Master's thesis

NTNU
Norwegian University of Science and Technology
Faculty of Economics and Management
NTNU Business School

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Innovating in a Large and Established Organization

Innovasjon i en stor og etablert organisasjon

Master's thesis in Management of Technology
Supervisor: Roar Stokken
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I dedicate this thesis to Francesco Illy and Alfonso Bialetti
whose legacy kept me going day after day.

Preface

This master's thesis is written as a part of a Master of Science in Management of Technology at the Norwegian University of Science and Technology (NTNU).

I would like to thank Telenor Norge and the unit in the case for allowing me to observe them for a whole month, giving their time to be interviewed, and even giving me a workspace to do research while present. A special thanks goes to the employees of this unit, some of whom could almost be considered a second supervisor to the project. The commitment and interest in the study you showed has undeniably had a strong positive effect on the overall results.

I would also like to thank my supervisor Roar Stokken for his help on shaping this thesis to what it has become. His guidance using his strong academic insight in combination with his humorous attitude has made for an educational and constructive collaboration during the work on this thesis.

The contents of this thesis represent the author's account

Signed: Carl Christian Ghersetti

Carl Christian Ghersetti
Trondheim, May 2019

Abstract

This thesis aims to answer the following problem statement: *How can a large and established organization work to meet the demands of innovative projects?* Telenor has to innovate to secure future wealth creation. Innovating on services outside the realm of the traditional network services calls for other ways of working. Theory supports that agile project management is beneficial in such cases where uncertainty is greater. As it is not considered to exist one optimal solution to this challenge there is a need for research. This study aims to shed light on how a large and established company can approach the challenge of working agile with innovative projects by studying a unit inside Telenor Norway created for just this purpose.

The study is a qualitative case study focused on revealing the process of choosing, implementing, and utilizing agile methodologies in the case unit. This is done through open observation of the activities and meetings in the unit, conversations with the employees, and interviews with key people both inside and outside the unit.

The findings show that Telenor has organized their innovation efforts in a dedicated unit, while also increasing the understanding of the importance of innovation in the whole organization. The unit have incorporated an agile approach to their use of methodologies to structure the unit and run the innovative projects. This includes tailoring and testing agile methodologies to find the ones most fitting their environment. The unit found a way of working that allows for effective innovation. Using the logic of an agile approach to the process, the optimal solution for the unit is an ever-changing one that sees iterations as their environments and projects change.

It is concluded that it is important to have a focused initiative on innovation, while creating a broad understanding of agility and innovation. An agile approach should be applied to the structuring and practical processes of the innovation efforts. To ensure customer needs are met, the projects should incorporate agile processes for empirical experimenting.

Sammendrag

Denne avhandlingen har som formål å besvare følgende problemstilling: *Hvordan kan en stor og etablert organisasjon jobbe for å møte kravene til innovative prosjekter?* Telenor må innovere for å sikre fremtidig verdiskaping. Innovasjon på tjenester som ligger utenfor deres tradisjonelle nettverkstjenester kaller på andre måter å jobbe på. Teori peker mot at agil prosjektstyring er gunstig i slike tilfeller hvor det er større usikkerhet. Ettersom det anses å ikke finnes én optimal løsning til denne utfordringen er det her et behov for forskning. Denne studien har som formål å belyse hvordan en stor og etablert bedrift kan møte utfordringen å jobbe agilt med innovative prosjekter ved å studere en enhet i Telenor Norge skapt for akkurat dette formålet.

Studien er en kvalitativ casestudie fokusert på å avsløre prosessen brukt til å velge, implementere og bruke agile metodikker i caseenheten. Dette er gjort gjennom åpen observasjon av aktivitetene og møtene i enheten, samtaler med ansatte og intervjuer med nøkkelpersoner både på inn- og utsiden av enheten.

Funnene viser at Telenor har organisert deres innovative initiativ i en separat enhet, mens de samtidig har økt forståelsen av viktigheten av innovasjon i hele organisasjonen. Enheten har brukt en agil tilnærming til deres bruk av metodikker til å strukturere enheten og kjøre innovative prosjekter. Dette inkluderer å skreddersy og teste måter å jobbe på som tillater effektiv innovasjon. Ved å bruke en agil logikk på deres tilnærming til prosessen er den optimale løsningen for enheten under kontinuerlig endring, og itereres ettersom deres miljø og prosjekter endrer seg.

Det er konkludert med at det er viktig å ha et sterkt fokus på dette initiativet, samtidig som at det skapes en bred forståelse for agilitet og innovasjon i bedriften. En agil tilnærming bør brukes for struktureringen av enheten og valg av de praktiske prosessene. For å sikre at kundebehovene møtes bør prosjektene inkorporere agile prosesser for å eksperimentere på grunnlag av empiriske oppdagelser.

Table of Contents

List of Tables

List of Figures

Chapter 1

Introduction

Imagine that a large and established organization is like a large oil tanker, heavy and rigid. In this analogy, the engine is a metaphor for the core business, steadily creating revenues. What if this organization could become an aircraft carrier instead? It would still be a large vessel with a powerful engine at its core, but also containing smaller ships and airplanes with agile properties, greatly increasing the range of capabilities. Now, how could an oil tanker evolve to, and operate, as an aircraft carrier? This thesis seeks to examine how a large and established organization can operate in a way that facilitates innovation and agility in fast-paced projects outside the company's core business.

There is no defined best way to organize, lead, or make decisions in a company because the best action is contingent on the situation and environment (Fiedler 1964). As such, this should be taken into account when deciding how innovation efforts should be operated. There is also no universal model for project management; processes have to be adapted and developed over time and in response to experiences in past projects (Cobb 2011, Heda & Goncalves 2010). On page 79 in a book on leading a learning organization by Belasen (2000), Hammer & Champy (1993) are quoted say that every company wants "an organization flexible enough to adjust quickly to changing market conditions, lean enough to beat any competitor's price, innovative enough to keep its products and services technologically fresh, and dedicated enough to deliver maximum quality and customer service". In practice, many companies experience results that deviate from these desires. Rummler & Brache (2012) claim that the process is one of the least understood and managed parts of business development. By examining how innovation is facilitated in a large actor in the telecommunication industry, Telenor, this thesis could shed light on how such large organizations can operate to reach their innovative desires.

The aim of this thesis is, therefore, to contribute to an understanding of how a large company has chosen to organize its innovative efforts, how they run innovative projects in practice, and the experiences that have been made. To achieve this, an innovative environment in Telenor Norway and one of their projects has been observed.

