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FEATURES OF THE ENTREPRENEURIAL JOURNEY OF TECH STARTUPS

Master's Thesis

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I have written this master's thesis independently. Any ideas or data taken from other authors or other sources have been fully referenced.

i. Abstract

This study investigates features of the entrepreneurial journey of technology startups based in Estonia and closely examines crucial internal and external obstacles encountered by entrepreneurs throughout different stages of a tech startup. For this purpose, the existing literature on entrepreneurship, entrepreneurial opportunities, entrepreneurial ecosystem, and tech startups was reviewed and a questionnaire was formulated derived from theory which was used in several interviews with Estonian startup founders and company executives. The results demonstrate features such as individual leadership, flexibility and scalability of a startup are of utmost importance along with smart utilization of tangible and intangible resources. Furthermore, having a sense of direction based on a clearly defined strategic plan is deemed to be an extremely necessary feature of entrepreneurial journey. An underlying relationship between customer feedback, team structure and growth of the startup is discovered which requires further research.

Keywords: *entrepreneurship, entrepreneurial journey, entrepreneurial ecosystem, technology startups*

ii. Resümee

TECH STARTUPPIDE ETTEVÕTLUSTEEKONNA TUNNUSED

See lõputöö uurib Eestis asuvate tehnoloogia-idufirmade ettevõtlustekonna eripärasid ning uurib põhjalikult olulisi sisemisi ja väliseid takistusi, millega ettevõtjad tehnoloogia-idufirma teekonna erinevatel etappidel kokku puutuvad. Sel eesmärgil vaadati üle olemasolev kirjandus ettevõtluse, ettevõtlusvõimaluste, ettevõtluse ökosüsteemi ja tehnoloogia-idufirmade kohta. Teoriast lähtuvalt koostati küsimustik, mille abil viidi läbi mitmeid intervjuusid Eesti startupi asutajate ja ettevõtete juhtidega. Tulemused näitavad selliseid tunnuseid nagu idufirma individuaalne juhtimine, paindlikkus ja mastaapsus, mis on ülimalt olulised, ning materiaalsete ja mittemateriaalsete ressursside nutikas kasutamine. Veelgi enam, selgelt määratletud strateegilisel plaanil põhinevat suunataju peetakse idufirmade ettevõtlustekonna ülimalt vajalikuks tunnuseks. Avastatakse seos klientide tagasiside, meeskonna struktuur ja idufirma kasvu vahel, mis nõuab edasist uurimist.

Märksõnad: *ettevõtlus, ettevõtlustekond, ettevõtluse ökosüsteem, tehnoloogia-idufirmad*

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1. Introduction

Even with the market being saturated with tech-based startups, a high number of new entrants have consistently been observed in recent years. Startups capitalize on the opportunities arising from within the society, digitization of companies and the continued advancement of technology over the past two decades. Inception of newer and more efficient technologies along with the increased technology-based education as whole have created plenty of opportunities for individuals with entrepreneurial mindsets to innovate and draw up modern solutions in terms of a product or service. Room for new startups and scaling of the existing ones is ever-growing as newer, faster, and more efficient technologies are developed on top of the existing ones. These technologies provide a pathway for newer startups to tap into the existing markets ultimately by providing a better product or service in terms of innovation, efficiency, and cost-effectiveness. (Mirvis et al., 1991) There are no hard and fast rules or criteria that qualify a company as a startup as there are different types of startups which target and cater for different markets. There are many similarities in the entrepreneurial journeys of such ventures despite having different business models and target markets. When we talk about successful startups, one of the first things which comes to mind is vast amount of financial profit and publicity. Unsurprisingly, most founders of tech startups do not aim only for financial freedom, whereas one of the most frequent reasons as to why they decided to launch a startup is that they wanted to make a positive impact on the world and make life easier and convenient for people or businesses through their innovative product/service. (De Vries, 1977) It has been observed that every startup embarks on a unique journey of its own and faces internal as well as external obstacles in on the way to achieving its objectives. The obstacles can vary and may not be consistent for every startup, but the safeguards and techniques applied to combat such hurdles are usually similar in nature and when observed as whole. These can be collectively seen as features of startups which are embedded into the mindset of the founding team.

An extensive amount of research has been performed on entrepreneurs, entrepreneurial ecosystems and startups. A considerable amount of literature on entrepreneurial ecosystem is present by the likes of Feld, Stam and van de Ven through their research on entrepreneurial ecosystems (Feld, 2020; Stam & van de Ven, 2021). Trabskaya and Mets have also contributed to literature on entrepreneurial ecosystems as they described it as a source of opportunity (Trabskaja & Mets, 2019). Mets has conducted a thorough study on entrepreneurship in Estonia from a political and entrepreneurial perspective (Mets, 2017). Furthermore, his research on

entrepreneurial journey of venture creation along with Raudsaar and Trabskaya is one of the most relative studies in the context of this thesis (Mets et al., 2019). Despite the extensive record of research in the field of entrepreneurship, startups and entrepreneurial journey, there is still a research gap when it comes to the identification of certain features of entrepreneurial journey of Estonian tech startups. There has been relatively less research on recognizing features of the entrepreneurial journey of tech startups – especially the ones based in Estonia.

The main aim of this study is to empirically analyze certain features of the entrepreneurial journey of Estonian tech startups. It will be focused on investigating the most common impediments in the entrepreneurial journey starting from the very beginning i.e. entrepreneurial intent and opportunity realization followed by subsequent stages in the entrepreneurial journey of tech startups which are further discussed in the literature review. Growth factors as well as internal and external hurdles will be discussed along with strategies and steps to mitigate them. The research question stated below will be addressed:

How features of the entrepreneurial journey of tech startups interconnect with the entrepreneurial opportunities, entrepreneurial ecosystem and the internal as well as external impediments?

By achieving the objective of this research, the features will be outlined in a way which provide deeper insight into the entire entrepreneurial journey of tech startups and how the internal and external factors affect the journey itself. Qualitative research methods will be used to obtain answers – primarily a self-devised interview questionnaire that is based on research gaps in the existing literature as well as the core research question. Studying the latest Estonian startup statistics, conducting one-on-one interviews targeting tech startups and companies (previously startups), individuals who have founded a tech start-up in Estonia or were a part of the founding team are among other means of addressing the research question and achieving the objective.

Practical and theoretical implication: exact phenomenon behind this topic has not been studied in depth prior to this research, despite an extensive amount of research conducted by renowned authors is present, it is undoubtedly more focused on each individual part of this research topic. As discussed in the literature review, model of entrepreneurial process presented by Mets et al. in their research on the entrepreneurial journey of venture creation has been truly valuable in this research in the identification of different stages based on which the

methodological approach (questions and interviews) was defined. On top of the existing literature, this research has identified features more specific to the journeys of tech startups in Estonia. This study has confirmed the practicality of feedback loops and adds on to the significance of establishing a strong market presence as soon as possible using the feedback from the early users and tailoring the service to their needs and suggestions. This study also confirms the theoretical implication of the entrepreneurial journey being dynamic and ever evolving. (Trabskaia & Mets, 2021) Estonian entrepreneurial ecosystem, Furthermore, the interconnection between the entrepreneurial ecosystem, entrepreneurial opportunities and journey (Trabskaja & Mets, 2019) is proved based on the data collected during the interviewing process. An interesting correlation between the internal structure and the entrepreneurial journey of tech startups was also observed which paves way for further studies.

