So yes, we pivot, well lets say maybe two time to make it what it is now. (TM5)

Another interesting observation was the formulation of the teams. Since most of the teams were created under the course they did not simulate real-life situations in this matter. When it comes to the teams that were founded prior to the course, the observations were more interesting. Based on the material, it seems, that the passion and thrive to do something, to actually create something yourself and be a part of a group were risen up. Basically these startups were founded by pure luck, but what made them proceed was the internal thrive to succeed and to achieve something.

We were siting in a car with our CTO Make, I think there was our former co-founder Lassi as well and Make started talking to me, that you are a business guy and I am a tech guy, there aren't any good drinking games on mobile, let's start a startup!. Then we called Juho, and Juho wanted to join us. There were also two other guys who are not with us anymore. That was pretty much how we founded it. We were pretty much having fun, not starting a startup, having fun which wasn't fun at times. It was like, we were being a startup, but not actually being a startup. More like hobbying, not working. Officially, like when we founded ourselves again we found our way, when we got Alina onboard, it became working. But the cool thing is that when we work now it feels better now than when we did it only as a hobby, at least from my perspective. (TM1A)

So basically, who were interested who did have passion for this startup keep going and keep working on that and after that the members and their friends have been joined to the team and by that we have been finding pretty good people around on different aspects. So first it was random and it was luck. (TM5)

As seen, even though these startups were founded based on the initial startup idea, the biggest motivation for the creation of a startup came from the founders and their personal goals, not from the idea itself. Both of these startups also pivoted their ideas eventually. This is backing the assumptions that the meaningfulness of team is not highlighted enough when it comes to early stage software startups. Why should early stage software startups focus on the nine building blocks of the business model canvas, if they do not have the thrive, passion, networks and resources to do that? The material suggests that that when it comes to the beginning of a startups journey, it is too early to focus on the different features of business model canvas. It is more crucial to focus on building an excellent team that will help startups to succeed. Since startups are constantly evolving and developing, and only looking for the scalable business model, business model canvas is not in context for them. Of course, startups need to think about the problem they will solve (what will their actual product be) but since the initial idea will inevitably evolve during the process it is more important to focus on having multiple resources and networks that can be used to solve future problems and challenges, since these challenges are currently unknown. It seems that the use of business model canvas will become more current when the actual scalable business model is found and validated. Then the startup should concentrate more on how the product can be distributed, who are their actual customers, what is their prizing model etc. Prior to having a validated scalable business model startups should not focus on these matters. Primary empirical conclusion number seven is presented, PEC 7: The viewpoint of business model canvas is changed from strategy to a team-oriented perspective by adding a new construct, the Team Component to its core-element.

These observations are backed by the secondary data that is based on student observations regarding the startups that were interviewed. A group of students observed the pitching event and based on their observations filled a

business model canvas for every startup. Next, we will look more closely to this data.

5.2.6 Theme 6 / Lean Canvas Observations

The observations were made using the Lean canvas which was in more detail explained in Section 3.4. The students made observations based on nine different constructs; problem, solution, key metrics, unique value proposition, unfair advantage, channels, customer segments, cost structure and revenue streams. All together 22 students were observing the startups, and each of the students filled seven different canvases, so in total there were 154 canvases.

What was consistent with the canvases were that the information that they provided were shallow. The observants were unable to gather the needed information of the pitches in a way that the filled canvases would provide strategic information about the startups. This may due to the pitches. Maybe the startups were incapable to communicate their business ideas clearly enough during the event. Another possible reason is, that as the interviews revealed that the startups had not focused on the constructs of business model canvas, so they were not in any means capable to explain all the elements. At its worst, the observants were not able to make nearly any notes. This could whether be due to poor pitches or lack of student motivation.
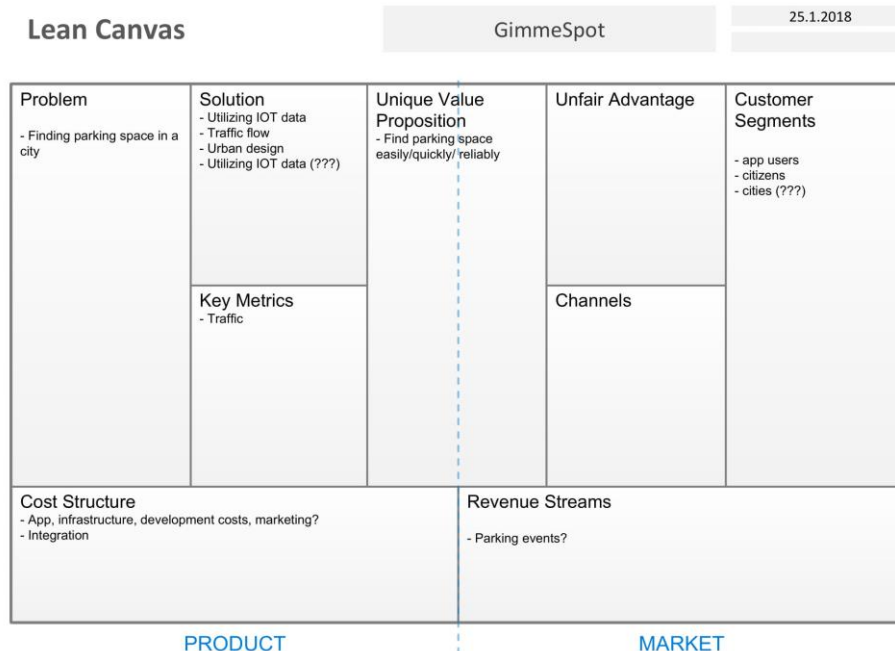
Figure 5 Student observations 1

