



Institute of Industrial Economics and Technology Management

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TITLE:

Startup Matrix

BY:

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SUMMARY:

People engaged in “traditional Innovation” in established companies and startups, may be the most important pioneers in the world, and it is crucial that they succeed as often as possible with their innovations to prevent catastrophic climate change.

Ideas multiply and pile up, and OECD continuously ask for more and faster innovation processes, but still more than 75% of all startups fail at some stage in the process, and this is a substantial problem.

I have decided to narrow the scope and investigate various innovation processes for Startups, to try to identify why they don't innovate faster, and succeed more often.

To investigate this I have made a “Structured Startup Process Matrix” (SSPM), based on existing theory, discussions with serial founders and practitioners, and my own experiences as a practitioner and serial founder. I have used a Participatory Action Research method, and a Qualitative method, to do this research.

I have interviewed two quite different Startups, and questioned and discussed with them by using the SSPM, to what extent the SSPM process may reveal strengths and weaknesses and help them to succeed.

Finally I compared and discussed the results of my findings, and concluded to what extent a process based on the SSPM may help Startups to innovate faster and succeed more often.

Research problem:

Too many Startups fail at some stage during the Startup process.

RESPONSIBLE TEACHER: Mentor, Professor Andre Liem.

SUPERVISOR(S)

CARRIED OUT AT:

SUMMARY

Research problem:

Too many Startups fail at some stage during the Startup process.

Due to my experience as a serial founder of startups since the 2000's , and as current founder and practitioner in Peel Startup Studio, I have read relevant theory and spoken with lots of stakeholders within the “innovation theatre” for many years. During these years I have seen a lot of startups fail, due to a myriad of reasons, both in Norway and internationally. When I studied at Massachusetts Institute of Technology (MIT) in Boston-US, one of my main reasons for studying there was to attend Professor Bill Aulet's class about an innovation process for startups. I was curious to find out whether such a process could prevent more startups from failing, and whether the process and his theory would support my own reflections about how to build an innovation process specified for startups with a holistic view of how to build a startup company.

Research aim:

I wanted to interview two startups, to find out to what extent they were aware of their strengths and weaknesses, because I assumed that they would not know.

Methods:

I used an Action Research method and Mixed Methods to investigate the research problem.

Results:

The startups were grateful for learning a lot during the research process, and they expressed that the Startup Matrix tool I used in the process was very helpful to them.

Implications:

Startups “don't know what they don't know”, and they don't know how to find out so they just head on in an unstructured way. The Startup Matrix that I made solved this problem.

Keywords:

Innovation processes, Startups, Startup Studio, Strategy, Startup-SWOT, Startup Tools.

PREFACE

Looking back, I really appreciate all of the insightful discussions that I had with Professor Andre Liem at the Institute of Design at NTNU, prior to starting at this master thesis. I learned a lot from him, and having him as a mentor during my master thesis as well has been a professional and developing experience for me. Thank you very much for giving me your time, I look forward to discussing innovation methodology, Startup Studio and design with you any time in the future.

After I started at these studies, I have also been fortunate to have several inspiring discussions with the program director Professor Arild Aspelund at the Institute of Industrial Economics and Technology Management at NTNU, and half a year of insightful “startup method fun” with Professor Bill Aulet at the MIT-Martin Trust Centre for Entrepreneurship during his class “Disciplined Entrepreneurship”. Having Professor Michael Cusumano as my mentor at MIT was an honor, with regards to his unique competence about innovation and outstanding network of world famous CEOs and researchers, and not least his ability to host the best innovation classes I have ever attended.

To be able to understand how thankful I am to my “Startup Family” that moved to the US with me, it must be seen with the “Covid-19 eyes” of the generations that actually experienced it. The day we had to leave the US due to Covid-19 to get the last plane to Europe, there was only one family (our) at Boston Airport, about 10 families when we came to Toronto Airport, about the same at Munich Airport, and at Copenhagen Airport we had to sleep alone at the airport when everyone including the guards left for the night.

Looking back, my family is a substantial part of this master thesis about innovation, and I am grateful to them for listening to all of my startup thoughts, and their helpful comments on innovation concepts and attitude towards helping me.

A relevant achievement to be mentioned with regards to this master thesis and my own background within the innovation environment is that I founded the first Startup Studio in Norway together with Line K. Ringvold and Bjørn Lianes in Trondheim in 2017 as “Peel Innovation Startup Studio”, and later on we established a subsidiary “Peel Innovation Inc” in Cambridge at MIT in 2019.

Until 2005 I served in the Military for 15 years including an international career, and education from the Cavalry Officers Academy and the Royal Norwegian War Academy, and due to that my own startup strategy and methodology in Peel Innovation Startup Studio is strongly inspired by military theory.

In 2005 my wife Line and I founded the Alba Group (PropTech, EduTech). At the time we had two children, and they soon became an active part of all of our projects, and within 2017 we had more than 150 employees in Norway and Sweden.

The startup journey with the Alba Group shaped our family, and in 2006 we had child number three in the middle of a high growth period of the company, but it was a hectic lifestyle that suited us. Due to our innovation focus, and future plans of proceeding to chase more startup journeys, we decided to enroll our children at Trondheim International School to become more internationalized and to get a “global” approach to learning. Thanks to my wife all of this was possible, because she decided to quit her day job, and join the startup journey. At the same time most of our friends and family did not understand our choices, but this is the kind of challenge a funder regularly meets and has to conquer.

In 2017 we had an exit from the Alba Group, and we decided to focus more on “innovation”, and less on real estate. Due to this, my family agreed to move to the US so that I could study at MIT and start Peel Innovation Startup Studio Inc. We planned to stay 4 years in the US, and my previous plan was to write my master's thesis there about Startup Studios, so all of us moved to US-Cambridge in Boston in August 2019.

In March 2020 all students and staff at MIT and Harvard had to leave **due to Covid-19**, and NTNU and the Norwegian Government advised us to return to Norway immediately due to a planned “international shut-down”, so we packed our bags within a week and returned to Norway with literally the last plane leaving the US.

The journey became hard, and full of memories, but also with a substantial learning curve for all of us both positive and negative. I am grateful for having my family with me, supporting me bravely, while they had their own challenges in a new environment at a school far from home with lots of academic and cultural variations. I must admit that it became a bigger challenge than I had planned for, getting through the studies at MIT next to handling the wellbeing of my family, the company, and the Covid-19 situation, but I really got what I came for, «-being a part of the international front-end of innovation!».

Suddenly being back in Norway writing my master thesis became more difficult, with regards to my original plan to write about startup studios. I had planned to do qualitative interviews with startup studios across the US while crossing over the US to California during 2020, but due to Covid-19 it became impossible to execute such a plan.

I discussed this challenge with my mentor professor Andre Liem from the Institute of Design, and we started analysing the business of startup studios to try to find a suitable task for the master thesis. Due to his academic approach and experience, he managed to advise and guide me to define a new master thesis “Can a startup studio improve a startup”, and he introduced me to the method “Action Research” so that I could include my own experience in the master. I am really grateful for the support and help that he has provided, and I am aware that his advice of using Action Research methods is academically anchored and more common at the Institute for Design than it is at the Department of Industrial Economics and Technology Management.

I would like to thank all the persons that I have interviewed, Stian Zimmermann Børresen and Sima Haddadin representing the two startups, and all of the employees in Peel Startup Studio in Trondheim-Norway, Line K. Ringvold, Bjørn Lianes, Knut W. Knutsen, Jan Lindvaag, Magnus Hoem Slørdal and Rune Schei, I could not have written this master thesis without your help.

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1 INTRODUCTION

1.1 What am I going to investigate?

In this master thesis I will focus on innovation with regards to startups, and the scope will specifically be narrowed down to how the startup process may be organized to help more startups to succeed.

In December 2020 Professor Tom Eisenmann at Harvard University explained why exactly 75% of all startups fail (Eisenmann, 2020) due to a variety of reasons during the startup process. I think it is possible to compose a startup process to help more startups to succeed, by generating a startup process based on leading startup theory, and the experience of skilled entrepreneurial inputs that startups may use to identify their strengths and weaknesses to reduce the risk of failure. In addition I think that skilled entrepreneurs in startup studios may contribute to making such a process, by providing a starting point for making such a process, based on their previous successful startups.

Despite the increasing number of startups, the exponential growth of ideas, and the need for startups to succeed to prevent climate change and to boost sustainable development according to OECD (OECD, 2007), it seems like startups struggle to innovate faster and succeed more often.

Nobel prize winner 2019 in Economics Paul Romer confirms that it is enough ideas, and he has also explained and been awarded for his important insights of the post-industrial era of economy, and the new Idea Economics.

“Every generation has perceived the limits to growth that finite resources and undesirable side effects would pose if no new recipes or ideas were discovered. And every generation has underestimated the potential for finding new recipes and ideas. We consistently fail to grasp how many ideas remain to be discovered. Possibilities do not add up. They multiply.”

(Koulopoulos, 2019)

In the perspective of OECD and Paul Romer, it is obvious that it is important for the world to innovate, and that it is enough ideas because they multiply as we innovate, so what are the obstacles with regards to *“innovating faster and succeeding more often”* that leads to such a high failure rate.

In the early stages of the emerging R&D innovation industry around 1979, when E. Ralph Biggdike wrote a well known article in Harvard Business Review about innovation,

(Mc Grath, 2012) he published his research on innovation in 68 ventures launched by 35 companies in the US. This part of the innovation industry originated from established companies with traditional R&D laboratories, and the theory regarding innovation in R&D departments is most lightly not suitable for startups.

The main reason for claiming this is the need for an holistic approach that covers all aspects and resources of the startup company to succeed, so it has to cover the two innovation processes of “developing the idea” and “building of the company”. The latter “building of the company” consists of many topics, and in the matrix I have described and conceptualized them to fourteen different topics:

- 1: Management-Board level.
- 2: Management CEO-level.
- 3: Market.
- 4: Sales.
- 5: Economy.
- 6: Accounting.
- 7: Finance.
- 8: Logistics.
- 9: Human Resources.
- 10: Administration.
- 11: Patents (IP)-Intellectual property (IPR).
- 12: Internationalization.
- 13: Communication.media.
- 14: Exhibitions.

This article in Harvard Business Review about “innovation strategy” in established companies, supports that the innovation strategy usually refer to “developing an idea”, and that its additionally several other parts of the organisation (the traditional company parts) that needs to be aligned with the innovation strategy:

“Finally, without an innovation strategy, different parts of an organization can easily wind up pursuing conflicting priorities—even if there’s a clear business strategy”.

(Pisano, 2015, 44-54)

Due to this I am going to study the other part of the innovation industry “the startups”, that had its origin in the Silicon Valley US in the 1980s, but startups didn't really become globally famous before it took off with the Internet and the .com wave in the late 1990s. It is especially important to understand that the consulting business, that usually served the large established companies with R&D innovation advice, used this opportunity to broaden their customer bank with startups as well as regular R&D customers, possibly misleading to the assumption that the methodology used in established companies could be used in “small versions of large companies” such as startups.

I don't think that startups are smaller versions of large companies. I believe that startups are unique and that we call them startups because they consist of an idea, and not a company, and that startups need a specialized process to be able to develop the idea and the company in parallel and turn it into an established company. This is what I will investigate.

1.2 Why am I going to investigate it?

The world is at an environmentally negative tipping point, and startups have an important role in finding the right solutions to help save the planet. Due to this, the startups have to innovate and succeed more often to find new and sustainable solutions, and additionally startups have to re-invent and re-design existing solutions and turn them into new innovations.

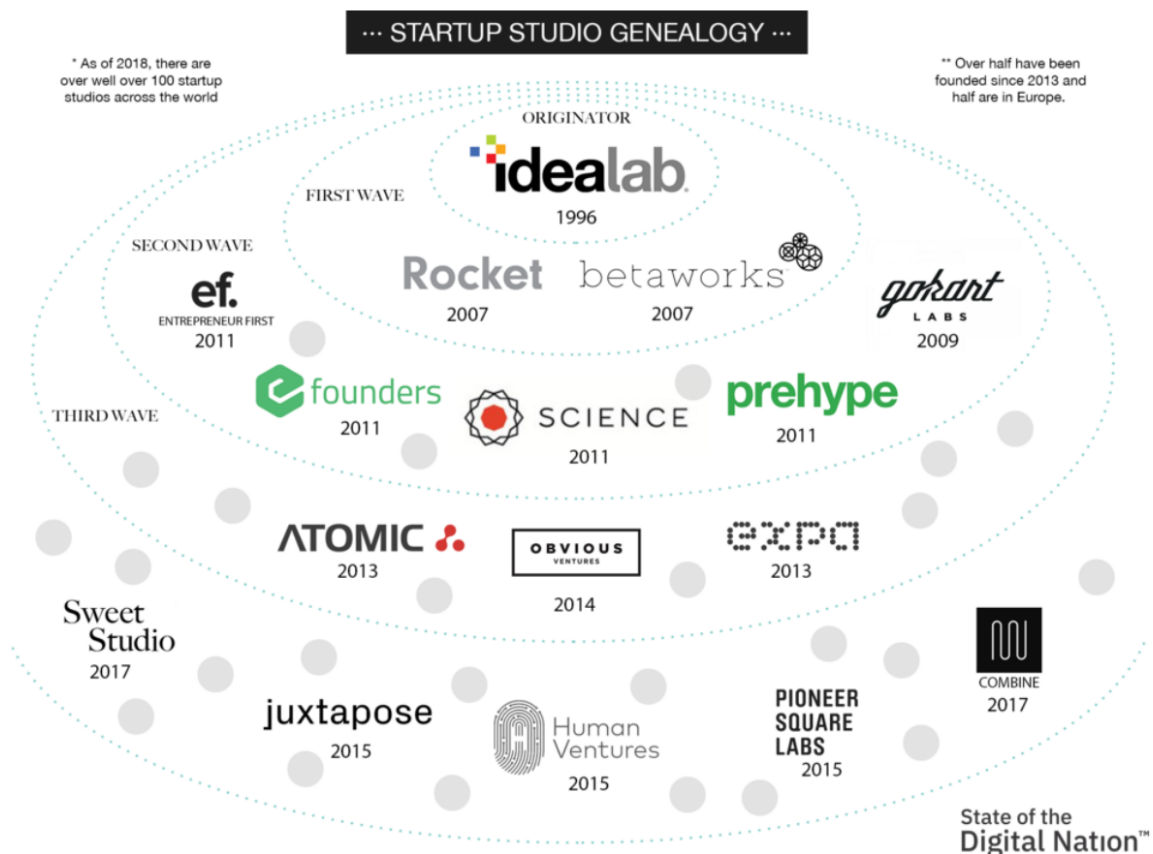
Fortunately the reasons why we innovate today has a broadened scope, so startups don't simply innovate because of the technology trend, but rather to solve human problems (<https://www.geekwire.com/sponsor-post/deloitte-fast-500-ceos-seattles-fastest-growing-companies-share-secrets-success/>), so the potential for Startups to contribute to make a better world is substantial.

Due to this, many Startup Studios use the methodology design thinking, to identify, ideate and create effectively:

“Design Thinking is a methodology used by designers to solve complex problems and find desirable solutions for clients. A design mindset is not problem-focused, it's solution focused and action oriented towards creating a preferred future. Usually, it involves a

company spending time with users to find out what their current everyday experiences are, and use those to find insights into what the real underlying challenges are and how they might be addressed”. (Skillicorn, 2017)

Looking at the Startup Studio asset class that slowly emerged in Silicon Valley in California, started by a successful serial founder Bill Gross in Ideo Lab in 1996 at the time of the .com wave, their numbers are impressive. The Startup Studio Idea Lab has produced more than 50 startups/companies (5 Unicorns) since 1996, with more than 45 IPO’s and acquisitions. In the figure “startup studio genealogy” below, you can see the emerging asset class, and it states that there were about 100 startup studios around the world in 2018, and Peel Startup Studio in Trondheim was established in 2017. A natural assumption is that they succeed with their second startup process because they learned the holistic approach of how to handle all aspects of succeeding with a startup during their first startup process, so their internal startup process probably contains critical competence that would benefit first time founders.



Startup Studio Genealogy: Jules Ehrhart (2018), “State of the Digital Nation 2020: Venture Road”,(Ehrhardt, 2018).

Comparatively to Ideo Lab, that has impressive numbers, the Startup Studio in general also produce interestingly good numbers world wide:

*“Startup studios are gaining steam across the angel investing landscape. With numbers like they are reporting, it’s easy to understand why. As the **Global Startup Studio Network (GSSN)** researched last year, the early signs of studio data are just the beginning for the growing expectations. **Eighty-four percent of startups coming out of studios go on to raise a seed round.** Of those startups that make it to the seed round, 72% advance from seed to Series A, compared to only 42% of traditional startups”.*

(Zasowski, 2021)

This makes me wonder why the startup studios seem to succeed quite often, and if they may have found a startup process that is especially successful, and whether the process may be revealed in a cooperation with first time startups to reinforce them and help them to succeed. This is why I will investigate it.

1.3 How will I investigate it?

Research problem and questions:

My reflection is that one of the main reasons why many startups fail at some stage during the startup process, is that they have problems identifying their status measured against a structured startup process, and due to this they are not able to build a strategic framework to develop or adjust their future strategy and reduce the risk.

To be able to delimit the “status” of a startup and identify their strengths and weaknesses, with regards to what stage the startup is at the present time during their startup journey, I will investigate the two processes that a startup consists of. The first is the development of the idea, and the second is how to build the company. I have called the process of developing the idea “Funnel”, and the process of building a company “Matrix”.

To be able to intervju the startups regarding their process, I have made a matrix framework, based on leading theory regarding startup processes from Massachusetts Institute of Technology (MIT), Stanford University, IdeoLab Startup Studio, Peel Startup Studio and my own experience as a serial founder.

I want to investigate if the result of the matrix may be used to make a “Strategic Holistic Guideline for a Startup process”, that may enable startups to reveal their strengths and

weaknesses, and make a reliable analytic foundation for their strategic process to innovate faster and increase their chance of success.

My investigation matrix design will consist of two stages, 1) the startup scores themselves by answering the questions in the matrix, and 2) the startup and I discuss the startups answers, and add my competence during the discussions so that I may score myself. The accumulated deviation of the scores, and the startups final reply on the reflection scorecard, is what I will investigate in this master thesis to see if this may reveal new knowledge regarding the startup process.

Master thesis design on how I plan to investigate and complete the master thesis:

This is my visual overview of my research design:

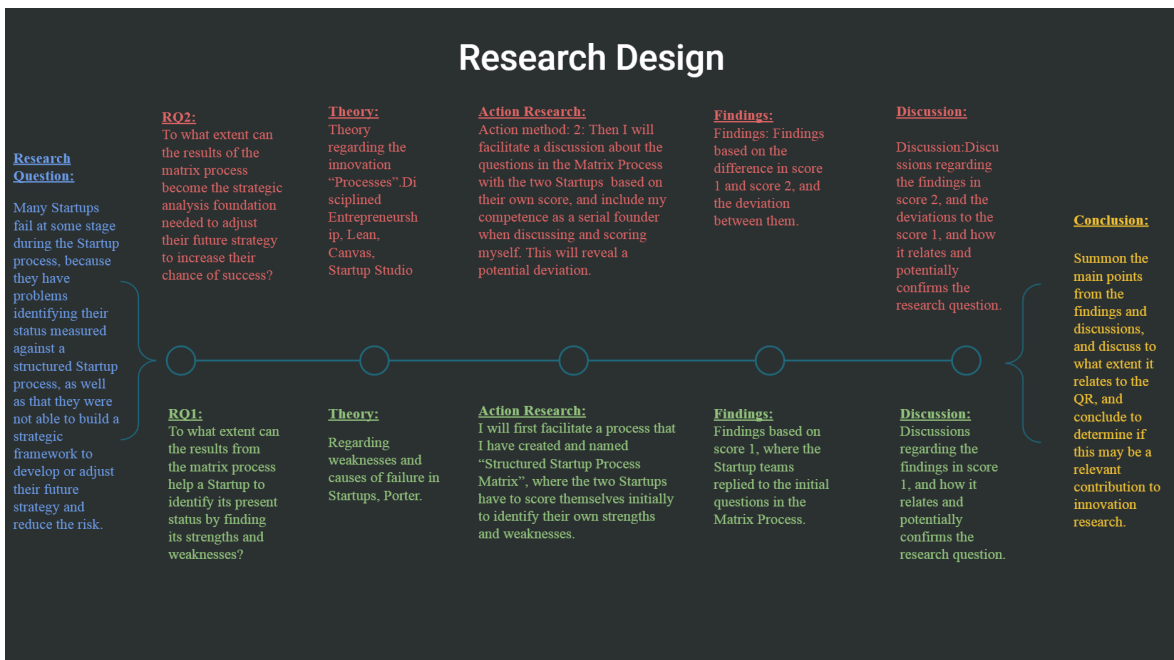


Figure: Research Design.

The text below is the highlighted text in colour on the figure "Research Design".

RQ:

Many Startups fail at some stage during the Startup process, because they have problems identifying their status measured against a structured Startup process, as well as that they were not able to build a strategic framework to develop or adjust their future strategy and reduce the risk.

RQ1:

To what extent can the results from the matrix process help a Startup to identify its present status by finding its strengths and weaknesses?

Theory:

Regarding weaknesses and causes of failure in Startups, Porter.

Action method:

I will first facilitate a process that I have created and named “Structured Startup Process Matrix”, where the two Startups have to score themselves initially to identify their own strengths and weaknesses.

