

LAPPEENRANTA UNIVERSITY OF TECHNOLOGY

School of Industrial Engineering and Management

Global Management of Innovation and Technology

MASTER'S THESIS

**ACCELERATION OF GO-TO-MARKET FOR TECHNOLOGY-BASED
START-UPS**

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Lappeenranta 14.11.2016

ABSTRACT

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Subject: Acceleration of go-to-market for technology-based start-ups	
Year: 2016	Place: Lappeenranta
Master's Thesis. Lappeenranta University of Technology. School of Industrial Engineering and Management	
96 pages, 19 figures, 10 tables and 3 appendices.	
Supervising professor: Marko Torkkeli	
Second supervisor: Justyna Dabrowska	
Keywords: start-ups, start-ups challenges, ICT start-ups, start-up accelerator, business accelerator, business incubator, start-up acceleration	
<p>The aim of the thesis was research of existing acceleration tools and methods, based on technological innovations and advanced processes, that can help young technology-based companies to shorten the time between the birth of an innovative idea and its commercialization.</p> <p>In addition, considerable part of the study was devoted to evaluation of business incubators` and accelerators` programs and their services, to examine their contribution to the start-ups performance.</p> <p>The results, obtained from 66 Finnish start-ups in ICT sector, show that firms quite intensively use strategic partnerships, participation in tradeshows/conferences and digital marketing (umbrella term, which also include social media and word-of-mouth marketing) for acceleration of their go-to-market. However, there is no direct evidence of the impact of these tools and methods, except participation in conferences, on the start-ups' performance. Furthermore, study found positive impact of accelerators' programs on firms' performance.</p>	

ACKNOWLEDGEMENTS

First, I would like to thank my family for the endless love and support. Without you, none of this would be possible.

Second, I would like to thank Justyna Dabrowska and Marko Torkkeli for providing this opportunity to be part of Accelerate Project and gain this valuable experience. I would like to express my special gratitude to Justyna Dabrowska and Roman Teplov for incredible support and help during the research process.

Finally, I would like to express my gratitude to Toivo, Julia, Alla, Mikhail and Jenny for being the constant source of happiness and inspiration.

Lappeenranta, November 2016

Elizaveta Drobysheva

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ABBREVIATIONS

B2B Business to Business

B2C Business to Customer

B2G Business to Government

BI Business Incubator

CEO Chief Executive Officer

ICT Information and Communication Technologies

MVP Minimum Valuable Product

PMF Product Market Fit

R&D Research and Development

RBV Resource-Based View

ROI Return On Investment

SMM Social Media Marketing

VM Viral Marketing

VRIN Valuable, Rare, Inimitable, and Non-substitutable resources

WOM World-of-Mouth

1. INTRODUCTION

Different sources emphasize the importance of new technology-based start-ups, in the growth of the national economy (Clarysse and Bruneel, 2007; Radas and Božić, 2009, Wallin et al., 2015). Establishment of new business not only creates jobs, but also enhances overall country's innovativeness level (Radas and Božić, 2009, Wallin et al., 2015). However, technology-based start-ups are considered to be an engine to economic growth only if they accomplish their main task - development and commercialization of innovation (Radas and Božić, 2009). Moreover, according to Clarysse and Bruneel, (2007) only fast growing start-ups have the greatest contribution to the growth. Emerging digitization boom also cannot remain unnoticed as virtual interactions replace real ones and this find reflection in business as well. More and more technology-based start-ups refer exactly to the digital ones (Tiago and Veríssimo, 2014).

The intention to build own company is usually influenced by personal traits of entrepreneurs. Nevertheless, these traits do not guarantee survival and success of the start-up (Frank`s et al., 2007). Previous researches identified several stages of start-up development process (Clarysse, B. and Bruneel, J., 2007, Wallin et al., 2015). Different challenges, which start-ups face during these stages were discussed by scholars (Giardino et al., 2015; Kasabov, 2015; Agostinho et al., 2015). However, there is no consensus in the literature, which challenges have real impact on start-ups performance. This research mainly focuses on go-to-market phase of start-up development. Because exactly go-to-market stage is characterized by commercialization of innovations (Wallin et al., 2015).

The academic literature has already found the methods, which can be used by start-ups to overcome certain challenges and accelerate their go-to-market. However, many important questions remain still open. For example, concepts of accelerators and incubators (institutes for start-ups support) are quite widely studied (Bergek, and Norrman, 2008; Cohen and Hochberg, 2014; Frank et al., 2016) however, the role of accelerators` and incubators` programs on start-up on start-up performance is no clear.

In spite of high innovativeness level and governmental support of entrepreneurship in Finland, statistics show that there is a lack of high-growth start-ups (OECD, 2016). Thus,

there is a need to find ways to solve this problem. Furthermore, as Finland is still perceived as an ICT oriented country (Giertz et al., 2015), this thesis concentrates exactly on this sector.

1.1 Background of the study

Following research is a part of ITEA co-funded Accelerate project, funded consisting of 18 consortium partners from Finland, Belgium, France, Spain and Romania. The main aim of the project is a creation of services, which will allow companies to speed up commercialization of their ideas and innovations, through use of digital innovations and technologies (Apilo et al., 2015).

The main motivation for the study was to explore impact of the challenges, on start-up performance; the supporting actions start-ups take to overcome these challenges; and output from the taken actions. Moreover, incubators and accelerators are considered to be prominent means to support and accelerate growth of early-stage technology-based start-ups and especially ICT start-ups (Aaboen, 2009; Frank, 2016). That is why this thesis aims to explore the role of incubators` and accelerators` programs on performance of Finnish technology-based start-ups. Furthermore, other methods and tools for acceleration of go-to-market were identified and suggested by the researchers involved in the Accelerate project (Apilo et al., 2015). Within this thesis, these tools and methods were more precisely studied and their impact on start-up performance was explored.

1.2 Research questions and objectives

The aim of the research is to identify challenges of Finnish ICT start-ups, negative impacts of these challenges on start-ups performance and approaches of start-ups to overcome these challenges to accelerate their go-to-market. The theoretical ground of this thesis is built by critically reviewing existing literature on the fields of entrepreneurship and new venture creation. Combined with empirical research, the goal is to find an answer to the main research question:

What approaches do Finnish technology-based start-ups use to accelerate their go-to-market?

The objective is to find out what tools and methods are used by Finnish ICT start-ups. Furthermore, which of them have positive impact on overcoming challenges and performance enhancement. This research focuses on tools and methods, previously defined by Accelerate project's researchers, as well as on personal traits and factors to entrepreneurial success.

Sub-questions:

The first sub-question (1) focuses on personal characteristics and factors that lead to entrepreneurial success.

- 1) What personal traits of Finnish ICT entrepreneurs and what factors lead to entrepreneurial success?

The main accent of the second sub-question (2) is on challenges that nascent firms face when going through four key phases of development process.

- 2) What challenges are inherent to Finnish ICT start-ups, and have negative impacts on start-ups performance?

The third sub-question (2) tests, whether accelerators/incubators, like tool for acceleration, really positively influence companies' performance.

- 3) What is the role of accelerators and incubators for ICT start-ups in Finland?

The fourth sub-question (3) focuses on activities, which companies do for acceleration of their go-to-market.

- 4) Which acceleration activities (tools or methods) minimize negative effects of certain start-ups' challenges, and therefore positively influence start-up performance?

1.3 The structure of the research

This section is dedicated to presentation of the overall research process and structure of the study. Research process is described in the Figure 1. In addition, a short overview of each chapter is provided.

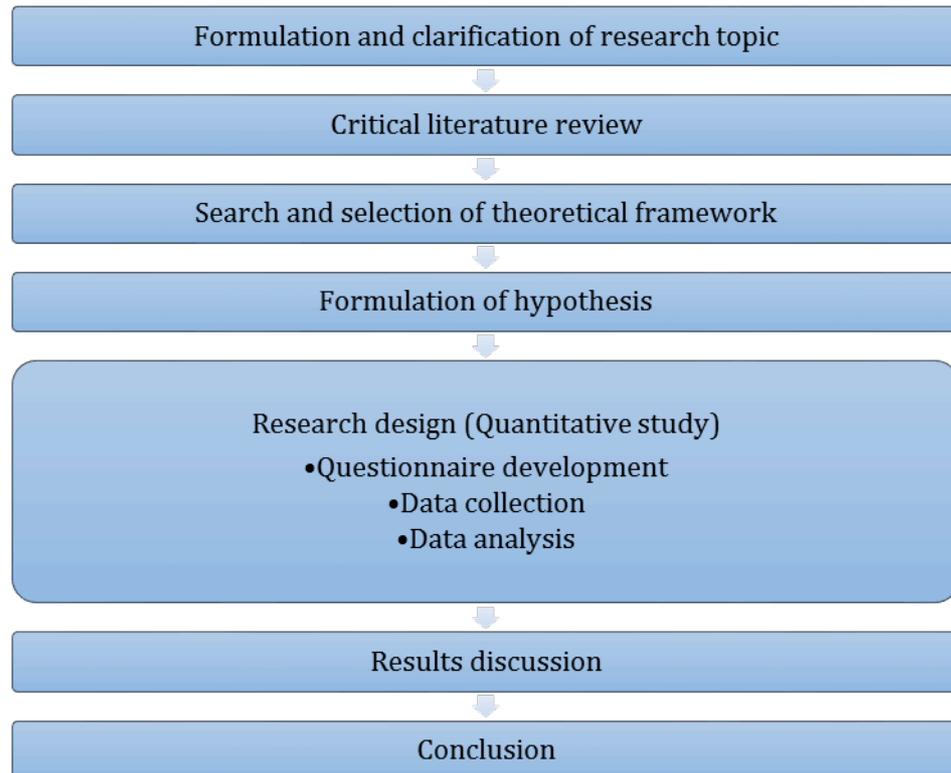


Figure 1. The structure of the research

Chapter one contains introduction, motivation for the research, presentation of the main objective of the study and research questions.

Chapter two focuses on review of entrepreneurial and technology-based start-up literature. In this chapter we also raise question of start-ups` challenges. Four groups of challenges were identified and first group of hypotheses was built during the literature review.

Chapter three and four introduce the concept of acceleration. Choice of investigated activities is explained in this part. Each of the tools, methods and activities are reviewed in details, such as business incubators and accelerators, ICT tools, strategic partnerships and

participation in events. Second and third groups of research hypotheses were developed and listed in this chapter. In the *chapter four*, the theoretical framework is presented.

Chapter five describes research methodology and why quantitative research strategy is applied in the empirical part. Moreover, this chapter contains summary of research hypotheses.

Chapter six presents detailed results and findings. This part includes descriptive statistics and results of the linear-regression analysis.

In the *chapter seven*, discussion and conclusions are provided. Answers to the research questions have been found. Two hypotheses found support during this research. Limitations and motivation for further research are also discussed in the last section.

2. ENTREPRENEURSHIP AND START-UP CONCEPTS

Following chapter presents explanation of the term entrepreneur. Next, personal traits of entrepreneurs and factors to entrepreneurial success are discussed. Following paragraphs present the concept of start-up, start-ups` stages and challenges according to different authors` points of view.

2.1 The concept of entrepreneurship

First, the concept of entrepreneurs was discussed in the work of Cantillon (1755). He introduced entrepreneur as a risk-taking person who is ready to face high level of uncertainty. The term suggested by Ries (2011) is applied for this study. According to the author, entrepreneur is a tolerant of ambiguity enthusiast, who builds the company from scratch (Ries, 2011).

According to Robertson et.al (2003), generally, the decision to become an entrepreneur is influenced by a need for an achievement. Another authors Kolvereid and Isaksen (2006), claim that the main motives of entrepreneurs to start their own business are needs for autonomy, authority, self-realization and economic opportunities. This personal traits and others discussed in different sources (Robertson et al., 2003; Hermann et al., 2007). Frank et al. (2007) discourse in their study several personal characteristics that are inherent to entrepreneurs such as a need for achievement, locus of control and risk propensity. The results of the Frank`s et al. (2007) study claim that significance of personality traits decreases during the start-up development. In fact, above-mentioned traits really influence entrepreneurs` intention to start own company, however does not grantee it`s success (Frank et al., 2007). Moreover, according to Gartner (1985), value of personality traits can be discovered only in compound with other influencing factors such as resources or surrounding entrepreneurial ecosystem.

However, only successful start-up can be considered as a driver to an economic growth (Colombelli et al., 2016). Therefore, it raises the question: what are the most important factors to entrepreneurial success?

According to the research by Wadhwa et al. (2009), conducted in the United States of America, among the most important success factors, respondents of their survey highlighted prior work experience, learning from previous success or failure and management teams. Less important role, in respondents` opinion, plays good fortune and personal/professional connections (Figure 2).

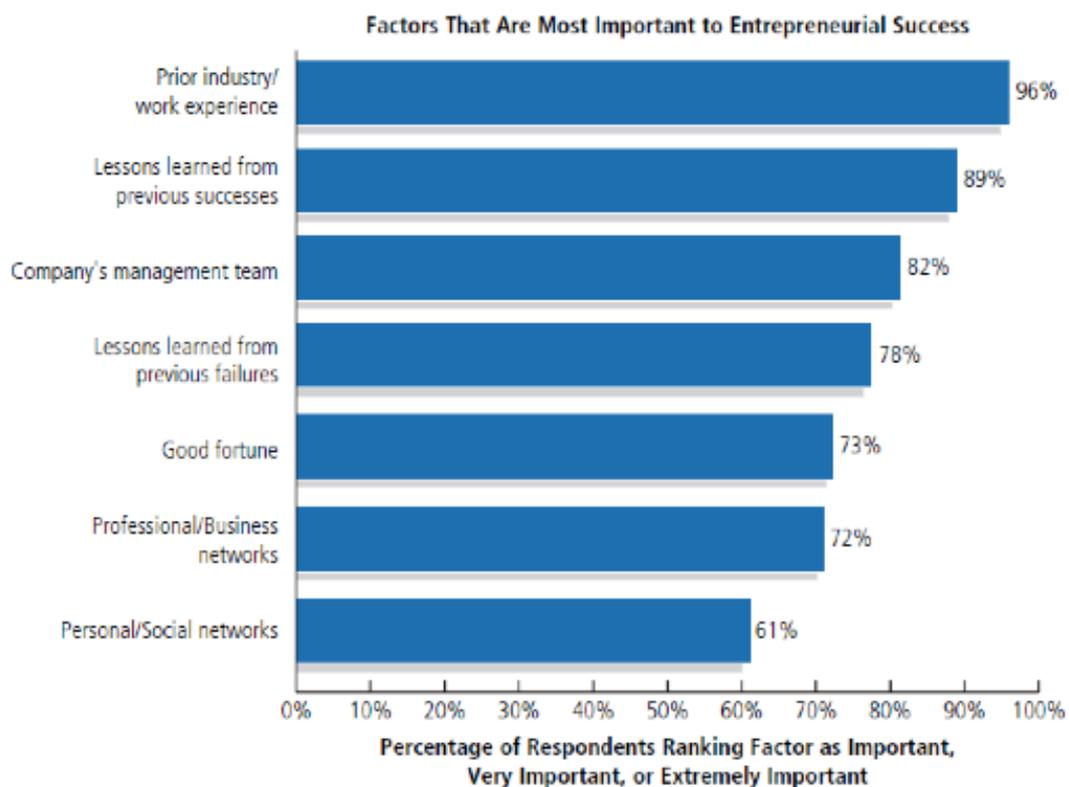


Figure 2. Factors that are most important to entrepreneurial success (Wadhwa et al., 2009)

In this study, we aim to look at Finnish entrepreneurs` perception of characteristics, which is inherent to the personality of entrepreneur. Furthermore, compare their insights on the success factors of entrepreneurial prosperity.

2.2 The concept of start-up

There is a great amount of different approaches to define the concept of start-up. However, the main idea in all of them is that start-up is a newly formed business founded by one or

by the group of entrepreneurs (Kolvereid and Isaksen, 2006; Ries, 2011; Giardino et al., 2015).