Structure of the thesis: first part of the research is focused on literature review. The literature review itself will branch out to several sub-topics which ultimately relate to the research topic: features of the entrepreneurial journey of tech startups in Estonia. First and foremost, focus will be on literature analysis of Entrepreneurship in general. Followed by review of existing literature related to entrepreneurial opportunities and journey whereby I have included two models of the entrepreneurial process namely: Process theory and Variance theory. By introducing these models, I aim to identify and relate the phenomenon of necessity-driven and opportunity-driven startups respectively. Moving onwards, literature on technology startups in general and more specifically Estonian startups, is analyzed. Research on entrepreneurial ecosystems is included in the literature review where several attributes of successful entrepreneurial ecosystems are also highlighted. Moving forward, the methodology is discussed in detail literature from several different researchers on qualitative research data collection methods I included – mostly supporting interviews (Knox & Burkard, 2009). An additional interviewing technique presented by (Rubin & Rubin, 1995) is also discussed in detail – which later went on to be the best choice among different types of interviews. Furthermore, the list of chosen Estonia startups and entrepreneurs is included along with the criteria of choosing them. Interview questions which were asked are also listed down in the same section. Following that, results of this research are compiled and explained in detail. The features have been identified based on the literature review and interviewees response which stem from their own first-hand experiences. Lastly, the thesis is concluded with a short summary, theoretical contribution, managerial implication, future research along with the limitations of this research.

Research classification codes (CERCS): S190 – Management of enterprises

2. Literature review

2.1. Entrepreneurship

Entrepreneurship is usually defined based on the context of its discussion. Cha et al. defined entrepreneurship as “an innovative process where entrepreneurs create new technological solutions consisting of new products and services” (Cha & Bae, 2010). Entrepreneurship is also described as a process in which opportunities for creating new goods and services are explored, evaluated and exploited (Schumpeter & Backhaus, 2003; Shane & Venkataraman, 2000; Stam & van de Ven, 2021). Smallbone and Welter argue that an understanding of entrepreneurship depends on the environment it is being defined for (Smallbone & Welter, 2006). Entrepreneurship cannot be generalized or scoped into a single dimension. Tõnis Mets categorized two popular concepts of entrepreneurship which are based on two unique and intersecting attributes. First category would be of an independent business where an entrepreneur runs that business and continues if he or she is running and managing the business. Secondly, the formation of brand-new economic activity which refers to “newness/innovation, temporary and process context of that social phenomenon” (Mets, 2017). Aidis argues that nature of entrepreneurship may vary based on the geographical location it is originating from along with the economic status and structure of the country. For instance, a country which is going through a rough patch economically, or in other words, is a transitional or even a sluggish economy may characterize self-employment as entrepreneurial behavior. Whereas, in an established country with a stable (or even positively growing economy) this may not be viewed as very innovative and thus, not labelled as entrepreneurial at all (Aidis, 2003). Steyaert emphasizes that the discussion related to the growth of entrepreneurship has been mostly concentrated on financial and commercial interest in spite of the fact that it is playing a significant role in daily life activities and therefore insisted that it deserves to be focused on, through more perspectives which will give a broader look into this (Steyaert, 2000). He further described the role of an entrepreneur as “world-making”, stressing the importance of an entrepreneur creating something new (innovation) in the society which has not been seen or used before. Entrepreneurship is therefore a major influence within the economy, mainly because of entrepreneurs’ innovative nature and ability to identify the right opportunities and take the right action at the right time with the right resources (Fuellhart & Glasmeier, 2003).

2.2. Entrepreneurial ecosystem

Studying the attributes of a successful entrepreneurial ecosystem is of immense importance because it provides us further insight into the entire entrepreneurial lifecycle of individual startups. Presence of a properly developed and well-connected entrepreneurial ecosystem has been attributed to the success of many entrepreneurial ventures by various authors. Stam highlights that the latest literature on entrepreneurial ecosystems usually undercuts the importance of academicians and is directly directed towards the key stakeholders of the ecosystem, mainly entrepreneurs and state-level policy-makers (Stam, 2015). The significance of a successful entrepreneurial ecosystem is huge in terms of startup success rate. Feld generalizes attributes of a successful startup ecosystem - summed up in Table 1 below (Feld, 2020). Through these attributes, he emphasizes that the importance of interaction between the entrepreneurs in the ecosystem and access to all relevant resources (financial capital, services, talent and so on), with an enabling role of government through policies and incentives. (Stam, 2015) According to Mets and Trabskaya, Estonian entrepreneurial ecosystem possesses a distinctive feature which was utilized to build a prosperous ecosystem. They have noted that it did not require significant financial contributions as stated by other authors being a crucial attribute in building a thriving ecosystem. Estonian entrepreneurial ecosystem relied more on human capital and resources. Another important feature is the focus of Estonian government on building and promoting a productive ecosystem through application of relevant economic policies. (Trabskaja & Mets, 2019)

Table 1
Attributes of a successful entrepreneurial ecosystem

Attribute	Description
Leadership	A well-defined group of individuals having an entrepreneurial mindset dedicated to make their region a suitable option for people aiming to launch their own startup
Intermediaries	The mentorship of experienced people in the field of new venture creation and the presence of business incubators and accelerators
Network density	Well-connected community of entrepreneurs, investors, advisors, mentors, and supporters.
Government	Solid support from the state itself in terms of startup-friendly policies and incentives to promote economic growth of the country.

Talent	Presence of talented individuals across different sectors and areas of expertise.
Engagement	There should be proper engagement opportunities for budding entrepreneurs to learn from people who have garnered years of experience. This engagement can be in the form of bootcamps, hackathons, seminars/talks, and startup festivals.
Companies	Big companies that are established and operating on a large scale must take responsibility of promoting and collaborating with startups in order to have a shared pool of resources and dispense valuable lessons in terms of experience.
Capital	Financing opportunities must be plentiful across all sectors and there should be a strong community of venture capitalists, angel and seed investors.

Source: (Feld, 2020; Stam, 2015)

2.3. Entrepreneurial opportunities and journey

Entrepreneurial opportunities and journey have long been seen as the foundation and heart of entrepreneurship (Mets et al., 2019). Both comprise of numerous internal and external factors that eventually determine the outcome of the journey. Entrepreneurial journey comprises of both the activities for which a startup has planned and prepared for beforehand, as well as the spontaneous actions in case of unexpected situations and scenarios (Baker & Nelson, 2005). Initiation of an entrepreneurial journey starts with new venture creation that originates from the entrepreneurial opportunities already present in the market. As mentioned by Mets et al., “it is a process that links the stages from the intention of entrepreneurship to the realization of a new venture idea based on opportunities originating from the environment, technology competencies and other resources.” Cha and Bae termed this as a journey. (Cha & Bae, 2010; Mets et al., 2019) Entrepreneurial journey is termed as "a journey to produce value for others, and this journey is fueled by the belief of those involved that producing value for others is a ticket for producing value for themselves" (McMullen & Dimov, 2013).