Findings:

Findings based on score 1, where the Startup teams replied to the initial questions in the Matrix Process.

Discussion:

Discussions regarding the findings in score 1, and how it relates and potentially confirms the research question.

RQ2:

To what extent can the results of the matrix process become the strategic analysis foundation needed to adjust their future strategy to increase their chance of success?

Theory:

Regarding the innovation “Processes”. Disciplined Entrepreneurship, Lean, Canvas, Startup Studio

Action method:

Then I will facilitate a discussion about the questions in the Matrix Process with the two Startups based on their own score, and include my competence as a serial founder when discussing and scoring myself. This will reveal a potential deviation.

Findings:

Findings based on the difference in score 1 and score 2, and the deviation between them.

Discussion:

Discussions regarding the findings in score 2, and the deviations to the score 1, and how it relates and potentially confirms the research question.

Conclusion:

Summon the main points from the findings and discussions, and discuss to what extent it relates to the QR, and conclude to determine if this may be a relevant contribution to innovation research.

The results from this master thesis may give startups a better understanding of how to increase their speed and chance of success by using the matrix as a “Strategic Guideline” to structure their startup journey, and hopefully they may succeed more often.

2 THEORY

2.1 Historic background within the field of “innovation”

The strategic historic traces within innovation, especially the open innovation strategies that are core to startup studios, can be traced far back in time all the way to the Roman-empire. In such a context people had to collaborate under hard conditions to survive, and to develop their society, and basically we are trying to do the same today.

Defining the innovation process is challenging, due to its content that is based on the combination of art and science, and the two very different perspectives they represent (Kubota, n.d.). In the perspective of “art”, that is hard to define (*The Definition of Art (Stanford Encyclopedia of Philosophy)*, 2007) the innovation process would preferably be flexible and with a holistic approach with no framework, but in the perspective of science the innovation process would preferably be limited by a rigorous framework, so the solution with regards to an innovation process for startups is probably found somewhere in the middle.

Some companies succeed with their innovation process, and when they do, “it's a newness”. Through history from the 13th century events such as “a newness”, were associated with “dark destructive forces” within the religious circles, probably because it was some sort of component within the “newness” that they could not explain.

“According to Godin, (Green, 2013), innovation is the most late-blooming incarnation of previously used terms like imitation and invention. When “novation” first appeared in the thirteenth century within law texts as a term for renewing contracts, it wasn't a term for creation - it referred to “newness”.

During the merger of the Industrial Revolution that started in the US around the 1760's (*Industrial Revolution*, n.d.) the term “newness” was shifting to the term “invention”, usually related to inventions within the science industry. During this period the companies

struggled to bring the “invention” to the markets, and economists started to discuss the phenomenon.

In 1939 the Austrian economist Joseph Schumpeter was quoted in an article (Pacher, 2015)

"Surely, nothing can be more plain or even more trite common sense than the proposition that innovation [...] is at the center of practically all the phenomena, difficulties, and problems of economic life in capitalist society."

And in another quote from the same article:

"So wrote the economist Joseph Schumpeter, who is often called the "father of entrepreneurship" or the "father of creative destruction," about innovation as outlined in his book "Business Cycles: Theoretical, Historical, and Statistical Analysis of the Capitalist Process" which was first published in 1939".

So his legacy within the creation of an innovation process, necessary in an established company to be able to invent something and get it to the markets, was formulated like this:

"He defined invention as an act of intellectual creativity undertaken without any thought given to its possible economic import, while innovation happens when firms figure out how to craft inventions into constructive changes in their business model". (Pacher, 2015)

What's interesting is that Schumpeter is actually looking at this as two separate processes, one process that contains the invention and the intellectual idea, and another that contains the process of how to craft the invention into constructive changes in the business model.

Other relevant articles from professor Joseph A. Schumpeter:

"In hindsight from this moment in time, I think it is reasonable to determine the term "innovation" to be defined around 1939, and that the definition basically was based on business theories by economists without focusing on science or art. Due to this, I find it relevant to see economy, science and art as central parts of an innovation process".
(Pacher, 2015)

Professor Schumpeter seems to find it relevant to define the modern way of defining “innovation” to be in 1939, and he also adds another layer to his opinion of the term when he includes economy, science and art in it. This is another opinion that both the Lean

strategists and the strategist Sun Tzu had, and this seems to me to be a reasonable and broader definition.

“If the theories regarding innovation processes are not clear on whether the innovation process is located within an established company or within a Startup, the theories must become unclear”.

(Pacher, 2015)

Later on I found a paper “Innovation: The history of a category” written by B. Godin (2008), that questions whether it is correct to call Professor Joseph Schumpeter “the father of entrepreneurship”, due to a finding in the same article.

B. Godin suggests that “the origin of systematic studies of “technological innovation” owes its existence to the economist W. Rupert Maclaurin from MIT”, because professor Maclaurin had developed professor Schumpeter's theories further, and proposed a specific theory for “technological innovation” (science).

Professor Maclaurin worked at MIT (Massachusetts University of Technology) in the 40`s and 50`s, but he had studied business at Harvard Business School prior to working at MIT as an economist amongst the MIT Engineers. This was probably the reason why he discovered the need for a more specific technological innovation process, where the R&D (Research and Development) department needed to be more closely integrated with the rest of the company to be able to bring a new product to the market.

My impression is that all of this builds on an assumption of how innovation is executed in the R&D departments in established companies, rather than an assumption of two kinds of processes necessary to facilitate innovation in both R&D departments and in startups.

If the theories regarding innovation processes are not clear on whether the innovation process is located within an established company or within a startup, the theories must become unclear.

It seems like leading theories within economy and science regarding innovation from the 1950`s, until 1990`s when the .com and startup era really started, are based on an assumption that innovation could only be facilitated in established companies and that startups could use the same theories and methodologies.

Before I continue I will elaborate around the term “innovation” with regards to entrepreneurship from a historic perspective, and later I will narrow down my theory scope and focus only on theory for startups.

I find the perspective of thinking about “innovation” as the process that describes the necessary process needed to succeed on the one hand, and on the other hand the necessary skill set needed to execute an innovation process to succeed, to be of central importance. I find that the complications regarding the two perspectives, and the difficulties of handling this for established companies must have been a substantial challenge, and an insightful article is published with regards to this topic:

“During the 1940s and 1950s business historians pioneered the study of entrepreneurship. The interdisciplinary Center for Research on Entrepreneurial History, based at Harvard Business School which included Joseph Schumpeter and Alfred Chandler, and its journal Explorations in Entrepreneurial History were key institutional drivers of the research agenda. However the study of entrepreneurship ran into formidable methodological roadblocks, and attention shifted to the corporation, leaving the study of entrepreneurship fragmented and marginal. Nevertheless business historians have made significant contributions to the study of entrepreneurship through their diverse coverage of countries, regions and industries, and – in contrast to much management research over the past two decades - through exploring how the economic, social, organizational, and institutional context matters to evaluating entrepreneurship”.

(Jones & Wadhvani, n.d.)

The field of “innovation” is broad and complex, and the literature is deficient in some perspectives, such as the perspective of design thinking methodologies. Design thinking has developed rapidly the last two decades, and is often used in Startup Studios as an important “tool-box”, but a lot of research on how to use these tools remains within this field:

“The Journal of Product Innovation Management (JPIM), for example, recently devoted two special issues (Vol. 22, January 2005 and March 2005) to the relationship between design and product innovation (and in particular to the interactions between marketing and design). These seminal contributions have started to give a more grounded theoretical basis to the field of design management, which was almost completely uncovered by scientific research. Yet this is only a starting point of a long research path whose major puzzles still remain to be solved”.

(Veganti, 2008)

The essence of this is that the variety of ways that is offered to succeed with innovation is huge, and it has developed rapidly since the 2nd World War, and especially after the Internet was launched, and it's important to know that many tools being used are not necessarily anchored in a proven theory yet.

On the other hand there are some leading international theories regarding how innovation is executed in startups today (2021), that actually take into consideration that their innovation process is facilitated in a startup. I will elaborate more about these theories that may be used by startups later on.

I have read all of the following innovation theories, and they seem to be made for innovation strategies in established companies, but some of them are relevant for startups in some degree:

“15 most important Innovation Theories your company should be using”
(Skillicorn, 2017)

Established companies can base their analysis and innovation management processes on their company history, previous experiences, common innovation R&D theories and processes, and research published by academia since the 1950`s. This probably gives them the ability to make reliable analysis and strategies to build their companies according to best practice processes.

It is likely that it is problematic for established companies as well to analyze their companies to determine their strategic goals, even if they have already built the basic strategic framework necessary, but for startups this is a very different process.

As I see it, a startup consists of an idea and a process where someone has to build a company to facilitate the idea, and that is why I use the term “status” with regards to the progress of building a Startup. I will elaborate a bit to clarify my point, and in the matrix I have described and conceptualized them to fourteen different topics:

0: The “Funnel”. This is about the process that contains the complete analysis of the idea and “idea development”, and in the Matrix I have treated this part as an initial discussion about the idea, just to isolate it and underline that the rest of the matrix is the other process of building a company.

1: Management-Board level. If a startup doesn't know how to run a company according to the laws, how to handle investors and shareholders, make strategies, and handle this by being available to the CEO 24/7, they will get in trouble.

2: Management CEO-level. The CEO and chairman of the board is hopefully the same person for quite some time in a startup, to be able to handle fast and be agile, and all kinds of trouble and opportunities they get into day by day.

3: Market. If no one knows anything about the market, and you don't have money for consulting or reports, someone has to learn how to handle data analytics themselves. This is often handled too late, because sometimes people tend to think that market comes after the product is made.

4: Sales. Many people find this to be the easy part, until it's too late.

5: Economy. If you are not educated you get in trouble, and if you are educated you will probably give wrong advice because you don't know startups.

6: Accounting. People think they can do this themselves, until a Due Diligence shows that you were wrong.

7: Finance. You can pitch all day long and not get any investors, but if you get the investor deck right you stand a better chance, and this is a tribal language one has to learn. Networking is also an art of diplomacy that you may benefit from learning, but it's seldom knowledge to find in school.

8: Logistics. Can you pack it so it doesn't break, ensure it so you get your money back, handle tax, integrate instructions, grafics, it's a lot, and when something goes wrong on someone else's shore can you fix it fast.

9: Human Resources. Can you handle people according to the law so you don't get in trouble, and can you handle people so they want to work for you and stay forever.

10: Administration. This is the most important thing in a startup, and you guessed it was the idea, well maybe you are right, but I would challenge you.

11: Patents (IP)-Intellectual property (IPR). This is a topic that reminds me of a "squid", and remember that a squid has many legs but they can also bite your finger off. A lawyer is not enough to cover this, it has to be the right person, and it may not be a lawyer.

12: Internationalization. Can you do everything above in any country, and travel tomorrow to do it.

13: Communication.media. Dont smile as much as you can in a picture just because you did that as a child, use half a smile, because the journalist will use the same picture whether it's a positive or a negative article, learn the game.

14: Exhibitions. Sounds easy, but it's not, and it's a lot of work before, during and after to be taken care of, and it will inflict on your daily operations.

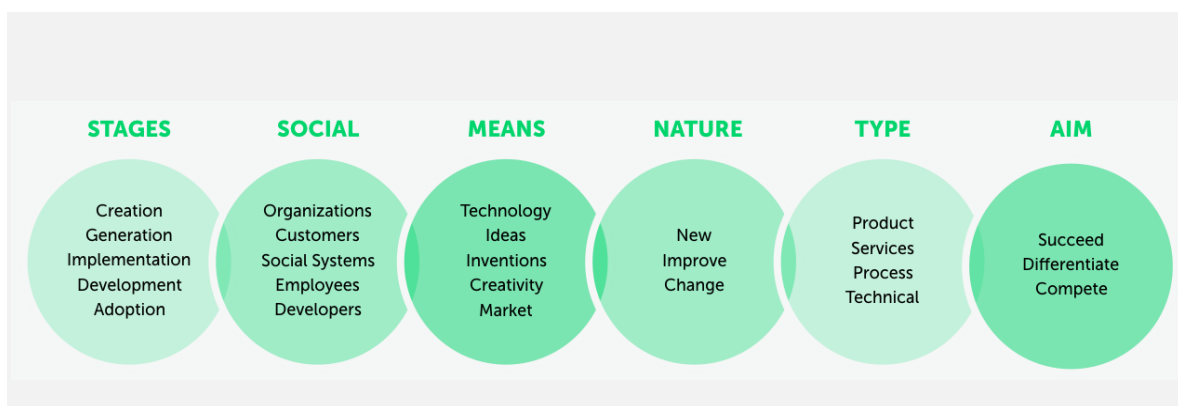
This was on “top of my mind”, just as an example of little time we have to do a lot of things, and we are usually just 1-3 persons when we start so that's why we call ourselves “Venture Builders” when we work in a Startup Studio.

2.2 Definition of the “Innovation process”

I will highlight this extensive discussion regarding terminology and the definition of an “Innovation process”, by focusing on discussions and reflections amongst leading researchers within the field, and try to summon up the debate and decide what definition I will use in this master thesis.

According to Dr Baregheh it doesn't exist one true definition of innovation that fits all, (Tarnawska, 2019)

Innovation has stages (from creation to adoption), social stakeholders (internal and external), means and tools (as well technology as creativity), main aim (to compete, differentiate or simply success) and can focus on different areas (product or service, process, technology). What is most important is the nature of the innovation — that it always should lead to creating something new, improving and changing the current status quo (Schumpeter cited by Pavie and Carthy, 2015).



Source: A diagrammatic definition of innovation by Baregheh et al., 2009

So I interpret Dr Baregheh to define the innovation process to be a process within a company that contains six stages, regardless of the status of the company as an established company or a startup.

I have decided that I need to have a definition of the “innovation process” that I may use when I conduct my research on startups to be able to get more specific data, and it needs to address startups directly, so I have found another and more suitable definition.

Professor Amabile offer a rather holistic perspective on the “innovation process”, that I find relevant, and I choose to use this perspective of looking at innovation in this thesis:

“First, the model assumes a high-level isomorphism between what's needed for individual creativity and what's needed for organizational innovation, because both produce something new. For both processes, three components are needed: basic resources or raw materials, a set of processes or skills for combining them in new ways, and a driver. Second, as noted, the model assumes that individual creativity and organizational innovation are inextricably linked. Specifically, the creativity of individuals and teams feeds organic innovation within organizations. Without creative ideas, there is nothing to implement”.

(Amabile & Pratt, 2016, 157-183)

My interpretation of this is that there are two separate processes that have to be run in parallel to succeed, one is the process of creativity that feeds the organisation with ideas, and the other process is the innovation organisation that executes the innovation process. In a startup you have none of these two processes in place before you get an idea, unless the idea is created in a Startup Studio.

With regards to the definition of “innovation process” made by Amabile and Pratt, I will make a restriction to emphasize the focus I have on startups and not on large companies in this master thesis, and I quote serial entrepreneur professor Steve Blank at Stanford University to underline my focus,

“a startup is not a smaller version of a large company” (Blank, 2010).

I have made a figure (1A below) based on a similar perception, that visualizes the two perspectives 1) Established company to the left, and 2) a startup to the right, to visualize the distinctive organisational differences.

The startups actually have to build a company as a part of their innovation process in parallel to developing the idea, so the risk of failure is probably much higher than in an established company.

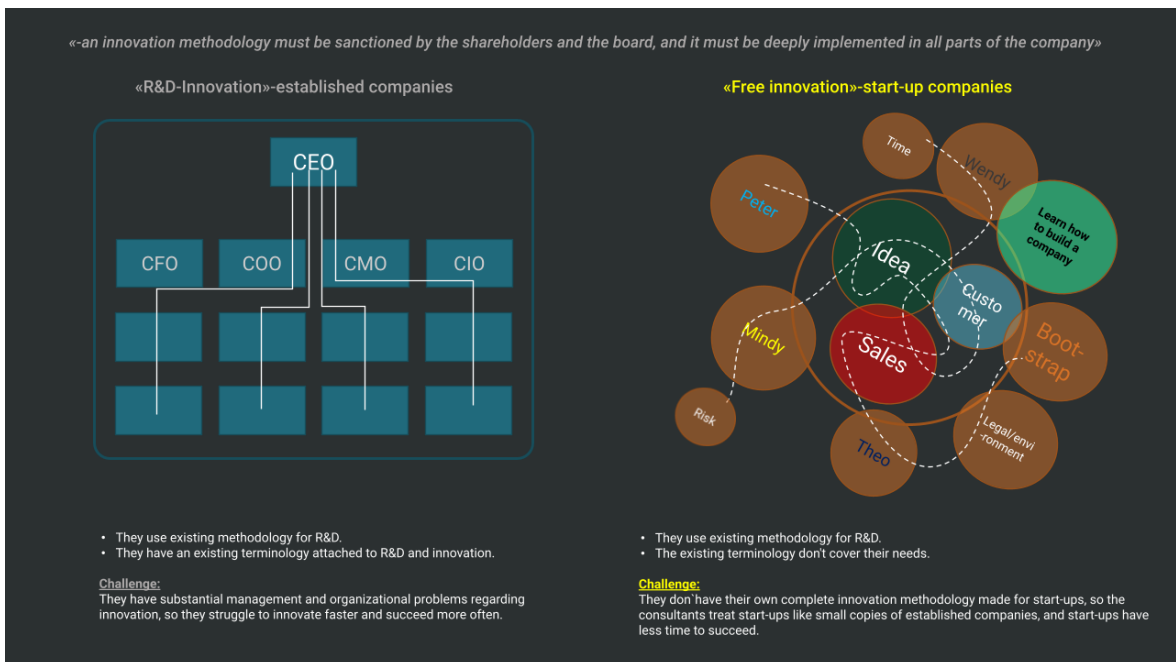


Figure 1 A.

According to figure 1A, it seems reasonable that the “innovation process” cannot be similar in these organisations based on the very different framework they operate within.

I will use leading and relevant theory on methodology for the “innovation process” to be able to compare and discuss my findings from the interviews.

2.3 Theory regarding “Innovation process”

Background:

On the figure below you can see a list of functional areas of a business, that is theoretically necessary to build viable company, and this is a common model in most areas of the world today:



Figure B: (Sevilla, 2015)

In a specific business it may vary what parts of these business functions you need, depending on the type of business you operate in, and whether you produce a service, software, product, or a combination. Either way, the essence of the concept is that all kinds of businesses are basically built the same way, regardless of what they produce. I have used this as a reference, and discussions with the Venture Builders in Peel Startup Studio, when I made the matrix that I have used when researching the research problems and questions.

However, to be able to execute an innovation process in a Startup, it is an additional complexity the process needs to consider and integrate. As previously referred to, “*A startup is not a smaller version of a large company*” (Blank, 2010), and I interpret that as if he says that you have to develop both the idea and the business model at the same time. The innovation process has to integrate both “the building of the company”, as an integrated part of the innovation process, and development of the idea.

Due to this, I have tried to find leading innovation theories that cover the innovation processes for startups, where the goal is to build startups by developing the idea and building the company in parallel.

I have done a broad international search for literature review of theories related to innovation processes for startups, and it is mainly at the universities located in the two leading innovation areas in the world, the east and west coast of the USA, that I can find complete theories that are relevant. In the list below I have highlighted some of the

innovation theories that I have evaluated and compared, and I have had several meetings with Professor Bob Moesta (his late companion/friend was Professor Clayton Christensen) and discussed his perspective, and it is a lot of relevant theory on the list but none that is complete for an holistic approach of building a startup.

The theories I have evaluated is:

15 most important Innovation Theories your company should be using

- 1: Jobs to be Done (Professor Bob Moesta)*
- 2: Ten Types of Innovation*
- 3: Three Horizons*
- 4: Portfolio Management*
- 5: Design Thinking*
- 6: Business Model Canvas (Professor Alex Osterwalder)*
- 7: Lean Innovation Management (Professor Steve Blank)*
- 8: Effective Brainstorming*
- 9: Understanding the science of creativity*
- 10: Open Innovation, Crowdsourcing and Idea Management*
- 11: Ambidextrous Organisations / Dual Innovation*
- 12: Disruptive Innovation (Clayton Christensen)*
- 13: Budgets for Micro-Innovations*
- 14: Building a Culture of Innovation*
- 15: TRIZ*

(Skillicorn, 2017)

Due to this I have used parts of my findings at the list, but mainly a theory that is not on the list, made by Professor Bill Aulet.

At the East-Coast of the US, at Massachusetts Institute of Technology in Boston, professor Bill Aulet has made a theory for innovation processes called “Disciplined Entrepreneurship”.

At the West-Coast of the US, at Stanford University, Professor Steve Blank has made a theory for innovation processes called Lean startup theory.

Except for these two theories, CEO Bill Gross, the founder of the first startup studio in the world and located in California in 1996, has started and succeeded with an extraordinary number of startups. Startup studios is a very practical and creative environment with “Venture Builders” with similarities to artists, with a mosaic of scattered theoretical articles being published, with regards to how each startup studio is organised and works. Due to this, it is hard to describe the way they work in a startup studio, because they don't follow a commonly known and explicit theory for innovation processes for startups like Professor Bill Aulet and Professor Steve Blank pursue.

Dianna Lesage is genuinely interested in how the innovation processes for startups in startup studios works, with regards to theories, so I will use some of the articles she has written and some of the thoughts of CEO Bill Goss that I find relevant.

Another and different perspective on “innovation” is the “Business Model Canvas”, made by Professor Alex Osterwalder at Harvard University, focusing on the innovation of the business model itself from an economic perspective, that is an important piece of the puzzle for startups in an innovation process.