Some authors emphasize the focus on innovation in start-up companies (Freeman and Engel, 2007; Radas and Božić, 2009). Freeman and Engel (2007) claim that early-stage firms have more opportunities to innovate in comparison with mature companies, where such factors as decision-making process, prediction of the product life cycle and demand are slowing down an innovation process. Furthermore, Radas and Božić (2009) agree that small companies are even more motivated to innovate because it can raise their chances for competitive advantage. According to Radas and Božić (2009), development and commercialization of innovations is a key activity for technology-based start-ups.

There are some other characteristics of start-ups provided by different authors. They characterize start-up companies by ability to react fast and be flexible (Giardino, C., 2015), work to a very tight schedule (Ries E., 2011) and tackle rapid growing markets. However, this companies also characterized by lack of human resources and financial constraints (Stucki T., 2014). Such companies usually have a high growth potential but also a high risk, conditions of extreme uncertainty and volatility at the same time (Ries, 2011). The rapid-growth potential was also emphasized by Barringer et al. (2005).

The research focuses on Finnish ICT start-ups. One of the biggest contributions to Finnish ICT sector was definitely made by Nokia. In 2000, Finland was considered as the most ICT oriented country, and Nokia at that time accounted for a half of Finnish ICT sector (Giertz et al., 2015). However, Nokia was under the threat of huge crisis caused by revolution of Apple`s and Android`s technologies in 2007. In 2013, Nokia stayed afloat only thanks to selling reminder part of the handset business to Microsoft (Giertz et al., 2015). This misadventure of Nokia affected negatively country`s economic development. At the same time, it created potential for new start-ups emergence by freeing many high-qualified tech people (Giertz et al., 2015).

2.2.1 Start-up development phases

Concerning the concept of start-up, the research considers development stages of start-up. According to different sources, newly formed firm goes through several stages during its

development process. Some of the stages are named similarly, however, some authors labels stages differently. Figure 3 presents comparison of views (Clarysse, B. and Bruneel, J., 2007, Wallin et al., 2015). Stages that were developed based on reviewed literature are presented on the top of the picture. These labels were used in the empirical part of this research later on (Figure 3).

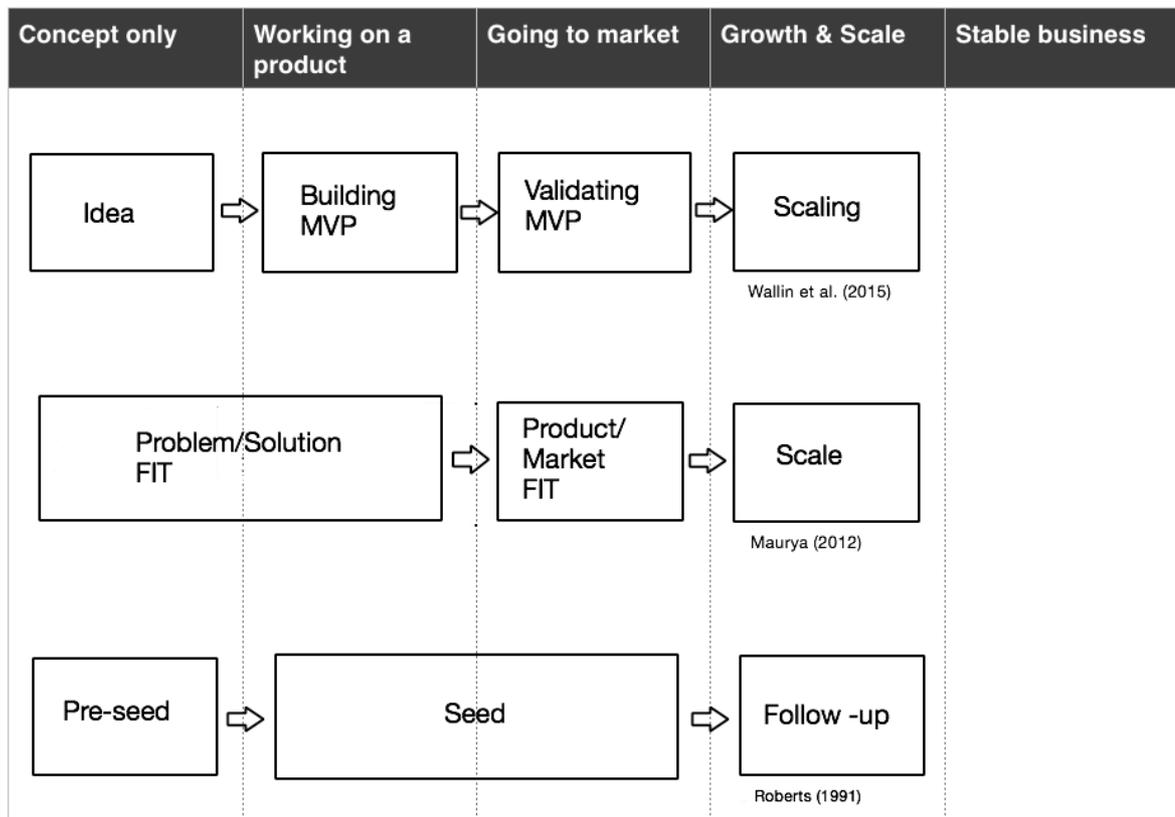


Figure 3. Stages of Start-ups (Roberts, 1991; Maurya, 2012; Wallin et al., 2015)

The first phase is formation of the **idea** or as it is named in this research - “concept” stage. It is an initial representation of new product/service concept. At this stage, entrepreneurs define their idea and plan necessary resources (Clarysse and Bruneel, 2007, Maurya, 2012).

The second phase differs in reviewed articles. Maurya (2012) distinguishes *building minimum valuable product (MVP)* as the second phase and *validating MVP* as the third phase of start-up innovation process. Hence, the second phase, defined by Maurya, (2012) includes development of MVP and testing it. During this stage search for MVP’s defects,

problems and solution for these problems taking place. MVP, in this context, is a synonym to prototype term, which is an initial version of the product that shows the value that customer can get while using this product (Maurya, 2012).

The next phase, *validating MVP*, is a proof of feasibility of the product/service and a search for scalable business model to ensure fitness of product/service in the given market (Wallin et al., 2015). In this study, this stage is labeled “going to market” or go-to-market. According to Wallin`s research, go-to-market concept is defined as a point when sales of the start-up product are initiated. In other words, when the first paying customers are acquired by the firm (Wallin et al., 2015).

Clarysse and Bruneel (2007) in their paper combined two above-mentioned phases (building MVP and validating MVP) in one and labeled it “development stage”. According to authors, in this stage, start-ups recruit effective managers, financing and testing prototypes, built their customer base and then strengthens their market position.

The forth stage is a *growth* or *scaling* stage. In this stage, start-ups expand their business and go to international markets (Roberts, 1991; Maurya, 2012; Wallin et al., 2015).

Roberts (1991) indicated phases of successful start-up in accordance with their financial needs. Author distinguishes *pre-seed*, the *seed* and the *follow-up* phase. Following Roberts (1991), in *pre-seed* phase, start-ups need limited funds for testing and evaluating assumptions that had been made in business plan, visiting trade shows, developing prototypes and collecting market data. Author claims, that uncertainties are very high in this stage and a lot of start-ups cannot overcome them. *Seed* phase, in its turn, is characterized by an actual establishment of the company after all necessary tests were conducted. In this stage, funding is especially critical, but risks are still high, that is why second stage is also crucial for a start-up survival. The last stage, described by Roberts (1991), is called the *follow-up*. In this stage, financing goes in parallel with scaling stage and characterized by financial needs for firm expansion and international growth (Roberts, 1991).

2.2.2 Start-ups' challenges

Establishment of the start-up does not guarantee its survival (Colombelli et al., 2016). According to different sources the number of start-ups' fails varies from 50% to 75% (Blank, 2013; Agostinho et al, 2015; Colombelli et al., 2016). Irrespective of the number – they fail. Based on reviewed literature, challenges and barriers, faced by technology-based startups (IT, ICT, web-based and software companies) were identified and they are described below in details.

Lack of human capital is the first challenge identified during critical literature review. Human capital is emphasized in the literature as the key factor for a start-up vitality (Kasabov, 2015). For example, based on sample of Vietnamese IT sector, Kasabov (2015) concluded that start-ups are notably weak in recruitment, and training sphere. Moreover, a lot of interviewed start-ups in Kasabov's study underlined that "training was not start-up's responsibility", and this task should be regulated by the governmental authorities such as universities. Search for experienced employees, who would suit company's objectives, also emphasized by Agostinho et al and by Hilmola et al. (2015). Wallin et al. (2015) divided human resource scarce depending on firm's development stages. In the early stage, there is a necessity for IT specialists, while at further phases competence sales and marketing specialists are needed.

Problems with network building is another huge challenge. Building contacts with partners, distributors, sales and marketing representatives occur one of the key success factors for speeding up commercialization and internalization (Wallin et al., 2015). Hence, lack of such contacts leads to slowing down start-ups' development process. The same idea is mentioned in the article of Kasabov (2015), where he tells about weaknesses in both local (stakeholders & universities) and global networking. Hilmola et al. (2015) underline importance of networking in regard to reaching external funding (selling the idea, product or service to investors).

Agostinho et al. (2015) define problem in a building network and lack of communication with customers. This problem can be also referred to network building challenge. Authors state as an example web-based start-ups that had been working on the brilliant, in their

opinion, idea for months without knowing potential customer impression on their end-product/service.

Lack of funding is perceived quite controversially in different reviewed studies. Wallin et al., (2015) identified four phases of start-up formation: Idea/vision, Building MVP, Validating MVP(s), Scaling. According to conducted research, funding is a challenge for innovative start-ups at all stages except initial one (idea generation stage). In the article, authors discuss case of start-up, which was almost bankrupt because of funding shortage, and impossibility to continue R&D. However, they managed thanks to consultancy income. Absence of an additional income would lead to company failing at initial stage. Moreover, scaling business requires additional financial support. This kind of support is easier to obtain in case of good trustful relationships between firm and investors or in case of sales income.

In the research of Giardino et al. (2015), two early-stage software start-ups are discussed. CEO of the one of these start-ups pointed out critical need of initial financing. Contrary, another start-up's CEO has not noted lack in finance as a challenge for the company. However, both authors and CEO highlight importance of business incubator on this occasion. The problem of obtaining financial resources is also mentioned in the articles of Agostinho et al., (2015) and in Hilmola et al. (2015).

Hechavarría et al. 2016 concluded that there was no prove that financing influenced start-up acceleration. Authors' first hypothesis stated that debt for start-ups acted as a motivation for the faster development and growth. Contrary second hypothesis stated that usage of internal funds slowed down a development process and companies stayed in the still-trying phase. None of these hypotheses found evidence to support, from that was made conclusion that financial challenge was exaggerated by start-ups' CEO and managers.

Lack of skills or capabilities is the last but not least start-ups problem that is examined in details. According to Kakati (2003) new business is more likely to be successful when founding team has both managerial and technical skills. The absence of one of this constituent may result in company's misadventure or even failure. Furthermore, at the early stage of start-up running the business, entrepreneurs may need help with business

model formation and identification of their strategy. Especially in case of technical background of founder, mentorships seem more common way to overcome this challenge. In further stages, support with marketing and sales occur necessary as well. Not to mention internalization process, which also demands particular capabilities. However, at scaling phase entrepreneurs seem more experienced and this challenge stops being a start-up`s concern (Wallin et al., 2015).

There are other identified challenges such as: *problems with understanding of legislation and rules, scarce resources*. However, talking about scarce resources, this point is directly related to a lack of human resources and financing. *Technology uncertainty* and *obtaining first solvent customers* are also identified as a challenge for technology-base start-ups (Giardino et al., 2015)

To sum up, all identified challenges are presented in the Table 1.

Table 1. Challenges identified by different authors

Challenge	Source
Building a team	Giardino et al.,2015
Locating and hiring right employees	Kasabov, 2015
Lack of technical skills	Kakati, 2003; Agostinho et al., 2015
Lack of marketing skills	Giardino et al.,2015
Lack of business and strategic capabilities	Wallin et al., 2015
Obtaining financial resources	Giardino et al.,2015; Wallin et al., 2015
Building network with investors	Kasabov, 2015; Wallin et al., 2015
Building contacts with partners, distributors, sales and marketing representatives	Kasabov, 2015;Wallin et al., 2015
Building network with customers	Agostinho et al., 2015

Thus, based on the reviewed literature, the set of hypotheses is developed, according to start-up challenges. Hypothesis 1:

- a) Difficulties with building a team negatively influence start-up performance

- b) Lack of technical skills negatively influence start-up performance
- c) Lack of marketing skills negatively influence start-up performance
- d) Lack of business and strategic capabilities negatively influence start-up performance
- e) Lack of financial resources negatively influence start-up performance
- f) Difficulties with building network negatively influence start-up performance

3. ACCELERATION OF BUSINESS

This chapter is closely related to the Accelerate project. Within the framework of the project, the concept of acceleration was identified as a *boost of the go-to-market or commercialization of innovations* (Apilo et al., 2015).

The core idea of the concept states that acceleration represents combination of processes, tools and methods; by means of this components start-up have opportunity to attack right markets and grow faster (Apilo et al., 2015). These processes, tools and methods or “activities”, as they called further, are going to be studied during further literature analysis and empirical part of this study. Among the reviewed activities are participation in business incubators and accelerators; usage of ICT tools; building strategic alliances and partnerships; participation in events. Choice of activities was made based on Accelerate project outputs.

3.1 Business incubators and accelerators

There is a growing role of business incubators and accelerators to help startups in the early-stage (Bergek, and Norrman, 2008; Cohen and Hochberg, 2014). In this section, brief overview of both incubators` and accelerators` programs are provided. Furthermore, their services were reviewed and differences underlined.

Business incubators are often non-profit organizations. Approximately one third of them is integrated with universities (Cohen and Hochberg, 2014). Incubators provide office space, coaching and networking facilities for their tenants. Despite the fact that incubators are usually non-profit organizations, their tenants pay a rent for the working space, however, below market price (Bruneel et al, 2012).

The Incubation period lasts roughly three years (McAdam and Marlow 2007). However, some start-ups are interested to stay in incubators for longer. So, in order to push these firms forward to the “real life”, incubators rise-up a rent price of the office space (Bruneel et al, 2012).

Incubators in Finland are mainly focused on technological grow in sphere of ICT,

biotechnology, materials technology, and new production technology. In this case, financial support carried by Finnish National Technology Agency (Tekes). Moreover, there is centralized support from TE- Center, the Finnish Employment and Economic Development Center, where trainings of incubators management take place. Another supportive program is SpinnoTM, which offers training and teaching programs for entrepreneurs for developing their business skills (Scillitoe and Chakrabarti, 2010).

However, incubators work this way not in all countries. For example in US, there is no centralized support for incubators, and coordination of BIs is carried by universities, municipalities, private companies, and another organizations (Scillitoe and Chakrabarti, 2010).

Services offered by incubators

Three generations of business incubators were identified by Bruneel et al (2012). Corresponding to different time periods, services provided by business incubators (BIs) were not the same through the time. After the appearance of the concept, first generation of BIs was specialized mainly on providing start-ups and early-steps companies with space facilities. While second generation of BIs realized importance of technology-based firms for economic growth, and the weakness of such firms in business and marketing fields. Consequently, BIs of the second generation concentrated not only on physical support but also on knowledge-based services, such as training and coaching. The third generation corresponded to the present state of BIs. In addition to the listed services, they started to provide start-ups with so called “network” service. This service allows BIs` tenants to build contacts with potential customers, partners and investors (Bruneel et al., 2012).

Incubators that operate nowadays, oriented on support of technology-base firms and provide their clients with such services as: provision of infrastructure, business support and access to network (Bruneel et al., 2012, Abduh et al., 2007, Aerts et al. 2007). Further in this chapter these services discussed in more detail.

The term “infrastructure”, in case of BIs, refers to an office space and shared resources (Bruneel et al., 2012). *Provision of infrastructure* is general service of BIs different kinds (Bruneel et al., 2012). It is important to underline, that these facilities are affordable and

flexible for BIs` tenants. The rent is charged below the market value and changes in size of rentable area are permissible (Abduh et al., 2007). Considering in more details offered facilities, BIs provide clients with turnkey office space, meeting rooms, and conference rooms. Car parking, reception, canteens and security services are also normally provided. However, production facilities and laboratories are not necessarily included in BIs` “infrastructure” service (Bruneel et al., 2012, Abduh et al., 2007, Aerts et al. 2007). Such resources as equipment and the Internet are also regard to infrastructure (Aerts et al., 2007). According to Abduh et al., (2007) all listed facilities allow cost reduction and timesaving to BIs` clients. Moreover, this service provides excellent opportunity to run business immediately.