According to McMullen and Dimov, “the entrepreneurial journey is a description of the entrepreneurial process in a sequential context reaching economic viability.” It became a more popular concept following its mention by the aforementioned authors. At the same time, an entrepreneurial opportunity may occur as such that the entrepreneurial journey is already underway or even halfway through. This has been observed in relevant research. (McMullen & Dimov, 2013)

Therefore, we must study literature on entrepreneurial opportunities in order to completely understand the nature and process of entrepreneurial journey. Entrepreneurial opportunities exist around us, and they only come to life when they are realized and identified appropriately. Cha and Bae described this as the base of the entire journey and termed it as opportunity realization. They elaborated it as “a combination of volitional and evolving process of transforming potentiality into reality”. They labelled entrepreneurial intent as “an intense amount of entrepreneurial motivation and further connected this sort of motivation with three dynamic functions of motivation namely: channeling (arousal), concentrating (direction), and continuing (duration) of entrepreneurial activity.” By applying these measures, the entrepreneur can convert his/her startup or firm into entrepreneurial ones that aim to take advantage of every opportunity in hand and make the most out of it. (Cha & Bae, 2010)

General structure of the entrepreneurial process, which is accomplished as a result of gathering entrepreneurial knowledge by (Trabskaia & Mets, 2021), is visually described in Figure 1 below. As it can be observed in the figure, the entrepreneurial process initiates with Propositions, followed by the stages of Idea Development, Concept Development, Business Development, and regular Business Operations/Sales. The output of each phase is a conceptual or physical output, which in turn serves as an input to the following phase. In this order, the conceptual/physical output are Entrepreneurial Intent, Perceived Opportunity, New Venture Idea/Filtered Opportunity, Business Concept/Model and New Venture Launch/Opportunity Exploitation (leading to Business Operations/Sales). The stages are linked with each other in a series. (Trabskaia & Mets, 2021)

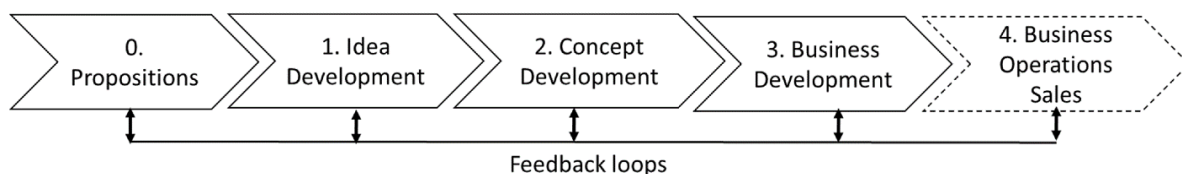


Figure 1. Process chart of a new venture creation (Trabskaia & Mets, 2021)

Trabskaya and Mets, further elaborate on how this process chart of new venture creation is set apart by feedback from the next stages to the previous ones as well as within the individual stages. Source of the feedback signal can be both the environment in the form of information about the customer and market and the entrepreneur’s opportunities to acquire resources. “It is an ever-evolving, dynamic process.” (Trabskaia & Mets, 2021) It is understood that the first

process, 'Propositions', produce intention and/or perceived opportunity which is the base of an entrepreneurial venture. Constant feedback from the next stages to the previous ones generates a feedback loop which is usually based on the target market's feedback, improvement suggestions and/or opinions. This feedback may also be a result of the rapidly changing and evolving tech-environment. Therefore, this leads to the question about identifying features that a startup must possess to be able to react to these feedbacks and make the most out of them without hindering the progress or exhausting the technical resources in store. According to Dimov, the factor behind success of a new venture is the faith in the practicality of the opportunity, as this is upon which the desire to pursue the opportunity depends and is known as opportunity attractiveness (Dimov, 2010; Trabskaia & Mets, 2021). Even though the entrepreneur is constantly engaged in the process of restructuring and replanning the entrepreneurial opportunity, the opportunity itself is understood as the means to create a new market and the environment to implement the original idea (Dimov, 2020; Trabskaia & Mets, 2021). Entrepreneurs can take advantage of this scenario and acquire the required resources to drive their services/products into different markets. While an entrepreneurial opportunity is primarily imaginative and non-tangible, the effort to implement it is objectified within the entrepreneurial process (Trabskaia & Mets, 2021; Wood & McKinley, 2010). The level of synchronicity between an idea and an opportunity has not yet been defined or studied to an extent where it is possible to distinguish and measure the interdependence of both and how an idea is progressed into an opportunity and vice versa (Trabskaia & Mets, 2021). Hence, the question arises whether initial entrepreneurial idea and action always originates from opportunities or is it necessity driven as well.

Aghion highlights that an entrepreneurial venture which is targeting a specific (already existing market) segment needs to catch up with the market leader initially in order to replace them eventually. They must have the same, if not better, technical resources to replace the existing market leader and capitalize on the opportunity at hand. The increased market competition will encourage the start-up to come up with a relatively more innovative solution in order to acquire a lead over their competitors – this is termed as the escape competition effect. (Aghion, 2017) Since the importance of technical resources has been highlighted by different authors in several studies, it is necessary to further study the impact of technological breakthroughs on a startup's entrepreneurial journey.

2.3.1. Models of the entrepreneurial process

Analyzing the models of entrepreneurial process and analyzing process and variance theories offers a great deal of insight into the entire entrepreneurial journey of startups and aids in identifying the basis of both opportunity and necessity driven entrepreneurial ventures respectively. Examining the process and variance theories can contribute greatly to understand the underlying phenomena relating to the nature of the initiation of the entrepreneurial journey. In their research, (Mets et al., 2019) have given a short yet well-structured overview of the existing models through which I was able to deduce the features of both the aforementioned types of startups and also identify gaps in research subsequently formulating questions which would be later used during the methodological part of the research.

2.3.2. Process theory and opportunity-driven entrepreneurship

Formulation of Process theory approach began with the explanation of the stages of the opportunity development using narrative and established theoretical techniques originated from venture creation (Bhave, 1994). Furthermore, it breaks down the stages of the entrepreneurial process from a venture creation (startup initiation - in other words) perspective. Bhave suggests externally and internally stimulated versions of the methods of opportunity identification process. This process model could be characterized as an iterative, non-linear, customer feedback-driven, intangible, and tangible processes covering the three stages: Opportunity, Technology Setup & Organization Creation, and Exchange Stage. (Bhave, 1994; Mets et al., 2019) The authors further informed about the improvement made with effectuation theory by Sarasvathy; her model has also been considered as dynamic and able to adapt to changes (Mets et al., 2019; Moroz & Hindle, 2012). According to the effectuation theory by Saravasthy, in order to recognize and understand the opportunity in the entrepreneurial process, it needs to plan for the resources in advance and formulate a strategy along with goals and objectives in parallel. At the same time, she stressed on how the entrepreneur can make use of effectuation by following the procedure as many times as required until the desired state is reached. (Sarasvathy, 2009) This leads to questions such as: what is the time-to-market of an entrepreneurial idea into an actual product or service? How flexible does an entrepreneurial venture has to be in order to change and adapt to the feedback of the customers – utilizing the feedback loops mentioned in the previous section.

2.3.3. Variance theory and necessity-driven entrepreneurship

On the other hand, variance theory methodology utilizes models built on the relationship of variables and leans more towards the necessity-driven aspect of entrepreneurial intent. In his quest to define a framework for describing new venture creation, Gartner outlined four viewpoints as follows: characteristics of the individual(s) who initiate the venture, the activities that are undertaken by individual(s) to launch the venture, environment surrounding the new venture and, the structure and strategy of the new venture creation process. (Gartner, 1985) These components/viewpoints transformed into a model, which integrates the new venture creation process with models of small firm performance (Mets et al., 2019; Naffziger et al., 1994). The variables here can be linked to the entrepreneurial journey of startups in a way where the characteristics of the individual can be associated with the creativity, professionalism, and risk averse nature. The process can be linked to the realization of the idea, intent, gathering of team and required resources (seed funding, infrastructure etc.) and so on. The model connects the group of individual variables, environment, and goal — all before the entrepreneurial decision is taken and the strategy is drawn up. Besides actual connections amongst the variables, the underlying context gives a deeper insight of the process itself. Baum et al. presented a multidimensional model of venture growth with seventeen independent dimensions, confirming the indirect and direct effects of personality, general and specific competencies, motivation, strategy, and environment on the result of the entrepreneurial process (Baum et al., 2001; Mets et al., 2019). There are several indicators to carefully analyze the of the performance of entrepreneurial process. The first and foremost being the launch of a startup (product or service) (Haeussler et al., 2012), time-to-market (Jones & Coviello, 2005), number of sales and, profitability among other financial metrics (Reynolds, 2017). Based on these linkages, it becomes important to further indulge into the significance of the environmental factors impacting the entrepreneurial journey of a startup and study how crucial is the entrepreneurial ecosystem and the government's role in facilitating the inception and growth of a startup.