In the following I will highlight some of the theory:

East-coast USA, Massachusetts Institute of Technology (MIT).

At MIT they have a center for entrepreneurship called “The Martin Trust Center for MIT Entrepreneurship” (MIT, n.d.), where they focus on the innovation process, and the Principal there is Professor Bill Aulet who is also a successful co-founder of 4 startups.

When I studied at MIT in 2019, I was a student in Professor Bill Aulet's innovation process class called “Disciplined Entrepreneurship”. It lasted two semesters, where we studied and practically rehearsed with our teams in real US Boston business environments on how to execute Professor Bill Aulet's theory described in the book (2013) “Disciplined Entrepreneurship” (Aulet, 2013, #), with support of the “Disciplined Entrepreneurship workbook” with lots of practical examples and templates that we used.

The content of “Disciplined Entrepreneurship” is an innovation process described as the 24 steps to a successful startup, and it focuses on an overall explicit innovation process for startups in a US context that the startups have to execute to succeed.

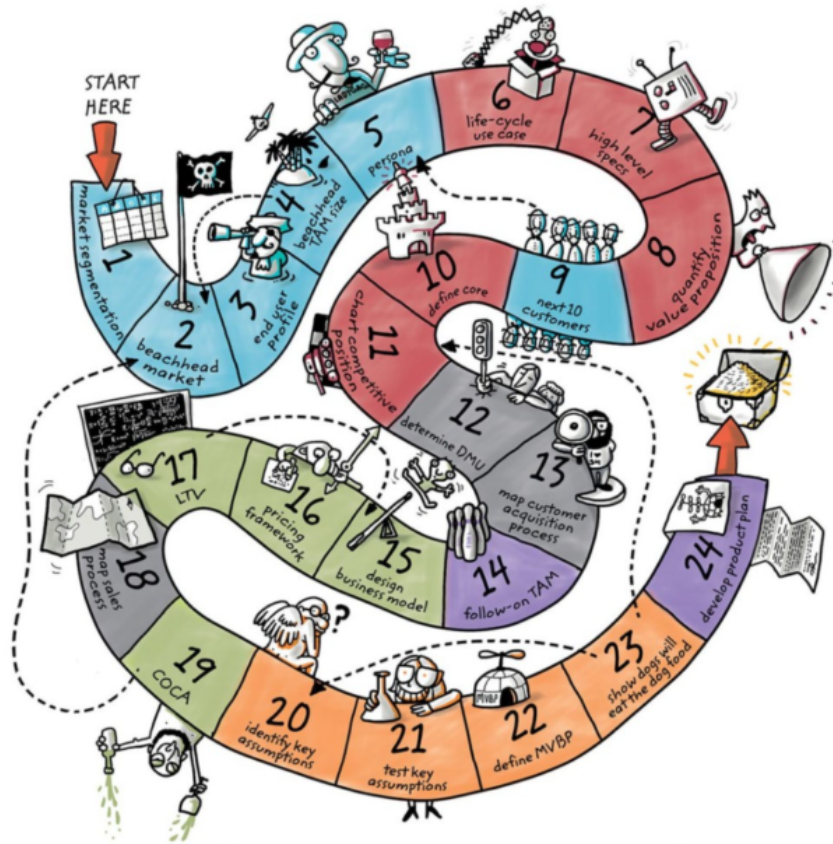
Professor Bill Aulet emphasize a very important reflection in the preface of his book , (page: xiii):

“As an entrepreneur, I have found many sources to be helpful, from books to mentors, and most of all, my own experiences. However, I haven't found a single source that pulls everything together and does it well”.

Professor Bill Aulet argues that all of the most relevant publications need to be integrated in a disciplined innovation process for startups, to enable the startups to benefit from all of the great research that has been produced.

In “Disciplined Entrepreneurship” professor B. Aulet, starts off by underlining the chaotic innovation process by making a picture of the 24-steps he focus on, visualizing that it is a start and end point, but the process in between is not specific and linear, but it may still be disciplined and he sees that as a key to succeed:

“Disciplined Entrepreneurship model of 24-steps”, by professor Bill Aulet (Aulet, 2013)



The 24-step innovation process for startups consists of six modules, and in module 1: “Who is your customer?” Professor Bill Aulet starts off by focusing on “Market segmentation”, by analyzing the market based on an idea.

In the following modules he focus on:

- 2: What can you do for your customer?
- 3: How does your customer acquire your product?
- 4: How do you make money off your product?
- 5: How do you design and build your product?
- 6: How do you scale your business?

Professor Bill Aulet tries to integrate these kinds of relevant publications along the way with the 24-steps, to reinforce and inform the disciplined startup innovation process:

Geoffrey Moore:	Crossing the chasm
W. Chan Kim and Renee Mauborgne:	Blue Ocean Strategy
Brian Halligan and Dharmesh Hah:	Inbound Marketing
Steve Blank:	Four Steps to the Epiphany
Eric Ries:	The Lean Startup
Ash Maurya:	Running Lean
Alex Osterwalder and Yves Pigneur:	Business Model Generation

This is what professor Bill Aulet calls “Disciplined Entrepreneurship”, but as you can see from the figure “Disciplined Entrepreneurship model of 24-steps”, he emphasizes that the execution of the process looks chaotic and it is not linear as you may intuitively think when hearing the name of the process “Disciplined Entrepreneurship”.

More precisely, he says that you have to start on step one, and you have to stop on step 24, because at step 24 you are ready to pitch for your first investors in a seed round. So the discipline lies along the track of doing all the steps and not quitting when you have started, and integrating action and theory while executing.

A day at school in Professor Bill Aulet’s class is usually like this, I will give an insight to some of the steps in class:

Example of connection between theory and action:

Professor Bill Aulet’s first lesson in class at MIT starts with ideation, and all of the 60 students from all over the world that have been accepted, have filed a list with 20 ideas prior to the first lesson.

Then it is an ideation “swirm”, that ends with 12 ideas being selected, and we ended up with this idea in my team:

High Level Product Specification



By attaching a sensor to the lobster trap which, in turn, is attached to a rope with an electric cable inside that goes all the way up to the buoy ...

... we are able to collect and process data lobster's locations from all devices under the sea...



... and make it available to lobster fisherpeople, who would know exactly where the most prosperous lobster concentrations are.



My team chose to work with an old idea of mine that is based on digitisation of lobster traps at sea, to make the fisheries more effective, and sustainable. The idea is to enable the fishermen to use it on their phone or lap-top when they have caught a lobster so they can fetch it, and at the same time enable for instance high-end restaurants in New York close by that they may order the lobster.

This is our team AITRAP (Artificial Intelligence Trap):

Theory: Process of making startup teams

Who we are



Henrique Daniel
MIT Sloan VF '20
EY
MS in Economics and Finance
Brazil
Beach lover



Gaute A. Ringvold
MIT Sloan VF '20
CEO Peel Innovation Inc.
War Academy/Major
MS Real Estate Dev
MS Innovation/Tech
Man
Norway
Born by the sea



Yohei Fujii
MIT Sloan MBA '21
Bain & Company
MS in Computer Science
Japan
Loves seafood



Siyuan Xi
Harvard M.Arch '20
DJI | WeWork
BS in Aerospace Engineering
China
Loves water



Iris Lin
MIT Sloan VF '20
Citibank | Tag Asia
MBA, BBA in Financial Management
China
Loves ocean

Another class was about market segmentation:

After reading theory about market segmentations, we all had to make one for our startup. When we had done that, all of us had to call to all kind of segments all over the US to search for information:

Market Segmentation Analysis

	Lobster/Company/New England	Crab/Company/New England	Lobster/Single Fisherman Company/New England	Crab/Single Fisherman Company/New England	Lobster/Private/Massachusetts/Close to Shore	Crab/Private/Massachusetts/Close to Shore
End user	Lobster Companies (e.g.)	Crab Companies (e.g.)	One-boat fishermen	One-boat fishermen	Recreation Boat Companies/Individual Boat Owners/ Boat Rental Companies	Private Tour Companies/Individual Boat Owners/ Boat Rental Companies
Task/Application	Counting lobster in trap, or other sensors.	Counting crab in trap, or other sensors.	Counting lobster in trap, or other sensors.	Counting crab in trap, or other sensors.	Recreation, and educational.	Recreation and educational.
Benefits	More precise and efficient fishing, and sustainable.	More precise and efficient fishing, and sustainable.	More precise and efficient fishing, and sustainable.	More precise and efficient fishing, and sustainable.	More entertainment of catching lobster, More data harvest from individual fishing activities.	More entertainment of catching lobster, More data harvest from individual fishing activities
Urgency of Needs	6	4	1	2	3	5
Example End Users	<i>Narrogansett Bay Lobsters Inc</i>	The Atlantic Red Crab Co.	Individuals/Families	Individuals/Families	Individuals	Individuals
Willingness to Change	<i>High</i>	Medium	Very High	High	Medium	Medium
Concentration of Buyers	<i>Low</i>	Low	High	High	Medium	Medium
Size of market (# of end users)	10k	8k	15k	12k	15 million	10 million
Est. value of end users (\$billion)	3	2.4	4	3.2	45	30
Competition	Relatively High	Medium	Relatively High	Medium	Medium	Medium
Approachability	Hard	Hard	Medium	Medium	Easy	Easy

Get to know your customer

Once we had done the market segmentation, we made a set of assumptions about our market and the customers, and the theory “Crossing the chasm” becomes highly relevant when you actually have to take an Uber downtown Boston and wander around at the docks for days in search of information by talking to your customers.

Test key assumptions

#	<u>Empirical test:</u>	<u>Related assumptions:</u>
1	Sit at the pier and interview and investigate how much Lobster the fishermen gets, compared with their expected catch that day?	Over 80% of lobster fishermen think it's hard to find the Lobsters?
2	Say that you have a Lobster map, that will enable them to find the Lobsters, and ask if they will buy it with \$100/month?	Within that 80% of Lobster fishermen would like to pay \$100/month for a software to locate the Lobsters
3	Ask them if they buy buoy and traps for \$1,000 as an initial cost	Over 80% of lobster fishermen are eager to purchase buoy and trap if it helps with \$1,000
4	Ask fishermen if they usually share their location where you got a lot of lobsters	80% of lobster fishermen don't mind sharing their lobster location data to other fishermen
5	Call fishermen in Florida and California and conduct interview	Lobster fishermen outside Maine also have the same pain points

We walked around all over Boston and talked to potential customers like fishermen, fishing agents, fishing producers, fish retailers, fish controllers and everyone that could be a stakeholder that we needed to understand.

You cannot see it in the picture, but it has a strong smell, heavy and noisy machinery, hard environment and is dangerous at night, but usually lots of nice and interesting people.

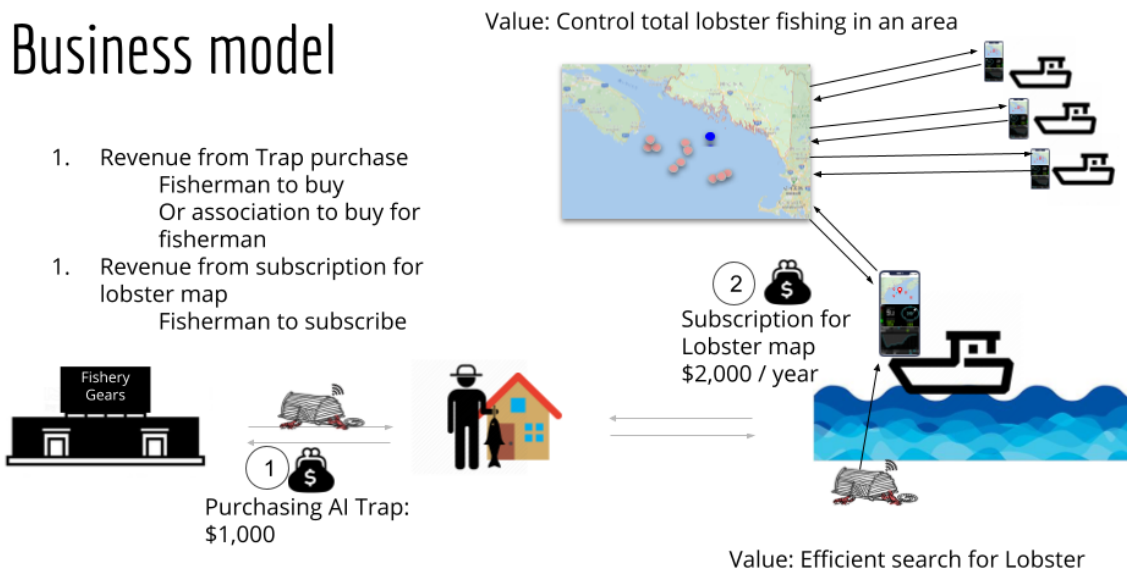
PMR Overview



Full life cycle use case

We made a business model assumption, and then we found our first ten customers and spoke with them to verify our thoughts, and to try to find a good pricing model. Basically the Business Model Canvas, but we tested everything live in Boston City.

Business model

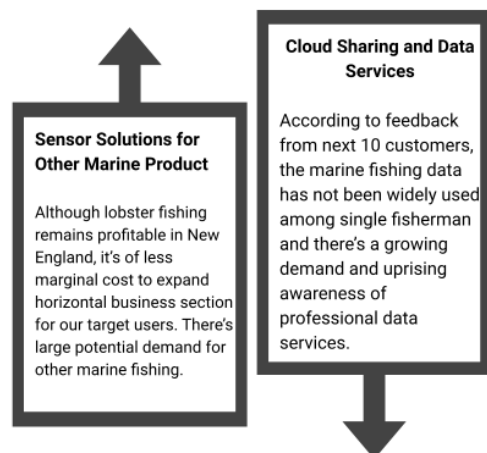


TAM 

Assumptions:
 1. The lobster consumption continues to grow.
 2. Number of lobster fisherman will decrease due to lack of successors

Total # of end users	~100,000 in MA
# of end users for targeted segment of beachhead market	~50,000 fisherman Based on number of licenses issued in Maine area; There are 4M traps
Annual monetizable revenue per user	\$~1,000 / year Assuming they spend \$10K trap with buoy and used for ten years
Top-down TAM	\$50M / year
Estimated CAGR	~4% Based on Lobster catches
Estimated time to achieve 20 percent market	~2 years May-Nov is main season
Anticipated market share	~50%

Follow-on Markets



This was a short insight, but this is the inside of a startup, and it is always “jobs to be done” like Professor Bob Moesta says, you just have to execute.

In the US ecosystem for innovation they operate with several levels of funding. Boot-strap (fools and family), Seed money (early investors), Seed round A, Seed round B, and the “Disciplined Entrepreneurship” process is mainly designed to cover the two levels of Boot-strap, and Seed money. Compared to Norway this is another ecosystem then we are used to, but Innovation Norway asks for similar information as they do at seed stage, so the 24-steps model is relevant in Norway as well.

The “Disciplined Entrepreneurship” process will guide you on what you need to do with an idea to start building a startup in a disciplined way, to provide you with the general framework needed to make an initial discipline plan where your stake is the amount of hours that you use, and the goal is to make the investors at the Boot-strap and Seed money level interested and happy to invest. The most important thing is to gain the investors' trust to make them invest in your company by showing them what analysis you have done regarding the market and your idea. The investors need to see documentation that you have talked to your customers to make sure that they want your product, and that they want to buy it, that you can make it and earn money on it, that it's scalable, and that you focus on reducing the risk if possible.

Be aware that the investors will call your customers once you have pitched if they like your idea, but as they say in the US “fake it till you make it”. I don't recommend following this approach in Norway, it may spoil your credibility as a founder for good.

West-coast USA, Stanford University.

At Stanford University Professor Steve Blank is teaching “Customer Development”, or what is commonly known as “Lean startup methodology”:

“Customer development is a formal methodology for building startups and new corporate ventures. It is one of the three parts that make up a lean startup (business model design, customer development, agile engineering)”. (Wikipedia, n.d.)

Before he became a professor at Stanford, Professor Steve Blank used the first 21 years of his career to do 8 startups, including 4 IPO`s (Initial Public Offering), and as a result of his experience he wrote the “Lean startup methodology” in 2011.

The Lean process is a combination of three different dimensions, where the main perspective in the innovation process is to build something that the customers want, in close corporation with the customer to ensure that the customers wants to buy the end product. Due to this he often emphasize the following:

“Customer Development is built on the idea that there are no facts inside your building, so get outside!” (Ameri, 2018).

This is in fact in line with what Professor Bill Aulet teaches at MIT, when he says *“get out there and talk to the real customers”*.

With regards to the process of business modelling within the Lean methodology, Professor Steve Blank highlights Professor Alex Osterwalder's “Canvas Business Modelling” as the best articulated way of showing a business model on a single piece of paper.

(Ameri, 2018)

Professor Steve Blank came across Lean engineering when he met one of his students Eric Ries, because Eric made him aware of “a new method of doing engineering”, and that completed his reflections regarding the Lean methodology innovation process:

“The third thing that happened was that one of my students, Eric Ries, pointed out that in the 21st century people don't use waterfall engineering, they use agile engineering. So agile became the third part of what became Lean Startup. If you use agile engineering and build products iteratively and incrementally, you can build what we call the “Minimum Viable Product”. Those three components – the business model canvas from Osterwalder, my Customer Development process, and Ries' agile engineering observations – together became what is called The Lean Startup”.

(Ameri, 2018)

The Lean startup process became very popular, and large corporations and governments started to believe that they could use it as well:

“The third change is that governments are also realising now that they are being continually disrupted, much like companies. They are all facing this need for continuous innovation. It turns out that startups have built a process to do all that and we have a

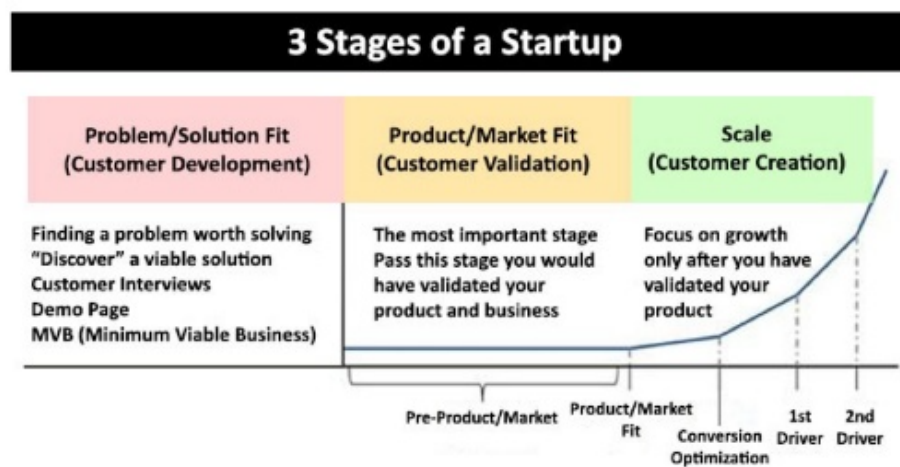
formal methodology. We have some tools and it turns out they are applicable for corporations and governments as well". (Ameri, 2018)

Even the US government was so impressed that the Head of Science called, saying "*We think you have invented the scientific method for Entrepreneurship.*" (Ameri, 2018)

Due to this belief, more than 15 000 teams of the best US engineers took the class.



Startup Stages



Concept Source: Steve Blank/Four Steps to the Epiphany
Image Source: StartitUp

This figure shows: The “Lean Startup Methodology” model, by professor Steve Blank, 2014.

Since 2013 Professor Steve Blank seems to have discovered that his initial thoughts and thesis was wrong,

Professor Steve Blank quotes:

“Applying lean startup methods in large companies creates “innovation theater” and not real innovation”.

(Trevail, 2020)

and,

“In 2013, Steve Blank, Stanford Professor and one of three co-founders of the Lean Startup Movement, wrote a front-cover article for Harvard Business Review entitled, “Why the Lean Start-Up Changes Everything.” It was a call to action for large companies to embrace the lean startup methodology of innovation. But after spending the past seven years working with large companies, Blank now believes his initial thesis was wrong”.

(Trevail, 2020)

What the impact is to his initial thesis remains to be unclear to me at this stage, but for startups the Lean startup approach still contains three important methodologies (Customer Development, Canvas and Lean Engineering) that covers a substantial part of a startup innovation process.