Business support is another offered service of business incubators. Typically, start-up companies, especially technology-based, lack managerial, economic and marketing skills at their early-stage (Bruneel et al., 2012). That is why incubators provide nascent firms with assisting, training and consulting services, such as assisting in development of business model and defining their strategy; support in accounting, marketing and sales; courses, seminars and workshops; consulting in legal and governmental issues (Bruneel et al., 2012, Abduh et al., 2007).

Bruneel et al (2012) reported that *coaching and training* service of BIs can be provided to their tenants both externally and in-house. This service tends to be crucial for BIs` participants. BIs supply learning-by-doing educational programs that change start-ups behavior and have significant impact on further start-up performance (Bruneel et al., 2012).

As it was mentioned previously, high number of incubators specializes on ICT sector. Such incubators provide coaching and training adopted for particularity of e-business and other ICT feature (Aerts et al., 2007).

Access to network considered as key service of BIs, which is extremely important for new firms. Through it incubators` tenants get an access to potential customers, suppliers, partners and investors (Bruneel et al., 2012, Abduh et al., 2007, Aerts et al. 2007). Participants of BIs have possibility to build their network both inside incubators and outside. Building contacts and partnerships helps overcome such problems as lack of

resources, lack of required knowledge and capabilities (Bruneel et al., 2012, Abduh et al., 2007).

Support in building network with investors, business angels and venture capitals are highly important for start-ups especially in the beginning. With such contacts, nascent firms are able to manage financial scarcity more easily. Furthermore, these investors can highly impact further company development by supervising and controlling, because they are not indifferent to the fate of their investments (Bruneel et al., 2012).

Gathering different start-ups in one building with common workspace enables building internal networks. It gives companies and entrepreneurs a possibility to share information, experience and resources between each other (Abduh et al., 2007). There is no contradiction to this statement in Aerts et al. (2007) article. Moreover, authors claim that effective interaction between companies leads to their development and has high impact on their innovativeness.

The value of external network is also estimated in the work of McAdam and Marlow (2007). However, authors provide a critical view on internal ties within incubators. McAdam and Marlow claim that start-ups are not willing to share technical information, because of intellectual property security. Financial information is also considered as confidential. Although, issues that are common to firms, such as marketing and accommodation “safely”, discussed by incubators participants more openly. In addition, authors pointed out that maturity of the firm also had impact on their willingness to share information. Nascent start-ups with common problems are more likely to share their experience.

Accelerator programs

Accelerator programs are established to facilitate start-up companies with acceleration of their go-to-market activities (Cohen and Hochberg, 2014). In comparison with incubators, participation in Accelerator`s program lasts roughly three months and ends with a Demo Day, where start-ups pitch their ideas to potential investors (Cohen and Hochberg, 2014).

Principle differences between programs of incubators` and accelerators`, identified by

Cohen and Hochberg (2014), provided in the Table 2.

Table 2. Summary of the differences between incubators and accelerators (Cohen and Hochberg, 2014)

	Accelerators	Incubators
Duration	3 months	1-5 years
Cohorts	Yes	No
Business model	Investment; non-profit	Rent; non-profit
Selection frequency	Competitive, cyclical	Non competitive
Venture stage	Early	Early or late
Education offered	Seminars	Ad hoc, hr/legal
Venture location	Usually on-site	On-site
Mentorship	Intence, by self and others	Minimal, tactical

The list of services offered by accelerators is similar to incubators. However, there is a higher emphasis on individual mentoring. Moreover, accelerators` programs include provision of limited amount of seed capital, which is highly important for start-ups, especially on a scaling stage (Cohen and Hochberg, 2014).

According to Miller and Bound (2011), there is a set of characteristics that inherent exactly to business accelerators:

- Any start-up can apply for participation in acceleration proses, but the competition to enter business accelerators is really high.
- Accelerators provide initial funding in return for equity.
- Acceleration seed supports small teams but not individual entrepreneurs. However usually it is no more than four team-members. Moreover, accelerators focus more on talented and perspective team members than on idea itself.
- Acceleration programs run approximately three months in contradistinction to business incubators, where incubation period lasts roughly two years.
- During these three months start-ups are intensively couched by professional mentors.

One more important feature of accelerators' programmes is a Demo Day. This day can be considered as a key chance for participants of incubators. The target of this day is to provide access to investors, venture capitals and business angels. Teams show their product/service and what has been improved during the acceleration program (Miller and Bound, 2011).

Success of business accelerator is measured by the success of "graduated" start-ups. Here appears the first significant constrain, companies fail even after going through acceleration programs. Even after the program, firms are still on early-stage phase, and staying without support, a lot of them are not ready for independent work and further growth. Further success or failure depends on how founders and other team members learn and apply their knowledge (Miller and Bound, 2011).

Despite some critical views on accelerators, there are some examples of success stories that can raise an assumption that accelerators are effective tool for companies' growth. One of these examples is the case of Airbnb (Miller and Bound, 2011).

In 2008, Airbnb founders applied for Y Combinator – acceleration seed in the middle of Silicon Valley. Despite the fact that Y Combinator's founders did not like the idea, they liked the team, which resulted in Airbnb (previously the name was AirBed & Breakfast) acquiring its first \$20,000 financing. Key issue, which had led to success, was participation in a Demo Day, building right network, and finally getting \$600,000 investment from venture capital firm called Sequoia. Nowadays, in accordance to Techcrunch (technology news web-site), company is valued at \$10 billions (Miller and Bound, 2011).

The main conclusion that can be made in accordance to the Airbnb case is that participation in business accelerators increases chances to get required recourses and network. Not to mention the fact that it is way easier with the help of accelerators (Miller and Bound, 2011).

After examination of different authors' attitudes toward business incubators and accelerators, the second set of hypotheses H2 was built. It was suggested that incubators and accelerators should be useful for start-ups` as they should help them to overcome challenges. Hypotheses H2:

- a) Participation in Incubator`s program minimizes the negative effects of challenges on start-up performance
- b) Participation in Accelerator`s program minimizes the negative effects of challenges on start-up performance

3.2 ICT tools

The research suggests that start-ups can use ICT itself as a tool for acceleration. This kind of technologies organize network, speed up transactions and create significant opportunities for carrying out different activities (ex. ICT platforms for recruiting or fund rising) (Savulescu, 2015). Furthermore, this study examines activities, which are inseparably connected with ICT.

3.2.1 Growth hacking

The term “Growth Hacker” was first introduced in 2010 by Ellis Sean – entrepreneur, angel investor and start-ups advisor. Further, this concept appeared in the blog of entrepreneur from Silicon Valley, Andrew Chen in 2012. He introduced this term as a new paradigm of the Viral Marketing (VM). In his blog-post Chen claims that nowadays marketing no longer goes traditional way. Marketer and coder started to be inseparable notions (Holiday, 2013). However, the fact that growth hackers` strategies and approaches are more technical than marketers is not the only difference. Table 3 presents traits, which differentiate growth hackers from marketers (Holiday, 2013).

Table 3. Difference between marketer and growth hacker (Holiday, 2013)

Marketer	Growth Hacker
Go to the market with an end-product/service	Believe that the product/service and even the whole business model can be and should be changed until PMF
Want their product to be everywhere	Aimed to reach out and capture at the begging a group of highly interested, loyal and fanatical users
Spend millions on advertising	Pay their customers for spreading information about product/service
If company lack of growth, company should invest more in sales and marketing	If company lack of growth, company should invest in refining and improving product/service itself

This new model of marketing is oriented on utilization of as many available Internet tools as possible. Among such tools: data, e-mail, social media sites, pay-per-click ads, blogs and others (Holiday, 2013).

Growth hacking aims to achieve so called the Product Market Fit (PMF), when the product and the buyer of this product are in perfect sync with each other (Maurya, 2012). To achieve this goal, start-up should be ready to constantly improve it's product based on received feedback. Among tools, which growth hackers use to accomplish PMF, there are google tools, optimizely, kissmetrics and Socratic method (questions) (Holiday, 2013).

Search for a right customer is one of the critical aspects of growth hacking, that is why growth hackers aims to reach out and capture at the begging a group of highly interested, loyal and fanatical users, and then this kind of users will voluntarily share information about the product and attract other users (Holiday, 2013).

There are a lot of options how to reach this first group of highly interested customers, as an example start-up can create aura of exclusivity of the product or start-up can host event and teach it`s first users how to use the product.

Despite technical aspects inherent to growth hacking, Holiday (2013) in his book defines growth hacking as a mind-set rather than a tool kit. This concept seems to be interesting for acceleration of going to market of start-ups, however it is not well studied.

3.2.2 Digital marketing

Nowadays, when the real world has migrated to the online one, it is vital for companies to be present in this world. This digitalization trend seems to be extremely beneficial for companies, as it allows reaching huge amount of potential customers at small cost (Tiago and Veríssimo, 2014). Therefore, this section is dedicated to digital marketing.

Digital marketing is a broad term, which include wide range of marketing techniques (Figure 4). Some of them more effective while other are less. On some of them expenditures are higher, while on the other less investments are needed. According to Tiago and Veríssimo, (2014) research there is a trend to increase investment in social

networking sites, e-mail marketing and digital ads. There is no contradiction in the literature to common belief that social media sites are useful instrument for companies and worth area for investments. But e-mail marketing is criticized by Holiday (2013). In his book, Holiday (2013) claims that it is an out of date approach and “spam does not work”. However, as we can see from Tiago`s and Veríssimo`s (2014) study, companies tend to invest in this area.

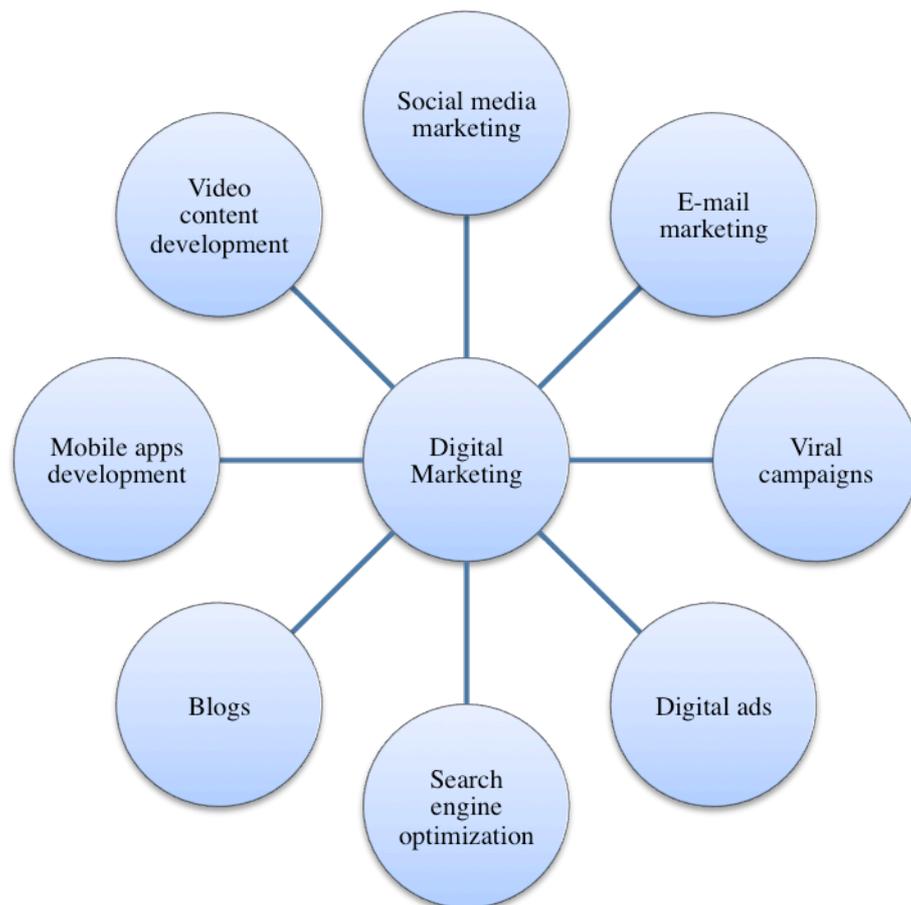


Figure 4. Digital marketing techniques (Tiago and Veríssimo, 2014; Bleoju et al., 2016)

Following paragraph discuss what does drive firms to be engaged in digital marketing. Besides cost saving and possibility to reach huge amount of people that we named in the beginning, companies increase their brand awareness and knowledge through the Web (Tiago and Veríssimo, 2014). Furthermore, online marketing allows to conduct real time analysis and receive instant feedback, it is really important especially for start-up companies which are on going to market stage and aims to achieve the PMF. Other

advantages of the digital marketing are presented in Figure 5 (Tiago and Veríssimo, 2014; Bleoju et al., 2016).

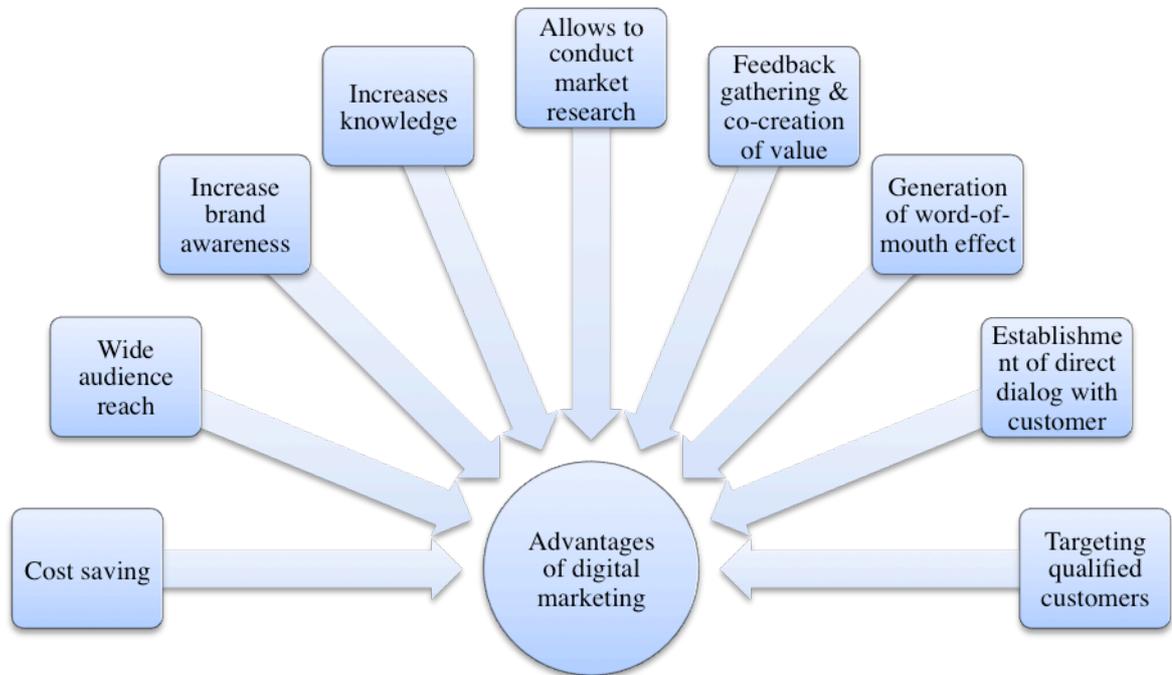


Figure 5. Advantages of digital marketing(Tiago and Veríssimo, 2014; Bleoju et al., 2016)

3.2.3 Social media marketing

Social Media Marketing (SMM) appears to be a separate vast area and can be reviewed as separate tool for acceleration of going to market for start-up firms. As it was already mentioned, traditional media such as TV and radio are at high extent replaced by the Internet media. With appearance of social media sites and with the opportunities that they offer to users, there is no wonder that companies are trying to reach their customers through these novel channels, and conduct marketing campaigns in social media. According to Hassan et al., (2015) social medial make it possible for small novel firms to carry out effective marketing campaigns in conditions of limited financial resources and lack of experience. Table 4 illustrates examples of social media sites.