2.4. Technology startups

Eric Ries, in his book *The Lean Startup*, defined a startup as: “a human institution designed to create a new product or service under conditions of extreme uncertainty” (Ries, 2011). Tech startups are “newly created companies with non-existent or a very brief operating history and oriented towards producing cutting-edge products and services using technology”

(Giardino et al., 2014). To Keeble for example, a startup is “the creation of an entirely new enterprise which did not formerly exist as an organization.” (Keeble, 1976). Over the last five decades, there has been a steep rise in the number of startups all around the world. On average, a mere 10% of these ventures are successful in achieving what they initially aimed for. (Krishna et al., 2016). Despite having a truly innovative idea along with strong financial backing, most startups fail to achieve what they initially aimed to achieve. But still, that has not affected the entrepreneurial spirit in terms of market-entry figures observed over the past few years. Many new entrepreneurial ventures operate as potentially global based on the innovative technology idea. (Mandl et al., n.d.) The process can be aimed at launching a new product or service, to create a new market, or to expand an existing market segment — these are fields for the exploitation of innovative and technology arbitrage opportunities (Anokhin et al., 2011; Mets et al., 2019) by entrepreneurs. The startup label can be applied to relatively new and smaller companies, but at the same time, it can also be applied to parts of established enterprises that are trying to break new ground and innovate in order to give a boost to a slow growth of the company or the host country itself. (Moogk, 2012).

According to Anokhin and Wincent, “arbitrage opportunities are unevenly distributed between countries and differ between industries” (Anokhin & Wincent, 2014). Entrepreneurs tend to follow the guidelines set by the likes of Schumpeter, Buckhaus and Kirzner in applying both innovative and technology arbitrage opportunities in the entrepreneurial process. (Kirzner, 1999; Schumpeter & Backhaus, 2003) It supposes that the majority of entrepreneurial entries come from technology arbitrage opportunities and a small share from 'grand' innovation opportunities (Anokhin & Wincent, 2014). The opportunity discovery approach argues that opportunities exist objectively on the market. Whereas the constructivist point of view argues that entrepreneurs create new opportunities from scratch (Wood & McKinley, 2010). These arguments compel us to question the foundation and innovativeness of opportunities that startups apply in the entrepreneurial process. In reality, there are always variations and factors which are not accounted for beforehand. As a result, Mets deduced that the lack of arbitrage in the opportunities that startups have found and exploited or the failure to create new technologies not being attributed as innovation cannot be ignored (Mets, 2012). The subject of startups reaching the market has been described as a process of new venture launch. “Discovering new prospects and striving to cover R&D expenses often leads entrepreneurs to the invention of a new business model.” This is a process in which the entrepreneur implements

a new technology-based business idea and give birth to a tech startup, Mets dubbed it as 'opportunity exploitation'. (Mets, 2012; Mets et al., 2019)

2.5. Estonian startup scene

Based on a study conducted by Startup Estonia, as of mid-2021, the total number of startups in Estonia was 1216, where every 87th employee in Estonia is actively involved in startups (*Estonian Startup Ecosystem Is Keeping in Shape*, 2021). Estonia has been called one of the hottest destinations in term of startup-related activity. According to the State of European Tech report from 2021, Estonia has the most startups and investments per capita in entire Europe (*State of European Tech*, 2021). The number of people employed in Estonian startups are double as many startup people employed in Latvia and Lithuania (*Baltic Startup Scene in Numbers - ArcticStartup*, 2015). Tech startup entrepreneurship has become the real driver of socioeconomic progress in Estonia. Smart Specialization analysis for Estonia, a program launched by the Estonian Development Fund, has identified three strategic areas of development (*Smart Specialisation - Qualitative Analysis - Estonian Development Fund, February 2013 - Arengufond*, 2013):

1. ICT horizontally;
2. Healthcare technology and services;
3. Efficient use of resources (IT solutions for SMEs as well as big corporations e.g. banks)

All aforementioned sectors have one way or the other a substantial amount of contribution from technology. The ICT sector, with its 2.3 billion euros sales and 1.2 billion euros export, exceeds other sectors in the economic meaning or knowledge base as well as research and development (conclusion based on Estonian Development Fund study) (*Smart Specialisation - Qualitative Analysis - Estonian Development Fund - Arengufond*, 2013). Entrepreneurs who founded tech startups have created an extremely optimistic trend in the socioeconomic developments in Estonia. In a country where the economic situation has had relatively minimal growth in the past decade, the software sector seems very remarkable in contrast. Software companies have doubled employment, and increased exports 7x in the past decade. (*Economy Grew in the 2nd Quarter | Statistikaamet*, 2016)

Estonia stands out with its entrepreneurial ecosystem which provides immense support to entrepreneurs starting their technology-based startups. It all began in the 1990's, with the introduction of the Tiger Leap program initiated by the Estonian government. This program, linked the schools to the internet, promoted and developed computer literacy among students,

teachers and educational staff – mainly focusing on the youth. (*How It All Began?*, n.d.) Working on building up the e-Government initiative gave opportunity to the local (and younger) population to develop their imagination and evaluate the influence of digital technology on the world. After seeing the successful launch and steady growth of tech startups such as Skype and other early (mid 2000s) startup success stories encouraged new market entrants to look for opportunities and make the most out of the available resources and hands-on experience of fellow entrepreneurs. The world did not seem too big anymore and young entrepreneurs began experimenting and implementing their own ideas – sometimes achieving great success in Estonia and sometimes even expanding beyond. As identified by Mets, “ever since the Great Recession of the 21st century shattered economies and caused massive unemployment, the Estonian government has realized that the entrepreneurial spirit of people weakens to a great extent if young people are not educated and trained appropriately.” Introducing entrepreneurship and teaching about its related educational aspects to students has been made compulsory in the Estonian education system. (Mets, 2012) The effect of these efforts by the Estonian government to encourage entrepreneurial mindset in the general population needs to be studied and related to the actual growth of these ventures in terms of market-entry figures and expanding operations beyond Estonia. This leads to another question which will be explored further in detail: to what extent has the government’s policies and incentives affected the growth of tech-based startups in Estonia and to what degree has the Estonian entrepreneurial ecosystem been involved in the substantial growth of tech startups in the past decade. Studying these phenomena can help in identifying the features of the entrepreneurial journey of tech startups in Estonia and to what extent are they related to the growth or decline of a startup.

3. Data

Since the nature of this research is purely qualitative and did not involve any quantitative measurements of features of the entrepreneurial journey of tech startups in Estonia, for this study a qualitative methodological approach is followed. The primary source of data collection was interviews. The main advantage of interviews is that it provides us with the opportunity to go deep into phenomenon, be able to thoroughly distinguish and understand the features of the topic in focus and thoroughly understand the entrepreneurial opportunities and journey through the perception of entrepreneurs. Interviews have been used by many researchers to go deep into phenomenon with qualitative research and it has helped them

significantly in achieving their aim to understand the phenomenon and to expand their knowledge in that area of research to a wider extent.

Defining the right research method is one of the most important parts of the research. Crotty defined these methods as “the techniques or procedures used to gather and analyze data related to some research question or hypothesis” (Crotty, 1998). Owen utilized interviews and document analysis in order to collect appropriate data in support of addressing conceptual framework and research questions (Owen, 2014). The methodological part focuses primarily on the research design, and the approach applied in addressing the overall research question that is based on the research gap and questions posed in theory from literature review. Since the objective of this research is to define features of the entrepreneurial journey of tech startups in Estonia, most of the questions which have been derived from theory, relate to this phenomenon in one way or the other.