Innovation processes for startups, hosted by serial founders in Startup Studios in the USA
Quote from Dianna Lesage with regards to what a Startup Studio organisation do, and how its organized:

“It’s an organization that creates startups following a repetitive process. It acts as a co-founder to startups”. (Arantes, 2021)

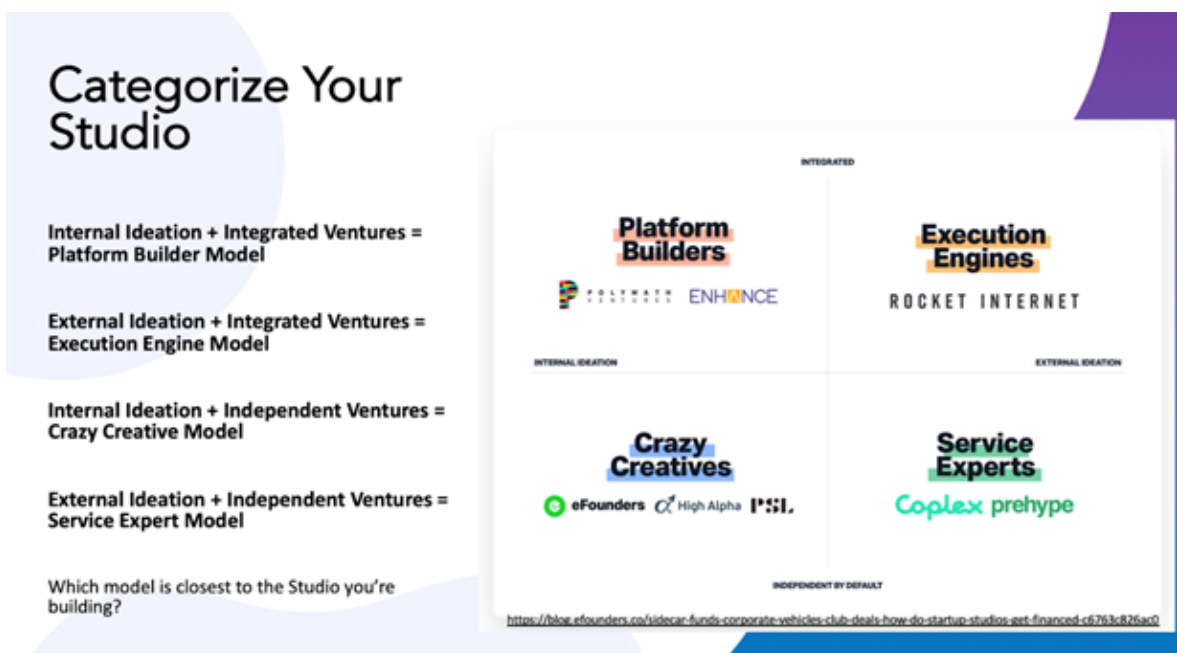


Figure 2: Startup Studio Models.

Dianna Lesage, founder of Studio Upstart (Lesage, n.d.) has done substantial research and spoken with Startup Studios for many years, and she has tried to divide the startup studio models into 4 different squares in the figure above, but the essence of this is that they all follow “a repetitive process” to build startups (see delimitations, 3.6).

Quote from Dianna Lesage, where she has specializing on how to build and run a Startup Studio, she has described what differs the startup studios, from incubators and accelerators, and what they do:

“A Startup Studio (also referred to as a Venture Builder) is an organization that builds startups. Unlike accelerators, Studios don’t run “programs” with cohorts and timelines (a typical accelerator runs for a 3-month period with a cohort of ~50 culminating in a demo day). The difference between an incubator and a Studio is the hands-on work that Studio teams put into ventures rather than just providing startup capital and other more tangible assets.

Essentially, a Studio acts as an investing co-founder to your startup.

The Studio team will help you from day 1 all the way up through raising your seed round of funding. Besides investment, Studios provide human capital, expansive networks, and resources like technology and proven methodology that make building startup ventures easier and faster”.

Inside the startup studio Ideo Lab, which was founded in 1996, the founder Bill Gross is still in charge. In an article in Harvard Business Review, a team of researchers writes about their visit at Ideo Lab, and how a part of the innovation process looks like on the inside:

“Almost immediately after thinking of a promising concept, a development team at a place like IDEO or Design Continuum builds a prototype, shows it to users, tests it, and improves it. The team then repeats the sequence over and over. Prototypes can be anything from crude gadgets to elaborate mock-ups. IDEO designers in the Boston office built a full-size foam model of an Amtrak train to test ideas about seating, layout, and signage. To make more refined prototypes, IDEO’s machine shop uses computerized milling machines and other sophisticated tools. IDEO’s machinists can take a rough sketch and quickly turn it into a working model”.

(Hargadon & Sutton, 2000)

The main point is that they reuse startup knowledge, and they have a substantial network, and statistically it's proven to be a model that makes them capable of succeeding more often than the average.

In the startup studios a lot of tools is used, but the design thinking methodology is one of the preferred ways of working with the idea, but in addition it can be used to map up many other aspects relevant to build a company, bu using tools such as, visualization, journey mapping, value chain analysis, mind mapping, rapid concept development (military use this), assumption testing and others:

“Design Thinking is a methodology used by designers to solve complex problems and find desirable solutions for clients. A design mindset is not problem-focused, it’s solution focused and action oriented towards creating a preferred future. Usually, it involves a company spending time with users to find out what their current everyday experiences are, and use those to find insights into what the real underlying challenges are and how they might be addressed”.

(Skillicorn, 2017)

Business Model Canvas, by Alexander Osterwalder (2004), Harvard University.

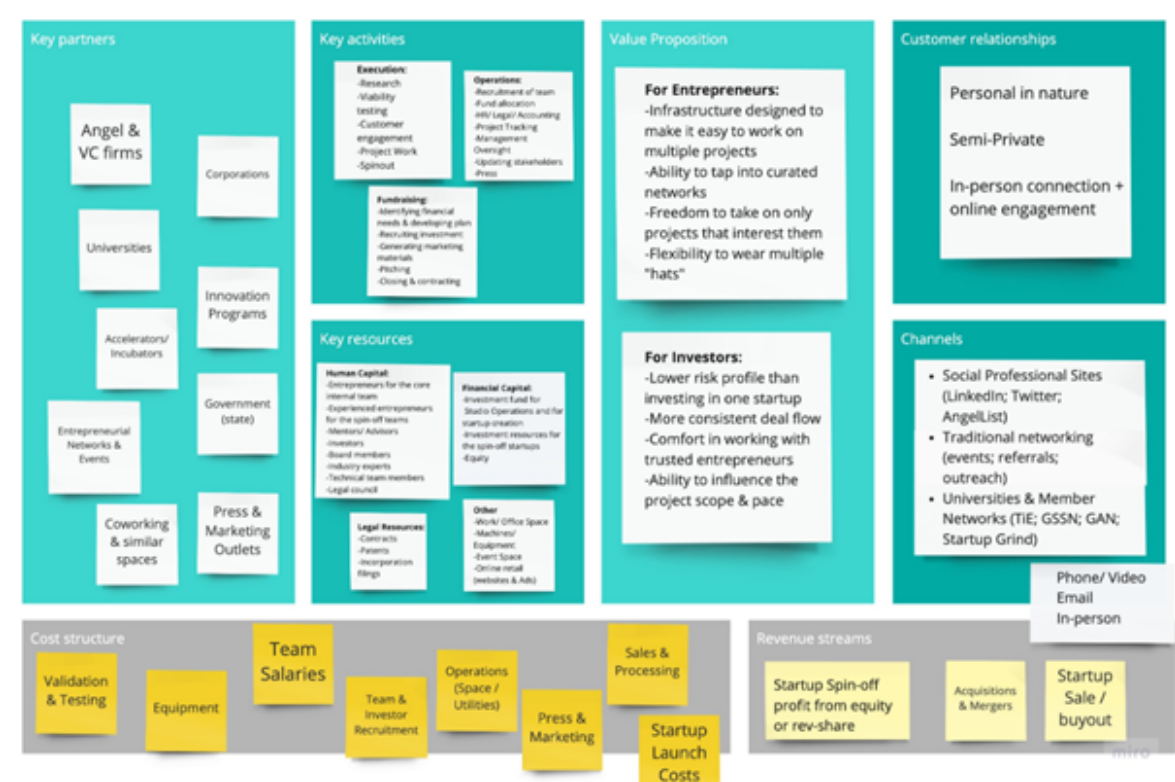
Another well known innovation process was made by professor Alex Osterwalder (2004) at Harvard University US, and I attended his course in Oslo for a week in 2010, about “Business Model Generation” and his innovation process framework “Business Model Canvas”.

Professor Alex Osterwalder said the following in an interview with Nina Uhl 23. september 2011:

“Business Model Innovation is basically the process of creating value in new ways for customers and companies”.

(Uhl, 2011)

I find the Canvas to be interesting and important due to its focus on the business model, which is usually a very important and and sometimes complex part of the innovation process for startups that they have to handle.



Model of “The Business Model Canvas, by professor Alex Osterwalder.

The example above is actually made by Dianna Lesage to map up the Business Model for a new Startup Studio, they may vary a lot, so the one-page template is a highly usable tool for startups that is easy to understand.

Generalisation of innovation processes

International perspectives on open innovation, and generalization of innovation processes, is a complicated topic. It involves political aspects, legal frameworks, environmental topics, poverty, and security aspects, so in a practical sense innovation is not as open, including and available to all as intuitively seems.

Peel Startup Studio in Norway try to use leading theories such as the ones previously described from the US, but due to several reasons it is difficult to generalise and use the theories in a Norwegian context due to the existing innovation paradigm in Norway.

How to find strengths and weaknesses

One of the most famous ways of finding strengths and weaknesses in an established company, was described by Professor Michael Porter in 1979:

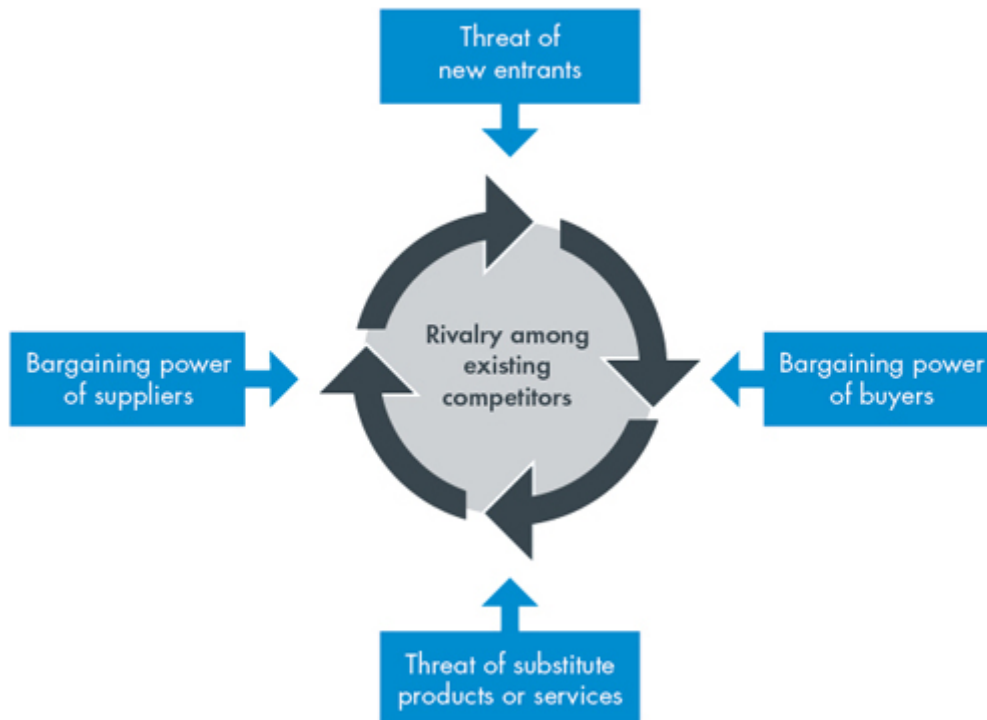
*“The Porter **Five Forces** analysis model first appeared in a Harvard Business School professor Michael E Porter **published** in Harvard Business Review in 1979. The publication of this paper has historically changed the understanding of strategy among enterprises, organizations, and even countries”.*

(Investopedia Staff & Scott, 2020)

and,

“Five forces analysis helps organisations to understand the factors affecting profitability in a specific industry, and can help to inform decisions relating to: whether to enter a specific industry; whether to increase capacity in a specific industry; and developing competitive strategies”.

(Porter's 5 Forces, 2013)

Porter's five forces of competitive position analysis:

(Porter's 5 Forces, 2013)

For startups this could be a very important tool, to evaluate at least 5 of the forces they are up against, such as the forces in the figure above "Porter's five forces competitive position analysis", but new companies like startups don't know their own status so they would benefit from having a tool to help them finding their status like the matrix used and described (Research approach) in this thesis.

3 RESEARCH APPROACH

This is my visual overview of my research design:

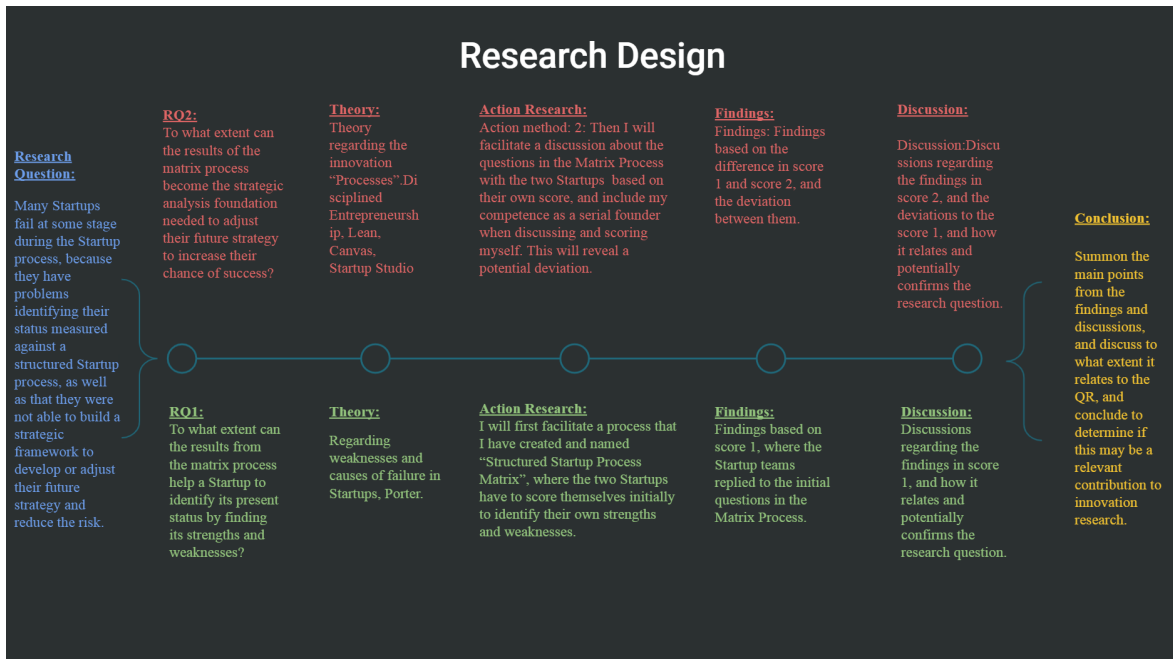


Figure: Research Design.

The text below is the highlighted text in colour on the figure "Research Design".

RO:

Many Startups fail at some stage during the Startup process, because they have problems identifying their status measured against a structured Startup process, as well as that they were not able to build a strategic framework to develop or adjust their future strategy and reduce the risk.

RO1:

To what extent can the results from the matrix process help a Startup to identify its present status by finding its strengths and weaknesses?

Theory:

Regarding weaknesses and causes of failure in Startups, Porter.

Action method:

I will first facilitate a process that I have created and named "Structured Startup Process Matrix", where the two Startups have to score themselves initially to identify their own strengths and weaknesses.

Findings:

Findings based on score 1, where the Startup teams replied to the initial questions in the Matrix Process.

Discussion:

Discussions regarding the findings in score 1, and how it relates and potentially confirms the research question.

RQ2:

To what extent can the results of the matrix process become the strategic analysis foundation needed to adjust their future strategy to increase their chance of success?

Theory:

Regarding the innovation “Processes”. Disciplined Entrepreneurship, Lean, Canvas, Startup Studio

Action method:

Then I will facilitate a discussion about the questions in the Matrix Process with the two Startups based on their own score, and include my competence as a serial founder when discussing and scoring myself. This will reveal a potential deviation.

Findings:

Findings based on the difference in score 1 and score 2, and the deviation between them.

Discussion:

Discussions regarding the findings in score 2, and the deviations to the score 1, and how it relates and potentially confirms the research question.

Conclusion:

Summon the main points from the findings and discussions, and discuss to what extent it relates to the QR, and conclude to determine if this may be a relevant contribution to innovation research.

The MTM study is oriented towards students with substantial work experience, and NTNU only admit students that is willing and interested in sharing their work experience and combine it with studies (NTNU, n.d.), so I found it appealing to choose a method thru a discussion with my mentor that allow me to involve my competence.

The following example is my situation as a practitioner when I try to help startups to succeed, so I need to choose a methodology that allows me to investigate this situation, and find a solution that can make a change.

Imagine that you sit opposite of a startup team, as a potential investor, and you have just asked them where their strengths and weaknesses are. How can you know that their answer is valid, as long as you know that they don't have anything to measure their answers

against. In addition, you do know that they have most likely never built a company before, so they probably “don't know what they don't know”. If this is the case, the risk of failure is high.

In search of various methodologies, I found an interesting article regarding Action Research methodology, written by Marshall Goldsmith in Harvard Business Review. I thought that the method was relevant to the problem I was planning to do research on, “too many startups fail at some stage during the startup process”.

I quote:

“I have observed one leadership development process that builds leaders and helps companies make money at the same time – action learning”.

(Goldsmith, 2008)

To manage an often disorganized Startup from a fuzzy starting point, to become an organized Startup is a complex process due to many reasons, so with regards to this article I decided to use the Action Research methodology as a part of this master thesis.

I plan to follow this approach:

Characteristics of action research

Above, I defined action research as a form of research intended to have both action and research outcomes. This is a minimal definition. Various writers add other conditions.

Almost all writers appear to regard it as cyclic (or a spiral), either explicitly or implicitly. At the very least, intention or planning precedes action, and critique or review follows. Figure 1 applies.

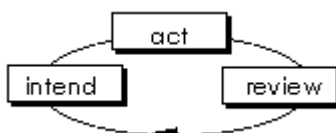


Fig. 1

The action research cycle consists at least of intention or planning before action, and review or critique after

I will later argue that this has considerable advantages. It provides a mix of responsiveness and rigour, thus meeting both the action and research requirements. In the process I describe below the spiral is an important feature.

For some writers, action research is primarily qualitative. Qualitative research can be more responsive to the situation. To my mind a need for responsiveness is one of the most compelling reasons for choosing action research.

Participation is another requirement for some writers. Some, in fact, insist on this. Participation can generate greater commitment and hence action. When change is a desired outcome, and it is more easily achieved if people are committed to the change, some participative form of action research is often indicated.

My own preferences, just to make them clear, are for cyclic, qualitative and participative approaches. However, this is a matter of pragmatics rather than ideology. I see no reason to limit action research in these ways. To my mind it is a stronger option for offering a range of choices.

There are many conditions under which qualitative data and client participation increase the value of the action research. However, to insist on these seems unnecessary. It seems reasonable that there can be choices between action research and other paradigms, and within action research a choice of approaches. The choice you make will depend upon your weighing up of the many advantages and disadvantages.

<http://www.aral.com.au/resources/arthesis.html>

With a main perspective on the thesis with an Action Research approach, I will additionally use a mixed method approach like the one they teach at Stanford University, (*Designing Your Mixed Methods Research Project: An Interactive Workshop.*, 2021) and the one referred to by the International Journal of Qualitative Methods:

“Mixed methods research (MMR) has become increasingly popular in recent years. Yet, methodological challenges of mixing qualitative and quantitative data remain.

Understanding how MMR is approached in qualitative research journals provides insights into lingering mixing issues”.

(Archibald et al., 2017)

The reason for this is that the matrix I have designed for this master thesis to research the problem, will provide a result with “lingering mixed issues” as mentioned.

Advantages:

Usually one might argue that flexibility is the enemy of conventional research, but if the starting point of the hypothesis is fuzzy and unclear, a flexible method will provide a way of starting to structure the research so that it eventually may be possible to conduct quantitative analysis as well.

In the US (Barlow, Hayes and Nelson, 1984) and in Australia and England (Martin, 1989), there is in fact evidence that organisational psychology practitioners do very little research and reading, and the reason for it may be that many methodologies don't support their needs. I think research on the process of building a startup and how to manage it contain similarities to the needs the organisational psychology practitioners face at work, and due to this the Action Research methodology have some advantages due to its flexibility.

Action Research can also be seen as a cycle of learning (See Kolb, 1984), with its cyclic approach towards solving a problem, and that is the similar way of looking at a problem as we do in Startups, to be able to slowly approach a good solution with other practitioners and customers and learn from it. In such a perspective it seems occupationally relevant in my job working with innovation in a startup studio.

Disadvantages:

By using this methodology on a real problem at work, you actually take on the responsibilities for making a change that may have immediate or long term consequences for the people and company involved, that you normally would not be responsible for if you chose to do research based on methodologies within quantitative or qualitative analysis.

It is difficult to find and describe an adequate rationale to justify the overall research approach when choosing an Action Research methodology, and there is no official format that I may use to conduct research within the direction called “Participatory Action Research” with regards to the “innovation domain” that I have chosen to pursue.

3.1 Research problem and questions

Research problem and questions:

Many Startups fail at some stage during the Startup process, because they have problems identifying their status measured against a structured Startup process, as well as that they were not able to build a strategic framework to develop or adjust their future strategy and reduce the risk.

This has led to the following main research question, and sub-research questions:

RQ: To what extent can the matrix help a startup to identify its status by finding its strengths and weaknesses, and become the strategic analysis foundation needed to adjust their future strategy to increase their chance of success?

I will investigate the two following research questions that are derived from the main research question, to get a deeper and broader data set to make the research data more reliable and prepared for conceptual generalization.

RQ1: To what extent can the results from the matrix process help a startup to identify its present status by finding its strengths and weaknesses?

RQ2: To what extent can the results of the matrix process become the strategic analysis foundation needed to adjust their future strategy to increase their chance of success?