Even if the observant was able to make some notes, these facts were not always consistent when compared what the startups said about their businesses them-

selves. The same canvas filled by another student showed a totally different result.

Figure 6 Student observations 2

Based on the filled canvases it would be hard for an investor to invest in a startup. This raises the question about communication and resources. Typically, startups seek for funding, and since startups only seek for a scalable business model, in the first rounds the investment is typically made based on future expectations. This highlights the fact, that startups need to be able to communicate their businesses effectively and in trustworthy means. And this, can only be done if the startup team has the right resources. One could argue, that with a good presentation, passionate and skilled team a startup would be more likely to get funding in early stages, in comparison to a startup with an excellent idea, if they are incapable to present the idea in a trustworthy means to the investors.

As presented by the primary data, one big challenge that the startups faced concerned communication. This could also be seen when analyzing the primary data. The message that the startups wanted to present was successful communicated only in few cases. This again supports the assumption that early stage software startups should concentrate in the team and its resources and networks, that are highly linked to an early stage software startups success or failure.

5.3   Primary Empirical Conclusions

Based on the empirical analysis primary empirical conclusions (PEC) are made. These observations will then be compared to the existing literature and referred to in practical implications. Based on the material totally seven PEC's can be found.

PEC 1: Early stage software startups should concentrate in acquiring multiple resources and a good network to their team which are the core constructs of the Team Component.

PEC 2: Internal and external networks that a startup owns can be seen as determinate factor for a startup's success or failure. Startups should focus on internal networks, since they can lead to external mentors.

PEC 3: The team itself is the most crucial resource an early stage software startup owns. Until now, the team of an early stage software startup has been seen as an afterthought, but it should be seen as a front thought, where the team itself is the key to success.

PEC 4: Versatile resources are crucial for a startup's success. The lack of resources may lead to failure. Since networks lead to resources and new resources are most likely to be found through networks, networks and recourses as constructs are highly linked to each other.

PEC 5: Early stage startups do not have a certain way of working. The work that is done is seen as an iterative process that changes even on a weekly basis.

PEC 6: Early stage software startups are forced to be self-organizing, since the team usually has only a few members. The choice of being self-organizing becomes more crucial when a startup grows and has more employees.

PEC 7: The viewpoint of business model canvas is changed from strategy to a team-oriented perspective by adding a new construct, the Team Component to its core-element.

6 Discussion

In this section, the results based on the analysis will be discussed. The discussion is done through primary empirical conclusions (PECs) presented in section 5.3 from both a theory and a practical point of view.

6.1 Theoretical implications

The theoretical framework of this thesis is based on current literature concerning software startups, lean startup methodology, business model canvas and teamwork in software development. Based on the current literature a theoretical model for Team Component is created including four different constructs. Based on the empirical literature the team perspective including two of these constructs, networks and resources, provide a solid baseline on what early stage software startups should focus in.

The meaningfulness of team has already been acknowledged int the current literature (Unterkalmsteiner et.al., 2016). What can be interpreted as novel information is that the core focus of an early stage software startup should be in the team perspective, as stated in PEC 3. This is supported by the empirical data, but it should be tested with additional empirical data as well.