Data collected through qualitative research interviews depends on several factors. First of all, the type of interview must be chosen out of the three types: unstructured, semi structured, and structured (*Choosing an Interview Type for Qualitative Research*, 2017). This solely depends on the research design and the type of questions to be asked along with the techniques used to elicit the required information.

Unstructured interviews are mostly suitable for relatively harder to discuss topics and obtaining in-depth information. It does not restrict the interviewees to stick with rigid sequence of questions and allow them freely to discuss and open up about the subject matter which also sometimes leads to them deviating from the original topic and provide information which is not very useful for the researcher. Therefore, an unstructured type of interview did not suit the study of entrepreneurs and their startup journeys. The second type of interviews are structured interviews, the opposite of unstructured interviews discussed previously. Structured interviews strictly adhere the researcher to use a questionnaire of some sort to conduct interviews and prevent the interviewee from deviating to a different topic or spend time talking about information which will not benefit the research in any way. Though it is the right approach a researcher who is aiming to investigate a specific phenomenon, a pre-determined list of interview questions in the form of a questionnaire. This does not give the researcher the opportunity to further ask questions based on the answers of the interviewee. Lastly, the semi-structured type of interviews is a mix of both the former and latter type of interviews discussed previously. A questionnaire is used to help the researcher keep the interview on track and towards the right direction. At the same time, the interviewee is given enough room to further

comment or elaborate on his/her answers to the questions. This method offers great flexibility for the researcher as well as the participant to explore additional details while remaining inside the scope of the interview. The conversational nature of this format was one of the most prominent features which led to selecting it as the interview type to be used for obtaining the purpose of this research. Coupling it with the “Responsive Interviewing” technique by Rubin & Rubin, the data collection process was made more seamless in terms of facilitating the interviews. Responsive interviewing is an interviewing approach which was proposed by Herbert J. Rubin and Irene S. Rubin back in 1995. It demonstrates “how to design research based on interview data; to stimulate conversation; to absorb what is being said; and to synthesize, analyze, and present an informed description of the data” (Rubin & Rubin, 1995).

Responsive interviewing is based on the conversational trust formed between researcher and participant. According to Hunter, this method allows the researcher to understand experiences through the participant's words and stories to create meaning (Hunter Revell, 2013). The academicians Rubin & Rubin who came up with this style of interviewing stated: “in responsive interviewing, researchers play an active role, encouraging conversation, reacting to what interviewees say, and asking detailed questions to follow up the initial answers.” At the same time they also warned the researchers to be mindful of how their personal opinions might influence the questions they ask as well as how they react to the interviewees’ answers because of their active role in throughout the interview. (Rubin & Rubin, 1995) Owen used responsive interviewing in his higher education policy analysis and this allowed him to gain a deep understanding of the underlying phenomena (Owen, 2014).

There has been considerable research on data elicitation through remote interviews and many have concluded numerous advantages. Musselwhite et al. described a number of advantages of data collection through remote interviews which were also acknowledged by Knox and Burkard in their study on qualitative research. According to them, the advantages of remote interviews are as follows: “(1) use economic and human resources efficiently (e.g., reduce the need for travel, thereby widening the net researchers may cast for participants and enabling expedient data collection); (2) minimize disadvantages of in-person interviews (e.g., researchers can take detailed notes of an interview without making participants feel uncomfortable, response bias may be reduced in the absence of facial expressions, the anonymity afforded by the phone may enable participants to be more open in their responses); (3) allow research-appropriate relationships to develop between interviewer and interviewee; and (4) improve the quality of data collection (e.g., enable greater supervision and support of

interviewers, allow those who may have reading/writing difficulties to participate in research).” (Knox & Burkard, 2009; Musselwhite et al., 2007)

4. Methodology

Chosen methodology for this study to find answers to the posed research question is combining semi-structured form of interview with responsive interviewing techniques which proved to be a perfect combination for this research. The interviewees, who were mostly young entrepreneurs as well as company executives with years of experience, were contacted for interviewing purposes through email, phone, and LinkedIn. These interviewees were chosen based on a criterion defined later in this section. A questionnaire devised based on theory was used for all interviews. The following subsections describe the data collection criteria and process in further detail.

4.1. Interview questions

A significant amount of thought and consideration must be given to the very questions that will be asked in the interview. As Seidman stated “at the root of interviewing is an interest in understanding the experience of other people and the meaning they make of that experience” (Seidman, 1991). This information was kept in mind while designing the questionnaire used for interviewing the chosen interviewees (entrepreneurs, in this case) (Knox & Burkard, 2009). The interview questionnaire evolves from theory and is centered around the research questions. During interviews it is important to ask about entrepreneurial journey and process – what are milestones and how you distinguish them in the entrepreneurial journey and therefore, the questionnaire was designed in a way to elicit all the important features which have a direct or indirect effect on the entrepreneurial journey of tech startups. Interview questions derived from theory are referenced with the existing literature and listed below (full questionnaire can be seen in Appendix A):

- A. What features/attributes must a tech-startup possess in order to adapt to the rapidly changing environment in terms of tech innovation? (Mets, 2012)
- B. The initial idea behind the product/service of your company was necessity driven, or opportunity driven? (Cha & Bae, 2010)
- C. What impact does technological breakthroughs have on a startup’s entrepreneurial journey? (Mirvis et al., 1991)

- D. What are the most detrimental factors which hinder the growth of a tech startup? (Aghion, 2017)
- E. How important is it for a startup founding team to be flexible in terms of adapting to the customer feedback? (Bhave, 1994)
- F. To what extent is the Estonian entrepreneurial ecosystem related to opportunities and growth of tech startups in Estonia? (Trabskaja & Mets, 2019)
- G. How does the government's policies and incentives affect the growth of a tech startup? (Stam, 2015)

These questions were ordered in a sequence that focused on the inception of a startup, through its growth until maturity. This facilitated the interviewee to go back in time and answer questions according to the real-life order of events that took place (starting with idea realization, startup launch, obstacles, expansion and so on).

4.2. Criteria for choosing interviewees

As important as it is to carefully curate the interview questions, it is equally important to focus on defining the criteria of choosing potential interviewees for this study. Interviewees comprised mostly of individuals belonging to the Estonian tech sphere. The ideal respondents were deemed to be entrepreneurs who found and are currently leading technology-based startups in Estonia. With the passage of time, many ventures which initially began as startups in Estonia have now grown substantially into big and recognized companies operating across borders. Few employees, mostly the top-level executives who have a significant amount of experience managing companies and startups were also person of interest. Especially those who witnessed the transition of startups into globally operating companies were approached. Furthermore, experts who have studied entrepreneurship and the Estonian entrepreneurial ecosystem in depth and published several papers about the topic under discussion were also pursued. The criteria and requirements for choosing interviewees for this study is explained in Table 2 below. Since the aim of this study is to go deep into the phenomenon, interviewing these individuals provided a great opportunity to obtain in-depth information. This made it possible to discuss the real-life experiences/journeys of tech startup founders and the obstacles which they faced during each lifecycle stage of their ventures along with the features which encouraged, and the factors which inhibited the growth of startups.

Table 2

List of ideal interviewees along with required experience which qualified them to be a part of this study

Profession	Must-have experience
Academician	Academic research and contributions in subjects of business, economics, and entrepreneurial studies.
Entrepreneur	Startup founders offering products or service which make use of technology. Both new and relatively older startups would be ideal to elicit information about different stages of the entrepreneurial journey.
Company executive	Individuals currently working at possessing substantial experience with large or small and medium-sized enterprises (SMEs). Overlooking transition of startups to enterprises would be considered a big plus.
Manager	Mid-level managers e.g. Business Development Managers, Marketing Managers in tech-based firms having experience working in entrepreneurial ventures.