As a practitioner within the field of innovation, I have made the figure below to visualize the difference between an organized and a disorganized startup.

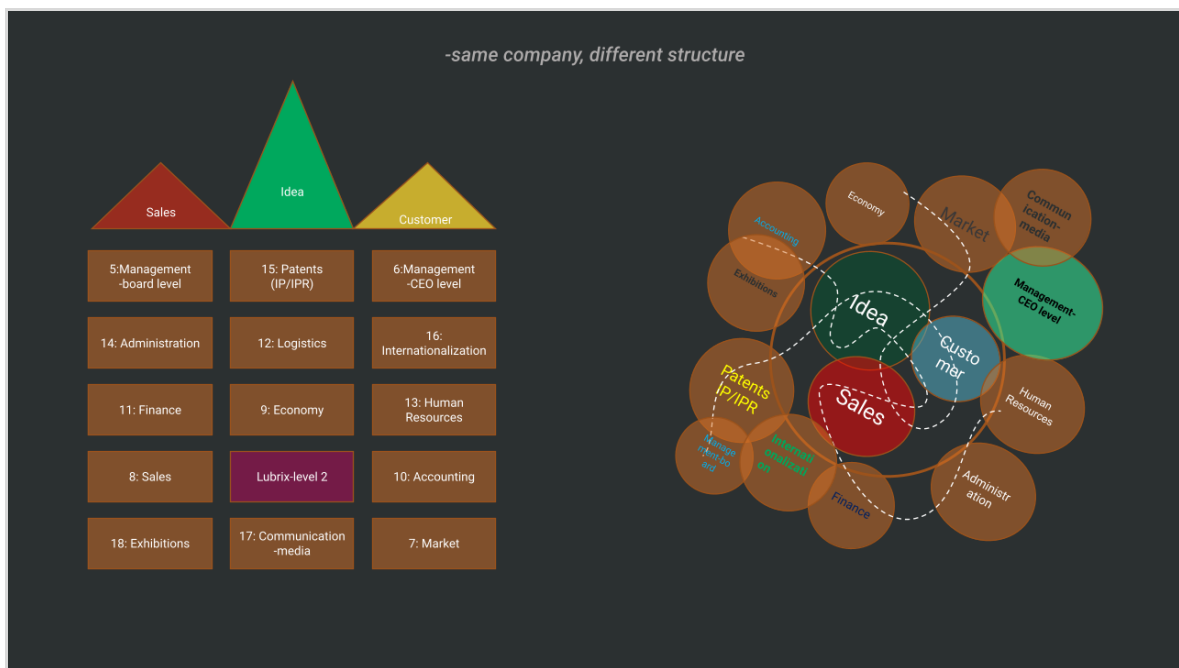


Figure: “Organized and disorganized startup”-2021, made by Gaute A. Ringvold.

The Action Research methodology was first described by professor Kurt Lewin in 1934 (Marrow, 1969), and it is often used in situations with a fuzzy starting point, and professor Bob Dick explain a core reflection he has that I find to be logic if you are a practitioner that aspire to make an impact in the long run:

“But here is the important point...Provided that the fuzzy answer allows you to refine both questions and methods, you eventually converge towards precision. It is the spiral process which allows both responsiveness and rigour at the same time”.

(Dick, n.d.)

I will intervju the founders in two startups based on an Action Research method (Clem Adelman (1993) Kurt Lewin and the Origins of Action Research, Educational Action Research, 1:1, 7-24, DOI: 10.1080/0965079930010102), to investigate the problem “too many Startups fail at some stage during the Startup process”. To do this I have to involve myself as an innovation practitioner in their process to investigate together with the Startups how my competence may complement their competence to amplify their process.

There are various methods within the Action Research methodology, but in this thesis I will use the Participatory Action Research method (Carr and Kemmis, 1986; Kemmis and McTaggart, 1988), that assumes that I get involved and engaged in a cyclic, qualitative and participative approach and interact, discuss and include my own competence.

With regards to the qualitative research method, the intervju in this case will be a mix between the interview where i meet the candidates in person, and the discussion, and reflection to support the other method. In qualitative interviews additional follow-up questions are common, so the method also has similarities to the cyclic approach, and such approach is often used to clear misunderstandings during the interview within both of these methods. Another similarity is the opportunity to observe the interviewees during the interview, to get additional impressions to what extent they respond in a good and reliable manner.

In these situations both of these methods have some disadvantages such as, whether the interviewees are honest, and whether they respond like they do because they think the interviewer expects a specific outcome.

In the matrix I have 98 questions the participants will discuss with me, and I consider this to be a mix between qualitative and quantitative methods.

3.2 Research Design

I will design a framework and method for investigating the Startup process in two different Startups, based on the methodology of Participatory Action Research, to identify if the startups would benefit from following a more structured startup process. I have used the following article as a guideline to be able to create the framework needed to execute the investigation:

According to this, I have to design a framework that allows me to understand practice and “*to articulate a philosophy of practice which improves practice*” (McCutcheon & Jung, as cited in Herr, Anderson, & Herr, 2005).

I started off by analysing the situation with regards to why so many startups fail, and at the end I summoned the analysis up to one main question:

“If a startup don't know what they don't know, how can I know how to help them through a startup process to succeed if they don't know their strengths and weaknesses?”

Based on this I designed a strategic framework that consists of two parts. Part one is “the analysis of the idea” that I call “Funnel”. Founders tend to focus only on their idea, so I wanted to let them talk about it as a topic number “0” on the list of contents, just to be able to isolate the idea and change to the focus on how to build a company afterwards in part two.

Part two is “the structured Startup process” that I call the “Matrix”. When a startup is confronted with the questions on “how do you build a startup”, they usually don't really know, and they have problems explaining it in a structured way. Due to this I designed a theoretical framework including a model, consisting initially of “the idea”, and then fourteen different topics that each describes in general what needs to be handled to construct and to build a regular startup company. Once I had designed it, I tested the model with Peel Startup Studio (Peel Innovation, 2020) and six serial founders with substantial competence with regards to startups, and they verified the model.

Then I formulated seven sub topics to the fourteen main topics in the matrix, and then I formulated seven questions to each sub topic, to design for a “cyclic” approach during the research. Finally I tested the matrix with Peel Startup Studio again, and they verified the 112 questions (14 x 7) in total, and for each question there are three columns where the startups score themselves and where the last column is the deviation between the scores. We agreed to call it “Matrix level 1”. This insinuates that it is possible to ask several more questions at a “level 2” to get even deeper insights, and a better accuracy and reliability, but this is where I ended the development of the strategic framework due to the delimitations of the master thesis.

For the research I designed some practical matrix slides, one to summon up the research results after the startup and I had scored ourselves. One to summon up the timeline used to answer the questions during the research, and one to ask questions for reflection and a summoned score of the respondents. The last slide was to investigate to what extent the startup thought that a structured process like the matrix would be helpful to them, and I interviewed them and asked these questions two days after the first interview so they had enough time to reflect before answering.

The complete matrix research including all answers is shown under “3.3 Data Collection-Matrix (one page down).

Sample collection:

When I chose my samples I tried to identify two very different startups that would allow me to conduct my investigation, and hopefully get quite various results, and this investigation is quite thorough so I needed them to be passionate, honest, interested, and patient to be usable.

Startup 1 “Risico”, domain: Financial technology. Idea: Insurance.

Represented by Stian Zimmermann Børresen. He is 24 years of age, and origins from Norway. He holds a bachelor degree in marketing and economy from Norwegian University of Science and Technology, and has previously started a startup and failed. Stian works part time next to school in a startup called “Way” in Trondheim. Being a student at the Entrepreneur school at the Norwegian University of Science and Technology, Stian has been educated in their startup process, and he is familiar with the existence of the theoretical sources I use in this thesis such as the MIT 1-24 Disciplined Entrepreneurship process, Lean Startup and the Startup owners Journal, and Bill Gross Ideo Lab Startup Studio.

Startup 2 “SIMA”, domain: Educational technology. Idea: Education gamification.

Represented by Sima Haddadin. She is 39 years of age and originates from Jordan. She holds a master degree in Educational Technology from Harvard University, and is previously educated as a teacher within the International Baccalaureate system and has about 20 years of experience as a teacher worldwide (Jordan, China, US, Norway). She has planned to quit as a teacher for a long time and start her own startup, and she just resigned from her job as a teacher to do it. Sima has been educated at Harvard University within the innovation and startup process, and she is familiar with limited theoretical sources I use in this thesis except from the MIT 1-24 Disciplined Entrepreneurship process that she knows briefly.

3.3 Data collection - Matrix

“The Matrix is a Startup mirror”

Imagine that you quit your day job, gather a few friends, and create a startup. You all have different backgrounds with regards to education, work experience, life experience, and more, so you think that you are quite resourceful. You know that there are a lot of things that you do not know, and you don't even know what questions to ask, so you wonder how to start because you feel that the strategic analysis you need to map up your resources will be deficient.

The Matrix is designed to be a tool “mirror” in such a situation, so imagine that you bring your team to Peel Startup Studio. The people working in the studio are all experienced serial founders called “Venture Builders”, but they don't know the deficiencies your team has so they don't know where to start either.

The Matrix consists of 98 questions, 7 for each of the following topics:

- 1: Management-Board level.
- 2: Management CEO-level.
- 3: Market.
- 4: Sales.
- 5: Economy.
- 6: Accounting.
- 7: Finance.
- 8: Logistics.
- 9: Human Resources.
- 10: Administration.
- 11: Patents (IP)-Intellectual property (IPR).
- 12: Internationalization.
- 13: Communication.media.
- 14: Exhibitions.

Now, pretend that it's one team one each side of the table, and everyone has read the content of the matrix, so everyone has a general idea what the content of the fourteen topics of the matrix is.

Then a facilitator “Coach” from the Startup Studio starts the process, and asks question one to the new startup sitting opposite from the Venture Builders, and then the coach elaborates around the question so that the startup team understands the essence of it. Then the startup scores themselves, on a range between 1-5, depending on to what extent the startup and the coach agree.

Next step is for the Venture Builders to elaborate on the same question, and outline and exemplify their experience so the startup may learn from it, and then they score themselves with the coach on a range between 1-5.

The coach controls the score cards, and once the 98 questions have been answered, the coach summons the result. The results will then reveal a deviation between the Venture Builders and the startup, that will inform the next questions that the startup needs to address in their strategic analysis.

This way the matrix works like a “mirror”, so after the session both parties know the other parts strengths and weaknesses.

Two days after the results of the matrix process was revealed, and the startup had a chance to discuss the results, they had another meeting with the coach. This time it is only the coach and the startup, and the coach asks them eight questions where they score themselves alone, on a range between 1 -5.

The questions in the reflection chart reveal to what extent the startup was satisfied with the process, and to what extent it was helpful to them, with regards to what they learned and to what extent the process was helpful for them to identify their strengths and weaknesses. If they were satisfied, the highest score the Venture Builders can get is 40 points (8 questions, on a range 1-5).

The intention is for the matrix to work like a Porter's Five SWOT analysis (<https://www.cgma.org/resources/tools/essential-tools/porters-five-forces.html>), but for startups, and they usually need the matrix to get a valid strategic analysis in place.

I used the following document “Matrix” to conduct the research to gather the following data from the two startups:

Startup 1: "RISICO"

I met with Stian Børresen Zimmermann at Bakke Design and Innovation House, in Nordre Berg gt 2, 18th of may-2021. The timeline and interview is thoroughly recorded in the matrix attached below.

His Startup called "RISICO", is a startup that is trying to solve the problem people have when calculating their insurance, due to limited access to data and advanced calculations needed to do the math, to be able to benchmark the various insurances they are offered.

The process i followed when I executed the interview was as follows:

- 1: I started off by explaining the complete process, by going through the matrix table of contents.
- 2: Then they confirmed that they were willing to participate in the interview and in the follow up reflection meeting two days after the matrix interview, and they had confirmed prior to the meeting by mail that I was allowed to use and expose all the data that i gathered.
- 3: Then we started, and I invited the startup to talk about their idea going through the "Funnel" process while they discussed and explained it through a 30 minute session. The goal of this session is not to score the interviewees, but to let them talk about their idea to try to make them focus intensely on it, so that it is more clear to them when we start on the Structured Startup Matrix Process that they need to change focus away from their idea. The point is to draw a clear line between the Funnel/idea and the Matrix/how to build the company.
- 4: Then we started on the Matrix, and it was 14 topics, with 7 questions for each topic.
- 5: During the Matrix session I noted at what time we started and ended the discussion regarding each question, and summoned up the total amount of time used per question.
- 5: Underneath each topic, I had made a sub-topic to the left on the scorecard, and the questions were written on the right side.
- 6: Each question was handled the same way, by me reading the sub-topic on the left, and then reading the question on the right, as the start of the cyclic approach. Then I explained and elaborated a bit around the question, and asked the interviewee to elaborate and

continue the cycle. At the end, after the interviewee had elaborated, I continued the cycle and added my competence and then we both reflected on the learning and strengths and weaknesses at the end of the cycle before both parts scored themselves between 1 and 5. This usually ended with a deviation, and the result was noted to the right of the scores under “deviation” in the score chart.

7: Once the process was completed, the interviewees left, and I summoned up the results in the main score card on top of the Matrix document, and sent it to them for reflection.

8: Two days later I called them, and we executed a Teams interview, to investigate to what extent the Structured Startup Process Matrix was helpful to them, with regards to the initial problem and the research questions.

9: First they answered QR1, and three sub questions, and then they answered QR2 and three sub questions, and finally they scored themselves with a grade between 1-5 on all of the questions.

10: When we ended the meeting we summoned up the reflection scorecard, and I told them how grateful I was for their time, and they thanked me and were excited to have learned a process that they found to be very helpful.

Structured Startup Process Matrix

1: Interview and discussion of the Funnel and Matrix

Questions for Action Research focusing a Startup teams (ST) ability to develop a Startup, by dividing the process in two parts “The Funnel” and the process of constructing a company “The Matrix”, to identify an agreed status for where the Startup is at present time.

Interview with Startup Nr 1, represented by Stian Zimmermann Børresen

18th of May 2021

Startup name: Risico

Risico domain: Digital Platform for advanced risk assessments within non-life insurance

Structured Startup Process-Matrix



Complete matrix content and findings

	Total Startup score	Total score including me	Final deviation	Total time used on interview and discussions 212 minutes (3 hours and 31 minutes).
0. Frontpage-Startup presentation				
1. Presentation-Startup 1				
2. Structured Startup Process-Matrix				
3. Complete matrix content and findings				
4. Summary execution timeline				30 min
5. Funnel-the analysis of the idea				
6. Management-Board level	16	34	18	13 min
7. Management-CEO level	23	30	7	19 min
8. Market	30	27	-3	15 min
9. Sales	25	28	3	16 min
10. Economy	22	30	8	17 min
11. Accounting	33	33	0	21 min
12. Finance	20	32	12	8 min
13. Logistics	NA	NA	NA	Not relevant for a software product.
14. Human Resources	20	35	15	17 min
15. Administration	28	32	4	10 min
16. Patents (IP)-Intellectual property (IPR)	21	34	13	5 min
17. Internationalization	26	32	6	17 min
18. Communication-media	23	31	8	11 min
19. Exhibitions	22	33	11	13 min
20. Reflection and summary				
21. END				

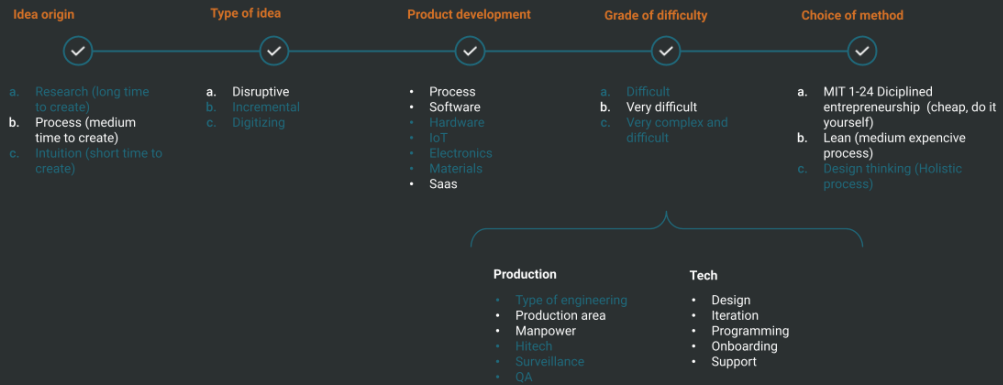
Grading scale: 1-5 points.
 From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Summary execution timeline

	Started interview	Ended interview and discussion	Minutes in total	Comments
1. Frontpage	0	0	0	0
2. Matrix content	0	0	0	0
3. The idea analysis-Funnel	1445	1515	30	Initially I explained how the Funnel works, and then the Startup explained, analysed, and discussed their idea with me to get insights.
4. Funnel-example	0	0	0	0
5. Management-Board level	1515	1528	13	0
6. Management-CEO level	1528	1547	19	0
7. Market	1548	1603	15	0
8. Sales	1604	1620	16	0
9. Economy	1636	1653	17	0
10. Accounting	1654	1715	21	0
11. Finance	1727	1735	8	0
12. Logistics	NA	NA	0	Not relevant for a software product.
13. Human Resources	1738	1755	17	0
14. Administration	1755	1805	10	0
15. Patents (IP)-Intellectual property (IPR)	1806	1811	5	0
16. Internationalization	1812	1829	17	0
17. Communication-media	1830	1841	11	0
18. Exhibitions	1842	1855	13	0
Total time to execute the interview			212	212 minutes (3 hours and 31 minutes)

Funnel-the analysis of the idea

Guideline to process and discussion. The tekst marked with white is the assessment RISICO made of their own company.



Matrix

	Total Startup score	Total score including me	Total Decision	Questions
1. Management-board level	16	34	18	
• Run a Startup according to the law-HSEQ	1	5	4	To what extent can the Startup team (ST) handle this topic?
• Establish companies	3	5	2	To what extent can the ST handle this topic?
• Shareholder agreements	1	5	4	To what extent can the ST handle shareholder agreements?
• Seed rounds	1	5	4	To what extent can the ST handle seed rounds?
• Investors	2	4	2	To what extent can the ST handle investors?
• Vision-strategy	4	5	1	To what extent can the ST make a vision and a strategy?
• Risk analysis	4	5	1	To what extent can the ST make a risk analysis?

Grading scale: 1-5 points.
From, " to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including me	Total deviation	Questions
2. Management-CEO level	23	30	7	
• Innovation Management	2	5	3	To what extent can the ST handle innovation management?
• Strategic organizational design	3	4	1	To what extent can the ST develop strategic organizational design?
• Product development	4	5	1	To what extent can the ST handle product development?
• Business model	4	4	0	To what extent can the ST make business models?
• Marketing and sales	4	5	1	To what extent can the ST handle marketing and sales?
• Finance	4	3	-1	To what extent can the ST handle finance?
• Internationalization and growth	2	4	2	To what extent can the ST handle internationalization and growth?

Grading scale: 1-5 points.

From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including me	Total deviation	Questions
3. Market	30	27	-3	
• Market analysis	5	5	0	To what extent can the ST handle market analysis?
• Market strategy and branding	4	4	0	To what extent can the ST handle market strategy and branding?
• Market activities	4	5	1	To what extent can the ST handle market activities?
• Price models	4	3	-1	To what extent can the ST make price models?
• Digital marketing, SEO, content	5	3	-2	To what extent can the ST handle digital and content marketing?
• HR -Sales force	3	4	1	To what extent can the ST build a sales force?
• Market surveillance	5	3	-2	To what extent can the ST handle market surveillance?

Grading scale: 1-5 points.

From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including me	Total deviation	Questions
4. Sales	25	28	3	
• Sales strategy	4	5	1	To what extent can the ST handle sales strategy?
• Sales activity-leads	3	4	1	To what extent can the ST handle sales activities and leads?
• Onboarding and service	4	5	1	To what extent can the ST handle onboarding and service?
• Build community-tribe	5	3	-2	To what extent can the ST build community?
• Develop sales culture	3	3	0	To what extent can the ST develop and build a sales culture?
• International sales	2	4	2	To what extent can the ST handle international sale?
• Sales and business development	4	4	0	To what extent can the ST handle sales and business development?

Grading scale: 1-5 points.

From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including me	Total deviation	Questions
6. Accounting	33	33	0	
• Accounting/Journal entry	5	4	-1	To what extent can the ST handle accounting-journal entry?
• Hours	5	5	0	To what extent can the ST handle their hours?
• Salaries	5	5	0	To what extent can the ST handle the administration of their salaries?
• Annual settlement	4	5	1	To what extent can the ST handle the annual settlement?
• Invoice	5	5	0	To what extent can the ST handle invoices?
• Tax and VAT	4	4	0	To what extent can the ST handle tax and VAT issues?
• Balance fission-fusion	5	5	0	To what extent can the ST handle situations where a balance is required?

Grading scale: 1-5 points.

From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including me	Total deviation	Questions
7. Finance	20	32	12	
• Prospects to banks	4	4	0	To what extent can the ST make prospects to the banks?
• Prospects to investors	3	5	2	To what extent can the ST make prospects to investors?
• Seed documents	1	5	4	To what extent can the ST make seed round documents?
• Innovation Norway, Forskningsrådet	5	5	0	To what extent can the ST make applications for funding?
• Support from EU	4	3	-1	To what extent can the ST make applications to the EU?
• Private equity	2	5	3	To what extent can the ST raise private equity?
• Pawn broking	1	5	4	To what extent can the ST handle pawn broking?