When it comes to the core elements of the team component (networks and resources), they are both recognized in the academic literature. (Giardino et al., 2016; Munoz-Bullon et. al., 2015). As it comes to the resources and networks, the empirical evidence suggests that these two are highly linked to each other's as PEC 1 and PEC 4 state. If a startup lacks resources, they can be found through networks. And if a startup is missing networks, they are unlikely to find the needed resources. This is found in PEC 2. Early stage startups should also acknowledge the importance of communication, since it is vital for them (Karhatsu et al., 2010). The theoretical evidence does not follow the assumption that early stage software startups should follow a certain way of working, as stated by Karhatsu el al. This can be seen in PEC 5. As said, the controversy is that ac-

cording to current literature early stage startups should follow a certain way of working. On the other hand, PEC 6 is backing the general knowledge found from the theoretical framework as the startups were self-organizing, even it was not a decision that was done by purpose.

As mentioned, the importance of team has been acknowledged in prior literature and academical research. PEC 7 highlights the fact that the meaningfulness of team is still under valuated. The empirical evidence suggests that an early stage software startups team should be seen as the determinate factor for a startups success or failure. Until know, team has stayed as an afterthought, but the study reveals that the team should be hold as the front thought, the core element for the success of a startup team. This is confirmed by the current literature, as stated by Giardino et al. (2016) and Coleman & O'Connor (2008).

A novel information that the empirical evidence reveal is the meaningfulness of networks. As PEC 2 states, internal and external networks need to be seen as the determinate factors for a startups success. Since startups generally lack resources, and resources are most likely to be found through networks, the focus should be in the internal networks, since internal networks may lead to external contacts, such as mentors or advisors.

PEC 5 highlights the importance of resources when avoiding failure. In early stage software startups a team's competence is highly linked to the individuals a team has, since teams usually lack others resources too, such as time and money (Munoz-Bullon et al., 2015).

6.2 Practical / Managerial implications

Based on the primary empirical conclusions practical suggestion for early stage software startups can also be made. First, teams should not focus on the other constructs of the business model canvas at an early stage. They should focus on building the team as strong and versatile as possible, by acquiring multiple team members including lots of resources and networks as PEC 1 states. Before the seed funding face, in addition keeping the team as a core-element the startups should focus in the actual problem that they eventually will solve. If the basics of a startup are done properly enough the team will more likely to be able to attack upcoming challenges. As soon as possible early stage startups should adapt typical features for software startups, such as pivots, and follow the lean startup methodology by constantly iterating and validating their problem and trough this further develop their solution, which is backed by PEC 7.

In generally, the startups should highlight their team when searching for seed funding. Since at this face, startups seldom have any concrete revenue, the founders need to convince the investors that the idea and the problem is real. This cannot be done, if the team is incapable of communicating these matters, though startups need to focus in their communication means. The product-oriented thinking should be transformed into a more team appreciative view. If

the team is good, the solution will follow. As PEC 3 states, the team should be considered as the front thought.

As PEC 2 states, in early stages startup founders should focus in making new contacts, creating networks that could help in getting resources in the future. This mean social intercourse with others and by this gaining new contacts. If a startup is able to recruit a new member who has a big network, it should be highly appreciated.

Finally, as PEC 4 describes, an early stage software startup needs versatile resources. This includes technical, social, financial, communicative, strategic and all other means that could benefit the startup in the future. Lack of resources might lead to failure, and many of these failures could be tackled by the right resources and networks.

To summarize the following table will conclude the effects of each of the seven PECs.

PEC	Empirical
PEC 1	Confirmed
PEC 2	Confirmed
PEC 3	Novel information
PEC 4	Confirmed
PEC 5	Not Confirmed
PEC 6	Confirmed (due to early stage)
PEC 7	Confirmed

Table 5 PECs

7 Conclusions

This thesis evaluated how the use of business model canvas could be further developed in early stage software startups. In the theoretical framework the initial Team Component was presented based on the current literature. The data collection methods along with the research methodology and study context were more detailly explained in Section 4, while the empirical results are provided in Section 5. The primary empirical conclusions were discussed in Section 6 from both theoretical and practical views. Finally, Section 7 concludes this thesis. First, we will answer the research question, then the limitations of this thesis will be addressed and at the end further possible study is suggested.

7.1 Answer to research questions

This thesis looked for an answer for the research question: How the team perspective can be incorporated to Business Model Canvas? To get a validated answer for the research question the theoretical Team Component was first created and then analyzed based on the empirical results.

The empirical results validate that the constructs "Network" and "Resources" are essential for an early stage software startups success, and they should be highlighted in early stages. "Self-Organization" was also confirmed, but only due to the fact that all the examined startups were at early stages. So the meaningfulness was not seen crucial, because Self-Organizing did not come due to choice, but as a result of having only few members in the team. The last construct "Way of Working" was not validated, since it came up that for early stage software startups it is too early to focus on these matters. Due to this, it is not of high importance to focus on it at early stages. It is noticeable that these factors may become more relevant when the software startup becomes more mature and hires new employees.