Source: based on input from supervisor

Once the list of potential interviews was jotted down, the next step was to approach them individually with the proposal of an interview. The first and foremost method to communicate with them was through emails (the email addresses were found on the company websites). The email context was carefully curated to ensure that the recipient fully understands the purpose of the interview and how their time and input would contribute to the research on the features of the entrepreneurial journey of tech startups in Estonia. Table 3 shows the total number of startups and companies (initiated as startups) that I contacted via different communication channels and the number of refusals, no responses, and acceptances that were received. It can be noticed that a significant number of potential interviewees either declined or did not respond at all. Undoubtedly, the biggest challenge during the entire information elicitation process was contacting the suitable interviewees and receiving positive feedback for the interview.

Table 3

Figures highlighting the acceptance and refusals by individuals belonging to various startups

	via email	via LinkedIn	via phone	Total
Number of individuals contacted	14	10	5	29
No response	6	3	3	12
Declined	3	4	2	9
Accepted	5	4	0	9

Source: own experience

The parallel approach was to meet startup founders and company executives in person at the Career Day event. This is an event organized annually by the University of Tartu to connect the local startups (as well as big tech and finance firms) with the students to provide them an opportunity to explore different work opportunities in the company or startup of their choice and conversate one-on-one with the founders and employees of any participating company. Taking advantage of this opportunity I visited the event to acquire (schedule) as many interviews as possible. I met with founders of several startups and even a few executives of the companies which initially started off as startups. Most of them agreed to answer questions in online interviews – so I scheduled those meetings and conducted the interviews in the following days. The interviewees belonged to tech startups and companies such as: Kappazetta, Fintech Market, Adcash, Foxway, Playtech and Singularity Creations – as shown in the Table 4 below. All of these have one thing in common – they are all born in Estonia. I have also attached a short detail of each company in Appendix B.

Table 4

List of startups and companies which were interviewed

Name	Sector	Interviewee	Position	Duration
Adcash	Advertisement & Creative Tech	Anthony Rouillot	Chief Technology Officer (CTO)	30 minutes
Fintech Market	FinTech	Siim Liiser	Founder and CTO	35 minutes
Foxway	IT services and recycling	Kristina Zolina	Marketing Manager	30 minutes
KappaZeta	SpaceTech	1. Kaupo Voormansik 2. Jürgen Lina	1. Founder, CEO 2. Business Development Manager	90 minutes
Playtech	Gambling Software	Teet Saar	IT Manager	30 minutes
Singularity Creations	Programming	1. Marilyn Savi 2. Madis Kapsi	1. Founder, COO 2. CTO	60 minutes
Starship Technologies	Transportation & Logistics	Anti Veeranna	Technical Project Manager	20 minutes

Source: information from company websites, Estonian startup and database and interviewees themselves.

Since the type of interviews conducted was semi-structured, the questions were mostly open-ended so that the interviewee would not feel constrained and miss out on important details. The answers and in-depth information were stored with the help of a recording tool which recorded the interview and stored in an audio format. Each interviewee's consent was taken after ensuring that this information will only be used for the purpose of this research and will not be published or broadcasted without further consent. Every interview's recording was split up based on each question and were organized in a manner where a single group of recordings from all the interviews corresponded to one question from the questionnaire and so on. This helped in keeping all the information organized and aided in filtering out all the important information in a decent amount of time rather than going back and forth in the interview recordings to collect and label the data. Another important aspect of this analyzing method was that when all the answers were organized in a manner which correlated to the respective question, it helped in defining the saturation point. Understanding and realizing the saturation point is important because it helps in identifying the point after which the information being elicited for a topic or question tends to start replicating with the information already collected (Saunders et al., 2018). My research reached the saturation point in some aspects of the topic which were reflected in the questionnaire when I began noticing a pattern in several answers by different interviewees after the eighth interview. Yet there were some topics and answers to the questions which remained exclusive to each interviewee's personal experiences. Those were also the ones which helped in achieving the most insight into the entrepreneurial journeys of tech startups in Estonia.

5. Results

After successfully conducting interviews with founders, executives and managers of different startups and companies (total duration: approx. 300 minutes), the results were compiled based on answers received during the interviews. The main outcomes, further explained in detail in the following part of this section, are summarized in the list below:

1. Combining opportunity and necessity
2. Smart resource utilization
3. Strategic planning
4. Rethinking the internal structure
5. Customer feedback loop
6. Interconnected startup community

Starting with the initial idea of a startup being opportunity driven or necessity driven, the interviewees had mixed responses. Some individuals termed the idea behind their startup being completely based on the opportunity present in the market while some termed it being necessity driven as there was no other form of product or service which delivered the value they promised to provide to the customers. In some cases, the respondents also mentioned that it was a mix of both – innovative ideas (opportunity) to cater for market needs (necessity) as no better alternative was present. During the interview with Kaupo Voormansik, one of the founders of the space-tech startup Kappazetta, and their Business Development Manager Jürgen Lina, Lina said that: *“The utilization of remotely sensed data in Estonia was scarce and that made us realise a huge opportunity to tap into this market and make use of the satellite data in agriculture through continuous monitoring on a weekly basis.”* Kaupo further added: *“Since 2012, we were working with radar satellite data in the Tartu Observatory Remote Sensing research group and that is when we decided to start our entrepreneurial journey in 2015.”* Similarly, Fintech Market, is another startup which was formed based on a mix of both, opportunity, and necessity. One of the founders, Siim Liiser who is also the Chief Technology Officer said during the interview: *“All of Fintech Market’s founders, including myself, had been working in the fields of banking, financial services, and technology. We noticed an increasing trend of financial technology as well as the rise in number of companies developing and implementing software as a service (SaaS) solution.”* Thus, they observed the need in market and came up with an innovative idea of providing a flexible and configurable SaaS solution to banks and other financial service providers. (*Fintech Market OÜ - Banking Made Easy*, n.d.) Based on these experiences, it is evident that one of the most significant features of the entrepreneurial journey of tech startups in Estonia is the ability to identify opportunities and complementing them with innovative ideas which can be implemented through utilization of proper usage of tangible and intangible resources.

The next phase of the research and interview focused on identifying the biggest hurdles experienced by the founders of tech startups in Estonia during the early years and how they were tackled. This was another aspect which provided a great deal of insight into determining the features of the entrepreneurial journey of tech startups. One of the biggest Challenges was to keep moving forward in new and unexpected situations during the early years of the startup. Marilyn Savi from Singularity Creations expressed the importance of having a strategy in place. She said: *“You never know what is coming your way and that is when having a strategic plan helps you.”* Similarly, Anthony from Adcash said: *“Having a plan laid out for at least the next*

two to three years is something which most entrepreneurs do not focus on and that is what differentiates thriving startups from the failing ones.” There has been a strong emphasis put on having a clear strategic plan for the next couple of years in order to avoid as many unexpected situations and scenarios as possible. Another interviewee, Teet Saar from Playtech, added that: “Having a well thought and planned strategy is only how tangible and intangible resources can be managed efficaciously.” Hence, we realize the importance of devising a strategic plan of action.