Table 4. Examples of social media (Mangold and Faulds, 2009)

Social media outlets	Name
Social networking sites	Facebook Twitter
Business networking sites	LinkedIn
Creativity works sharing sites : video sharing sites photo sharing sites music sharing sites	YouTube Instagram, Flickr, Pinterest Soundcloud

There is a wide range of uses of social networking sites for business purposes nowadays, starting from advertising and market-research tool, ending with recruitment (use of LinkedIn for recruitment purposes) and employer branding tool (Mangold and Faulds, 2009).

Social media is considered to be both effective advertising tool and communication tool for relationship marketing (Hassan et al., 2015). According to Mangold and Faulds (2009) social media plays promotion-related and research-related roles. Social media gives companies a possibility to contact their customers or potential customers and moreover make it possible for customers to discuss products/services between themselves. These opportunities allow companies to provide customers with information, attract them and to maintain loyalty to the brand. Despite the fact that firms cannot control messages that customers shares between each other in social networking sites, they can create conditions so that customers themselves would like to share information/experience about using the product/service. It is really important in promotion purposes especially nowadays, when customers more rely on opinion of their friends and acquaintance in social networks than on displayed ads (Mangold and Faulds, 2009; Hassan et al., 2015). Another feature of social media is that it enables customers to contact companies, which is really useful for market-research purposes. Companies can easily get feedback and improve their product/service.

3.2.4 Word-of-mouth marketing (WOMM)

Word-of-mouth (WOM) - one of the oldest technique for sharing opinions and experiences on various topics, such as product, service or company etc. With a shift from real world to

virtual one word-of-mouth mechanism got new significance. Now people can share their opinions and views in larger scale (Dellarocas, 2003). Thereby, firms can get benefits by implementation of word-of-mouth marketing to their strategy.

Word-of-mouth marketing is word-of-mouth effect influenced or encouraged by companies for advertising purpose (Dellarocas, 2003). It can be seen in the Internet in different forms. For example, it can be online feedback on product or service on the web-page of the sellers; or it can be referrals in a social networking site (Dellarocas, 2003; Chevalier and Mayzlin, 2006; Trusov et al., 2009). WOM effect is discussed in studies on social media marketing and growth hacking as a powerful mechanism for acquiring customers (Holiday, 2013).

Trusov et al. (2009), in their research, conducted base on data from social networking sites, provide evidence that there is direct positive impact of WOM referrals on new users/signups acquisition; while there is a critical view on WOM provided in the study of Chevalier and Mayzlin (2006). Authors point out that information in the Internet, and who provide this information is hard to control, hence competitors can provide negative reviews, and, consequently, depress the sales.

3.2.5 Crowdfunding

As it was already mentioned, financial resources are needed for acceleration of go-to-market for start-ups. That is why, in this section, novel method of acquisition financial resources – crowdfunding, is reviewed (Mollick 2014; Colombo et.al 2015). This method is based on obtaining financial resources from many individuals for realization of entrepreneurial or creative project, in return for product or equity. Process of fundraising takes place in the Internet, where investors and entrepreneurs or artists are interconnected by mean of web-base platform (such as Kikstarter – the largest player in respect of projects financed) (Mollick, 2014). Some individuals call this method «game changer» for start-ups and small ventures (Mollick, 2014). There are not many critical views on the method, however it is also not well studied yet.

Preconditions for successful crowdfunding campaign were identified in previous studies. Academic literature claims that success of fundraising on crowdfunding platform depends

on: quality of project itself; ties in social networking sites; careful and fair planning of required time and resources for realization, to deliver promised good of value to your investors (Mollick 2014; Colombo et.al 2015). Some preconditions are clear and there is no need to concentrate on them, while others demand attention.

Quality of the project one of the determinative factor for understanding will this project obtain needed finance during crowdfunding campaign or not. Mollick (2014) claims that project should be carefully prepared and presented. Statistics show that such features like video attached to the project description improve chances to success. While Colombo et.al (2015) report that people also define quality of the project by number of people who already endorsed this project and by money raised till the moment.

Social networks connections seem an other important issue for successful fundraising. As crowdfunding platforms usually are linked to social network sites like Facebook or LinkedIn, there is an evidence in Mollick`s (2014) study that more connected founder have more chances to raise necessary amount of money.

Crowdfunding can be considered an effective tool for acceleration of go-to-market not just because it allows to acquire needed resources, but also because it works like promotional mechanism. There are a lot of visitors in crowdfunding platforms, and if your project is really worthwhile, they probably will want to invest in it and share the information about it on their social networking pages, which means you acquire not just resources but also potential customers.

3.3 Building strategic alliances and partnerships

Because of the small size start-up firms often suffer from financial constraints, lack of physical and human resources. Moreover, such firms, in comparison with their bigger and experienced competitors, have not yet proved product quality and the firm's reputation. So, strategic alliances and partnerships are considered to be beneficial for start-ups. Firstly, it allows them to obtain necessary resources, which is critical for survival in the beginning. Secondly, agreement with prominent partner can have positive impact on start-up`s image and reputation. Thirdly, there is an opinion that alliances positively influence innovation performance of start-up firms (Neyens et al., 2010).

Neyens et al. (2010) consider diversity of partner types in alliance portfolio to be important for improvement of innovation performance of the firm. Diversity of partners means collaboration not just between start-up and prominent organization but also between universities, research institutes, suppliers, customers, and competitors. In addition to that, there is an evidence that collaboration with universities and research institutes increases radical innovation performance (i.e., development totally new product/technology), while collaboration with customers and suppliers have impact on an incremental innovation performance (i.e., improvement of existing products/technologies) (Neyens et al.,2010).

In regard to establishment of partnerships for innovativeness enhancement, it is worth mentioning the open innovation paradigm. This model has become extremely popular over the past decade. According to this model “a company commercializes both its own ideas as well as innovations from other firms and seeks ways to bring its in-house ideas to market by deploying pathways outside its current businesses”(Chesbrough, 2006).

In the articles of Chesbrough (2006) and Neyens et al. (2010), they point out that corporations are interested in cooperation with start-ups for gathering external ideas, and furthermore they create spin-offs to bring their internal ideas into the market .

However, there is a serious obstacle, which complicates building partnerships and alliances between companies. It is protection of an intellectual property (IP) and know-how. According to Kline (2003), for majority of high-technology companies, especially US firms, protection of technology is a prior responsibility, which contradicts to open innovation model. According to this model companies should be willing to sell their IP and buy IP of other companies in any case if it is beneficial for them (Chesbrough, 2006).

De Meyer (1999) has developed a decision tree, which shows that know-how in hi-tech start-up firms can be both easily and hard to protect. However, De Meyer claims that despite the fact that know-how of internet-based start-ups` is usually hard to protect, they have high chance to succeed. Because a prototype can be developed really fast, and partnership provide a good contact with a market. So, a conclusion can be made that there is a high chance for partnership to be beneficial in case of ICT start-ups.

3.4 Participation in events

Attending trade shows and conferences by start-up companies is considered being another acceleration tool. However, authors suggest different application to this marketing tool. Some of them consider this tool effective mostly for B2B companies, while others see wide application of this marketing tool for different types of companies (Kerin and Cron, 1987; Shimp, 2010; Blank, 2013).

Early research of Kerin and Cron (1987) claims, that participation in trade shows performs selling and non-selling functions. Selling function means that there is a possibility to sell the product/service on the show itself. While non-selling function of trade show is quite diversified. It includes (1) provision of support and service to current customers, (2) presentation of new or modified product, (3) maintaining brand image and (4) gathering information about market and competitors.

Blank (2013), in his book, considers participation in tradeshow and conferences as an essential tool, which start-ups should actively use. The author claims that trade shows and conferences are the best places to learn about industry trends, key players on the market and to get better understanding who your customers are and which of their needs still require a solution. Moreover, Blank (2013) concludes that tradeshow and conferences helps meet representatives of adjacent markets, industry analysts, people in the press, and other key influencers which are extremely important for better understanding of the market. This understanding is a vital for start-up firms because ability to constant learning and discovery opportunities occur a key aspect for start-ups` success.

Hackathons

Considering the particular ICT industry, studied in this research, and emerging digitization trend (Sabbagh et al., 2013), participation in hackathons can be considered as another acceleration tool.

Hackathons are computer-programming events, which are oriented on encouragement of innovation and creative processes in digital technologies. Usually hackathons focus on a particular problem. Programmers, interface/graphic designers or others get together to

search the solution for given problem and to compete for funding, prize or other incentive. These events can be organized by companies (Google, Facebook), or even by the government (hackathons oriented on improving public services ex. education) (Briscoe, 2014).

According to Briscoe`s (2014) research, there are two main reasons behind attending hackathon. First one is for learning and second is for network building. Both reasons seem quite beneficial for start-ups, because start-ups lack network, especially on going-to market stage (Wallin et al., 2015). Moreover, constant learning both technical aspects and the industry itself are essential for start-up firms (Blank, 2013).

Despite the fact that literature review points out positive influence of hackathons, this field has not been well studied yet and there is no empirical prove that start-ups really use this tool to overcome challenges and to accelerate their go-to-market. That is why, this research aims to check this.

To sum up the third chapter, Table 5 provides the list of all reviewed activities and authors that discussed them in their studies.

Table 5. Activities identified during Accelerate project (Apilo et al., 2015).

Activities		Source
Business incubators and accelerators	Business incubators	Abduh et al., 2007; Aerts et al. 2007; Bruneel et al, 2012; Clarysse and Bruneel, 2007; McAdam and Marlow, 2007; Scillitoe and Chakrabarti, 2010;
	Accelerators programs	Cohen and Hochberg, 2014; Miller and Bound, 2011;
ICT	Growth hacking	Holiday, 2013
	Digital marketing	Bleoju et al, 2016; Bleoju et al, 2016; Krauz et al. 2009
	Social media marketing	Mangold and Faulds, 2009; Tiago, and Veríssimo, 2014
	Word-of-Mouth Marketing (WoMM)	Trusov et al, 2009

	Crowdfunding	Mollick, 2014
Strategic partnership		Chesbrough, 2006; De Meyer, 1999; Neyens et al., 2010
Participation on events	Trade shows	Blank, 2013; Browning and Adams, 1988; Kerin, and Cron, 1987
	Conferences	Blank, 2013
	Hakathones	Briscoe, 2014

Based on the literature on each activity, it is suggested that use of given activity helps start-up to overcome certain challenge. Thus, the set of hypotheses H3 is developed as follows:

- a) Growth Hacking positively influences overcoming certain start-up`s challenges, therefore positively affects its overall performance
- b) Digital marketing positively influences overcoming certain start-up`s challenges, therefore positively affects its overall performance
- c) Usage of Social Media Marketing positively influences overcoming certain start-up`s challenges, therefore positively affects its overall performance
- d) Word-of-mouth marketing positively influences overcoming certain start-up`s challenges, therefore positively affects its overall performance
- e) Crowdfunding campaigns positively influence overcoming certain start-up`s challenges, therefore positively affect its overall performance
- f) Establishment of strategic partnerships positively influence overcoming certain start-up`s challenges, therefore positively affect its overall performance
- g) Participation in events, such as tradeshow, conferences and hackathons, positively influence overcoming certain start-up`s challenges, therefore positively affect its overall performance.

4. DYNAMIC RESOURCE BASED VIEW

Resources are critical aspect for start-up firms. It can be seen in different sources. There are number of entrepreneurial studies that claim that personal traits of entrepreneurs contribute to firms` performance only in conjunction with resources (Haber and Reichel, 2007; Hermann et al., 2007). Furthermore, according to McAdam and McAdam (2008), utilization of incubators` resources by start-up leads to progress in its development. It can be seen that resources play the key role in start-ups` development and growth. That is why resource-based view (RBV) considered as the most appropriate framework. Dynamic capabilities framework occur to be right compliment to RBV due to the focus on ICT industry, which can be characterized as rapidly changing, Therefore, dynamic resource-based view (Dynamic RBV) was chosen as theoretical framework for purpose of this research (Helfat and Peteraf, 2003).

Barney was the first who presented resource-based view (RBV) framework in 1991. According to Barney (1991) resources controlled by the firm enable implementation strategies that improve firm`s efficiency and effectiveness. To the company's resources, he refers both tangible (assets) and intangible (capabilities, organizational processes firm attributes, information and knowledge) resources at the firm disposal.

Barney (1991) claims that firm can get sustained competitive advantage if it has valuable, rare, inimitable, and non-substitutable (VRIN) resources at its disposal. One important aspect is that these resources are immobile and heterogeneous.

However, there are number of critical views on RBV theory. Within RBV it cannot be fully explained from where comes heterogeneity in resources. Moreover, the fact that the Barney`s theory got a lot of critique over past decade cannot be overlooked. A first critique is that sustained competitive advantage cannot be explained only by VRIN criteria. Among basic conditions for sustained competitive advantage authors pointed out uncertainty, immobility and firm-level innovation (Foss and Knudsen, 2003; Becerra, 2008). Another critique, discussed by many authors, is that RBV do not have managerial implications (Priem and Butler, 2001a; Connor, 2002; Miller, 2003).

Taking into consideration critique and limitations, the decision was made to concentrate on

dynamic resource-based view, suggested by Helfat and Peteraf (2003). Within this framework we can explain how organizations utilize their resources and capabilities to reach competitive advantage. The concept of dynamic resource-based view relies upon dynamic capabilities concept that was presented by Teece et al. in 1997. Authors defined the concept as 'the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments.' Coming back to Helfat's and Peteraf's (2003), capability lifecycle presented in their article, explains fundamental sources of firm heterogeneity.

The research suggests that firm, which have (VRIN) resources, dynamic capabilities and able to implement valuable strategy can also accelerate its going-to-market as well as achieve sustained competitive advantage. Under the resources meant tangible and intangible resources such as financial resources, skills, capabilities and others. Moreover, we suggest that dynamic of start-up team should facilitate search of missing resources and choice of appropriate acceleration tool.

5. RESEARCH METHODOLOGY

5.1 Research approach and strategy

The study is divided into theoretical and empirical part. Theoretical part presented in paragraphs 2,3 and 4. It includes literature review on the topic and observation of existing theories.

According to Saunders et al. (2009), when researcher works as observers, relies on existing theories for hypotheses development and aims on finding causations, these indicate positivist approach. Hence, positivism philosophy became the basis for the study.

As noted earlier, study relies on existing theories and aimed on detection and explanation of causal relationship between variables, which is characteristic of deduction research approach. The philosophy and the fact that collected data was measured quantitatively also indicate that deductive approach is the most appropriate in our case Saunders et al. (2009).

Quantitative research strategy was applied in empirical part because it allows to describe characteristic of a large population. Statistical data was needed to get an answer to the main research question, what approaches of go-to-market acceleration are in wide use among Finnish start-ups, and what they poorly use. Adoption of this research strategy can be also explained by the way of data collection (Saunders et al., 2009). Data for quantitative research was collected by mean of online survey. The main characteristic of quantitative data is that it based on meanings expressed by numbers. Data is processed using statistic and diagrams. There are number of studies concerning business incubators and accelerators, which used qualitative research strategy. Aim of this study was gathering numerical results for assessment accelerators, incubators and other acceleration tools. Moreover, we were interested how common is participation in incubators` and accelerators` programs among Finnish entrepreneurs.

Stratified random sampling was chosen as sampling technique (Saunders et al., 2009). The population was divided by based on number of attributes. For example, firm-participants should be definitely start-up companies: 1-5 years old and the number of employees are not more then 20. Start-up should operate in ICT sector.

5.2 Description of the data

The empirical data for the research was collected by survey. Survey was chosen as the research method because no other method can describe characteristic of a large population (Saunders et al. 2009). Internet polls were distributed by e-mail during the period from July to the end of September, 2016, furthermore, the database of start-ups participating in Slush event in 2014 was used. Slush perceived to be the biggest start-up event. According to the dataset in 2014 this event brought together more than 1500 start-ups. Moreover, few questionnaires were filled-in during Demo day organized by local Incubator.