Grading scale: 1-5 points.

From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix (only for products)

	Total Startup score	Total score including me	Total deviation	Questions
8. Logistics	NA	NA	NA	
• Logistic strategy	0	0	0	To what extent can the ST handle logistics strategy?
• Packaging design	0	0	0	To what extent can the ST handle packaging design?
• Packaging engineering	0	0	0	To what extent can the ST handle packaging engineering?
• User manuals and videos	0	0	0	To what extent can the ST make user manuals and videos?
• Marking of products	0	0	0	To what extent can the ST handle the marking of products?
• Insurance	0	0	0	To what extent can the ST handle insurance?
• Online shop-logistic solution	0	0	0	To what extent can the ST make and handle an online-shop?

Grading scale: 1-5 points.

From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including me	Total deviation	Questions
9. Human Resources	20	35	15	
• HR-HSEQ (Health, Security, Environment, Quality)	2	5	3	To what extent can the ST handle HR-HSEQ issues?
• Employees (Contracts, recruitment, salaries, benefits)	3	5	2	To what extent can the ST handle employees?
• Illness (Short and long-term sickness, death)	3	5	2	To what extent can the ST handle illness?
• Working hours	2	5	3	To what extent can the ST handle working hours?
• Close relations and family	3	5	2	To what extent can the ST handle close relations and family in a professional way?
• Cultural aspects (vacations, time zones, celebrations)	5	5	0	To what extent can the ST handle cultural aspects?
• Termination of employee contracts	2	5	3	To what extent can the ST handle the termination of a contract?

Grading scale: 1-5 points.

From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including me	Total deviation	Questions
10. Administration	28	32	4	
• Cloud based administration solutions	5	5	0	To what extent can the ST make and handle cloud based administration solutions?
• Agreed office structures	5	5	0	To what extent can the ST make and handle agreed office structures that everyone use?
• Security issues	3	5	2	To what extent can the ST handle security issues related to technical solutions and the physical office environment?
• Document control	5	5	0	To what extent can the ST handle document control so that its Due Diligence ready?
• Legal	2	5	3	To what extent can the ST handle laws and regulation to be compliant at all times?
• Build company culture	4	4	0	To what extent can the ST build a solid and attractive company culture?
• Celebrate along the way	4	3	-1	To what extent can the ST organize structured celebrations and community building along the way?

Grading scale: 1-5 points.

From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including rise	Total innovation	Questions
11. Patents (IP)-Intellectual Property Rights (IPR)	21	34	13	
• IP-Strategy	3	5	2	To what extent can the ST make an IP strategy?
• IP-protection	4	5	1	To what extent can the ST handle protection of IP?
• IPR-contracts	4	5	1	To what extent can the ST handle the employees to protect the IPR?
• IP-negotiations	3	5	2	To what extent can the ST handle IP negotiations?
• Non Disclosure Agreement (NDA)	4	5	1	To what extent can the ST handle NDA's?
• IP-cost	2	5	3	To what extent can the ST handle budgeting of IP cost's?
• IP-lawsuit's	1	4	3	To what extent can the ST handle lawsuit's?

Grading scale: 1-5 points.

From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including me	Total deviation	Questions
12. Internationalization	26	32	6	
• Travelling competence	5	5	0	To what extent do the ST have relevant travelling competence?
• Travelling flexibility	5	5	0	To what extent can the ST be flexible with regards to travelling 24/7?
• Experience from living in other countries	4	5	1	To what extent do the ST have experience from living in other countries?
• Languages	3	3	0	To what extent can the ST handle various languages?
• Deep cultural insights-corruption	2	4	2	To what extent do the ST have deep cultural insights?
• Advanced health and security level	2	5	3	To what extent can the ST handle advanced health and security level?
• Custom and visa issues	5	5	0	To what extent can the ST handle custom and visa issues?

Grading scale: 1-5 points.

From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including me	Total deviation	Questions
13. Communication-media	23	31	8	
• Media strategy	3	5	2	To what extent can the ST make and handle a media strategy?
• Shareholders	2	5	3	To what extent can the ST handle its shareholders?
• Investors	2	5	3	To what extent can the ST handle its investors?
• Customers	4	5	1	To what extent can the ST handle its customers?
• Employees	3	5	2	To what extent can the ST handle its employees?
• Online communities	5	3	-2	To what extent can the ST build and handle an online community?
• Trendsetters	4	3	-1	To what extent can the ST find and handle relevant trendsetters?

Grading scale: 1-5 points.

From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

20. Reflection and summary of Matrix process-2 days after execution

1. Date: 24th of may-2021	Grading:	Please comment here:
Questions:	29 out of 40	
QR1: To what extent can the results from the matrix process help a Startup to identify its present status by finding its strengths and weaknesses?	4	In my opinion this is a good base for all Startups to discuss in general terms with investors and people with specific domain knowledge, but to highlight specific strengths and weaknesses the questions must be optimized to identify them properly.
QR1A: To what extent did the split of the discussion, between the idea (the funnel) and the concept of building a Startup company (Matrix) make it easier to identify "strengths and weaknesses"?	3	In my opinion this gives a more structured approach, so it is easier to identify the strengths and weaknesses in general, but not in depth.
QR1B: To what extent did the split of the discussion, between the idea (the funnel) and the concept of building a Startup company (Matrix) make it easier to discuss "strengths and weaknesses"?	4	In my opinion this gives a more structured approach, so it is easier to discuss the highlighted areas with strengths and weaknesses that the Startup needs to focus on and investigate further.
QR1C: To what extent may the result of this process make it easier to build the right team and network to be able to handle future strengths and weaknesses in a professional way?	4	In my opinion I would not have guessed before the matrix process that I would get a low score with regards to Management-Board level, so I guess it revealed a weakness, so I have to learn more about it or complement my network or Startup team with such knowledge.
QR2: To what extent can the results of the matrix process become the strategic analysis foundation needed to adjust their future strategy to increase their chance of success?	3	In my opinion this gives me a general foundation of the necessary parts to be considered when building a company, and what needs to be considered on a general level, but not in depth.
QR2A: To what extent may this process make it easier for the Startup to make a strategic analysis?	4	In my opinion this makes it easier to make a strategic analysis due to the structured framework, because I have a broader foundation than I had prior to this process.
QR2B: To what extent may this process make it easier for the Startup to strengthen and complete its strategic framework?	4	In my opinion this is a good process to identify possible "red flags", or "holes" in the strategic framework, so we may reveal spots that needs to be reinforced. I think Startups at an early stage with limited education or knowledge about innovation, would get valuable help from such process to reduce risk.
QR2C: To what extent may the result of this process make it easier to increase the likelihood of success?	3	In my opinion this is hard to answer, due to all the factors involved to succeed, but aspect of "time to market" is relevant. I think this is a good support beam for a Startup, to identify what parts of the Startup concept that you may have missed out, and this gives the team the ability complete it. It also give the Startup the ability to ask and answer informed questions, at the early stage, and that may save substantial time for the Startup.

Grading scale: 1-5 points.
From, "to a very small extent" to "a very high extent".

Interview and discussion-Funnel and Matrix

END

Interview with Startup Nr 1: "RISICO", represented by Stian Zimmermann Børresen

18th of May 2021

Startup 2: "SIMA"

I met with Sima Haddadin at Bakke Design and Innovation House, in Nordre Berg gt 2, 21th of may-2021. The timeline and interview is thoroughly recorded in the matrix attached below.

Her Startup called "SIMA", is a startup that is trying to solve the problem with students that have problems learning in a traditional way at school, so she will make a game based solution to offer another type of pedagogic tools.

The process i followed when I executed the interview was as follows:

- 1: I started off by explaining the complete process, by going through the matrix table of contents.
- 2: Then they confirmed that they were willing to participate in the interview and in the follow up reflection meeting two days after the matrix interview, and they had confirmed prior to the meeting by mail that I was allowed to use and expose all the data that i gathered.
- 3: Then we started, and I invited the startup to talk about their idea going through the “Funnel” process while they discussed and explained it through a 30 minute session. The goal of this session is not to score the interviewees, but to let them talk about their idea to try to make them focus intensely on it, so that it is more clear to them when we start on the Structured Startup Matrix Process that they need to change focus away from their idea. The point is to draw a clear line between the Funnel/idea and the Matrix/how to build the company.
- 4: Then we started on the Matrix, and it was 14 topics, with 7 questions for each topic.
- 5: During the Matrix session I noted at what time we started and ended the discussion regarding each question, and summoned up the total amount of time used per question.
- 5: Underneath each topic, I had made a sub-topic to the left on the scorecard, and the questions were written on the right side.
- 6: Each question was handled the same way, by me reading the sub-topic on the left, and then reading the question on the right, as the start of the cyclic approach. Then I explained and elaborated a bit around the question, and asked the interviewee to elaborate and continue the cycle. At the end, after the interviewee had elaborated, I continued the cycle and added my competence and then we both reflected on the learning and strengths and weaknesses at the end of the cycle before both parts scored themselves between 1 and 5. This usually ended with a deviation, and the result was noted to the right of the scores under “deviation” in the score chart.
- 7: Once the process was completed, the interviewees left, and I summoned up the results in the main score card on top of the Matrix document, and sent it to them for reflection.

8: Two days later I called them, and we executed a Teams interview, to investigate to what extent the Structured Startup Process Matrix was helpful to them, with regards to the initial problem and the research questions.

9: First they answered QR1, and three sub questions, and then they answered QR2 and three sub questions, and finally they scored themselves with a grade between 1-5 on all of the questions.

10: When we ended the meeting we summoned up the reflection scorecard, and I told them how grateful I was for their time, and they thanked me and were excited to have learned a process that they found to be very helpful.

Structured Startup Process Matrix

2: Interview and discussion of the Funnel and Matrix

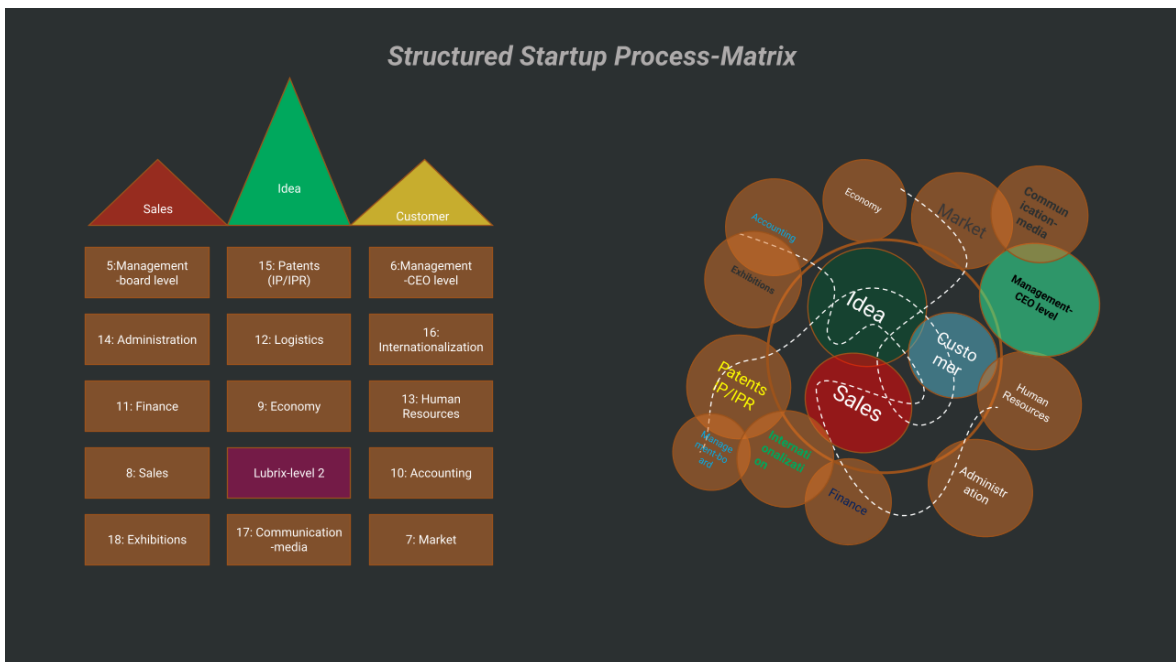
Questions for Action Research focusing a Startup teams (ST) ability to develop a Startup, by dividing the process in two parts "The Funnel" and the process of constructing a company "The Matrix", to identify an agreed status for where the Startup is at present time.

Interview with Startup Nr 2, represented by Sima Haddadin

18th of May 2021

Startup name: SIMA

Risiko domain: **Edtech-game based education.**



Complete matrix content and findings

	Total Startup score	Total score including me	Total deviation	
0. Frontpage-Startup presentation				
1. Presentation-Startup 2				
2. Structured Startup Process-Matrix				
3. Complete matrix content and findings				
4. Summary execution timeline				
5. Funnel-the analysis of the idea				
30 min				
6. Management-Board level	21	34	13	11 min
7. Management-CEO level	19	32	13	22 min
8. Market	19	27	8	10 min
9. Sales	22	28	6	14 min
10. Economy	10	30	20	9 min
11. Accounting	21	32	11	7 min
12. Finance	7	31	24	4 min
13. Logistics	NA	NA	NA	Not relevant for a software product.
14. Human Resources	13	35	22	9 min
15. Administration	30	32	2	9 min
16. Patents (IP)-Intellectual property (IPR)	8	34	26	10 min
17. Internationalization	34	32	-2	13 min
18. Communication-media	25	31	6	15 min
19. Exhibitions	35	33	-2	6 min
20. Reflection and summary				
21. END				

Grading scale: 1-5 points.
From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Summary execution timeline

	Started interview	Ended interview and discussion	Minutes in total	Comments
5. Funnel-the analysis of the idea	1400	1430	30	Initially I explained how the Funnel works, and then the Startup explained, analysed, and discussed their idea with me to gain insights.
6. Management-Board level	1431	1442	11	0
7. Management-CEO level	1443	1505	22	0
8. Market	1506	1516	10	0
9. Sales	1517	1531	14	0
10. Economy	1532	1541	9	0
11. Accounting	1542	1549	7	0
12. Finance	1550	1554	4	0
13. Logistics	NA	NA	NA	Not relevant for a software product.
14. Human Resources	1555	1604	9	0
15. Administration	1605	1614	9	0
16. Patents (IP)-Intellectual property (IPR)	1615	1625	10	0
17. Internationalization	1626	1639	13	0
18. Communication-media	1640	1655	15	0
19. Exhibitions	1656	1702	6	0
Total time to execute the interview			169	169 minutes (2 hours and 49 minutes)



Matrix

	Total Startup score	Total score including me	Total deviation	Questions
6. Management-board level	21	34	13	
• Run a Startup according to the law-HSEQ	2	5	3	To what extent can the Startup team (ST) handle this topic?
• Establish companies	5	5	0	To what extent can the ST handle this topic?
• Shareholder agreements	2	5	3	To what extent can the ST handle shareholder agreements?
• Seed rounds	1	5	4	To what extent can the ST handle seed rounds?
• Investors	3	5	2	To what extent can the ST handle investors?
• Vision-strategy	4	5	1	To what extent can the ST make a vision and a strategy?
• Risk analysis	4	4	0	To what extent can the ST make a risk analysis?

Grading scale: 1-5 points.
 From, " to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including me	Total deviation	Questions
7. Management-CEO level	19	32	13	
• Innovation Management	4	5	1	To what extent can the ST handle innovation management?
• Strategic organizational design	3	4	1	To what extent can the ST develop strategic organizational design?
• Product development	4	5	1	To what extent can the ST handle product development?
• Business model	2	5	3	To what extent can the ST make business models?
• Marketing and sales	3	4	1	To what extent can the ST handle marketing and sales?
• Finance	1	4	3	To what extent can the ST handle finance?
• Internationalization and growth	2	5	3	To what extent can the ST handle internationalization and growth?

Grading scale: 1-5 points.
 From, " to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including me	Total deviation	Questions
8. Market	19	27	8	
• Market analysis	3	5	2	To what extent can the ST handle market analysis?
• Market strategy and branding	2	4	2	To what extent can the ST handle market strategy and branding?
• Market activities	5	5	0	To what extent can the ST handle market activities?
• Price models	1	3	2	To what extent can the ST make price models?
• Digital marketing, SEO, content	4	3	-1	To what extent can the ST handle digital and content marketing?
• HR -Sales force	3	4	1	To what extent can the ST build a sales force?
• Market surveillance	1	3	2	To what extent can the ST handle market surveillance?

Grading scale: 1-5 points.
From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including me	Total deviation	Questions
9. Sales	22	28	6	
• Sales strategy	1	5	4	To what extent can the ST handle sales strategy?
• Sales activity-leads	4	4	0	To what extent can the ST handle sales activities and leads?
• Onboarding and service	5	5	0	To what extent can the ST handle onboarding and service?
• Build community-tribe	5	3	-2	To what extent can the ST build community?
• Develop sales culture	3	3	0	To what extent can the ST develop and build a sales culture?
• International sales	2	4	2	To what extent can the ST handle international sale?
• Sales and business development	2	4	2	To what extent can the ST handle sales and business development?

Grading scale: 1-5 points.
From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including me	Total deviation	Questions
10. Economy	10	30	20	
• Budget	3	5	2	To what extent can the ST make budgets?
• Liquidity	2	5	3	To what extent can the ST handle liquidity?
• Negotiations and contract economy	1	5	4	To what extent can the ST handle negotiations and contract economy?
• Pricing of a company	1	4	3	To what extent can the ST determine the price of a company?
• Due Diligence	1	5	4	To what extent can the ST handle a due diligence process?
• Payment solutions and currency	1	3	2	To what extent can the ST handle payment solutions and currency?
• Group structure	1	3	2	To what extent can the ST make and handle a group structure?

Grading scale: 1-5 points.

From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including me	Total deviation	Questions
11. Accounting	21	32	11	
• Accounting/Journal entry	5	4	-1	To what extent can the ST handle accounting-journal entry?
• Hours	5	5	0	To what extent can the ST handle their hours?
• Salaries	2	4	2	To what extent can the ST handle the administration of their salaries?
• Annual settlement	2	5	3	To what extent can the ST handle the annual settlement?
• Invoice	5	5	0	To what extent can the ST handle invoices?
• Tax and VAT	1	4	3	To what extent can the ST handle tax and VAT issues?
• Balance fission-fusion	1	5	4	To what extent can the ST handle situations where a balance is required?

Grading scale: 1-5 points.

From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including me	Total deviation	Questions
12. Finance	7	31	24	
• Prospects to banks	1	4	3	To what extent can the ST make prospects to the banks?
• Prospects to investors	1	4	3	To what extent can the ST make prospects to investors?
• Seed documents	1	5	4	To what extent can the ST make seed round documents?
• Innovation Norway, Forskningsrådet	1	5	4	To what extent can the ST make applications for funding?
• Support from EU	1	3	2	To what extent can the ST make applications to the EU?
• Private equity	1	5	4	To what extent can the ST raise private equity?
• Pawn broking	1	5	4	To what extent can the ST handle pawn broking?

Grading scale: 1-5 points.

From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix (only for products)

	Total Startup score	Total score including me	Total deviation	Questions
13. Logistics	NA	NA	NA	
• Logistic strategy	0	0	0	To what extent can the ST handle logistics strategy?
• Packaging design	0	0	0	To what extent can the ST handle packaging design?
• Packaging engineering	0	0	0	To what extent can the ST handle packaging engineering?
• User manuals and videos	0	0	0	To what extent can the ST make user manuals and videos?
• Marking of products	0	0	0	To what extent can the ST handle the marking of products?
• Insurance	0	0	0	To what extent can the ST handle insurance?
• Online shop-logistic solution	0	0	0	To what extent can the ST make and handle an online-shop?

Grading scale: 1-5 points.

From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including me	Total deviation	Questions
14. Human Resources	13	35	22	
• HR-HSEQ (Health, Security, Environment, Quality)	1	5	4	To what extent can the ST handle HR-HSEQ issues?
• Employees (Contracts, recruitment, salaries, benefits)	1	5	4	To what extent can the ST handle employees?
• Illness (Short and long-term sickness, death)	1	5	4	To what extent can the ST handle illness?
• Working hours	1	5	4	To what extent can the ST handle working hours?
• Close relations and family	3	5	2	To what extent can the ST handle close relations and family in a professional way?
• Cultural aspects (vacations, time zones, celebrations)	5	5	0	To what extent can the ST handle cultural aspects?
• Termination of employee contracts	1	5	4	To what extent can the ST handle the termination of a contract?

Grading scale: 1-5 points.

From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including me	Total deviation	Questions
15. Administration	30	32	2	
• Cloud based administration solutions	5	5	0	To what extent can the ST make and handle cloud based administration solutions?
• Agreed office structures	5	5	0	To what extent can the ST make and handle agreed office structures that everyone use?
• Security issues	2	5	3	To what extent can the ST handle security issues related to technical solutions and the physical office environment?
• Document control	5	5	0	To what extent can the ST handle document control so that its Due Diligence ready?
• Legal	3	5	2	To what extent can the ST handle laws and regulation to be compliant at all times?
• Build company culture	5	4	-1	To what extent can the ST build a solid and attractive company culture?
• Celebrate along the way	5	3	-2	To what extent can the ST organize structured celebrations and community building along the way?

Grading scale: 1-5 points.