One of the other major obstacles experienced during the initial stages of the journey was not securing enough funding to keep the operations running. As Kaupo Voormansik from KappaZeta said: *“No funding means no financial resources to keep the operations running.”* He also recalled a time during the early stages of their startup when there were many close calls in payment of salaries to the team. *“Those were tough times and handling such situations was quite tough because of the uncertainty involved.”* One of the major reasons behind this was the inability of the entrepreneurs to convey the strategy they will use to scale their venture. Based on the discussion with the interviewees, most startups took three to five years to break-even and generate financial profits. As Siim Liiser recalled: *“During the early stages, the initial seed funding was the only financial support we had along with our (referring to all the four founders) personal savings”*. The dynamic nature of the journey always brought in challenges as sticking to the original plan did not aid in reaching the desired (also, achievable) financial standing. Relying solely on the seed funding, personal savings and government subsidies was not a better solution when compared to examples of those startups which had a higher market acceptance. Financial constraints were eliminated relatively quicker and the path to growth was opened. Jürgen Lina from KappaZeta mentioned: *“I believe one of the most important features of a financially thriving tech-based startup is to have an open-minded, flexible teams.”* He further emphasized on the importance of inducing “short-cycle testing” in the software development lifecycle – a term introduced by Eric Ries in his book *The Lean Startup* (Ries, 2011). *“This testing technique lets us integrate features and test new ideas faster than ever before which increases the probability of customer satisfaction.”* Therefore, higher market acceptance rate is achievable when the team is flexible enough to respond to new ideas and customer feedback.

Another major impediment which had to be dealt with in the initial stage was getting the right individuals for the founding team. As quoted by Kaupo from Kappazetta: *“In the beginning we had too many generals each with their own individual views and perspectives*

and very few soldiers – who would actually work on and bring the product to life.” This comment was reiterated in two other interviews with Siim from Fintech Market and Anthony from AdCash as well – which led to the same point. Lesson learned is that sometimes the presence of many members in the founding team of a startup does not always yield the best results. A balance in terms of visionaries and doers in the team is a must which would make way forward instead of going sideways in different directions (analogy to applying different opinions, strategies by different members of the team and making no progress at all).

Creating the “perfect” product has been quoted to be one of the primary goals throughout the entrepreneurial journey for all startup founders and managers. There was usually a considerable amount of pressure from the initial investors and the relatively new playing grounds (new markets). As Marilyn Savi from Singularity Creations said: *“As an entrepreneur you have to keep a smile on everyone’s face. Be it the investors or the customers – you must make sure that they are all content with the product or service you are selling to them.”* Feedback from the early users (beta phase) always proved to be pivotal in boosting the market acceptance rate because at the end of the day, the idea had to be sold to the end users in the form of a product or service which makes their life easier in terms of increased productivity, cost and time saving. At the same time, employee satisfaction is given the utmost importance as well because they are the real drivers of the startup. Keeping a hold of employees has reportedly become a challenge nowadays. Teet Saar from Playtech said: *“I have been working at Playtech for almost a decade and one of the biggest challenges we face is employee retention despite the competitive salary packages we offer to our workforce.”* Kristina Zolina from Foxway said: *“Sometimes the employee is looking for something bigger than a salary raise. Employees need to be listened to and need to feel included”*. Having this attitude towards the employees is a must because it promotes creativity among the entire team and provides a sense of ownership of the product/service. It further helps in retaining the employees for a long term. Anthony from Adcash further added: *“Those in the leading and managerial positions must share the same value space as of those who head the startup.”* The experiences of these startup founders and managers makes it clear that there should be a strong emphasis on keeping the internal and external stakeholders as pleased as possible.

All the entrepreneurs and company executives have greatly acknowledged the role of the entrepreneurial ecosystem in the entrepreneurial journey of tech startups. The huge number of new entrants in the market have received immense support from the existing and relatively mature startups. The Estonian startup community has been tightly knit together which has

allowed new and growing startups to profit from the knowledge, experience and guidance of the well-established companies which had started off as startups operating on a small scale. Annual conferences and events such as ‘sTARTUp Day’ and ‘Latitude59’ have provided a platform to entrepreneurs which has helped them get a huge amount of exposure and numerous networking opportunities. Siim from Fintech Market said: *“We launched our startup four years ago and that makes us relatively new in the market. I would say that the way this startup community in Estonia is bonded together makes it one of the biggest reasons behind the success of entrepreneurship as whole.”* He further added, *“Back in 2016, I was working for a company which took part in Latitude59 that was held in Tallinn. This was where I witnessed the entrepreneurial spirit shared among people regardless of the company size, background, and ranking.”* Madis from Singularity Creations stated: *“Startup events provide great networking opportunities and learning experiences for entrepreneurs and also for those who intend to become one.”* It is worth noting how the Estonian entrepreneurial ecosystem has proven to be a source of inspiration and guidance for entrepreneurs which has greatly facilitated their startup’s entrepreneurial journey towards growth and success.

Role of the Estonian government in the advancement of digital infrastructure through different initiatives has been greatly admired by all the respondents. Jürgen from KappaZeta praised the technological advancements in the entire startup registration and administration process, he said: *“It greatly facilitated us during the early years and there were no roadblocks during the entire process of launching and registering the startup.”* The promotion of inducing entrepreneurial mindset in general population and encouraging incubators through formulating state-level policies that gave birth to tech employment opportunities has been of immense importance in the entrepreneurial journey of all tech startups in Estonia.

The main objective of this research has been to study how the features of entrepreneurial journey of tech startups interconnect with the entrepreneurial opportunities, entrepreneurial ecosystem and the internal as well as external obstacles faced by entrepreneurs throughout this journey. Results of this study have collectively answered the proposed research question as they tackle all separate aspects of the topic in focus. However, it is important to bear in mind that these results are purely qualitative and based on the first-hand experiences and opinions of the individuals that were interviewed. A substantial amount of information was elicited during the interviewing process and there was a saturation point after which answers to the posed questions started following a similar pattern.

In summary, based on the findings of this research we can observe that there are several factors which have a direct and indirect connection with the entrepreneurial journey of technology startups in Estonia. Entrepreneurial opportunities are interconnected with the journey of startups as they form the base of any entrepreneurial venture. Using innovative solutions to associate an opportunity with necessity in the market has been a great driver of success as we learn from the founders of KappaZeta, Fintech Market, Adcash along with numerous other local startup stories such as Wise, Bolt and Pipedrive to name a few. Moving on, the “smart” utilization of tangible resources like monetary assets, equipment, workforce, and intangible resources such as business goodwill, brand recognition and intellectual property (IP) has been directly related to the entrepreneurial journey of tech startups. Assets and resources can only be managed through a well-devised strategy – which also has a great influence on the entrepreneurial journey. Unexpected situations that befall every entrepreneur and his team can be confronted with a well-thought-out strategic plan. Having a pre-defined strategy can turn challenges into opportunities which otherwise would have been detrimental to the growth of the startup and in turn negatively affect the entrepreneurial journey. Finally, substantial interconnectedness of entrepreneurial ecosystem with entrepreneurial journey has been observed based on the data from interviews as well as the existing literature on entrepreneurial ecosystem in Estonia. Entrepreneurial ecosystem in the form of other startups, entrepreneurs, tech companies and state-level policies have formed a network of support and guidance for new and growing startups which in turn simplifies the entrepreneurial journey.