Two sub questions to the research question were also made. By examination of the business model canvas it was clear that it does not take the team it-

self into consideration. The available literature though highlighted the meaningfulness of team. So a paradox was in this means found. The empirical results validated the first sub question, that the meaningfulness of team is not appreciated highly enough in early stage software startups. Based on the theoretical and empirical results, the study claims, that early stage startups need to focus in acquiring multiple resources and networks to their team, rather than think about the strategic planning. From a product-oriented view the team should be considered as the front thought.

This is also the answer to the second sub question: Does team as a construct make an early stage software startup team succeed? The empirical results validated that the most determinate factors where the resources a software startup owns and the networks it has, in other words, the team. The more networks and resources a startup had, the more likely they were to succeed in their ventures. The study indicated, that among other resources such as, technical, time, money and interpersonal skills, also communicative skills should be highly appreciated in an early stage software startup team.

Figure 7 below shows the suggested modifications that should be made to the business model canvas.

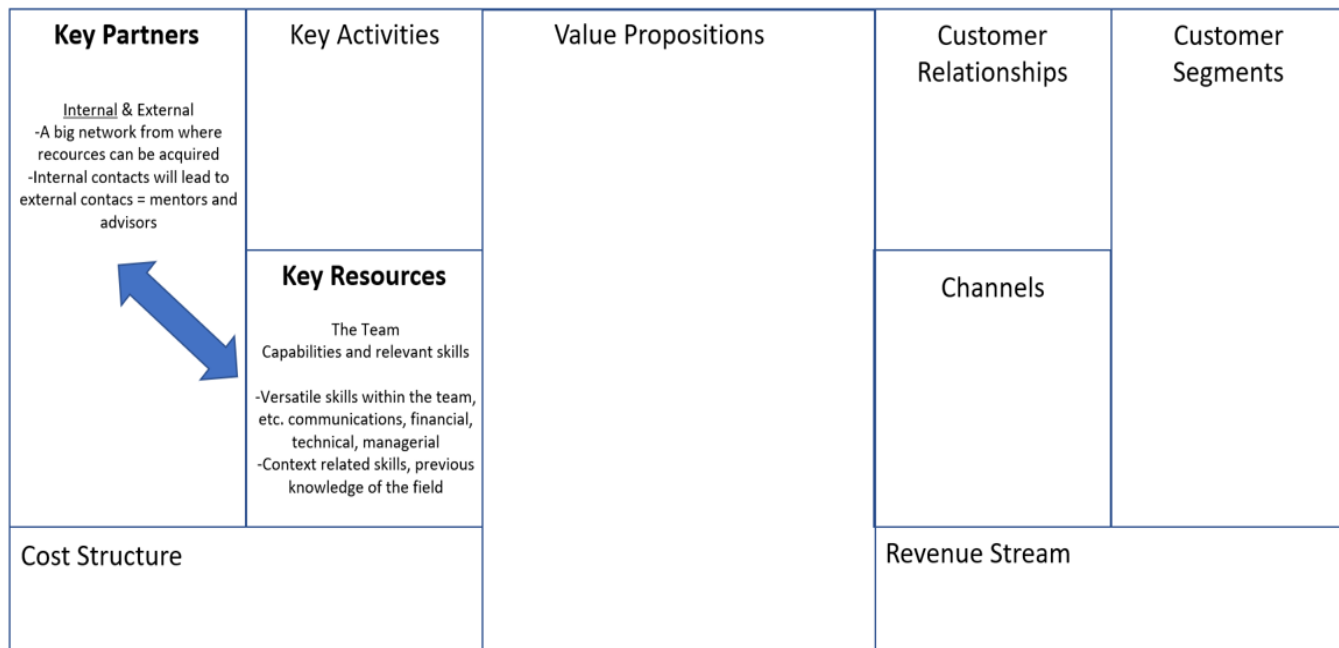| Key Partners	Key Activities	Value Propositions	Customer Relationships	Customer Segments
Internal & External -A big network from where recources can be acquired -Internal contacts will lead to external contacs = mentors and advisors				
	Key Resources The Team Capabilities and relevant skills -Versatile skills within the team, etc. communications, financial, technical, managerial -Context related skills, previous knowledge of the field		Channels	
Cost Structure			Revenue Stream	

Figure 7 The proposed changes to BMC

As seen in the picture the focus of business model canvas is changed to the team when it comes to early stage software startups. In early stages software startups need to focus on acquiring multiple resources and an extensive network to overcome future obstacles and challenges. According to the study, these are highly linked to one and other. The focus should be in internal networks, since internal networks lead to external contacts. For early stage soft-

ware startups it is important to own relevant resources to the scope of business, but also acquire other resources that might be determinate in the future.