From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including rise	Total deviation	Questions
16. Patents (IP)-Intellectual Property Rights (IPR)	8	34	26	
• IP-Strategy	1	5	4	To what extent can the ST make an IP strategy?
• IP-protection	1	5	4	To what extent can the ST handle protection of IP?
• IPR-contracts	1	5	4	To what extent can the ST handle the employees to protect the IPR?
• IP-negotiations	1	5	4	To what extent can the ST handle IP negotiations?
• Non Disclosure Agreement (NDA)	2	5	3	To what extent can the ST handle NDA's?
• IP-cost	1	5	4	To what extent can the ST handle budgeting of IP cost's?
• IP-lawsuits	1	4	3	To what extent can the ST handle lawsuit's?

Grading scale: 1-5 points.

From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Matrix

	Total Startup score	Total score including rise	Total deviation	Questions
17. Internationalization	34	32	-2	
• Travelling competence	5	5	0	To what extent do the ST have relevant travelling competence?
• Travelling flexibility	5	5	0	To what extent can the ST be flexible with regards to travelling 24/7?
• Experience from living in other countries	5	5	0	To what extent do the ST have experience from living in other countries?
• Languages	5	3	-2	To what extent can the ST handle various languages?
• Deep cultural insights-corruption	5	4	-1	To what extent do the ST have deep cultural insights?
• Advanced health and security level	4	5	1	To what extent can the ST handle advanced health and security level?
• Custom and visa issues	5	5	0	To what extent can the ST handle custom and visa issues?

Grading scale: 1-5 points.

From, "to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

20. Reflection and summary of Matrix process-2 days after execution

1. Date: 24th of may-2021	Grading:	Please comment here:
Questions:	39	out of 40
QR1: To what extent can the results from the matrix process help a Startup to identify its present status by finding its strengths and weaknesses?	5	In my opinion it is a really good place to start, it's almost some kind of a "startup SWOT" analysis, a reality check for a Startup.
QR1A: To what extent did the split of the discussion, between the idea (the funnel) and the concept of building a Startup company (Matrix) make it easier to identify "strengths and weaknesses"?	5	In my opinion it was easier to split the two, and keep the idea off the table, and have the stages in the Funnel and the Matrix separated like you would do it in project management.
QR1B: To what extent did the split of the discussion, between the idea (the funnel) and the concept of building a Startup company (Matrix) make it easier to discuss "strengths and weaknesses"?	5	In my opinion it is really good, because it "informs the next question".
QR1C: To what extent may the result of this process make it easier to build the right team and network to be able to handle future strengths and weaknesses in a professional way?	5	In my opinion it is a really good swot analysis, that enables me to prioritize who we need on the team, when, and in what degree.
QR2: To what extent can the results of the matrix process become the strategic analysis foundation needed to adjust their future strategy to increase their chance of success?	4	In my opinion it is a good tool, to highlight all the parts of the analysis that I need to cover when making my analysis, and it gives me a good foundation for making my strategy. At the same time I feel that it could be more specific with regards to a layer with a timeline, that would benefit my Startup even more.
QR2A: To what extent may this process make it easier for the Startup to make a strategic analysis?	5	In my opinion this is a good framework to make it easier to facilitate a strategic analysis process.
QR2B: To what extent may this process make it easier for the Startup to strengthen and complete its strategic framework?	5	In my opinion, in a Startup "you don't know what you don't know", and in that sense this matrix process can show you what to expect along the way and make it easier.
QR2C: To what extent may the result of this process make it easier to increase the likelihood of success?	5	In my opinion, it is very helpful, I am less blind than I was before, and now I am prepared with a framework. Now I know what to ask, and I know what checklist to prepare. I also know that I have to find the right team when I go to "a desert island", and I cannot hire everyone. Someone is only needed part time in the beginning, and network is important.

Grading scale: 1-5 points.
From, "to a very small extent" to "a very high extent".

Interview and discussion-Funnel and Matrix

END

Interview with Startup Nr 2: "SIMA", represented by Sima Haddadin

21th of May 2021

3.4 Results and findings

These are the following findings, which are accumulated and presented in two different views in the matrix, and I have defined that a deviation of 10 or more is a substantial signal that indicates a significant weakness.

Startup 1: “RISICO”

Complete matrix content and findings				
	Total Startup score	Total score including me	Total deviation	Total time used on interview and discussions 212 minutes (3 hours and 31 minutes).
0. Frontpage-Startup presentation				
1. Presentation-Startup 1				
2. Structured Startup Process-Matrix				
3. Complete matrix content and findings				
4. Summary execution timeline				30 min
5. Funnel-the analysis of the idea				
6. Management-Board level	16	34	18	13 min
7. Management-CEO level	23	30	7	19 min
8. Market	30	27	-3	15 min
9. Sales	25	28	3	16 min
10. Economy	22	30	8	17 min
11. Accounting	33	33	0	21 min
12. Finance	20	32	12	8 min
13. Logistics	NA	NA	NA	Not relevant for a software product.
14. Human Resources	20	35	15	17 min
15. Administration	28	32	4	10 min
16. Patents (IP)-Intellectual property (IPR)	21	34	13	5 min
17. Internationalization	26	32	6	17 min
18. Communication-media	23	31	8	11 min
19. Exhibitions	22	33	11	13 min
20. Reflection and summary				
21. END				

Grading scale: 1-5 points.
From, " to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Findings:

The questions in the reflection chart reveal to what extent the startup was satisfied with the process, and to what extent it was helpful to them, with regards to what they learned and to what extent the process was helpful for them to identify their strengths and weaknesses.

These results reveal the deviation between the startup and the Venture Builders, and a deviation of 10 points or more on a topic is considered a “red flag”, initiating a weakness that needs to be addressed.

In this case it is 5 significant findings with a deviation of 10 points or more, that indicates that the startup needs to address the weakness in their strategic analysis:

- Content topic 6: Management-board level. Score deviation 18.
- Content topic 12: Finance. Score deviation 12.
- Content topic 14: Human Resources. Score deviation 15.
- Content topic 16: Patents (IP)-IPR. Score deviation 13.
- Content topic 19: Management-board level. Score deviation 11.

20. Reflection and summary of Matrix process-2 days after execution

1. Date: 24th of may-2021	Grading:	Please comment here:
Questions:	29 out of 40	
RQ1: To what extent can the results from the matrix process help a Startup to identify its present status by finding its strengths and weaknesses?	4	In my opinion this is a good base for all Startups to discuss in general terms with investors and people with specific domain knowledge, but to highlight specific strengths and weaknesses the questions must be optimized to identify them properly.
RQ1A: To what extent did the split of the discussion, between the idea (the funnel) and the concept of building a Startup company (Matrix) make it easier to identify "strengths and weaknesses"?	3	In my opinion this gives a more structured approach, so it is easier to identify the strengths and weaknesses in general, but not in depth.
RQ1B: To what extent did the split of the discussion, between the idea (the funnel) and the concept of building a Startup company (Matrix) make it easier to discuss "strengths and weaknesses"?	4	In my opinion this gives a more structured approach, so it is easier to discuss the highlighted areas with strengths and weaknesses that the Startup needs to focus on and investigate further.
RQ1C: To what extent may the result of this process make it easier to build the right team and network to be able to handle future strengths and weaknesses in a professional way?	4	In my opinion I would not have guessed before the matrix process that I would get a low score with regards to Management-Board level, so I guess it revealed a weakness, so I have to learn more about it or complement my network or Startup team with such knowledge.
RQ2: To what extent can the results of the matrix process become the strategic analysis foundation needed to adjust their future strategy to increase their chance of success?	3	In my opinion this gives me a general foundation of the necessary parts to be considered when building a company, and what needs to be considered on a general level, but not in depth.
RQ2A: To what extent may this process make it easier for the Startup to make a strategic analysis?	4	In my opinion this makes it easier to make a strategic analysis due to the structured framework, because I have a broader foundation than I had prior to this process.
RQ2B: To what extent may this process make it easier for the Startup to strengthen and complete its strategic framework?	4	In my opinion this is a good process to identify possible "red flags", or "holes" in the strategic framework, so we may reveal spots that needs to be reinforced. I think Startups at an early stage with limited education or knowledge about innovation, would get valuable help from such process to reduce risk.
RQ2C: To what extent may the result of this process make it easier to increase the likelihood of success?	3	In my opinion this is hard to answer, due to all the factors involved to succeed, but aspect of "time to market" is relevant. I think this is a good support beam for a Startup, to identify what parts of the Startup concept that you may have missed out, and this gives the team the ability complete it. It also give the Startup the ability to ask and answer informed questions, at the early stage, and that may save substantial time for the Startup.

Grading scale: 1-5 points.
From, "to a very small extent" to "a very high extent".

Findings:

In the reflection chart I have designed it to link the research questions to the left, to the comments from the interviewees to the right, where the main point is for them to reflect, comment, and score, without my involvement. I needed them to highlight to what extent the process could help them to find their strengths and weaknesses, and make it easier to analyse their startup to make a reliable strategy and reduce their risk.

The summoned score was 29 out of 40.

(If they were satisfied, the highest score the Venture Builders can get is 40 points (8 questions, on a range 1-5).

Startup 2: “SIMA”

Complete matrix content and findings

	Total Startup score	Total score including me	Total deviation	Total time used on interview and discussions 169 minutes (2 hours and 49 minutes).
0. Frontpage-Startup presentation				
1. Presentation-Startup 2				
2. Structured Startup Process-Matrix				
3. Complete matrix content and findings				
4. Summary execution timeline				30 min
5. Funnel-the analysis of the idea				
6. Management-Board level	21	34	13	11 min
7. Management-CEO level	19	32	13	22 min
8. Market	19	27	8	10 min
9. Sales	22	28	6	14 min
10. Economy	10	30	20	9 min
11. Accounting	21	32	11	7 min
12. Finance	7	31	24	4 min
13. Logistics	NA	NA	NA	Not relevant for a software product.
14. Human Resources	13	35	22	9 min
15. Administration	30	32	2	9 min
16. Patents (IP)-Intellectual property (IPR)	8	34	26	10 min
17. Internationalization	34	32	-2	13 min
18. Communication-media	25	31	6	15 min
19. Exhibitions	35	33	-2	6 min
20. Reflection and summary				
21. END				

Grading scale: 1-5 points.
From, " to a very small extent" to "a very high extent". If the question is not relevant to you please write NA (Not Applicable).

Findings:

The questions in the reflection chart reveal to what extent the startup was satisfied with the process, and to what extent it was helpful to them, with regards to what they learned and to what extent the process was helpful for them to identify their strengths and weaknesses.

These results reveal the deviation between the startup and the Venture Builders, and a deviation of 10 points or more on a topic is considered a “red flag”, initiating a weakness that needs to be addressed.

In this case it is 5 significant findings with a deviation of 10 points or more, that indicates that the startup needs to address the weakness in their strategic analysis:

- Content topic 6: Management-board level. Score deviation 13.
- Content topic 7: Management-CEO level. Score deviation 13.
- Content topic 10: Economy. Score deviation 20.
- Content topic 11: Accounting. Score deviation 11.
- Content topic 12: Finance. Score deviation 24.
- Content topic 14: Human Resources. Score deviation 22.
- Content topic 16: Patents (IP)-IPR. Score deviation 26.

20. Reflection and summary of Matrix process-2 days after execution

1. Date: 24th of may-2021	Grading:	Please comment here:
Questions:	39	out of 40
RQ1: To what extent can the results from the matrix process help a Startup to identify its present status by finding its strengths and weaknesses?	5	In my opinion it is a really good place to start, it's almost some kind of a "startup SWOT" analysis, a reality check for a Startup.
RQ1A: To what extent did the split of the discussion, between the idea (the funnel) and the concept of building a Startup company (Matrix) make it easier to identify "strengths and weaknesses"?	5	In my opinion it was easier to split the two, and keep the idea off the table, and have the stages in the Funnel and the Matrix separated like you would do it in project management.
RQ1B: To what extent did the split of the discussion, between the idea (the funnel) and the concept of building a Startup company (Matrix) make it easier to discuss "strengths and weaknesses"?	5	In my opinion it is really good, because it "informs the next question".
RQ1C: To what extent may the result of this process make it easier to build the right team and network to be able to handle future strengths and weaknesses in a professional way?	5	In my opinion it is a really good swot analysis, that enables me to prioritize who we need on the team, when, and in what degree.
RQ2: To what extent can the results of the matrix process become the strategic analysis foundation needed to adjust their future strategy to increase their chance of success?	4	In my opinion it is a good tool, to highlight all the parts of the analysis that I need to cover when making my analysis, and it gives me a good foundation for making my strategy. At the same time I feel that it could be more specific with regards to a layer with a timeline, that would benefit my Startup even more.
RQ2A: To what extent may this process make it easier for the Startup to make a strategic analysis?	5	In my opinion this is a good framework to make it easier to facilitate a strategic analysis process.
RQ2B: To what extent may this process make it easier for the Startup to strengthen and complete its strategic framework?	5	In my opinion, in a Startup "you don't know what you don't know", and in that sense this matrix process can show you what to expect along the way and make it easier.
RQ2C: To what extent may the result of this process make it easier to increase the likelihood of success?	5	In my opinion, it is very helpful, I am less blind than I was before, and now I am prepared with a framework. Now I know what to ask, and I know what checklist to prepare. I also know that I have to find the right team when I go to "a desert island", and I cannot hire everyone. Someone is only needed part time in the beginning, and network is important.

Grading scale: 1-5 points.
From, "to a very small extent" to "a very high extent".

Findings:

In the reflection chart I have designed it to link the research questions to the left, to the comments from the interviewees to the right, where the main point is for them to reflect, comment, and score, without my involvement. I needed them to highlight to what extent the process could help them to find their strengths and weaknesses, and make it easier to analyse their startup to make a reliable strategy and reduce their risk.

The summoned score was 39 out of 40, where 40 indicates the highest level of satisfaction.

(If they were satisfied, the highest score the Venture Builders can get is 40 points (8 questions, on a range 1-5).

3.5 Validity and reliability

Validity:

I designed the Matrix based on my hypothesis, to be able to measure the status of the startup against a structured startup process, to enable the Startup to build a valid and reliable strategic framework.

With reference to one of my interviewees, Sima Haddadin, an experienced teacher with a master degree from Harvard University, she expressed reflexively that *“In my opinion it is really good, because it informs the next question”* with regards to the validity of the Matrix

process. This gave me a good indication of the validity of the research, but on the other hand I know that the Action Research method is particularly exposed due to bias towards the interviewees, due to closeness to the research interviewees in participatory projects. (Bergold & Thomas, 2012)

Additionally it is important for the data to be valid that they are reported thoroughly with regards to duration, timeframe, numerical numbers, topics, and similar to be able to identify the data history.

With only two startup interviewees the results cannot be generalisable at this stage, but with a much higher number of participants, I hope I may be able to find generalisable patterns in the future.

Reliability:

The genuinity and research challenge with a startup is that they are all different, due to the “human component” involved. Reliability has to be built on transparency and integrity, so that it is possible to execute the research in exactly the same way as it was executed initially, but given the genuinity it demands a high degree of precision to do so.

I have tried to integrate the high degree of precision needed during the research situation when I designed the Matrix, so I conducted iterations on the questions and quality assurance with seven Venture Builders in Peel Startup Studio in Trondheim.

The interviewees were informed about the bias that might occur, given the history of the startups, and their friendship with the interviewer to highlight, clarify and avoid the importance of bias when executing the research.

Ethics:

This research has been executed with focus on ethics, to avoid making trade-offs that violate common ethical principles within academia. As a part of this approach I have chosen to follow the GDPR (*Personvernordningen*, 2018) guidelines with regards to personal data that was collected, documented, and described, to protect the interviewees personal data.

The participants were informed about the project and the topics before they accepted to participate, and they accepted in writing after a read thru of the results after the interviews that I was allowed to make all of their answers from this research public.

The research was executed in specially close relations to colleagues and associates, and such a research environment demands special focus on ethics.
(Bergold & Thomas, 2012).

3.6 Delimitations

I have decided to make a delimitation of a maximum of 7 questions per topic, in total 98 questions in the Matrix, due to the lengths of this master thesis.

With regards to the Startup Studio models, and the varieties amongst them, I have a delimitation as to only determine the most important facts in my scope of this thesis, that they all follow a repetitive innovation process.

I will focus on the US and Norway, due to the amount of relevant theory found in the US.

4 DISCUSSION

In the beginning of this thesis, I referred to an OECD report, “INNOVATION AND GROWTH RATIONALE FOR AN INNOVATION STRATEGY, where they emphasized that we have to be *“innovating faster and succeeding more often”*, (OECD, 2007)

Due to the OECD report on strategy, and the strategic problem I have formulated and investigated, I find it relevant to outline and discuss the importance of having a “strategy”. I have been working in the Military for 15 years, including education from The Royal Norwegian War Academy, where “strategic processes” is one of the most important topics. When I read the OECD report, I wonder how the various international stakeholders have contributed to the report, and what kind of agenda they had. In my discussion I will be critical and analytic towards the “innovation theatre” on behalf of the startups in this thesis, and I will lean on the broader concept of strategy that military thinking provide:

“Although strategic management as a field of study has developed mostly over the last century, the concept of strategy is much older. Understanding strategic management can benefit greatly by learning the lessons that ancient history and military strategy provide”.

https://docs.google.com/document/d/1Ja8OML_-k3ky4ev1oYk1pjC-O8_BQ9NbRj2Jp5iZ5So/edit#

The strategic historic traces within innovation, especially the open innovation strategies that is core to startup studios, can be traced far back in time all the way to the Roman-empire:

“As a result of the open innovation dissemination, the necessity of open innovation is being magnified in the theory of the national innovation system. Nevertheless, research on the relationship between the open innovation and national innovation system is insufficient so far. Therefore, this research aims to analyze the open innovation cases of Roman era with the framework of the national innovation system. We discovered and analyzed the case of Roman era such as Acquisition, In-sourcing, Collaboration, User innovation and Spin-off among the several types of open innovation. We expect that this research can help the establishment of future national innovation policy”.

(Jeon et al., 2015)

The definition of the word “strategy” itself is important to understand to be able to use it properly:

“Indeed, the word strategy has its roots in warfare. The Greek verb strategos means “army leader” and the idea of stratego (from which we get the word strategy) refers to defeating an enemy by effectively using resources (Bracker, 1980)”.

https://docs.google.com/document/d/1Ja8OML_-k3ky4ev1oYk1pjC-O8_BQ9NbRj2Jp5iZ5So/edit#

In light of such an ancient military concept of strategy, and the meaning of the term “strategy”, it is very important that the startups get to know what resources they have, and what resources they may need “to win the war”, and that can probably be determined by making a strategic analysis of their present “status” that reveals their strengths and weaknesses. In the light of this, a startup studio may complete their resources to reinforce the startup.

In addition it is probably appropriate for startups to have a sound scepticism towards Governments, investors, consultants, other companies and so forth, but I have taken this

perspective as a delimitation in this thesis. My short comment on this topic is that startups probably don't know their enemies, whether its politicians, investors, bankers, other hostile companies, or business people in general, and it is my impression that startups tend to be too trustful. I believe that startups don't know, that consultants don't know what the startups actually need, and the startups often don't know what they need either.

Today, many companies build their strategy on a “science” approach trusting that you may use a Lean concept to build a strategy for your business, whilst the military strategic approach usually build on a combination of the two factors “art” and “science”:

“The ancient Chinese strategist Sun Tzu made it clear that strategic management is part art. But it is also part science”.

(Lean Startup, n.d.)

https://docs.google.com/document/d/1Ja8OML_-k3ky4ev1oYk1pjC-O8_BO9NbRj2Jp5iZ5So/edit#

I think such strategies whether they are based on the science approach, or the art and science approach, can support an innovation strategy to develop “the idea” in established companies. When it comes to a broader perspective of building a startup, where you have to handle two processes that includes “the idea” and the “building of a company”, I think you need a broader foundation than art and science integrated with your strategy to succeed.

Except from the perspective of what strategy is built on, it is additionally an important discussion how to define “innovation”, and the historic development of the term and its content as described earlier in this thesis. For my further reflections it is important to determine when people started to use the term “innovation” in a modern context, because much of the initial theory that was developed around the second world war seems to be fundamental to innovation theory within both established companies and startups today.

Once the term innovation is defined, you may refine your vision and start your strategic analysis for your startup, based on the content that you integrated in your definition. The analysis will then become the foundation for your strategy. This has similarities to the process of “building a house”, that may be done in many different ways, and with at least 10 different strategies . (LetsBuild, n.d.) This is why the innovation process for a startup is

important, because its many ways to build the company, just like its many ways to build a house.

“Building a business is a lot like building a house. You start with a vision. You draw up some plans. You gather materials. Then the real work begins — you dig the hole, lay the foundation, frame the walls, and much more”.

(Gerke, 2011).

Established companies have already “built their house”, so they have a place to live and are very resourceful, in the opposite of a “homeless startup” with no place to live and very limited resources. I find it relevant to refer to how a Startup Studio think when building a startup from scratch, just to focus on the very different processes going on in an established company and in a startup, with regards to the resources they dispose:

“Startup studios are startup creation entities. Their main goal is to create and launch startup ventures one right after the other. Unlike accelerators, studios don't involve a curriculum , a fixed period of time, a cohort, or a seed investment. Instead, studios are staffed by 3 or more full-time entrepreneurs (“the core team”). The core team engages in a period of ideation which is followed by their work on building the venture from scratch”.

(Lesage, 2020).

On the other hand, some people claim that having a strategy is a complete waste of time, and that they have succeeded without having a strategy, so this is obviously a topic where the opinions vary a lot.

“It is possible, and perhaps likely, for companies to succeed in the absence of strategy”.