1.1 Background and Context

From its inception as a state-owned company in 1855 under the name Telegrafverket, Telenor has today become a part-privatized and listed company with the name Telenor Group, with its head office at Fornebu in Bærum, Norway. The group has over 20,000 employees worldwide and 174 million customers in Scandinavia and Asia (Telenor Group 2018). Telenor's Norwegian subsidiary Telenor Norway is the country's largest supplier of telecommunications and data services and offers broadband, mobile, fixed network, and cable TV for private and corporate customers (Telenor Norge 2018).

Telenor Norway is divided into divisions, which are again divided into units. The research in this study took place in a unit which, for the sake of this report, is given the fictitious name the *Innovative Business Unit*, from here on referred to as IBU. Note that this is a measure taken to preserve the anonymity of the people being observed, interviewed or have any other relation to the contents of this thesis.

Developing new products is necessary to create future revenue streams, and shapes the company's future (Kotler 2000). Managing product development projects has evolved from being a field relevant only to a few people to become a system and discipline that affects all corners of an organization and is considered vital to a company's operational competitiveness (Kerzner 2017). This also applies to Telenor, which, like many other large companies, have dedicated several FTEs[1] to innovative and agile project management. Different ways of managing projects have been around almost as long as projects have existed, but recognition of the importance and focus on the various methods, principles, and practices have slowly been increasing. Over time, several different methodologies have been developed. However, when new agile methodologies emerge they often become "program du jour"[2], or the new hot way to manage projects (Cobb 2011). A consequence of this is that consultants sell it in as a cure for almost anything, and businesses jump on it without careful consideration. The implementation is often weak and

[1] FTE = full-time equivalent, meaning the workload equal to that of a person employed full time.

[2] "Program du jour" means the program of the day and is used to describe something that has not been given enough time to be implemented properly and is discontinued before it could take effect.

does not penetrate the organization deep enough to make any practical change. In addition, the methodology may not fit the type of project or the organization's environment. Instead of learning from the attempt, many companies move on to the next hot methodology without asking why it failed, or if some elements actually did work well and should be adopted. This underlines the importance of examining how a business adjusts its process and how to pick the elements from known methodologies that fit that particular business (Heda & Goncalves 2010, Cobb 2011).

The president and CEO of Telenor, Sigve Brekke, entered his position in August 2015. Right away he started redefining the purpose of the organization through an updated strategy. The new strategy would "transform the company from a traditional *telecoms provider* into a cutting edge *full digital services provider*" (INSEAD 2017, p. 6). With this change, Brekke faced a big challenge. "How do you turn one of the world's largest telecommunication companies into an agile, innovative, customer-focused digital services provider?" (INSEAD 2017, p. 3). Telenor contacted INSEAD and professor Nathan Furr and started their journey from then to now.

1.2 Contribution to the Field

The insight this thesis provides into innovative practices in large organizations could prove valuable for the company itself, as the observations are done by an external actor. The research can thus shed light on something the company might not be able to discover by themselves. The results could also be of interest to other companies who are aware of the importance of being able to innovate to secure future value creation.

It is perceived by the researcher that even though some large corporations have been able to create innovative environments within the organization, keeping up with the fast-changing landscape of the 21st century is a challenge many modern companies are facing. The contribution this thesis provides is not that of a one-size-fits-all solution, as just copying the actions of another company would rarely prove successful. Instead, the thesis could be a source of inspiration as well as identifying effects and experiences that others could benefit from.

1.3 Research Method

The research is a qualitative case study in which data is collected through the open observation of a project in a unit in Telenor Norway, as well as interviews with relevant people. The researcher has a basic understanding of agile project management, lean thinking, and innovative development obtained through attaining relevant university classes at a bachelor and master level. Along with a deeper theoretical review of academic literature, observation is considered a favorable method for examining what is actually done and then comparing it with theoretical subjects (Schein 1969). The individuals being observed are limited to people related to the unit in the case or otherwise to innovation in Telenor Norway. In order to gain a deeper understanding and clarify any uncertainties, conversations with relevant employees, be it at the workstation, by the coffee machine, or during lunch act as valuable information included in the empirical findings. Some semi-structured interviews are also conducted where it is considered necessary. These interviews could extend to people who are not being observed but have a strong connection to the project and its process. Relevant theory is obtained through contacts in the research field, recommendations from Telenor employees, the supervisor for this thesis, and literature search through Oria[3] and Google Scholar. Central to the theoretical foundation of this study is literature on how large corporations can innovate, especially by using agile methods. Concepts from books such as *The Innovator's Method* (Furr & Dyer 2014) and *The Startup Way* (Ries 2017) is presented in the theory chapter, and used actively in the discussion. The findings from the data collection consisting of written notes from observations, conversations, and interviews are sorted and coded using computer software and then discussed using the relevant theory.

1.4 Research Topic and Problem Statement

Developing new products is imperative to create new revenue streams in the fast-changing technological landscape of today. Companies that have benefited greatly from long-standing revenue streams have to prepare the organization to keep up with these changes. As agile project management is believed to be favorable when running innovative projects, looking at a unit in Telenor actively incorporating agile values can provide the answer to how this challenge could be approached by others. As such, it is not the combination of methodologies they choose to use that is the answer, but how they approach, choose, and implement them. In other words, how

[3] Oria is a web portal to the collection of material available at most Norwegian academic and research libraries

they work to shape the organization to meet the demands that arise when innovative projects are undertaken. Through a theoretical foundation, data collection, and discussion, this thesis aims to provide an answer to the following problem statement:

> *How can a large and established organization work to meet the demands of innovative projects?*

The case is an innovative unit in Telenor Norway and the projects are intensive innovation projects outside the core business. Three research questions have been formulated to provide an answer to the problem statement. The first aims to create an overview of how this unit has organized its innovative operations and the second looks at how the innovative projects are run in practice. The last research question seeks to find the experiences and possible effects that Telenor Norway has made working this way. The research questions are as follows:

1. *How has the unit organized its innovative operations?*
2. *How does the unit work with innovation in practice?*
3. *What experiences have been made from the way the innovative projects are run and organized in the unit?*

The answers to these questions could prove useful to other parts of the Telenor organization, as well as other companies who are facing diminishing revenue streams because of paradigm shifts in their industry. Then they have to look towards innovative new product development to secure future wealth creation (Kotler 2000).