7.2 Limitations

When it comes to the limitations of this study, there are certain features that need to be taken into consideration. First, the empirical material is collected from teams that participated to a university course. This raises the question if the material is reliable and if it demonstrates real-life startups. This risk was thought minimized since the startups did real-life challenges, were advised by real-life advisors and all aimed to participate to the final event of the course where there were real investors ready to fund the companies. Also, this is backed by the fact, that many of the startups are still operating.

Another noticeable factor is also linked to the empirical material. Since the course had limited number of teams participating, the research was done by interviewing five different startup teams. This means, that to further validate the results more research is still needed. However, the results were highly linked to the academical literature, and the meaningfulness of team is acknowledged among researchers, so this increases the reliability of the study. The author of the study was also a participant on the course, but the team that the author was a part of was not interviewed, so it does not raise a controversy.

Even though the study was done under university context and it has some limitations it opens the discussion on the meaningfulness of team which will be more discussed as follows in Section 7.3.

7.3 Future research

This study opens a new conversation on an already acknowledged but somehow forgotten matter that the software startup team should be seen as the front thought and the core essence to an early stage software startups success.

The proposed changes to business model canvas open an exciting opportunity to test the alternative model in practice. By this the model could be further developed and validated, and it would serve as a meaningful tool to the software startup community around the world. This could be easily tested at the Lean Startup course, that will be held annually in the university of Jyväskylä. If the result regarding the model are positive, it could be easily spread around the world through the Lean Startup course community.

Another interesting future research topic would be the combination of the Team Component to the Lean Canvas. Since the lean canvas can be seen as a more simple and iterative version of the business model canvas, the team component combined with some of the constructs of the lean canvas, such as prob-

lem and solution, could work as a tool for early stage startups trying to find a profitable and scalable business model.

At the end, since the scope of this thesis was under software startups the model could be easily applied to other fields as well. In addition to this, it could be applied by organizations that run internal startups. For this reason, further validation and study is highly recommended.

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APPENDIX 1 INTERVIEW STRUCTURE

Forewords: In this interview think me as a person who you do not previously know. You may wonder why I am asking something that I already know but I would like to hear these things from your point of view. If you need to refer to me as a person, you can say "you" or use my name, whichever you feel is natural for you.

Background

How would you describe yourself from a professional view, what are your main skills and competences?

What is your background when it comes to software startups and startups and entrepreneurship in general?

STARTUP

Shortly, how would you describe your role in your startup project?

What is / was your startup called?

What did your startup do?

Would you give me your pitch?

What is unique with your startup?

Other than your product or service, what makes you different from other startups? (special skills, previous history, knowledge, team, etc.) **(RESOURCES)**

What was your initial startup idea?

How was the initial idea established?

Did you make major changes to your initial idea? (pivot?)

    →What were the main reasons for the idea to change?

    →What were the main reasons for the idea not to change?

TEAM

How was your team founded?

What were the reasons for certain individuals to get in the project? (SKILLS etc)

How would you describe your role in the project?

Tell me about the team structure. What kind of roles did the others have?

How many members did your team have?

Did your team change?

What was your role in the team?

BUSINESS MODEL / BMC

When building up your startup, did you consciously use any tools or methods to guide you?

If you did, why? What was the tool

If you did not, why?

Would you describe to me with a timeline, what concrete actions and steps have you done in order to do this? What where the major steps in your startup

Theme / Key partners (partners/suppliers, what do they do?) (RESOURCES)
• Were there some tasks you couldn't do yourself?
• How did you get help to this?
• What would have helped you?

How did you visualize/explain your project to others than team members etc. stakeholders, investors, mentors?

When explaining behind the idea? The business model

Customer segments

Theme / Value prop (What is the unique value to customers, what is the problem we are solving?)
• What do you provide to your customers?

- Why do people / customers need you?

SUCCESS

Have you received funding?

Did you try to get funding?
➔ How?

What were the main reasons to get the money?

What were the main reasons not to get the money?

Is your startup still ongoing?
➔ Do/Did you have any customers?
➔ Do /did you make any revenue?
    o Did you use a certain revenue model?

If no ➔

What would have been needed for the startup to still be ongoing? What was lacking?

If yes ➔
➔ Which steps lead to this?
➔ What was needed for this? (RESOURCES)
➔ What concrete actions did you do in order to succeed?
➔ How did you reach your customers?
    o Did you keep in touch with your customers?
    o Did you categorize your customers? (segments)
➔ How did you acquire customers?
    o Did you plan your costs in general?

Finally, was your startup a success or a failure?