Overall, the survey was completed by 78 start-up`s representatives. However, the majority of the respondents (66 companies) are Finland based, therefore only Finnish companies have been selected for analyzing the results. The questionnaire included 19 questions, plus 6 questions related to the feedback about the survey itself and respondents` info (See appendix 1).

Despite the fact that all companies that participated in the survey operate in ICT sector, the industries are differ from start-up to start-up. Classification of ICT start-ups, presented further, based on Slush-dataset. Almost one-fifth of the total number respondent start-ups, (17% from the whole sample), operate in “E-commerce and online marketplaces”. Moreover, 11% of respondents operate in “communication and media” industry. Figure 6 graphically presents industries of respondent firms.

Industries in which start-ups operate

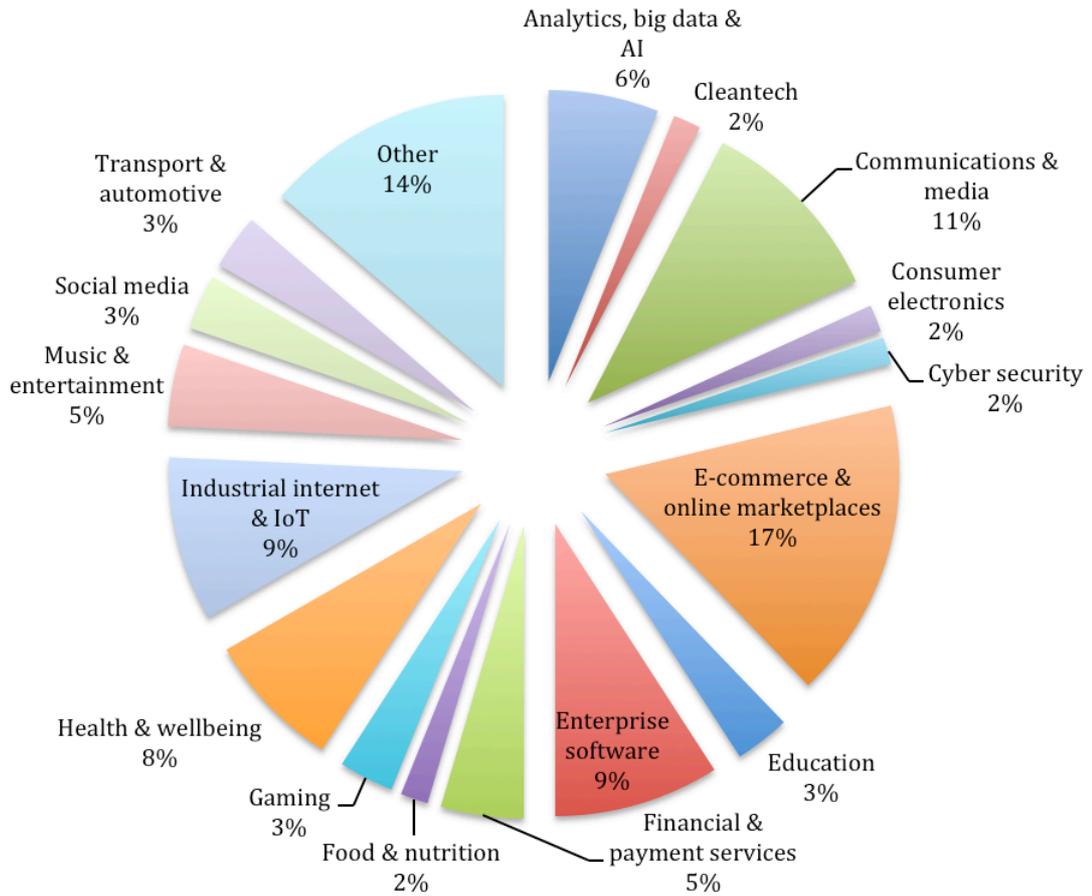


Figure 6. Industries in which start-ups operate

Company representatives who indicated their industry as “Other” operates in marketing, management consulting, public sector and aviation.

For the large number of firms B2B is the main market. Only 3% of respondent companies work with government as with their main client (Figure 7)

Companies` main market

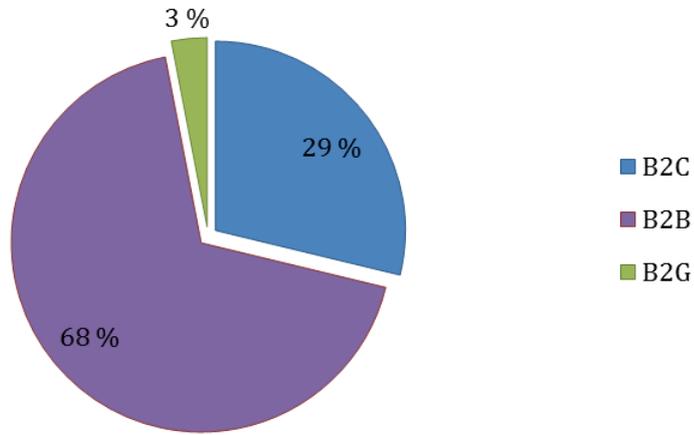


Figure 7. Companies` main market

One-fifth of the total number respondents operate just in one market. For 34% of respondents B2C is secondary market, and for 18% B2G is secondary market (Figure 8).

Companies` secondary market

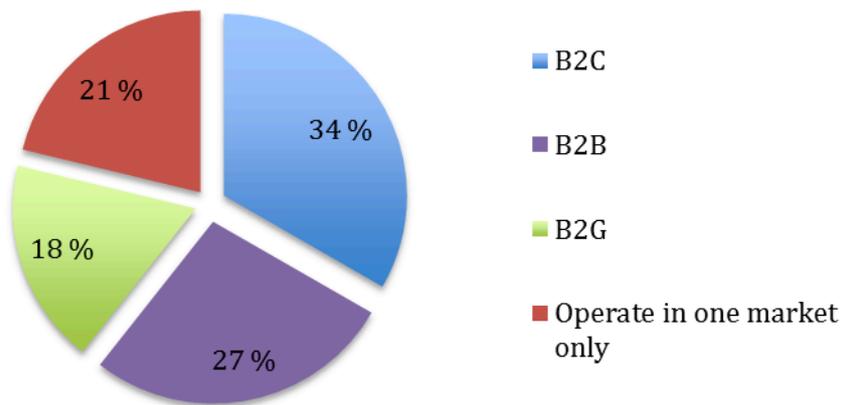


Figure 8. Companies` secondary market

5.2 Research hypotheses

This part is dedicated to hypotheses, which was developed, based on reviewed literature and theories presented in chapters 2,3 and 4. Fifteen hypothesis listed below are aimed to discover relationships between multiple topics of start-ups going-to-market. Those topics contain start-ups` challenges, activities which start-up companies undertake, and their performance indicators.

Table 6 summarizes hypotheses, which were presented in the literature review chapters already. The research hypotheses are grouped in 3 categories. First category related to start-up challenges; second to participation in incubators` and accelerators` programs; and third one to different tools, methods and activities, which start-up companies adopt in their strategy for acceleration of go-to-market (Table 5).

Further, hypotheses were analyzed by using statistical methods.

Table 6. Research hypotheses

Challenges H1:	a) Difficulties with building team negatively influence start-up performance
	b) Lack of technical skills negatively influences start-up performance
	c) Lack of marketing skills negatively influences start-up performance
	d) Lack of business and strategic capabilities negatively influences start-up performance
	e) Lack of financial resources negatively influences start-up performance
	f) Difficulties with building network negatively influence

	start-up performance
Accelerators/Incubators H2:	a) Participation in Incubator`s program minimizes negative effect of challenges on start-up performance
	b) Participation in Accelerator`s program minimizes negative effect of challenges on start-up performance
Activities H3:	a) Growth Hacking positively influences overcoming certain start-up`s challenges, therefore positively affects its overall performance
	b) Digital marketing positively influences overcoming certain start-up`s challenges, therefore positively affect its overall performance
	c) Usage of social media marketing positively influences overcoming certain start-up`s challenges, therefore positively affects its overall performance
	d) Word-of-mouth marketing positively influences overcoming certain start-up`s challenges, therefore positively affects its overall performance
	e) Crowdfunding campaigns positively influence overcoming certain start-up`s challenges, therefore positively affect its overall performance
	f) Establishment of strategic partnerships positively influence overcoming certain start-up`s challenges, therefore positively affect its overall performance
	g) Participation in events, such as tradeshow, conferences and hakathones, positively influence overcoming certain start-up`s challenges, therefore positively affect its overall performance

5.3 Research model

The model with moderator variable, presented by Sharma et al in 1981, were taken as a framework for the research (Figure 9) . The model with moderator variable allows to define whether there are any factors which strength, form or modify relationship between predictor and criterion variables.

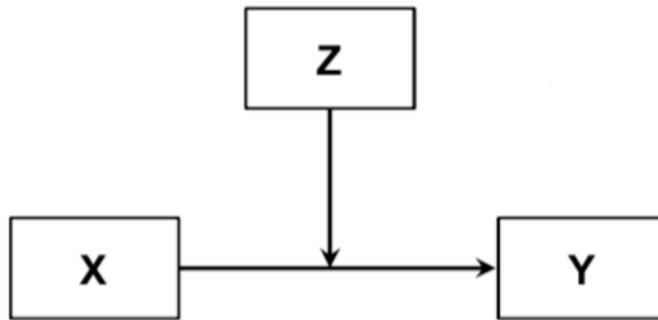


Figure 9. Model with moderator variable (Sharma et al.,1981).

The model can be represented by the equation (Sharma et al.,1981):

$$Y = \beta_0 + \beta_1 X + \beta_2 Z + \beta_3 XZ + E \quad (1)$$

Adopted for purpose of this research model presented on Figure 10 Challenges act as predictor variable (X), performance as criterion (Y) and activities as moderator virables (Z). Figure 11 also presents groups of hypotheses which were tested in this study.

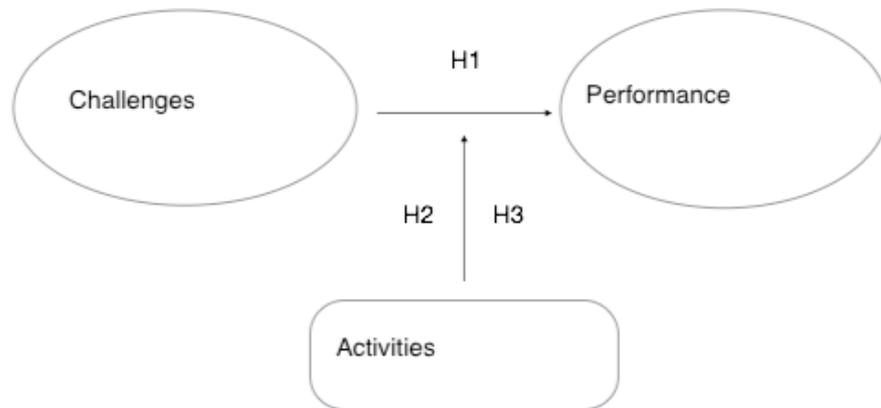


Figure 10. The research model

Figure 11 refers to the main part of the model, that tests first group of hypotheses. This Figure suggests that in accordance to challenge of start-up appropriate activity for acceleration can be chosen. The list developed base on reviewed literature, and can be extended.

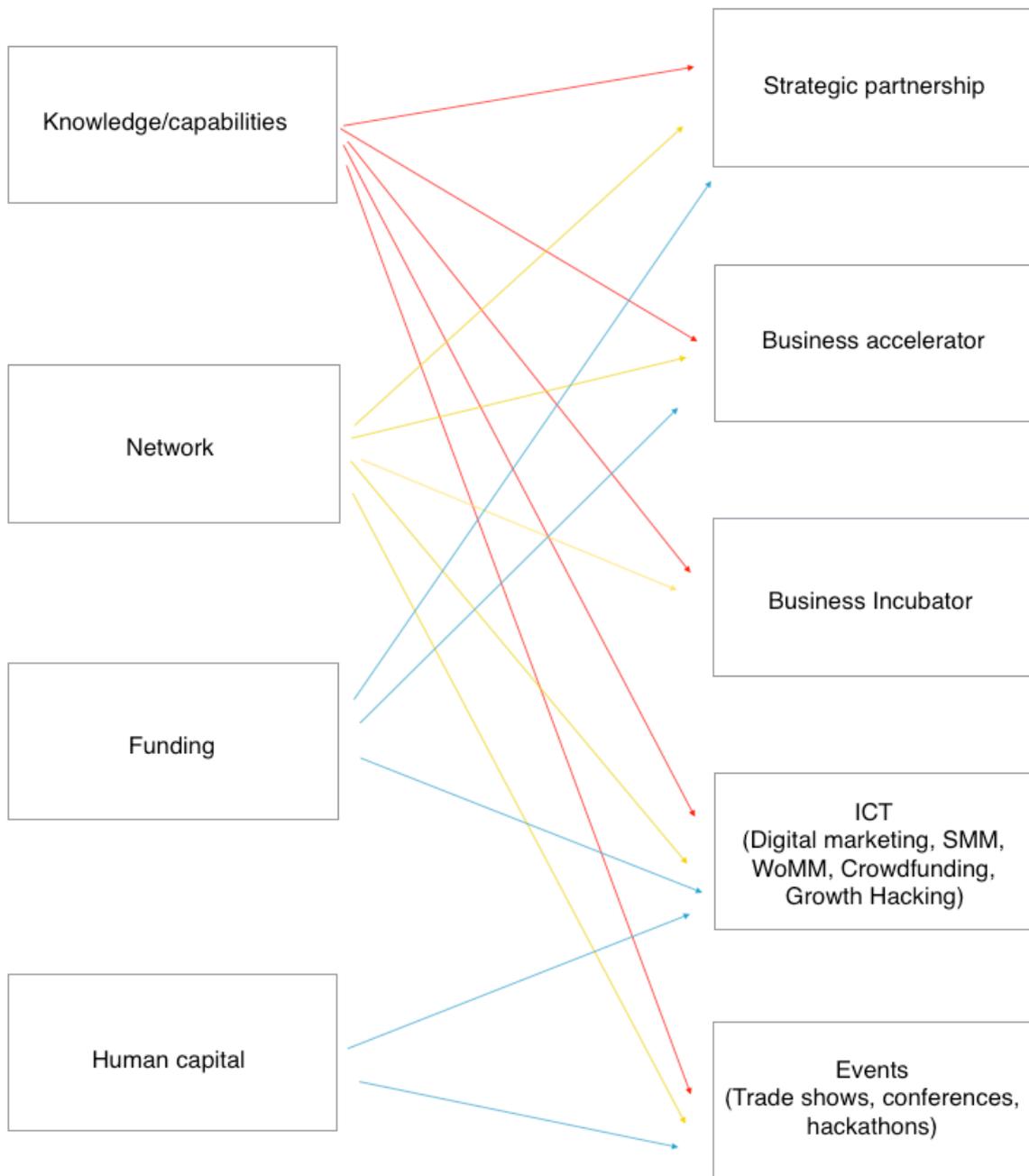


Figure 11. Choice of acceleration activity depending on the challenge of start-up

5.3.1 Presentation of variables

For purpose of the research collected data was sorted. First, variables from the set of Likert-scale questions, concerning challenges, activities and performance were sorted. Variables concerning challenges represent severity of the certain challenge faced by start-up (For example. how challenging is obtaining financial resources for start-ups). Variables

concerning activities represent degree of usage certain activity for acceleration of going to market for start-ups. Finally, as dependent variable was chosen ROI index which represent degree of index improvement in comparison to previous year. The variables that were used are summarized in the Table 7.

Table 7. The presentation of variables

Variable (label)	Description	Measurement scale
Dependent variable		
ROI	Indicates respondent's improvement of performance in terms of Return On Investment (ROI) index. The average ROI of our company is better than the previous year.	Likert-scale 1-strongly disagree; 7 – strongly agree;
Independent variable(s)		
Cteam	The biggest challenges during the business' start-up phase to build the team.	Likert-scale 1-strongly disagree; 7 – strongly agree;
Chige	The biggest challenges during the business' start-up phase locating and hiring the right employees	
CLackTskills	The biggest challenges during the business' start-up phase lack of technical skills	
CLackMskills	The biggest challenges during the business' start-up phase lack of marketing skills	
CBusCapabil	The biggest challenges during the business' start-up phase lack of business and strategic capabilities	
Cfinance	The biggest challenges during the business' start-up phase obtaining financial resources	
CNetworkInvest	The biggest challenges during the business' start-up phase building network with investors	
CNetworkPartners	The biggest challenges during the business' start-up phase building contacts with partners.	