1.5 Scope

Lean thinking and agile project management are broad areas that are often subject to research. As such, it is important to inform of the scope intended in this thesis. The aim is not to define when a company becomes agile or whether a company is agile or not. The aim is to look at experiences from people working in an environment that tries to incorporate lean and agile elements in their work. Therefore, a general introduction to lean thinking and agile project management is seen as sufficient. To learn more about the basis for change in the unit to be observed, books by Furr & Dyer (2014), and Ries (2011, 2017) are used as part of the main literature. The experiences gathered during observation, conversations and interviews involve

a degree of subjectivity. The discussion reflects on the reason these experiences exist and if they are connected to their agile efforts. The preferred reader of this thesis is someone with an interest in innovative product development, especially the challenge of innovating in organizations who otherwise are not built to specialize in it. Innovation as an academic field is perceived by the researcher as more abstract than many other business management fields. Therefore, an open mind and a balance between a pragmatic and academic state of mind is encouraged when reading this thesis. The business in the case is an actor in the telecommunication business, but the scope of relevance could be extended to large organizations in other industries.

1.6 Instructions to the Reader

This thesis is structured after the natural process for qualitative research. The first chapter presents some background and context before explaining in short how the study is to be done and the topic of the study. This includes the research questions that are answered and the scope that is covered. The second chapter presents the theory relevant to the thesis. This chapter is to some degree sorted after the research questions, but first, it lays a base of knowledge on innovation, lean thinking, and agile project management. The third chapter explains the research design, relevant scientific theory and how the study was done in practice. The fourth chapter contains the analysis. Here the empirical findings are presented and then discussed using theory. The analysis chapter is split into three parts, each one giving an answer to a research question. These answers collectively shed light on the research topic, giving an answer to the problem statement. This is presented in the conclusion. The last chapter consists of relevant appendices.

Chapter 2

Theoretical Foundation

This chapter presents the theoretical foundation of the thesis. The discussion, together with the empirical findings, is based on the content in this chapter. Several of the main sources used in this study is literature recommended through courses at NTNU Business School, from professors at the university, and employees at Telenor Norway. The latter presented me with literature which they themselves used in their process of organizational change and in the shaping of their current methods of running innovative projects. The chapter gives a theoretical foundation on the terms lean and agile, then provides theory on organizing and working with innovative projects in practice in accordance with the research questions.

2.1 Product Development in Large Organizations

> *As a successfully scaled company, you cannot run the ship the way you used to. You'll get run over by a swarm of start-ups.*
> Scott Cook, as cited in Furr & Dyer (2014)

In the words of Philip Kotler, all companies must develop new products, as it shapes the company's future (Kotler 2000). It is necessary to create future revenue streams. With the fast changing technological and market evolution we are witnessing today, the old revenue streams are fading away. Almost every industry has experienced paradigm shifts. You cannot work against them, so you have to expect them when they come. The long-standing revenue from the physical copper cables to the fiber optic lines of today are slowly dwindling. The same is true for mobile services where the old ways of paying a toll per minute of a call are gone. Today,

the amount of data is the most important parameter for many consumers, and even this is decreasing. This is because the consumer values the services available on these networks more than access to the network itself. A strong innovative effort is a way for Telenor to find and capitalize on new products and services. This is why the research questions are relevant for the telecommunication business today, and why innovation in a large and established company is the topic of this thesis.

Incorporating new products in a company is often divided into the acquisition route or the development route. New products are by Booz & Hamilton (1982) divided into six categories:

1. *New-to-the-world products:* New products that create an entirely new market.
2. *New product lines:* New products giving entry to an established market for the first time.
3. *Additions to existing product lines:* New products supplementing existing product lines.
4. *Improvements and revisions of existing products:* New products that provide greater performance, value, and replace existing products.
5. *Repositionings:* Existing products that target new markets or market segments.
6. *Cost reductions:* New products that provide similar performance at a lower cost.

There is a lot to choose from, and how the product should be developed is, among other things, dependent on which category the new product falls under. As developing new products often involve greater risk, a lot of them naturally fail in the market. Many factors could lead to failed projects. Some brought forward by Kotler (2000) are favoritism of ideas, overestimating the market, bad design, overpricing, high competition, and high development costs. He also mentions social and governmental constraints such as those related to safety and environmental concerns as possible factors hindering new product development.

2.1.1 Lean Thinking

While this thesis' focus is more on agile methods and practices, introducing the "lean way of thinking" is useful as the lean principles could be seen as the foundation for agile project management. Focus on delivering and maximizing customer value is central in both schools of theory, an early sign that the agile principles are relevant in other fields than software development (Cobb 2011).

Lean Principles

Lean was introduced in the Japanese car manufacturer Toyota in the 1940s. The "Toyota Production System" focused on producing in a continuous flow, and the fact that only a fraction of the time spent on a product added value to the end customer (Melton 2005). Car manufacturers in the western world did not find this exciting until the book *Lean Thinking* by Womack & Jones (1997) explained the principles of (1) identification of value, (2) elimination of waste, and (3) generation of flow (of value to the customer). The benefits of lean for traditional manufacturing industries are listed by Melton (2005) as the following:

- Decreased lead time for customers.
- Reduced inventories for manufacturers.
- Improved knowledge management.
- More robust processes (as measured by fewer errors and therefore less rework).

The book by Womack & Jones (1997) showed how lean was not only applicable to the automotive industry by applying it to the whole supply chain. This expansion of usage produced several examples of lean thinking applied to business processes such as project management (Womack & Jones 1997). In response to those who point out the lack of tangible benefits from lean thinking, Melton (2005) notes that a lean business process will decrease the response time for requests. When the business process is connected to a supply chain, the financial benefits could be great. She also calls out the illusion that a business process is already efficient by claiming that it in most cases is not when seen in a supply chain perspective.

2.1.2 Agile Project Management

Agile methodologies are not new but have grown in popularity in recent time, as illustrated by figure 2.1. The Agile Manifesto by Beck et al. (2001), a group of recognized software developers, brought agile methodologies from a concept in software development to more general values serving a greater purpose. The word *agility* became "the ability to both create and respond to change in order to profit in a turbulent business environment" (Highsmith & Highsmith 2002, p. 16). Cobb (2011) credits the increasing adoption to a greater understanding and acceptance of methodologies such as Scrum, examples of companies demonstrating successful implementation in practice, and increased understanding of how one can achieve a balance between project control and agility.

Figure 2.1: Evolution of methodology trends the last decades. (Heda & Goncalves 2010)

Agile Principles

The focus of the agile methodologies is defined by the agile movement Beck et al. (2001) as seen in table 2.1. In their manifesto they clarify that "while there is value in the items on the right, we value the items on the left more".