6. Conclusion and discussion

This study initiated with a thorough literature review of the associated topics and sub-topics of the thesis subject. Since the entire theme revolves around the field of entrepreneurship, the literature analysis commenced with the analysis of relative articles, journals and research papers from renowned authors and publications. There were several different perspectives and definitions of authors based on their context of discussion. Moving onwards, the literature review pertaining to entrepreneurial opportunities and journey was studied and a variety of perspectives related to this research on features of the entrepreneurial journey of tech startups were discussed. Before embarking on the entrepreneurial journey, an entrepreneur must identify/realise an opportunity upon which the entire process depends along with a clear plan and strategy. This entrepreneurial opportunity has been defined as the base of the entrepreneurial journey which is a process that links the stages from the intention of

entrepreneurship. A process chart of new venture creation was introduced which emphasized the importance of feedback loops in the entrepreneurial lifecycle. This demonstrated the significance of making the tech startup as dynamic as possible in order to react to unexpected situations such as epidemics and pandemics, user feedback or adjust to (tech) environment changes and integrate them in the existing business model which would turn a challenge into an opportunity. Furthermore, an analysis of two different theories of entrepreneurial process, namely variance theory and process theory, was conducted to gain a better understanding of the existing literature concerning entrepreneurial opportunities. The next stage of literature review was focused on technology startups followed by the analysis of Estonian tech startups and the entrepreneurial ecosystem in Estonia.

The nature of this research has been purely qualitative and therefore a thorough analysis of several qualitative research methods was performed to weigh their pros and cons. Subsequently, arriving at the decision to go ahead with interviewing entrepreneurs who have founded tech startups in Estonia. The interview questionnaire was based on theory discussed during the literature review. The criterion of choosing interviewees was also explained which followed an entrepreneurial theme as well. Semi-structured interviews were conducted using responsive interviewing techniques which allowed to understand experiences through the participant's words and stories to create meaning and dive deep into the phenomena. Moving on, the results of the study were discussed, and the research question was answered based on the data collected during interviews.

In conclusion, we deduce that the of the entrepreneurial journey in terms of success or failure evidently does not rely on a single factor, as there are several internal, external, personal, physical, and political factors which either hinder or facilitate the journey of a tech startup towards its goals. It has been discovered that the entrepreneurial journey is unpredictable most of the times and in order to be able to face unfamiliar situations and scenarios, a startup must devise a strategic plan. Having a strategic plan has proved to be a saviour for many startups and was stressed upon by most of the interviewees as well. Having a plan can also turn a challenge into a potential opportunity which can be availed to grow further and beyond. Secondly, The Estonian entrepreneurial ecosystem has been a huge driver of success for startups. Further, importance of internal structure of the startup team was found to have a huge impact on the entrepreneurial journey as well. Lastly, reacting to customer feedback during the early stages has been a huge facilitator of entrepreneurial journey towards growth and success.

Limitations of this research mainly consist of the struggle in acquiring/scheduling interviews with entrepreneurs and tech startup founding team members. This has undoubtedly been the biggest limitation which was experienced in the process of this research. Despite having accepted my invitation to an online interview during face-to-face meetings on events and telephonic calls, some individuals did not respond to the follow-up emails and interview invitations. There were plenty of potential interviewees with whom there was a significant communication gap and among them were some startup founders and team members which refused to be a part of the research at all. This did not facilitate the interviewing process but at the same time did not undermine it as well because the number of respondents which did take part were enough to elicit valuable information for the research.

In terms of theoretical contributions, I believe there were a few gaps in research which were bridged in this research focused on the features of entrepreneurial journey of tech startups. The need for having the roles defined within the company and not deviating from them has been deemed extremely crucial. The importance of having a balanced team comprising of individuals with the right skills and experience required for each role has been an addition to the existing literature. Furthermore, confirming the practicality of the feedback loops (Trabskaia & Mets, 2021), this research adds on to the importance of establishing a strong market presence as soon as possible using the feedback from the early users and tailoring the service to their needs and suggestions. This would ideally reduce the average time-to-breakeven and make the startup financially independent which would allow them to further expand their operations.

Managerial implications based on the findings of this research can be beneficial not only for entrepreneurs, but also for the relevant authorities and policymakers. This research developed entrepreneurial study to better understand the mechanism of tech startup development and growth during the entrepreneurial journey. Identification of the right entrepreneurial opportunities and matching them with innovative ideas through an efficacious utilization of resources can yield significant results and produce top-notch startups with a financially and intellectually healthy base. Furthermore, the entrepreneurs can take advantage of the interviewees' experience during the initial stages of choosing the team and hiring the right individuals. They must bear in mind that giving room to internal feedback to an extent is never a bad practice, but they should always be aware of the feedback which deviates the team and product from its original path towards a different one for which the team and startup itself is not yet prepared.

Future research which can be stemmed out from this study can focus on tech startups according to their field of operations e.g., healthcare technology, transportation, and logistics, fintech startups and so on. As observed in the interviews, each respondent answered questions within the context of their startup or company's field of activity. Many fields of technology have matured to a great extent and there has been a considerable amount of entrepreneurial activity as well as academic research specific to each area. Further research can be conducted in accordance with the different nature of each field and their individual entrepreneurial journey. Identifying and differentiating between the features of startups based on their core technology and field of work can be further investigated. Lastly, an underlying connection of features such as customer feedback, internal startup structure with the growth of startups is observed in several examples cited during the interviews. This remains a topic for further studies.

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APPENDIX A

Interview questionnaire

- The initial idea behind the product/service of your company was necessity driven, or opportunity driven?
- How long did it take for the founding team to launch this product/service in the market?
- What were the biggest hurdles faced during the early years and how were they dealt with?
- What were the company's main milestones?
- Was expanding beyond Estonia a part of the initial plan? If not, what led to it?
- Has the product/service changed from its initial design or concept? If yes, how? What caused this diversion/alteration?
- Do you think a major technological breakthrough may have an impact on your company's roadmap? If yes, how would your company respond? If no, why not?
- To what extent did the Estonian government's policies and incentives, if any, affected the growth of your company?
- To what extent is the Estonian entrepreneurial ecosystem related to opportunities and growth of tech startups in Estonia?
- What are the major and most frequent setbacks faced by your company (or a tech startup, in general)?
- Since initiation up until now, what tools have been used to measure the growth of your company?
- What qualities are necessary for entrepreneurs to be able to realize and exploit a new or existing opportunity?
- What are the most important features of a technology-based startup during its inception and growth phase?
- What features/attributes must a tech-startup possess in order to adapt to the rapidly changing environment in terms of tech innovation?
- What are the most detrimental factors which hinder the growth of a tech-based startup?
- What are the main features of a thriving startup in a competitive market?
- Can a tech start-up become profitable or break-even, sooner than expected? If yes, how?

APPENDIX B

Information of the companies/startups interviewed

1. Adcash

- Description: Adcash is a global self-serve online advertising platform for media buyers, affiliates, ad networks, and publishers.
- Sector: AdTech and Creative Technology
- Founded: 2011
- Employee count: 48

2. Fintech Market

- Description: Innovative Fintech Solutions on a SaaS platform for lenders, investors, and other financial service providers. They help companies challenge traditional banking with their SaaS solution.
- Sector: Financial Technology
- Founded: 2018
- Employee count: 11

3. Foxway

- Description: Make digital life easy in every step of the way with innovative solutions, services, and finances. Also provides services such as electronic asset management, retail buyback and electronic waste reuse.
- Sector: B2B tech consultancy and recommence
- Founded: 2014
- Employee count: 475

4. KappaZeta

- Description: KappaZeta develops applications to help making informed decisions using radar remote sensing data combined with AI. Provides solutions other businesses and the government of Estonia.
- Sector: SpaceTech
- Founded: 2015
- Employee count: 16

5. Playtech

- Description: Pioneers of omni-channel gambling offering seamless, anytime, anywhere gameplay. Provide services such as games design, software and services, and data-driven optimisation.
- Sector: Online gambling and gaming
- Founded: 2001
- Employee count: 614

6. Singularity Creations

- Description:
- Sector: Complete software product development.
- Founded: 2018
- Employee count: 22

7. Starship Technologies

- Description: Building robotic platforms designed to revolutionise the local delivery of goods.
- Sector: Transportation and Logistics
- Founded: 2014
- Employee count: 237

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19/05/2022