CNetworkCustomer	The biggest challenges during the business ' start-up phase building network with customers	
Incubator	Have you (your company) participated in Incubator`s program?	Dummy 0 – no; 1 – yes.
Accelerator	Have you (your company) participated in accelerators program?	
DigitalMarketing	Please, evaluate the degree of usage of below activities for acceleration of go-to-market in your particular company	Likert-scale 1 – not using; 7 – using very intensively;
SocialMedia	Please, evaluate the degree of usage of below activities for acceleration of go-to-market in your particular company	
WoMM	Please, evaluate the degree of usage of below activities for acceleration of go-to-market in your particular company	
GrowthHacking	Please, evaluate the degree of usage of below activities for acceleration of go-to-market in your particular company	
Croudfunding	Please, evaluate the degree of usage of below activities for acceleration of go-to-market in your particular company	
StrategicPartnership	Please, evaluate the degree of usage of below activities for acceleration of go-to-market in your particular company	
Hackathones	Please, evaluate the degree of usage of below activities for acceleration of go-to-market in your particular company	
Tradeshows	Please, evaluate the degree of usage of below activities for acceleration of go-to-market in your particular company	
Conference	Please, evaluate the degree of usage of below activities for acceleration of go-to-market in your particular company	

Moderator virables are not presented in the table, as they simly represent multiplication of challenge weight and degree of usage certain activity. The choice of which challenge should be multiplied with certain activity was made based on revied literature and presented in Figure 11.

6. RESEARCH FINDINGS

In the following chapter, the analysis of obtained results was made and hypotheses are tested.

6.1 Traits and factors to entrepreneurial success

The second chapter of the research starts with explanation of the concept of entrepreneur. According to reviewed literature, successful entrepreneur or entrepreneurial team should have specific personal traits for starting their own business successfully. In this research focus was on opinion of Finnish entrepreneurs concerning this question. Figure 12 represents which personal traits entrepreneurs from Finland consider the most valuable for entrepreneurial success.



Figure 12. The most important characteristics/traits of founding team to entrepreneurial success

Self-confidence assumed to be the most critical trait. That might be explained by cultural characteristics, but the conformation to this assumption has not been found in the literature. Almost at the same level respondents evaluated importance of being tolerant of ambiguity. Need for achievement and risk-taking propensity, which were described in paper of

Robertson et.al (2003) as key personal characteristic of entrepreneur, considered as important, however, according to majority of respondents, innovativeness seems to be more important for entrepreneurial success. Finally, respondents think that need for autonomy does not affect entrepreneurial success.

The most important factors to entrepreneurial success

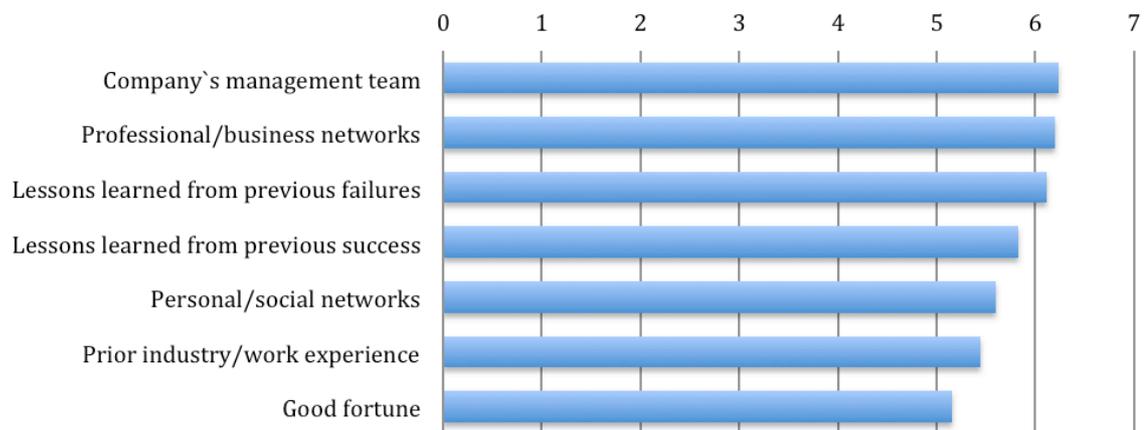


Figure 13. The most important factors to entrepreneurial success

Figure 13 presents factors, which are important to entrepreneurial success. The results quite differ from the US study (Wadhwa et al., 2009), where prior industry/work experience considered the most important success factor. Participants of this study attach greater importance to company's management team and to their professional contacts. Moreover, they consider previous failure to be predetermining of future success. While, respondents of US study perceive previous success as more important. Finnish entrepreneurs engaged in this study do not perceive good fortune as factor to entrepreneurial success.

6.2 Analysis of negative effect of challenges on start-up performance.

This and following sections of the chapter deal with model and hypotheses testing. First of all, the aim was to find out do challenges, which start-up companies face, are differ in accordance to current development stage. The findings presented on the diagram below

show that on the “concept” stage start-ups are lacking of financial resources and contacts with investors (Figure 15). The most challenging are *working on a product*, *going to market* and *growth and scale* stages. While challenges slightly disappear when business reach stability. The most challenging issue on each stage occurs with obtaining financial resources. Obtaining financial resources was emphasised the highest on the concept and on stable business stages. Building the team was not emphasized as important on the concept stage but seems to matter more on the next stages. However, when start-ups reach the status of the stable businesses, seems that this challenge loses relevance. Lack of technical skills was emphasised the highest on the working on a product stage.

The main focus of the research is on going to market stage. According to the obtained results, two the most challenging issues for Finnish ICT start-ups on going to market stage are obtaining financial resources and locating/hiring the right employees. Other challenging issues are to build the team, to build network with investors and customers. Finnish entrepreneurs evaluated these challenges almost at the same level. It worth to mention that start-ups who are on going to market stage evaluated challenge of building network with customers higher than start-ups on other stages. This result quite logical, because going to market is characterized by process of acquiring first paying customers (Figure 14).

Degree of difficulty of certain challenge depending on start-ups` development stage

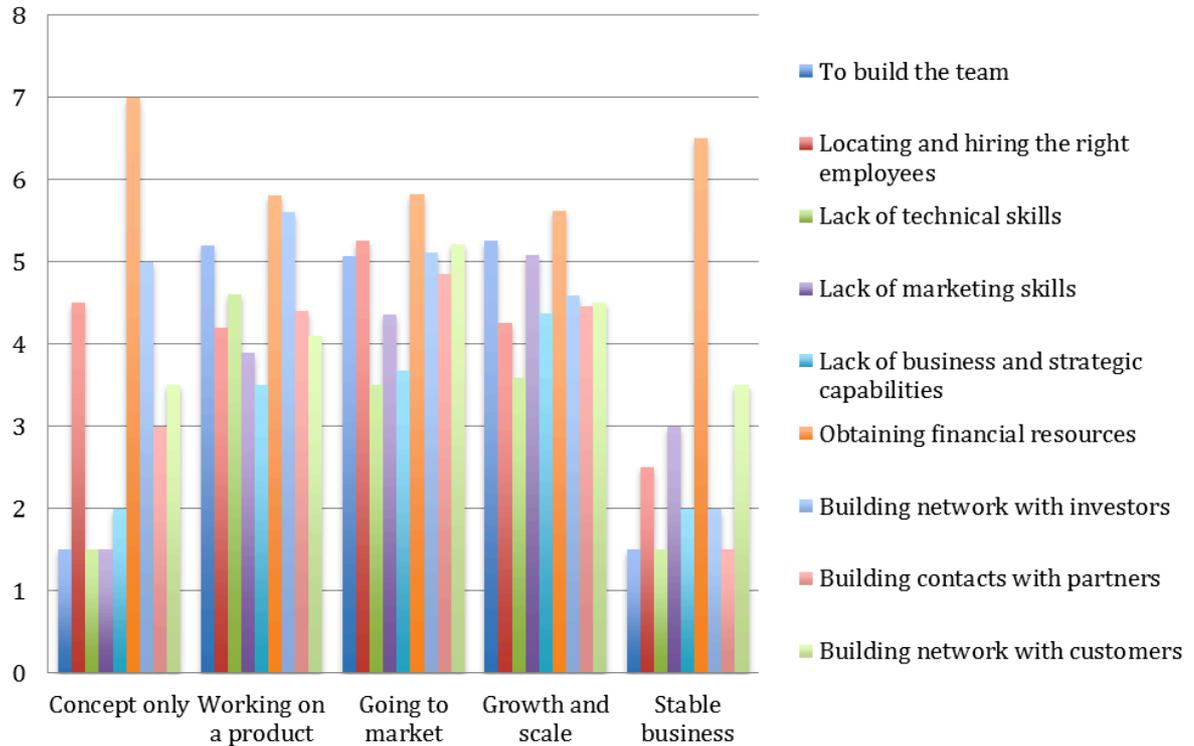


Figure 14. Degree of difficulty of certain challenge depending on start-ups` development stage

Second, it was tested does challenges, which were identified during literature review, have negative impact on start-ups` performance. Descriptive statistic presented on Figure 14 and Figure 15 shows that respondents consider *obtaining financial* recourses as the most challenging issue during start-up phase. According to results, *building network with investors* the second most difficult problem. And the third less difficult problem is *building team*. Less challenging issues for start-ups` representatives appear *lack of technical skills* and lack of business and strategic capabilities.

The biggest challenges during the business' start-up phase



Figure 15. The biggest challenges during the business' start-up phase

However, after analyzing results by means of linear regression analysis, no significant evidence was found that obtaining financial resources or problems with building network with investors have negative impact on companies' performance (Appendix 2).

Contrariwise, challenges that overall number of respondents considered not very difficult, occurred to have significant impact on the companies' performance. From coefficients table in Appendix 2 it can be seen that CLackTskills variable (which represent lack of technical skills) is significant at the 0,01 level. Moreover, it has a negative coefficient B (-0.591), which means that H1 (b) is supported – *lack of technical skills* does negatively influences start-up performance.

Another significant variables in the model are CBusCapabil and Cteam. However, they have positive B coefficients, which means that these challenges have positive impact on start-ups' performance. These mixed results may be the consequence of non-representative sample, which is quite small. Or can indicate that start-ups, which faced these kind of challenges, had taken certain steps to overcome them, and these measures positively affected performance subsequently.

Hence, only one hypothesis H (b) was confirmed from the first group. More challenging lack of technical skills in the start-up, lower it`s performance.

6.2 Analysis of effect from participation in incubators` and accelerators` programs on start-up performance

Previous part was focused on the model 1 of the regression analysis. The model one is the model without interaction terms. This section focuses on model 2, which is model with interaction terms. Appendix 2 contains the output after running the regression in SPSS. During the analysis second group of hypotheses was tested. To remind, graphically our model presented on the Figure 11. Participation in incubators and accelerators were taken as moderator variables.

In the model summary (Table 8), values of R Square show that first model explains 38,2 % of the variations in real life. The second explains 59,4 % of the variations, which is quite good. However, adjusted R-squared provide more honest value to estimate the R squared for the population. In the Table 8 it can be seen that value of adjusted R Square for the first model is 0,256 and for the second is 0,266. This indicates that second model is not better then second one, as adjusted R-squared increases only when the new term improves the model more than would be expected by chance. It decreases when a predictor improves the model by less than expected by chance (Hair, 2009). As we can see meaning of R-square is almost equal for both models. R-squared change is not significant, so the model 2 is not better than model 1.

Table 8. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	,618a	0.382	0.256	2.4350	0.382	3.032	11	54	0.003	1.979
2	,770b	0.594	0.266	2.4181	0.212	1.042	18	36	0.442	

The ANOVA table focuses on two values – F and Sig. (Table 9). High value of F indicates that there is more chance of Null hypothesis being rejected and alternate being accepted. Null hypothesis refer to the statement that there is no relationship between two measured variables. From the Table 9 it can be seen that F values are quite high for both models,

which provide evidence that there is strong relationship between participation in incubators` and accelerators` programs and start-up performance indicator ROI. Sig. tells us the confidence level of accepting alternate hypothesis (Hair, 2009). In our case, both models statistically significant (See Appendix 2, ANOVA Table).

Table 9. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	197.756	11	17.978	3.032	.003b**
	Residual	320.183	54	5.929		
	Total	517.939	65			
2	Regression	307.442	29	10.601	1.813	.045c*
	Residual	210.497	36	5.847		
	Total	517.939	65			

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Final step is to look at the coefficients table (Appendix 2). The study has not found significant effect from participation in incubators` programs. However, there is strong effect on performance from accelerators` programs ($p < 0,01$). In the table above it seems that accelerators` programs have positive impact on overcoming lack of business capabilities and financial challenges and leads to better performance of start-ups, however the variables are not significant. Despite the fact that variables are not statistically significant, it is possible that in case of bigger sampling correlation would be more evident.

Coefficient B of “Accelerator” variable is really high (17,234); this explains that participation in accelerator has positive relationship with start-up performance indicator ROI.

For clarity, results presented in the formula (2):

$$Y = 0.462X_1 + -0.591X_1 + 0.516X_1 + 17.234Z + -0.906X_3Z + E \quad (2)$$

Despite strong positive relationship between start-ups` performance and participation in accelerators was found. Hypothesis H2 (b) is rejected. Hypothesis states that participation in accelerator`s program minimizes negative effect of challenges on start-up performance.

However, the research have not found relationship between challenges and participation in accelerator`s program.

Hypothesis H2 (a) is also rejected, and there is no significant effect of incubators` programs on start-up performance.

It is worth to mention that there were almost two times less incubators` participants then accelerators` , so results can be not the same in case of bigger sampling (Figure 16).

Participation in Incubator`s or Accelerator`s program

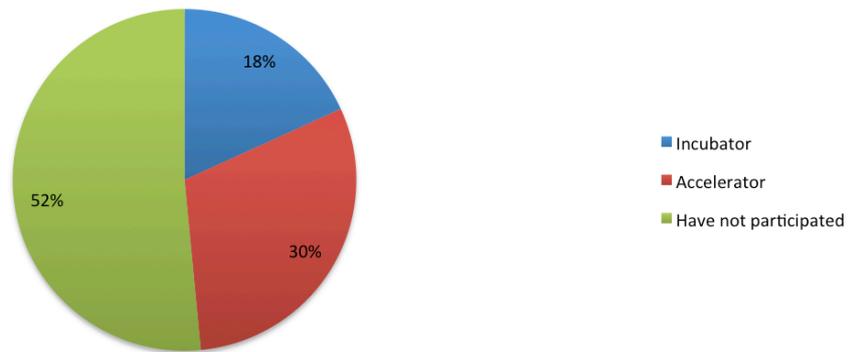


Figure 16. Participation in incubator`s or accelerator`s program

However, if we look at descriptive statistic concerning level of importance incubators and accelerators for company development, conformation to obtained results can be seen (Figure 17). The mathematical proportion was taken, because there was no equality between number of respondents from incubators and accelerators. Despite this fact, if we look at the diagram, it is evident, that participants of accelerators` programs are more satisfied, and 60% of accelerators` participants consider the program as important. 10% of respondents even find program of accelerator critical for their start-up development. Only 10 % of respondents indicated that participation was not really important.

The picture is quite different with incubators. Only 41,7% of responded start-ups that participated in incubators think that it was important. 25% claim that participation in the program was not really important.