Individuals & Interactions	>	Process & Tools
Working Software	>	Comprehensive Documentation
Customer Collaboration	>	Contract Negotiation
Responding to change	>	Following a plan

Table 2.1: Values of the agile movement

It is important to clarify that in this thesis, there is no defined line separating an agile approach and one not agile at all, even though there are some people who believe such a dividing line exists. Combining approaches and customizing and tailoring methods gives us a spectrum of agility with a pure agile approach in one end and traditional waterfall[1] development approaches in the other. In practice, companies do not exist in one of these extremes (Cobb 2011).

Agile Methods

Cobb (2011) describes agile methodologies as "like a restaurant menu where there may not be a full-course entrée, and your order individual menu items a-la-carte to make up a full meal" (Cobb 2011, p. 47). This might be unusual for some project managers who are more used to work with complete and well-defined methodologies. Still, Heda & Goncalves (2010) say one could find companies using only one approach, those who use a combination of approaches, and those who tailor-make agile methods to suit their organizational needs and environment. The analysis reveals the approach chosen by IBU. Many of the most well-known agile methods are closely related to the IT-sector and software development, such as Scrum, Extreme Programming (XP), OpenUp, Lean Programming, and Crystal Clear (Heda & Goncalves 2010).

[1] The waterfall method is a linear and sequential approach common in engineering design.

An introduction to the popular agile methodology Scrum is given in this section. In addition, other agile methods without as long traditions as the ones listed above are included, as they are relevant to the case.

Scrum Scrum is known as an agile methodology popular in software development where the product is developed in an iterative and incremental fashion using sprints. When developing innovative products where product requirements are not clear from the start, the Scrum method is a good choice. This is mainly because each iteration is based on empirical findings from the previous one, making the product requirements clearer as the project goes on (Heda & Goncalves 2010). While also being an agile software development methodology, Scrum has, according to Cobb (2011), "gone beyond a developer-centric orientation and provides somewhat of a framework for project management and has a disciplined process designed to eliminate waste similar to lean" (Cobb 2011, p. 37). This makes it a go-to agile method for many project managers not in the software development field. The iterations are called sprints and involve goals of what to achieve during the set length of the sprint.

> *Scrum employs real-time decision-making processes based on actual events and information. This requires well-trained and specialized teams capable of self-management, communication, and decision making. The teams in the organization work together while constantly focusing on their common interests* (SearchSoftwareQuality 2017).

Sutherland & Schwaber (2013), who formulated the initial versions of the Scrum framework, explain in their *Scrum guide* how three pillars support the process control based on empirical findings. These pillars are transparency, inspection, and adaptation. Sutherland & Schwaber (2013) goes on to describe these pillars. Transparency refers to the visibility of the parts of the process affecting the outcome. It must be transparent enough so that it is visible to the managers responsible for the outcome. The second pillar, inspection, is about detecting unacceptable variances in the process by having sufficient frequency of inspections. A pitfall here is that a process is not unfazed by inspections. Considerations should be made so that the frequency of inspections do not exceed the tolerance of the process. The third pillar is adaptation. Inspections could reveal that the process is not on the right track and that the resulting product will not be acceptable. Making adjustments and adaptations as quickly as possible is necessary to correct the direction of the project. Inspections and adaptations are either done in the daily scrum meetings, the sprint review and planning, or the retrospective sprint used to review the previous sprint.

Google Design Sprint The "Google Design Sprint" is GV's[2] method of answering crucial questions. It is one of the activities IBU use in their practical work, making a short explanation of its use relevant. In the span of five days, the process goes through mapping the challenge, reviewing ideas and focusing on solutions, deciding between solutions and creating a storyboard, creating prototypes, and exposing customers to the prototype (GV 2019). Using this method, GV writes it is possible to avoid an endless debate-cycle and compress months of work into a single week. GV's website includes a DIY[3] guide for using the design sprint in your own company (GV 2019). The method is illustrated in figure 2.2.

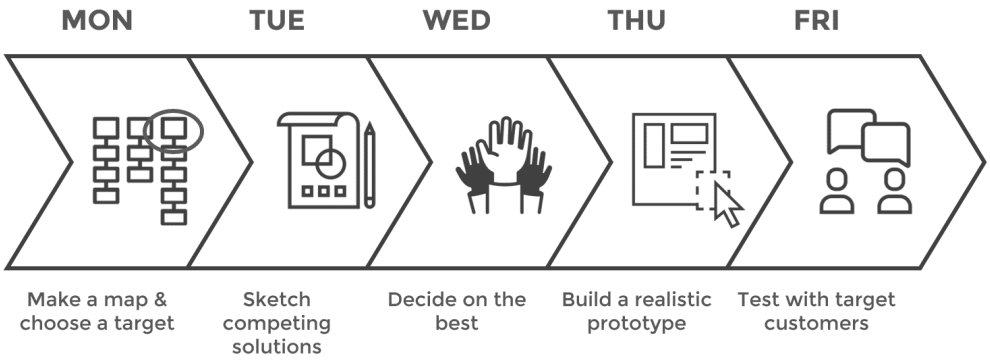

Figure 2.2: Google Design Sprint as popularized by Google Ventures (Neil Turner 2018)

The Spotify Tribe Engineering Model IBU has drawn inspiration from other models of organizing agile efforts. One of these is the Spotify tribes. The organization behind the popular music streaming service Spotify have since their launch in 2008 become a large company with over 4,165 employees (Statista 2018). Part of their success could be attributed to their usage of agile methodologies and creating their own scalable way of working. This method is named the Spotify Tribe. The keyword here is *scalable*. In its early days, the teams at Spotify used scrum. As they grew they had to organize their teams in a way that supported multiple large agile teams (Kendis team 2018). "If large teams are to produce lots of software functionality quickly, the agile methods must scale to meet the task" (Reifer et al. 2003, p. 12). Spotify organized their teams after a model using *squads, tribes, chapters*, and *guilds*. The first three types of units are shown in figure 2.3.

The last unit mentioned, guilds, differ from the rest in the sense that they are more organic and dynamically cross the "lines" created by the other units. They consist of "a group of people that want to share knowledge, tools, code, and practices" (Kniberg & Ivarsson 2012, p. 10).