(Ridley, 2019)

From my perspective, this has similarities to winter conditions that we rehearse for in the Military. Example, we train on “falling through the ice”, to be able to survive. Once you have fallen through the ice during training, you know later on during real operations that you need to prepare for as much as possible to increase the chance of survival, so you should try to plan for eventualities, and bring equipment needed just in case you fall through the ice. My point is that, it is wise to prepare somehow for eventualities to be able to solve and handle them if they occur, because it may save your life.

In the Matrix I use to investigate the problem, the “status” will simply identify at what stage the Startup is at the present time with regards to the two integrated processes regarding the “idea” and “building of a company”. I think the process, if run by a professional Startup Studio, seems to be working based on the results from the matrix. I will shortly go through and comment on the results from the reflection charts that the startups have answered, and I guess they will reveal a verdict.

To be able to investigate the research problem I had to make a “Structured Startup Process Matrix” based on an “Action Research Method”, to be able to identify the “status” of a startup. I have never seen a similar tool, so I find it interesting, because it is made in 2020.

Both professor Bill Aulet (MIT/Harvard), professor Steve Blank (Stanford), and professor Alex Osterwalder (Harvard) comes from the same academic tradition, and all of them were founders of various startups in the 1990`s, so to me it looks like they have basically been building on professor Scumpeter and other researchers theories within traditional innovation since 1939 when building their own innovation theories.

It seems like Professor Bill Aulet have seen a few years ago that it is missing a startup innovation process that is specially designed to make “complete startup companies”, where all great innovation theories may be redesigned to fit both established companies and startups, so in my opinion the Disciplined Entrepreneurship that Professor Bill Aulet have made is the best on the market today. That is if you don't join a Startup Studio, and buy the resources you need to get complete.

On the other hand, the CEO of the Startup Studio Ideo Lab Bill Gross, has also been an active founder since the 1990`s, but he has chosen a quite different approach in his innovation processes developed over time with “hands on” experience.

So whether it's a lack of strategy, and that the existing innovation processes being used is incomplete, or other reasons why startups fail remains to be investigated.

This is an overview from 2021 showing the main reasons why the startups they have investigated failed:

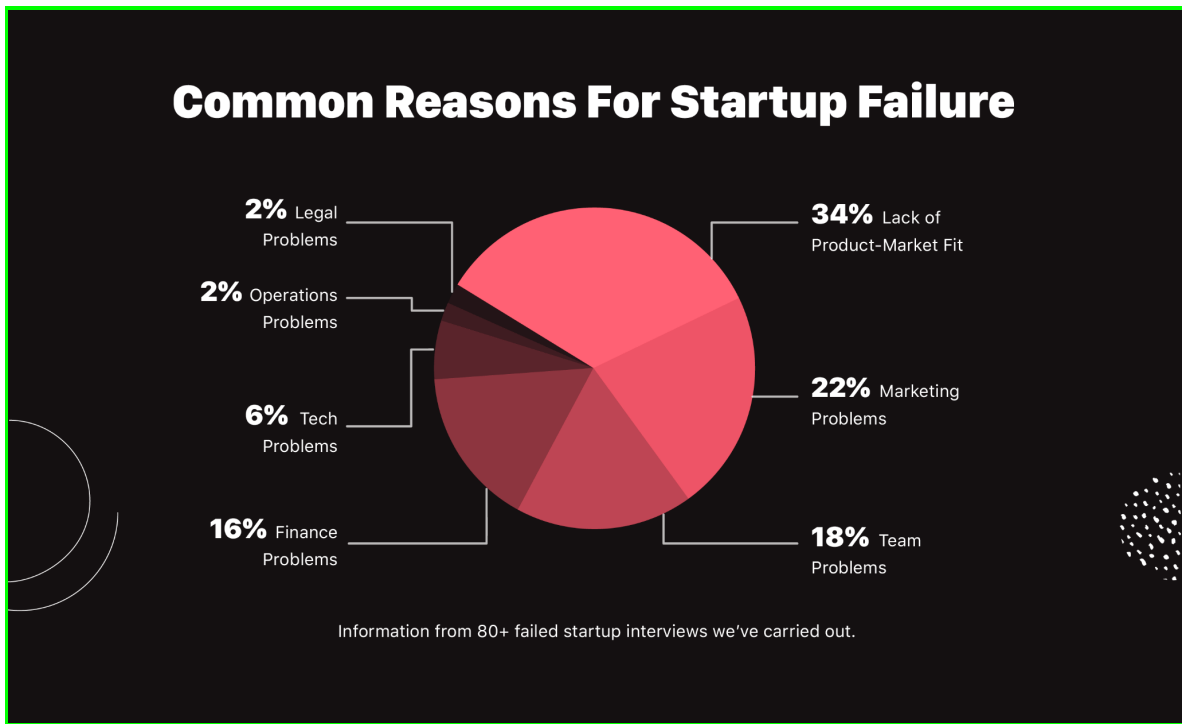


Figure: C, (Cardeira & Kotashew, 2021)

Research problem and questions:

Many Startups fail at some stage during the Startup process, because they have problems identifying their status measured against a structured Startup process, as well as that they were not able to build a strategic framework to develop or adjust their future strategy and reduce the risk.

In my opinion one of the best strategic recipes for making a strategic startup framework, was written by my former mentor at MIT, professor Michael Cusumano and his friend David B. Yoffie (Harvard Business School). The strategy receipt is developed and tested by their friends thru more than 30 years, Steve Jobs (Apple), Bill Gates (Microsoft) and Ian Grove (Intel), before they wrote it:

“As they examined what the three CEOs had in common, however, Yoffie and Cusumano homed in on five key strategies that any manager, entrepreneur or CEO can learn. Each of the lessons reads like a paradox or Zen koan that takes intelligence and practice to unpack. "Look Forward, Reason Back," for example, takes its lead from game theory, in which a great chess master will simultaneously be able to see the eventual path to checkmate and the best next move to get there.

Gates, Grove and Jobs's Keys to Success

1. *Look Forward, Reason Back*
2. *Make Big Bets, Without Betting the Company*
3. *Build Platforms and Ecosystems—Not Just Products*
4. *Exploit Leverage and Power—Play Judo and Sumo*
5. *Shape the Organization around Your Personal Anchor”*

(Blanding, 2015)

Due to the strategy receipt, my reflections based on theoretical aspects, various articles, my findings, and discussions in general regarding innovation processes for startups, I formulated a research problem.

Research problem and questions:

Research problem:

“Too many Startups fail at some stage during the Startup process”

To be able to give an answer to this problem, I made one main research question and two sub-research questions, and investigated them by using the matrix on the startups.

Research questions:

QR 1: To what extent can the results from the matrix process help a Startup to identify its present status by finding its strengths and weaknesses?

Answer SIMA: *“In my opinion it is a really good place to start, it's almost some kind of a “startup SWOT” analysis, a reality check for a Startup”.*

Answer RISICO: *“In my opinion this is a good base for all Startups to discuss in general terms with investors and people with specific domain knowledge, but to highlight specific strengths and weaknesses the questions must be optimized to identify them properly”.*

The two startups saw a very good use of the matrix, to be able to conduct such a SWOT analysis after they had finished the matrix session:

If you've ever worked in a corporate office environment, you may have come across the term "SWOT analysis." This has nothing to do with evaluating militarized law enforcement response units, and everything to do with taking a long, hard look at your company.



(https://docs.google.com/document/d/1Ja8OML_-k3ky4ev1oYk1pjC-O8_BQ9NbRj2Jp5iZ5So/edit#)

To me it seemed clear during the discussions with the matrix that the startups were insecure of what parts of the company they were actually supposed to evaluate. Intuitively that may sound strange, but to me as a practitioner it sounds normal, considering the fact that most startups don't know how to build a company and they don't know how to develop an idea because they haven't done it before. The two startups interviewed in this case are a student 25 years of age, studying at an Entrepreneur school but with no prior work experience, and Sima is a teacher and she has never run a business before.

In the startup studio it is only professionals, so it is normal for a studio to do such evaluations, but that requires a place to start the analysis which in this case the matrix provides.

QR 1 A: To what extent did the split of the discussion, between the idea (the funnel) and the concept of building a Startup company (Matrix) make it easier to identify “strengths and weaknesses”?

Answer SIMA: *“In my opinion it was easier to split the two, and keep the idea off the table, and have the stages in the Funnel and the Matrix separated like you would do it in project management”.*

Answer RISICO: *“In my opinion this gives a more structured approach, so it is easier to identify the strengths and weaknesses in general, but not in depth”.*

According to this theory, it seems like most business plans basically follow the same format:

“Writing a strong business plan is easier than you might think because most business plans follow the same basic format. If you are reviewing a plan you've already written or taking a look at one for a friend, knowing how to spot the strengths and weaknesses in the business plan helps you create the most accurate plan”.

(Milano, 2020)

I think this is a usual approach for startups to follow, and maybe this is the usual advice they get from the consulting industry, to make an initial plan. My impression from the two startups SIMA and RISICO, was that they discovered new and additional information by working with the Startup Studio and the matrix, so that they could expand and complete their business plan to contain a more structured and broader plan covering new startup specifics and making it easier to reveal more of their strengths and weaknesses.

QR 1 B: To what extent did the split of the discussion, between the idea (the funnel) and the concept of building a Startup company (Matrix) make it easier to discuss “strengths and weaknesses”?

Answer SIMA: *“In my opinion it is really good, because it “informs the next question”.*

Answer RISICO: *“In my opinion this gives a more structured approach, so it is easier to discuss the highlighted areas with strengths and weaknesses that the Startup needs to focus on and investigate further”.*

During the discussion with the matrix, Sima said that from her perspective the matrix made her capable of “informing her next question”, meaning that she was actually able to ask questions based on the matrix process because it enabled her to do so, giving her new insights and making it easier to discuss. Stian expressed the same impression, phrasing it in another way, focusing on that the structure made the discussion easier to execute.

QR 1 C: To what extent may the result of this process make it easier to build the right team and network to be able to handle future strengths and weaknesses in a professional way?

Answer SIMA: *“In my opinion it is a really good swot analysis, that enables me to prioritize who we need on the team, when, and to what degree”.*

Answer RISICO: *“In my opinion I would not have guessed before the matrix process that I would get a low score with regards to Management-Board level, so I guess it revealed a weakness, so I have to learn more about it or complement my network or Startup team with such knowledge”.*

According to this article, you have to identify what kind of people you need in your team, whether its specific competence needed or an entire business area. *“First, identify the gap in your business. Whether it’s in a specific process or an entire business area, associate yourself with someone who brings that expertise to the startup”.*

(Founder Institute, 2018)

Stian elaborated by saying that the matrix process made him aware that he needed more competence with regards to Board management, or he had to expand his network to recruit such knowledge.

In a Startup Studio this is typically covered by the Venture Builders, and in special cases we seek out networks to solve problems rapidly.

QR2: To what extent can the results of the matrix process become the strategic analysis foundation needed to adjust their future strategy to increase their chance of success?

Answer SIMA: *“In my opinion it is a good tool, to highlight all the parts of the analysis that I need to cover when making my analysis, and it gives me a good foundation for*

making my strategy. At the same time I feel that it could be more specific with regards to a layer with a timeline, that would benefit my Startup even more”.

Answer RISICO: *”In my opinion this gives me a general foundation of the necessary parts to be considered when building a company, and what needs to be considered on a general level, but not in depth”.*

Stian and Sima expressed that the matrix would be a good foundation for them to make an analytical foundation, and as I understood Stian it would also be a good foundation for a more in depth analysis by specifying the matrix further, to be able to run a PEST analysis as well:

“PEST is the political, economic, social and technological factors that have an impact on a company’s performance”.

(PestleAnaysis Contributor, 2016)

In Startup Studios it is getting usual to work with PEST analysis, due to the increasing amount of startups.

QR2A: To what extent may this process make it easier for the Startup to make a strategic analysis?

Answer SIMA: *“In my opinion this is a good framework to make it easier to facilitate a strategic analysis process”.*

Answer RISICO: *”In my opinion this makes it easier to make a strategic analysis due to the structured framework, because I have a broader foundation than I had prior to this process”.*

Stian and Sima express similar thoughts, when saying that the matrix will make it easier to facilitate a strategic analysis process and make a structured framework, and identify strengths and weaknesses. At the same time I have the impression that they will need help to do this, or they have to find co-founders or network with such capacity due to their low score and high deviation in the matrix (above 10) on topic 6. Management Board level.

QR2B: To what extent may this process make it easier for the Startup to strengthen and complete its strategic framework?

Answer SIMA: *”In my opinion, in a Startup “you don't know what you don` t know”, and in that sense this matrix process can show you what to expect along the way and make it easier”.*

Answer RISICO: *”In my opinion this is a good process to identify possible “red flags”, or “holes” in the strategic framework, so we may reveal spots that need to be reinforced. I think Startups at an early stage with limited education or knowledge about innovation, would get valuable help from such processes to reduce risk”.*

Well, this is a very good insight, as to “what startups know, and what they don't know”. Is this the average answer a startup would provide, when faced with the matrix, then the matrix is measuring exactly what it's supposed to.

QR2C: To what extent may the result of this process make it easier to increase the likelihood of success?

Answer SIMA: *”In my opinion, it is very helpful, I am less blind than I was before, and now I am prepared with a framework. Now I know what to ask, and I know what checklist to prepare. I also know that I have to find the right team when I go to “a desert island”, and I cannot hire everyone. Someone is only needed part time in the beginning, and network is important”.*

Answer RISICO: *”In my opinion this is hard to answer, due to all the factors involved to succeed, but the aspect of “time to market” is relevant. I think this is a good support beam for a Startup, to identify what parts of the Startup concept that you may have missed out, and this gives the team the ability to complete it. It also gives the Startup the ability to ask and answer informed questions, at the early stage, and that may save substantial time for the Startup”.*

A “picture” of the crucial path of a startup is summoned in a good article in Forbes

Magazine:

“10) Master of Time Management

Startup life can be rough, between the mountain of things to do and limited staff and resources, the company's success hinges on the team's productivity and effectiveness to do more with less. I was once told by a savvy and very successful businessman that having things to do will never be an issue, but carefully picking what to focus on and what to prioritize will be your business challenge”.

(Prive, 2013)

Their answers to this question makes me confident that the matrix process is helpful to them, in various ways, also with regards to saving critical time.

RQ- The answer to the main research question

Many Startups fail at some stage during the Startup process, because they have problems identifying their status measured against a structured Startup process, as well as that they were not able to build a strategic framework to develop or adjust their future strategy and reduce the risk.

It is my impression, based on this research results and relevant theory, that the main research question is true.

It seems like the essence of one of the most important things in a startup is the ability to save time and focus on doing the right things, and it seems like Stian and Sima would agree that this is exactly what the matrix will enable them to do. Sima indicates that she will be able to make a reliable checklist of what to do, and Stian thinks he will save time, with regards to the importance of “time to market”. Whether this will reduce their risk on their path ahead is reasonable to assume, but it provides no evidence to their chance of succeeding.

With regards to relevant startup innovation process theory it is my general impression from working with Peel Startup Studio, and the two interviews with the two startups investigated, that the most relevant theory for them is “Disciplined Entrepreneurship”. I find it marvelous that this theory is not on the list amongst the top 15 theories used within innovation today, so I take this as an indication that it is still not enough academic focus on

how to help startups to succeed by making a holistic startup process that consider all aspects on how to build a startup company:

“15 most important Innovation Theories your company should be using”

(Skillicorn, 2017)

This makes me wonder what's going on regarding the development of startup theories, and that it will take a long time to develop them, so in the meantime it may be wise to seek advice in a Startup Studio if you are a startup.

The main reason for claiming this is the need for an holistic approach that covers all aspects and resources of a startup company to succeed, so it has to cover the two innovation processes of “developing the idea” and “building of the company”.

5 CONCLUSION

At the end of this thesis, I will conclude on how I may help the OECD to fulfill their goal in the report that I referred to initially “INNOVATION AND GROWTH RATIONALE FOR AN INNOVATION STRATEGY” (OECD, 2007), where they emphasized that we have to be “*innovating faster and succeeding more often*” to be able to save the planet.

I will start by summoning up the thesis, and I started by informing the essence of the report, by elaborating about strategy and innovation from a historic perspective, and then I described a broader landscape of the historic development of the innovation theories, before I narrowed the scope to more specific descriptions and examples of innovation process theory relevant for startups.

Eventually I described theories in my scope that are relevant for startups, Disciplined Entrepreneurship, and Lean innovation processes, and I described how Startup Studios work and their preference to design thinking methodology.

Then I phrased my research questions based on my assumption that startups need help to delimit the “status” of their startup, to be able to identify their strengths and weaknesses, with regards to what stage the startup is at the present time during their startup innovation

process. I assumed that the chance of failure would be higher unless they were able to make a reliable strategic analysis similar to SWOT.

In addition I made my own tool, the Startup Matrix, to enable the startups to find their present status.

I wanted to investigate the two processes that a startup consists of, so I integrated them in the Startup Matrix. The first process is the development of the idea, and the second is how to build the company. I have called the process of developing the idea “Funnel”, and the process of how to build a company “Matrix”.

Once I had executed the interviews with the two startups by using the Startup Matrix, I found interesting deviations and results, and the interviewees were quite excited. A few days later the interviewees summoned up their results, and gave very positive recommendations to how the Startup Matrix had helped them to reveal their strengths and weaknesses in a new way that would be valuable to them.

In the discussion I commented on all of the answers given by the startups in their final reflection score cards, to elaborate on their answers, and to document further what both participants gained from the action research process.

My conclusion with regards to whether the Startup Matrix tool revealed the startups strengths and weaknesses, is that I think it did.

Furthermore, I found it interesting to try to compare to what extent the theories Disciplined Entrepreneurship and Lean innovation process from the US had similarities to the Norwegian Startup Matrix intended for use in a Startup Studio. When I sketched it, it looks like the processes from the US have a less holistic approach with regards to how to build a startup company that consists of two processes when looking at the comparison figure:

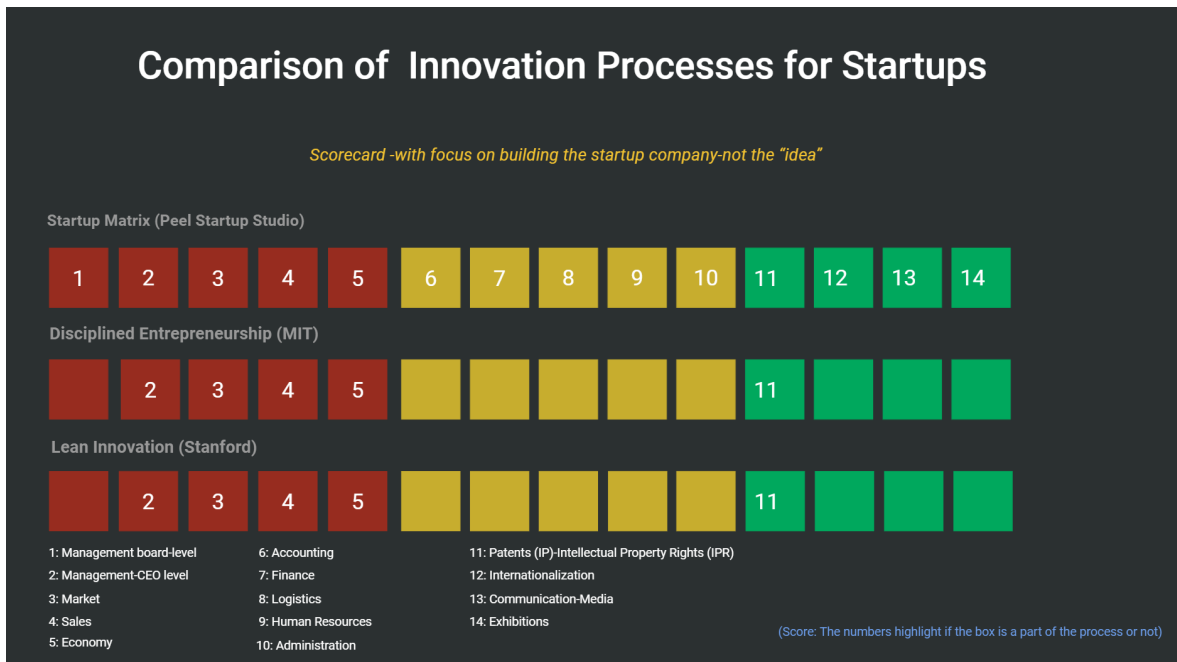


Fig: Comparison figure.

The comparison figure is only looking at the process with regards to “building the startup company”, and not the integrated process of “developing the idea”.

I found support for my assumption regarding the main research question in my findings, after I had executed the Startup Matrix with the two startups RISICO and SIMA, and due to their final reflection papers they revealed that there were many aspects of how to build a startup company that they were not aware of.

I think OECD would benefit from supporting the development of a complete paradigm for startup innovation, with theories specially designed for building startups companies, to enable startups to succeed more often and contribute to save the world.

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LIST OF ABBREVIATIONS

IP	Intellectual Property IPR
IPR	Intellectual Property Rights
EI	Environmental Innovation
KPI	Key Performance Indicator
NGO	Non-Governmental Organization
R&D	Research and Development
TRL	Technology Readiness Level
PropTech	Property Technology
EduTech	Educational Technology
MIT	Massachusetts Institute of Technology
MTM	Master of Technology Management
NTNU	Norges Teknisk -Naturvitenskapelige Universitet
GDPR	General Data Protection Regulation
IPO	Initial Public Offering