Importance of Incubators` / Accelerators` programs

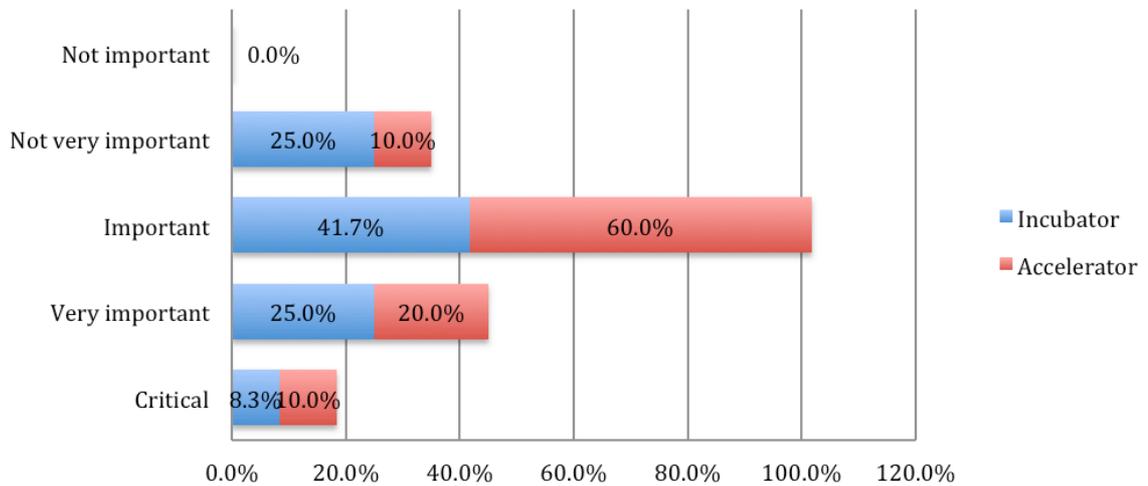


Figure 17. Importance of incubators` / accelerators` programs

In addition to overall importance of the programs, importance of particular services provided by business incubators and accelerators to their tenants was also analyzed. From Figure 18 it can be seen that the most important services of incubators` and accelerators` are: “access to network with investors” and “individual mentoring”. The last important service according to survey participants is assistance in research and development. There were no significant difference in evaluation of importance between accelerators and incubator tenants, however “individual mentoring” evaluated higher by accelerators` participants.

Importance of provided services, according to participants of programs

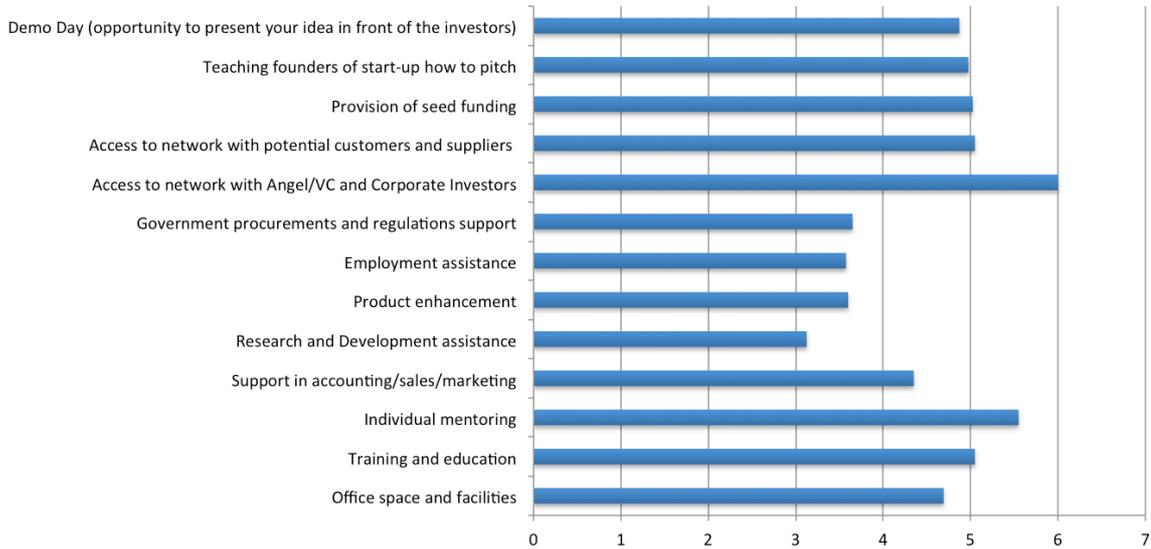


Figure 18. Importance of services provided in business Incubators and Accelerators

The study mainly focused on incubators and accelerators as tool for acceleration of go-to-market. However, the impact of other activities, which should positively influence acceleration according to reviewed literature, was also tested. Figure 19 represents that on “going to market” stage the most intensively companies use strategic partnerships; digital, social and world-of-mouth marketing; and also participate on the conferences. Such activities as *growth hacking*, *crowdfunding* and *hackathons* are in the less use in comparison with other activities.

Usage of acceleration activities depending on development stage

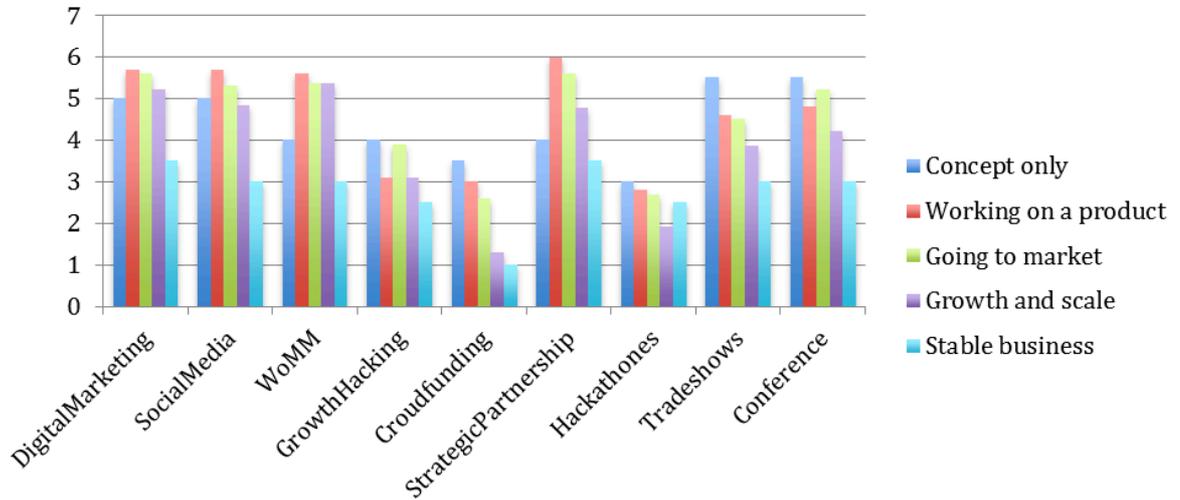


Figure 19. Usage of acceleration activities depending on development stage

The same tactic as with incubators and accelerators, was applied to all studied activities (Appendix 3). However, only one activity showed significant effect. This activity is participation in conferences. According to the results participation in conferences allow start-up firms build network with partners. So, hypothesis H3 (g) partly supported. Participation in the conferences helps start-ups to overcome challenge of building network with partners. What is interesting is that despite the fact that this challenge is not significant in the first model, analysis allows to find correlations between variables in second model (Appendix 3).

7. DISCUSSION AND CONCLUSIONS

7.1 Discussion

There is a common believe that funding is a critical, and the lack of it is slowing down going to market process of technology-based start-ups and, moreover, leads to start-up failure. That was one of the reasons why dynamic resource-based theory was applied for the research. The descriptive results of this study also indicate that the most challenging issue for start-ups is obtaining financial resources. Hence, hypothesis that “*Lack of financial resources negatively influences start-up performance*” was developed. However, this hypothesis has been rejected, as results of regression analysis have not showed significant effect of this challenge on start-up performance. That means that our findings support the study of Hechavarria et al. (2016) who claimed that financial challenge exaggerated by start-ups` CEO and managers. The research gap identified in the beginning is filled. Only *lack of technical skills* among identified challenges has impact on performance of technology-based start-ups.

The role of business accelerators and incubators on start-up performance were identified. The strong positive impact of accelerators on start-up performance has been found as a result of this study. Thus, discussed in third chapter Airbnb case (Miller and Bound, 2011) may be considered a clear proof of effective business acceleration by mean of accelerators` programs. Although, it is still unclear with which start-up problems accelerators assist the most effectively with. One of the respondents highlighted that the program of the accelerator facilitated the raise of ambition level of entrepreneurial team. That may indicate, that there is a need to look on accelerators and incubators not from the perspective of challenges, but from personal traits of entrepreneurs and how do they change during the participation in the program. Linear regression analysis has not showed impact of incubators` programs on start-up performance. Furthermore, respondents who participated in BIs evaluate importance of the incubators` programs lower than accelerators` participants. However, as it was mentioned before, there were less incubators` participants in overall sample which might be caused by sampling distribution problem. Overall, accelerators participants evaluate higher contribution of accelerators to their development progress, than participants of incubators (Figure 18).

The most important services, provided by incubators and accelerators, are *access to a network with investors* and *individual mentoring* (Figure 19). It is worth to mention that *individual mentoring* is evaluated higher by accelerators participants.

In addition to the services listed in the survey, one of the respondents (business development manager of start-up, which participated in program of accelerator) pointed out that there were some other important services provided. He listed services such as positioning in the local investment ecosystem; ambition level raising; contacts and competition with other entrepreneurs and access to local government funding. Two of the listed services cause the greatest interest. Firstly, *access to a network with other entrepreneurs* within the incubator, which was criticized by McAdam and Marlow (2007), was indicated as an important service by the respondent. Secondly, support in access to a local government funding is especially inherent to Finnish incubators and accelerators, similarly in the article of Clarysse and Bruneel (2007). Authors compare policies in Finland and the United States, and highlight that government support of start-ups in Finland should not be underestimated. However, getting this support can occur a challenging task for start-ups that are not aware about niceties of the issue and process. That is why the service is important for start-up firms, and was mentioned by survey-participant.

In the matter of activities, which start-ups use for acceleration, it can be seen that such activities as *growth hacking*, *crowdfunding campaigns* and *participation in hackathons* are not widely used by Finnish ICT start-ups (Figure 20). On the one hand, these activities are not well studied, which could have affected awareness about them. On the other hand, start-up founders may find them not effective. For instance, in the reviewed literature, crowdfunding is represented as brand new and effective method of attraction financial resources (Mollick, 2014). But the proof of this statement has not been found in this thesis. Nevertheless, it should be taken into account that Mollick (2014) considers the US market, where the largest crowdfunding platform, Kikstarter, operates. While there is no such big player in Finnish or even European markets (Mollick, 2014). Moreover, as was discussed in the literature review part, obtaining financial resources through crowdfunding platforms happened on condition that investors will get ready product in return to their capital invested. Considering specific of the ICT sector, usually there is no end product, so this

way of finance attraction might be not really suitable for this sector.

According to Briscoe (2014), benefits from attending hackathons lie on learning and building network. Although, a *network-building* challenge has not showed significant negative effect on start-up performance, at least, learning benefits should be useful for companies. However, no significant effect from participation in hackathons on Finnish ICT start-ups performance was found in this study. All abovementioned activities need narrow and focused research. Each of the phenomena should be studied separately and in details.

Last but not least, personal traits of entrepreneurs were studied. Finnish entrepreneurs participated in the survey evaluate self-confidence as the most important characteristic for entrepreneurial success. This result might be explained by cultural characteristics, but the confirmation to this assumption has not been found in the literature. Among factors leading to success, they highlighted company`s management team and professional network.

7.2 Conclusions

The purpose of this thesis was to study approaches of Finnish ICT start-ups to accelerate their go-to-market. The research started from the literature review that focused on concepts of entrepreneurship, start-up development process, start-ups' challenges and on tools and methods for go-to-market acceleration. The literature became a basis for the empirical part of the study, where negative impacts of challenges on start-ups performance were researched. Furthermore, the understanding of what activity leads to overcoming certain challenge and positively influence performance of the start-up was increased.

A total 66 survey responses were received, and analysis of the obtained results was made using linear-regression models in IBM SPSS software.

Table 7 summarizes all research questions and answers to them. The later part of the section provides more precise discussion of the answers and other conclusions that were made during the research process.

Table 10. Research questions and answers to them

Research questions	Answers on the research questions
<p>RQ: What approaches do Finnish ICT start-ups use to accelerate their go-to-market?</p>	<p>The most commonly used approaches to go-to-market acceleration among Finnish ICT start-ups are:</p> <ul style="list-style-type: none"> • Participation in incubators' and accelerators' programs; • Digital marketing; • WOMM; • Strategic partnerships; • Social media marketing; • Participation on events (conferences, tradeshows).
<p>1) Sub-question: What personal traits of Finnish ICT entrepreneurs and what factors lead to entrepreneurial success?</p>	<p>The most important of the founding team to entrepreneurial success are:</p> <ul style="list-style-type: none"> • Self-confidence and self-efficacy; • Tolerance of ambiguity and willingness to face uncertainty; • Innovativeness and creativity. <p>The most important factors to entrepreneurial success are:</p> <ul style="list-style-type: none"> • Company's management team; • Professional/business network; • Lesson learned from previous failure.
<p>2) Sub-question: What challenges are inherent to Finnish ICT start-ups, and have negative impact on start-ups performance?</p>	<p>Only lack of technical skills negatively influences start-ups` performance.</p>
<p>3) Sub-question: What is the role of accelerators and incubators for ICT start-ups in Finland?</p>	<p>There is evidence that accelerators' programs positively influence Finnish ICT start-ups' performance. Although, how exactly they affect the performance has not been found.</p> <p>Overall, accelerators participants evaluate higher contribution of accelerators to their development progress, than participants of incubators</p>
<p>4) Sub-question: What acceleration activities (tools or methods) minimize certain challenges of start-up, and therefore positively influence start-up performance?</p>	<p>Participation in the conferences facilitate problem of building network with partners.</p>

Results show that almost 50% of respondent companies have participated in programs of business incubators or accelerators, indicating that Finnish companies consider accelerators and incubators as an effective approach for go-to-market acceleration of their businesses. Moreover, the study has found positive impact of accelerators` programs on start-ups` performance.

The study has identified that Finnish companies intensively use establishment of strategic partnerships, digital, social media and word-of-mouth marketing for acceleration among other tools and methods for acceleration of go-to-market. However, any of these acceleration tools have not showed significant effect on start-up performance. Only acceleration tool, which found effect, is participation in the conferences. According to the results participation in conferences helps start-ups to overcome problem of building network with a partners.

Finnish ICT entrepreneurs perceive *self-confidence* as the most important characteristic for entrepreneurial success and need for autonomy as neutral personal trait. Company`s management team perceived as the most important success factor, while good fortune seems to have no effect on entrepreneurial success, according to Finnish ICT entrepreneurs perception.

After regression analysis, only two hypotheses found support in the study. Among them: H1 (b) and H3 (g). First, among all identified in literature start-ups` challenges only lack of technical skills negatively influences start-up performance. Second, participation in conferences helps start-ups to overcome challenge of building network with partners.

7.3 Implications of the research findings

Obtained results can find practical implication in both, among start-ups and supportive institutes (incubators and accelerators).

The present study gives insights to entrepreneurs about ways and methods to overcome challenges. For instance, obtaining finance was identified as the most common challenge among participated firms. Thus, various methods of obtaining finance were presented, so managers can take them into consideration. Furthermore, start-up companies, which are

interested in participation in the program of business incubators` or accelerators`, can conclude from the results that accelerators have positive impact on start-up performance. Thus, the results may facilitate their decision to enter accelerator`s program. From accelerators and incubators perspective, accelerators` managers can see which services start-ups evaluate as the most important, so they can improve their functioning

7.4 Research limitations and further research

The research on acceleration of go-to-market for technology-based start-ups has been widely studied. This study provides a holistic view on approaches used by Finnish technology-based start-ups for acceleration of their go-to-market. More detailed research should be conducted on each approach in order to better understand their role. In this section, limitations of the research are discussed.

Firstly, quite novel concepts are used in the study such as *growth hacking*, *hackathons* and *crowdfunding*. Different interpretation of these concepts may add certain biases. There is almost no research made on *growth hacking* topic. Thus, this acceleration tool should be ground for further research. Secondly, the sampling is rather small, so this may be a reason of mixed results obtained during assessment of first group of hypotheses. Moreover, fewer incubators` participants answered a survey that is why it cannot be stated that there is no positive effect of incubators` programs. One more limitation of the research that it cannot be concluded if start-ups are more interested in participation in accelerators` programs rather than in incubators, or is it just sudden deviation due to smaller sample size. Furthermore, going back to the sampling limitation, the bigger sampling probably would allow to find out which challenges are affected by accelerators. In addition, effect from participation in accelerators on personal traits of entrepreneurs can be studied in the future research, because one of the participants indicated that accelerators rises ambitions level.