[2]GV (formerly Google Ventures) is the venture capital arm of Alphabet, inc.
[3]DIY = Do It Yourself

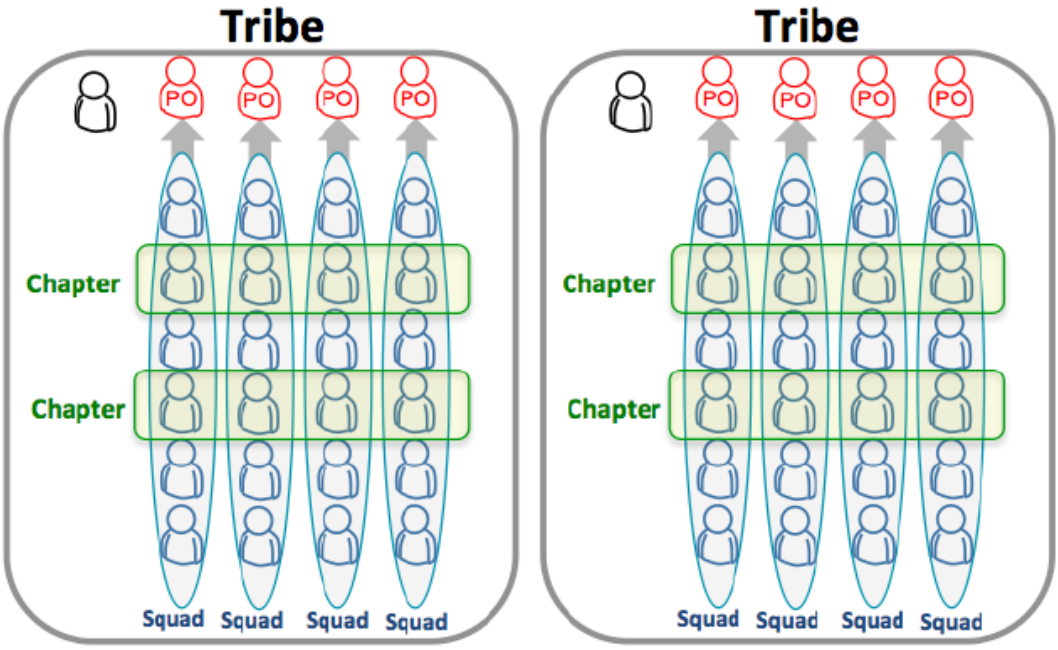

Figure 2.3: Squads, tribes and chapters (Kniberg & Ivarsson 2012).

All squads work towards the same long term goal but are responsible for different objectives. Each squad could be compared to a small startup, especially as they are encouraged to apply Lean Startup principles. Minimum Viable Product (MVP)[4] and validated learning, as described by Ries (2011), are central principles in this regard. Having high autonomy while keeping the work aligned between units is a balance that is hard to achieve (Brown & Eisenhardt 1995). The aim is to implement what Kamer (2018) calls "minimum viable bureaucracy" to achieve this balance. A model alone is not enough, though. A set of principles inspired by the agile manifesto is displayed on the office walls. These are continuous improvement, iterative development, simplicity, trust, and servant leadership (Sundén 2013). Using this, Spotify has "kept an agile mindset despite having scaled to over 30 teams across three cities" (Kniberg & Ivarsson 2012, p. 1).

Agile vs. Conventional Waterfall Approaches

It is relevant to include theory on how the different ways of working are in relation to each other. Cobb (2011) presents the polarization associated with agile and waterfall approaches: The agile movement started out as a reaction to the bureaucracy involved in waterfall processes and meant less to no documentation, process, or methodology. At the other end of the scale, the traditional waterfall approach is a control function with emphasis on accurately estimating and managing

[4]MVP is explained further in chapter 2.3.

rigid cost structures and schedules. According to Cobb (2011), these associations do not represent how it actually is in most organizations. Instead of being complete opposites, both agile approaches and traditional development have evolved to the point where they often are closer to each other than what is perceived by many. Many organizations have made their traditional methods more agile by taking inspiration from their agile counterpart and vice versa. Working in either one of the extreme ends of the scale does not fit most organizations. Instead, the approach "needs to be well aligned with the company's business strategy, culture, and business environment, as well as the risks and complexity of individual projects" (Cobb 2011, p. 8).

2.1.3 Summary of Product Development in Large Organizations

The development of new products defines the future of a company. There are several different types of new products. Developing new products in a new market involves more uncertainty and risk. Using methods and principles inspired by lean and agile could be beneficial. Lean brings a focus on identifying and generating value and eliminating waste. Important benefits connected with lean are decreased lead times, reduced inventories, improved knowledge management, and more robust processes.

Agile project management has seen a great increase in popularity in recent time. Successful use of agile methodologies such as scrum has been proved several times. The agile principles give value to individuals and interactions, working functions, collaboration with customers, and responding to change. In practice, one will often use a combination of agile and traditional approaches. There are several agile methodologies, and also combinations of uses. Scrum is a popular iterative and incremental agile methodology. It relies heavily on the use of sprints and empirical findings, adjusting the direction of the project as needed. Another sprint based method is the Google Design Sprint. This is designed as an intensive five-day sprint used to go from finding out what the challenge is to testing the solution on target customers. The Spotify Tribe Engineering Model is a way of organizing teams in an agile way. It is designed so that it can scale to large development environments while still having teams with high levels of autonomy. Comparing agile and conventional waterfall approaches is easier in theory than in practice, as they have evolved closer to each other over time and most organizations use a mix of both.

2.2 Organizing and Governing Innovation

When organizing a company to make it more capable of running innovative and agile projects it is important to not use a narrow view and only focus on the part of the organization doing product development (Cobb 2011). Some will think this is the only part that will be impacted by a business going agile. According to Cobb (2011), the truth is that making agile methods work within an organization requires a broad-based commitment from other departments collaborating at some point with the development side of the organization. It may even require significant shifts in organizational culture.

2.2.1 Corporate Governance

With a broad view of the organization as suggested by Cobb (2011), it becomes clear to the researcher that governance structures are important to take into consideration in this thesis. It affects all parts of the business. Governance could in this sense mean how a department or unit inside an organization is run by its manager, all the way up to how the government of the country the business operates in expects the company to control its ownership and management. As an example, the Norwegian government promotes a set of principles for corporate governance meant to clarify the role between owners, the board of directors, and the company's managers in addition to what is mandated by law (Ministry of Trade, Industry and Fisheries 2018). Companies listed on the Oslo Stock Exchange, such as Telenor, has to deliver a statement on how they plan to follow these principles. However, regarding a company's ability to innovate effectively, governance on resource allocation and organizational structure is likely to be of bigger importance.

Objectives and Key Results

The concept of Objectives and Key Results (OKRs) as a way of governing goals and goal achievement is by Niven & Lamorte (2016) defined as the following:

> OKRs is a critical thinking framework and ongoing discipline that seeks to ensure that employees work together and focus their efforts to make measurable contributions that drive the company forwards (Niven & Lamorte 2016, p. 6).

As this definition is a mouthful, it is useful to dissect the term OKRs. An objective is a qualita-

tive goal of what or where the organization wants to move towards. It is the answer to "What do we want to do?". The key results are the quantitative measurements that determine the achievement of the objectives. It is how one knows if an objective has been met (Niven & Lamorte 2016). There are several key results for each objective. According to Wodtke (2016), OKRs could be used to give a broad goal to both groups and individuals. Using OKRs could help an organization overcome common challenges relevant in any business. The challenges could be executing the strategy that has been set, re-organizing as not to remain stagnant in old ways, sustaining growth through organizational effectiveness, or engaging employees in the goals of the organization. According to Niven & Lamorte (2016), OKRs could help you overcome these through their benefit of being easy to understand, short-term and agile, focus on what matters most, engage cross-functionality, and promote an innovative mindset. The analysis looks at how OKRs are used in IBU.

2.2.2 Funding Innovative Operations

Innovation is part of the foundation supporting future wealth creation, and an understanding of the innovation process should, therefore, be incorporated when allocating resources (O'Sullivan 2000). This makes funding relevant to look at as it is in large controlled by the vertical organization, meaning IBU has less impact on how the resources are allocated. The process of allocating funds could be hard to isolate if the innovative operation has blurry lines separating it from other ways of working in the same company. Kotler (2000) suggests assigning resources based on the organization of business units. These business units should then have their own strategy and appropriate funding. Three factors relating to the process of funding innovation are, as Klingebiel & Rammer (2014) present them, the resource allocation *breadth*, *selectiveness*, and *innovative intent*. Breadth is the range or amount of projects to allocate resources to. Greater breadth could mean better innovative performance, as companies have to look further for the required information, gathering more knowledge. On the other hand, undertaking too many projects also could mean less attention and commitment to each project. The further in the development project one gets, the more resources and commitment is required (Loch & Kavadias 2008). This is where selectiveness comes in. The greater the breadth, the more important it is to select out a few projects to avoid spending resources on the ones with a bad outlook when more information is obtained. The third factor, innovative intent, is how ambitious the innovative objectives are. In this case, increased innovative intent is indicated by the projects' distance from the company's knowledge base and capabilities. In their article on resource allocation strategy for innovation, Klingebiel & Rammer (2014) use these factors to answer hypotheses

on the performance effect of allocation of resources for innovative projects. They argue that in a portfolio of more innovative projects, the lack of knowledge and information makes it harder to identify the projects that have the biggest chance of success. This makes the importance of selectiveness increase the larger the breadth of the project portfolio. Their results indicate that spreading the resources among a greater number of projects, i.e greater breadth, is more important for innovative performance than increasing project resources as a whole. The effect on performance is stronger for project portfolios further from the company's knowledge base. "Our findings suggest that innovation is about getting the right new products at least as much as it is about getting new products right" (Klingebiel & Rammer 2014, p. 263).

2.2.3 Summary of Organizing and Governing Innovation

Working with innovative projects requires a focus from the whole organization as collaboration between innovative units and other parts of the organization frequently happen. Corporate governance structures affect all parts of the business, also any innovative efforts. Using OKRs is a way of governing goal setting and goal achievement on a department basis. It uses qualitative goals that are met by achieving a set of quantitative key results. This tool could be used on both entire units and individuals. The goals should be easy to understand, short-term and agile, focus on what matters most, engage cross-functionality, and promote an innovative mindset.

Funding for innovative operations is preferably done on a unit-basis where each unit has its own strategy and appropriate funds allotted. What the funds are spent on is believed to be more important than the amount of funding. The breadth of projects funded, how the ones to move on with are selected, and the innovative ambitions are important factors when looking at how funds are allocated inside the unit in Telenor.

2.3 Innovating in Practice

While working innovative and agile requires certain organizational measures and a company-wide commitment, it is not an easy task even if those organizational factors are met. In this thesis, innovating in practice includes working with a mixture of tools, activities, and methods designed to give answers to hypotheses and learning by bringing new knowledge into the organization. It also means tackling the effects of working this way and taking necessary action when needed. Your work is most likely not agile if it is done half-heartedly. The following

section introduces some of the activities, tools, effects, and actions most relevant to this study.

Uncertainty

According to Furr & Dyer (2014), the world of product development is more uncertain than ever before, and few people realize the extent of the increase in uncertainty in the past thirty years. They do not understand that this increase calls for change in the way most organizations are managed. How uncertainty is handled in IBU is looked at in the analysis to get a deeper view of how they work in practice. Embedded in the term uncertainty is *risk*. The *PMI Project management Body of Knowledge* (PMIBOK) dedicates one of its eight chapters to risk and risk management (Project Management Institute 2001). The risk of a project is always in the future and is an uncertain event. It is one of the possible outcomes in the realm of uncertainty, but while risk can be measured and calculated, uncertainty cannot. The following theory is not focused solely on risks, but rather on the uncertainties facing large organizations creating new products or services.

In this case, the uncertainty is rooted in the task of "creating a customer". Furr & Dyer (2014) divides uncertainty into *demand uncertainty* (will customers buy it?) and *technological uncertainty* (can we make a desirable solution?). Demand uncertainty is a product of the number of unknown factors there are about the customer's preferences and behavior. Technological uncertainty stems largely from how fast new technologies emerge, are adopted by customers, and subsequently how fast the demand changes. Figure 2.4 illustrates the increased rate at which new technologies are adopted. Higher levels of uncertainty require greater innovation skills and usage of methodologies.

When operating in the realm of high uncertainty, entrepreneurial management is the right style of management according to Furr & Dyer (2014). This is when testing and experimenting are the main activities to find out what the customer needs are. When these get more and more defined the uncertainty lessens and development activities increase. As it moves from a concept to a launched product or service traditional management styles are preferred, as the uncertainty is low and revenue streams are established (Furr & Dyer 2014). This is depicted by an S-curve in figure 2.5.