For the future research, differences between accelerators can be explored and taken into account. As, the effect can differ from accelerator to accelerator. Moreover, acceleration tools that seem effective according to literature, but not really in use among start-ups, should be precisely studied.

The list of activities presented in the research is limited and based on the results of Accelerate project. There are number of other tools and methods, such as *experiments with a business model* or *adoption of business intelligence*, which can be also reviewed and validated. The sample is based on the Finnish technology-based start-ups, therefore the results cannot be generalized.

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APPENDICES

Appendix 1: Questionnaire form for start-up representatives

Appendix 2: Linear regression analysis - SPSS Output (Participation in incubators` and accelerators` programs)

Appendix 3: Linear regression analysis - SPSS Output (Participation in conferences)

Appendix 1: Questionnaire form for start-up representatives



Acceleration of go-to-market for ICT start-ups

COMPANY PROFILE

1. Company name

2. Country

Select-

3. The year in which company was established *

2016

2015

2014

2013

2012

2011

- 2010
- 2009
- 2008
- 2007
- 2006
- Earlier

4. How many employees work in the company? *

- 1-4;
- 5-9;
- 10-19;
- 20 and more

5. Please, select the industry in which your company operates *

- Analytics, big data & AI
- Biotechnology
- Bitcoin & cryptocurrencies
- Cleantech
- Communications & media
- Consumer electronics
- Cyber security
- E-commerce & online marketplaces

- Education
- Energy
- Enterprise software
- Financial & payment services
- Food & nutrition
- Gaming
- Health & wellbeing
- Industrial internet & IoT
- Manufacturing tech & materials
- Med tech & pharma Mobile
- Music & entertainment
- Robotics
- Social media
- Space technology
- Transport & automotive
- Virtual reality
- Wearable technology
- Social entrepreneurship & Impact
- Other

6. If the industry of operation is not listed in 5, please specify it in the text box below

7. Please, select the current development stage of your company *

- Concept only
- Working on a product
- Going to market
- Growth and scale
- Stable business

8. What is your company's main market? *

- business to customer (B2C)
- business to business (B2B)
- business to government (B2G)

9. What is your company's secondary market? *

- business to customer (B2C)
- business to business (B2B)
- business to government (B2G)
- Neither, we operate in one market only

START-UP CHALLENGES

10. The biggest challenges during the business' start-up phase are...

	1 - strongl y disagre e	2	3	4 - neither agree or disagre e	5	6	7 - strongl y agree	I don't kno w
To build the team *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Locating and hiring the right employees *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of technical skills *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of marketing skills *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of business and strategic capabilities *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obtaining financial resources *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building network with investors *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building contacts with partners, distributors, sales and marketing representatives *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building network with customers *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other, _____ please _____ specif y	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

SUCCESS FACTORS

11. What are the most important factors to entrepreneurial success? Please evaluate the importance of factors.

	1 - not importa nt	2	3	4 - neutra l	5	6	7 - very importa nt	I don' t kno w
Lessons learned from previous success *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Company`s management team *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lessons learned from previous failures *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Good fortune *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional/business networks *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal/social networks *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prior industry/work experience *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other, _____ pleas _____ e specif y	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

ENTREPRENEURIAL ORIENTATION / TRAITS OF FOUNDING TEAM

12. What are the most important characteristics/traits of founding team to entrepreneurial success?

	1 - not importa nt	2	3	4 - neutra l	5	6	7 - very importa nt	I don' t kno
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					w
Need for achievement *	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/>	
Belief that success or failure of your business is under the control of your own effort *	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/>	
Risk-taking propensity *	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/>	
Creativity/innovativeness *	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/>	
Need for autonomy *	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/>	
Tolerance of ambiguity and willingness to face uncertainty *	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/>	
Self-confidence and self-efficacy *	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/>	
Other, _____ please _____ specify	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/>	

ACTIVITIES FOR ACCELERATION OF GO-TO-MARKET

13. Please, evaluate the degree of usage of below activities for acceleration of go-to-market in your particular company

	1 - not usin g	2 - very seldo m	3	4	5	6	7 - using very intensivel y	I don't kno w
Digital marketing *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social networking sites *	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Word-of-mouth marketing *	<input type="radio"/>							
Growth Hacking *	<input type="radio"/>							
Crowdfunding campaigns *	<input type="radio"/>							
Strategic partnerships / alliances (i.e. with bigger companies, universities, suppliers and/or customers) *	<input type="radio"/>							
Participation in events:								
• hakathones; *	<input type="radio"/>							
• tradeshows; *	<input type="radio"/>							
• conferences; *	<input type="radio"/>							
Other, _____ please specify	<input type="radio"/>							

INCUBATORS / ACCELERATORS

14. Have you (your company) participated in Incubators or accelerators programs? *

- Incubator
- Accelerator
- No

15. Incubator/accelerator name

16. What services offered by incubators/accelerators were the most important for development of your company, or you think are important (if had not participated in program)? Please, evaluate the importance of each service

	1 - not importa nt	2	3	4 - neutra l	5	6	7 - very importa nt	I don' t kno w
Office space and facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Training and education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Individual mentoring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Support in accounting/sales/marketing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Research and Development assistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Product enhancement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employment assistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Government procurements and regulations support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to network with Angel/VC and Corporate Investors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to network with potential customers and suppliers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provision of seed funding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Teaching founders of start-up how to pitch	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Demo Day (opportunity to present your idea in front of the investors)

Other, _____
please _____
e
specif
y

17. How important has the support of incubator/accelerator been in the development of your company? Please, choose the alternative that best describes your view. *

- Critical – Without support, our company would not survive
- Very Important – The support has been very helpful for our company survival and to achieve stable growth rate
- Important – The support has been helpful, but not critical for company survival, but crucial for company's success
- Not very important - We see some benefits of participation in program
- Not important – Our company would have do as well elsewhere
- We have not participated in incubator/accelerator program

18. Have you applied for participation in incubator/accelerator?

- No, and I (we) don't plan to
- Yes, but I (we) got rejected
- No, but I (we) plan to apply

COMPANY'S PERFORMANCE

19. Please evaluate the performance of your organization over the last year *

	1- strongly disagree	2	3	4 - neither agree or disagree	5	6	7- strongly agree	I don't know / not applicable
The average ROI (Return On Investment) of our company is better than the previous year.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The average profit rate of our company is better than the previous year.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The average ROS (Return On Sales) of our company is better than the previous year.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
The average market share growth rate of our company is better than the previous year.								
The average sales growth rate of our company is better than the previous year.								

FEEDBACK AND RESPONDENT'S INFO

20. What is your opinion about the survey?

This survey is of current importance

We consider the research on this topic to be pointless

21. Are you interested in the results of the survey?

Yes

No

22. If you are interested in receiving the report, please provide your details (This is an optional question, due to social data collection ethics and the requirement for anonymous data collection).

Name, Surname

Email

23. Are you interested in future cooperation on the topics covered in the survey? If yes, in what form (you can choose multiple options):

In-depth interview

Writing business cases

Other, please specify

24. What is your position in the company?

25. Is there any other feedback that you wish to provide?

Appendix 2: Linear regression analysis - SPSS Output (Participation in incubators` and accelerators` programs)

Model Summary^c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	,618a	0.382	0.256	2.4350	0.382	3.032	11	54	0.003	
2	,770b	0.594	0.266	2.4181	0.212	1.042	18	36	0.442	1.979

a. Predictors: (Constant), Accelerator, CLackMskills, Cteem, Cfinance, CNetworkCustomer, CLackTskills, Incubator, Chige, CNetworkPartners, CBusCapabil, CNetworkInvest

b. Predictors: (Constant), Accelerator, CLackMskills, Cteem, Cfinance, CNetworkCustomer, CLackTskills, Incubator, Chige, CNetworkPartners, CBusCapabil, CNetworkInvest, CBusCap_Accelerator, CNetInvest_Incub, CTech_Accelerator, CNetCust_Accelerator, Chige_Incub, CNetInvest_Accelerator, CTech_Incub, Cteem_Accelerator, CBusCap_Incub, Chige_Accelerator, CMarketing_Accelerator, CNetPart_Accelerator, CNetCust_Incub, CNetPart_Incub, Cfinance_Incub, Cfinance_Accelerator, Cteem_Incub, CMarketing_Incub

c. Dependent Variable: ROI

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	197.756	11	17.978	3.032	,003b**
	Residual	320.183	54	5.929		
	Total	517.939	65			
2	Regression	307.442	29	10.601	1.813	,045c*
	Residual	210.497	36	5.847		
	Total	517.939	65			

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

c. Predictors: (Constant), Accelerator, CLackMskills, Cteem, Cfinance, CNetworkCustomer, CLackTskills, Incubator, Chige, CNetworkPartners, CBusCapabil, CNetworkInvest, CBusCap_Accelerator, CNetInvest_Incub, CTech_Accelerator, CNetCust_Accelerator, Chige_Incub, CNetInvest_Accelerator, CTech_Incub, Cteem_Accelerator, CBusCap_Incub, Chige_Accelerator, CMarketing_Accelerator, CNetPart_Accelerator, CNetCust_Incub, CNetPart_Incub, Cfinance_Incub, Cfinance_Accelerator, Cteem_Incub, CMarketing_Incub

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.105	1.949		0.054	0.957
	Cteem	0.462	0.193	0.323	2.399	0.020**
	Chige	0.104	0.165	0.079	0.631	0.531

	CLackTskills	-0.591	0.185	-0.385	-3.200	0.002**
	CLackMskills	0.222	0.223	0.132	0.996	0.324
	CBusCapabil	0.516	0.222	0.310	2.322	0.024**
	Cfinance	0.017	0.265	0.010	0.063	0.950
	CNetworkInvest	-0.170	0.211	-0.126	-0.805	0.424
	CNetworkPartners	0.040	0.220	0.024	0.184	0.855
	CNetworkCustomer	0.147	0.177	0.103	0.829	0.411
	Incubator	-0.654	0.874	-0.090	-0.748	0.458
	Accelerator	0.841	0.731	0.138	1.150	0.255
2	(Constant)	-3.917	2.876		-1.362	0.182
	Cteem	0.126	0.361	0.088	0.350	0.729
	Chige	0.329	0.235	0.248	1.400	0.170
	CLackTskills	-0.170	0.358	-0.111	-0.474	0.639
	CLackMskills	0.069	0.354	0.041	0.196	0.846
	CBusCapabil	0.933	0.338	0.560	2.761	0.009**
	Cfinance	0.307	0.409	0.180	0.749	0.459
	CNetworkInvest	-0.161	0.338	-0.119	-0.475	0.637
	CNetworkPartners	0.157	0.347	0.095	0.453	0.653
	CNetworkCustomer	0.160	0.309	0.112	0.517	0.608
	Incubator	6.096	11.574	0.839	0.527	0.602
	Accelerator	17.234	5.852	2.827	2.945	0.006**
	Cteem_Incub	0.137	1.087	0.116	0.126	0.901
	Chige_Incub	-0.286	0.958	-0.210	-0.298	0.767
	CTech_Incub	-0.710	0.803	-0.440	-0.884	0.382
	CMarteting_Incub	0.912	1.315	0.650	0.693	0.493
	CBusCap_Incub	-1.444	1.367	-0.898	-1.056	0.298
	Cfinance_Incub	0.623	0.887	0.498	0.703	0.487
	CNetInvest_Incub	-0.736	0.702	-0.575	-1.048	0.302
	CNetPart_Incub	0.208	1.031	0.158	0.201	0.842
	CNetCust_Incub	-0.475	1.052	-0.382	-0.452	0.654
	Cteem_Accelerator	0.467	0.484	0.413	0.965	0.341
	Chige_Accelerator	-0.591	0.419	-0.529	-1.412	0.167

CTech_Accelerator	-0.775	0.525	-0.552	-1.476	0.149
CMarketing_Accelerator	-0.331	0.553	-0.259	-0.598	0.553
CBusCap_Accelerator	-0.906	0.533	-0.624	-1.701	0.098
Cfinance_Accelerator	-1.562	0.824	-1.597	-1.895	0.066
CNetInvest_Accelerator	-0.182	0.504	-0.153	-0.361	0.720
CNetPart_Accelerator	0.655	0.636	0.512	1.030	0.310
CNetCust_Accelerator	-0.217	0.426	-0.178	-0.511	0.613

a. Dependent Variable: ROI

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

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Appendix 3: Linear regression analysis - SPSS Output (Participation in conferences)

Model Summary^c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df 2	Sig. F Change
1	,604 ^a	0.365	0.250	2.4452	0.365	3.163	10	55	0.003
2	,687 ^b	0.472	0.300	2.3618	0.107	1.659	6	49	0.151

a. Predictors: (Constant), Conference, CLackMskills, Cfinance, Cteem, CNetworkPartners, CLackTskills, Chige, CNetworkCustomer, CBusCapabil, CNetworkInvest

b. Predictors: (Constant), Conference, CLackMskills, Cfinance, Cteem, CNetworkPartners, CLackTskills, Chige, CNetworkCustomer, CBusCapabil, CNetworkInvest, CLackTskills_Conference, Chige_Conference, CNetworkPartners_Conference, CLackMskills_Conference, Cteem_Conference, CNetworkCustomer_Conference

c. Dependent Variable: ROI

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	189.091	10	18.909	3.163	,003 ^{b**} .
	Residual	328.849	55	5.979		
	Total	517.939	65			
2	Regression	244.616	16	15.289	2.741	,003 ^{c**} .
	Residual	273.323	49	5.578		
	Total	517.939	65			

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

c. Predictors: (Constant), Conference, CLackMskills, Cfinance, Cteem, CNetworkPartners, CLackTskills, Chige, CNetworkCustomer, CBusCapabil, CNetworkInvest, CLackTskills_Conference, Chige_Conference, CNetworkPartners_Conference, CLackMskills_Conference, Cteem_Conference, CNetworkCustomer_Conference

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.514	2.000		-0.257	0.798
	Cteem	0.409	0.189	0.286	2.160	0.035 [*]
	Chige	0.106	0.168	0.080	0.631	0.531
	CLackTskills	-0.567	0.183	-0.370	-3.093	0.003 ^{**}
	CLackMskills	0.252	0.221	0.150	1.139	0.260
	CBusCapabil	0.547	0.222	0.328	2.458	0.017 ^{**}
	Cfinance	0.147	0.255	0.086	0.577	0.566
	CNetworkInvest	-0.264	0.204	-0.196	-1.294	0.201
	CNetworkPartners	0.043	0.217	0.026	0.197	0.844
	CNetworkCustomer	0.049	0.180	0.034	0.269	0.789

	Conference	0.176	0.166	0.125	1.062	0.293
2	(Constant)	-0.989	2.702		-0.366	0.716
	Cteem	-0.291	0.632	-0.203	-0.460	0.647
	Chige	0.701	0.417	0.530	1.683	0.099
	CLackTskills	-0.664	0.572	-0.433	-1.161	0.251
	CLackMskills	0.001	0.616	0.000	0.001	0.999
	CBusCapabil	0.303	0.236	0.182	1.284	0.205
	Cfinance	0.234	0.263	0.137	0.891	0.377
	CNetworkInvest	-0.343	0.209	-0.254	-1.642	0.107
	CNetworkPartners	1.604	0.670	0.973	2.393	0.021**
	CNetworkCustomer	-0.626	0.714	-0.439	-0.877	0.385
	Conference	0.292	0.533	0.207	0.547	0.587
	Cteem_Conference	0.156	0.124	0.779	1.262	0.213
	Chige_Conference	-0.138	0.087	-0.691	-1.590	0.118
	CLackTskills_Conference	0.031	0.113	0.125	0.274	0.785
	CLackMskills_Conference	0.101	0.115	0.417	0.877	0.385
	CNetworkPartners_Conference	-0.310	0.129	-1.317	-2.405	0.020**
	CNetworkCustomer_Conference	0.112	0.127	0.562	0.886	0.380

a. Dependent Variable: ROI

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).