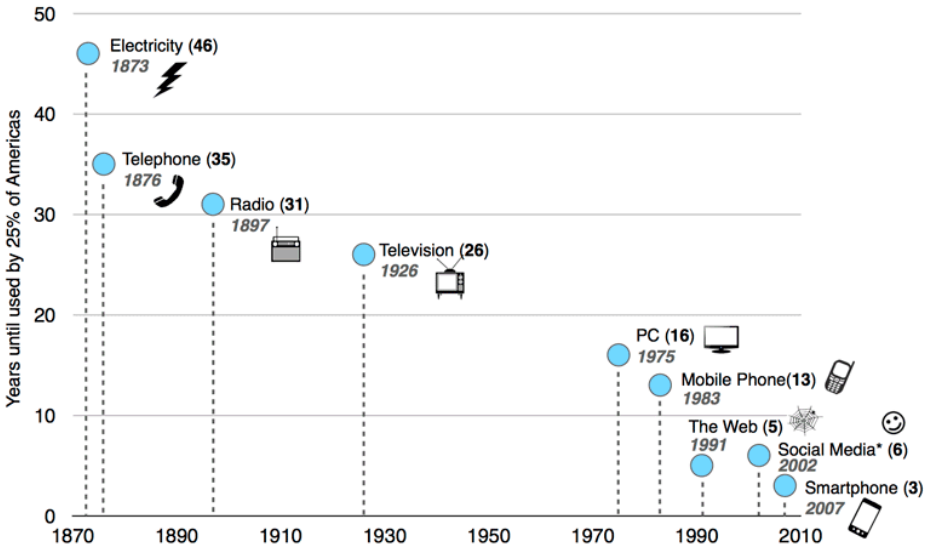

Figure 2.4: Years until technology is adopted by 25% of the U.S. population. (White Hutchinson 2016)

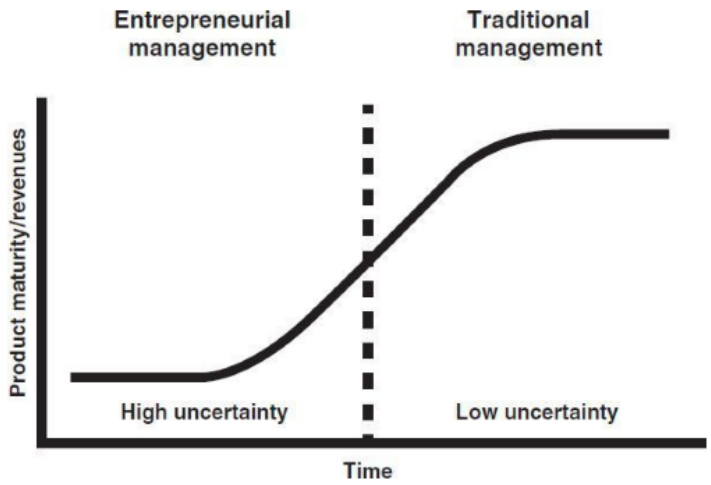

Figure 2.5: The S-curve and the right style of management (Furr & Dyer 2014)

Pivot

A pivot is a major change in the direction of a project. It is now known that by its definition, no one can foresee the problem in the face of uncertainty. You only discover it when you eventually are right or wrong. "The only failure is not failure itself, but failure to learn quickly enough that you were wrong" (Furr & Dyer 2014, p. 155). It is when you *do* find out that you were wrong you have to pivot the project in another direction instead of just stopping or pushing through something that is not worth the time and effort. It is the challenge of knowing when to pivot versus when to persist (Furr & Dyer 2014). As most ideas become failed projects, it is important to be able to identify them and stop or pivot them before they drain large amounts

of resources. Knowing when a project should be stopped could be tricky, but it could also be that the reasons to stop or pivot are overlooked as those working on the project have a hard time letting it go. They fall in love with the project and would not accept its demise. Stopping a project completely should not be seen as just a waste of resources, though. Because some new knowledge should have been made during the testing, experimentation, and research connected to the project. Knowing what *not* to do could be just as valuable as knowing what you *should* do.

Minimum Viable Product

Minimum Viable Product (MVP) is a response to the challenge of justifying investing in a new and innovative idea without a lot of information about the need in the market. It is an early version of a new product that allows the company to learn more about the market from *real data* without spending too many resources. In large and established organizations, the revenue stream from core business does not encourage directors to approve spending on new ideas not directly related to the main sources of profit (Moogk 2012). In such environments, the innovators are often left with scarce resources to validate their hypotheses regarding demand and technological uncertainty, as well as the business case. They need very effective experiments and tests with a version of the project that can demonstrate the value proposition (Moogk 2012). The experiments aim to confirm or refute a hypothesis, showing if the project can run in the same direction, if it needs to pivot, or if the resources should be spent on other ideas.

Business Model Canvas

The Business Model Canvas, developed by Osterwalder & Pigneur (2010) is a canvas containing nine different blocks, each one critical to a business model. The canvas, as seen in figure 2.6, gives shape to a complete business model when filled out. The canvas is meant as an agile tool allowing the business model to be created with an open mind using post-its on the different blocks. Osterwalder & Pigneur (2010) describe the process as (1) plot the canvas on a poster, (2) put the poster on the wall, and (3) sketch out your business model.

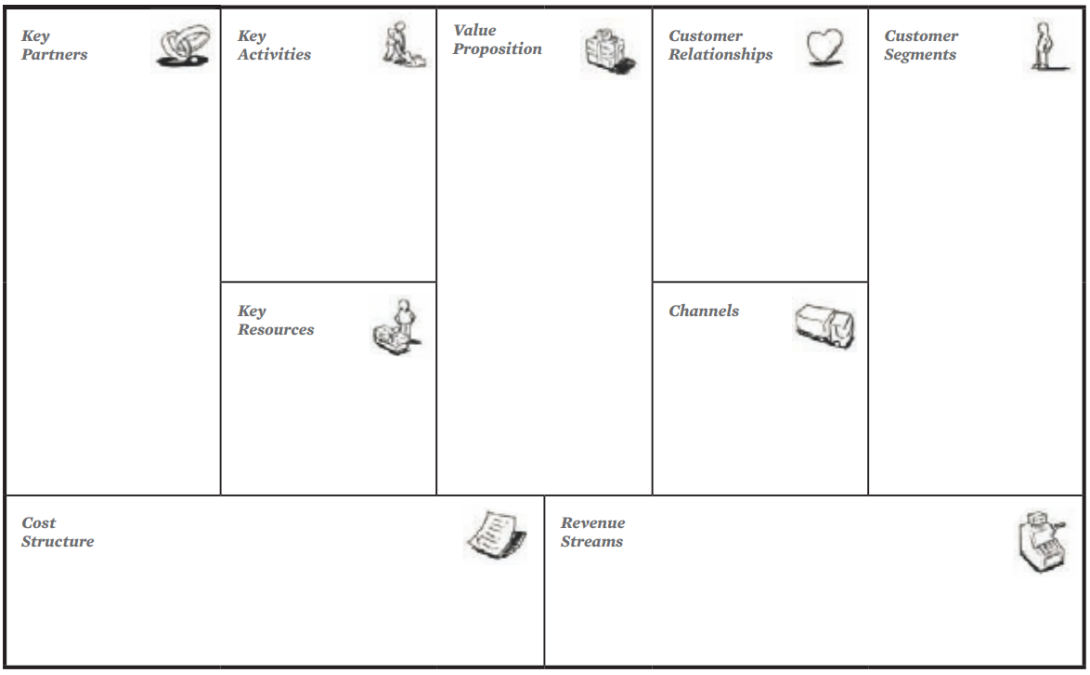

Figure 2.6: The Business Model Canvas (Osterwalder & Pigneur 2010)

Marketing Mix

The tools used to determine the customer needs are part of the renowned model "Marketing Mix" by the marketing guru Philip Kotler (2000). The marketing mix gives a foundation for the objectives needed to succeed in the target market. The model is divided into the 4 Ps Product, Price, Promotion, and Place. The model is often referred to as the 4P model. The modern version of the 4P was developed by J. McCarthy, but popularized by P. Kotler. Lauterborn (1990) expanded on the 4P model and used a customer focus. This model was appropriately named the 4C model and corresponded with the 4Ps as seen in table 2.2.

Four Ps	*Four Cs*
Product	Customer solution
Price	Customer cost
Place	Convenience
Promotion	Communication

Table 2.2: The four Ps and the corresponding four Cs

2.3.1 The Innovator's Method

In the courses Nathan Furr held at Telenor he actively used his book *The Innovator's Method*. The measures of change taken in the Telenor organization was influenced to a large degree by the content and message of this book. The Innovator's method is "an end-to-end process for creating, refining, and bringing ideas to market" (Furr & Dyer 2014, p. 1). The method is designed to help managers in established companies apply practices that come to mind when talking about lean startup or agile project management. These practices are often activities related to testing, validating, and commercializing ideas. The model itself (figure 2.7) includes four series of experimentation cycles that decrease uncertainties until the concept is ready to be scaled. These cycles are explained in the following list (Furr & Dyer 2014).

1. *Insight*
   In this first step they recommend searching broadly rather than focusing on a narrow set of ideas. Klingebiel & Rammer (2014) share this notion of having a broad scope in the project portfolio. Experimenting, testing, and validating insights and ideas fast using real data gives an edge over competitors.
2. *Problem*
   The second step is about creating a deeper understanding of the problem and exploring the customers' needs. Because many companies see technical uncertainty as a bigger challenge, they tend to look for solutions. But when you cannot solve a problem and do not know why then you do not have a proper understanding of the problem. In that case, layering solutions on top will not solve anything.
3. *Solution*
   The third step is to use a series of prototypes to iteratively match a solution to the problem to avoid wasting resources on ineffective solutions. Rapid experimentation and testing multiple solutions let the company resolve uncertainties during development. The output here should be a minimum viable prototype (MVP) and eventually a "minimum awesome product".
4. *Business model*
   This step consists of validating the go-to-market strategy and ending up with a scalable business model.

To ensure the quality of the output before moving on to the next step, each step has a hypothesis, test, learn loop. This is to test leap-of-faith assumptions and going back to the start of the step if the assumption is wrong. The model is not meant to be a strictly linear process in practice, and the steps may overlap or repeat. Furr & Dyer (2014), using the successful and innovative

biotechnology firm Regeneron as an example, shows how important it is to also innovate on the process itself. They identified the elements limiting the speed at which they could find the problem and solution. From this, they created innovations such as data sets, technologies, tools, and different approaches that allowed them to use the innovator's method at a fast pace.

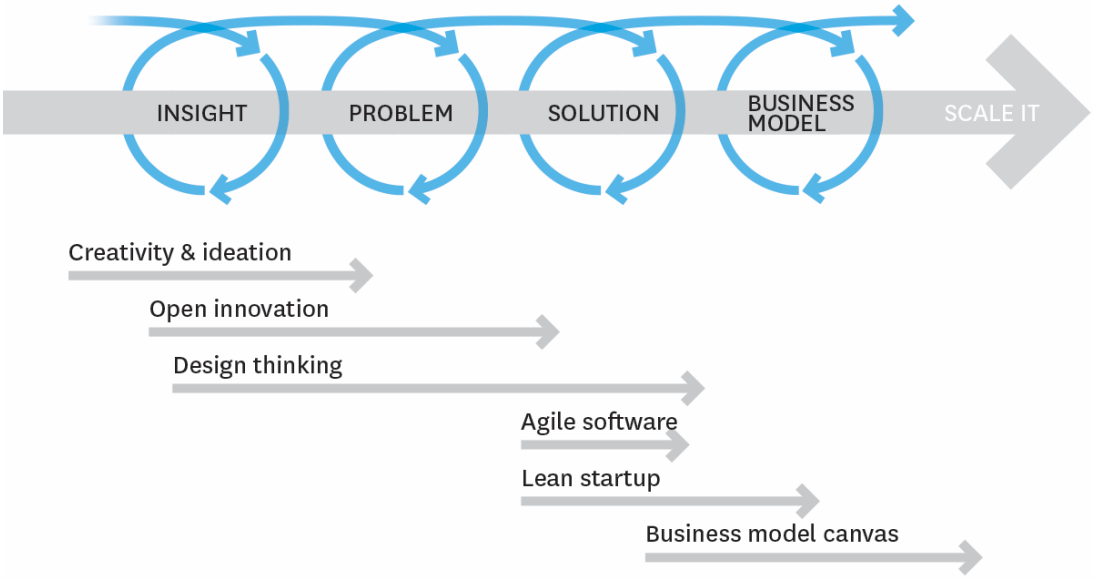

Figure 2.7: The Innovator's Method (Furr & Dyer 2014)

The Red Way of Thinking

Some of the key research by Furr & Dyer (2014) is on the concept of the *red* ways of thinking as opposed to *blue*. The blue ways are the traditional large-company management methods, such as waterfall, while the red ways are the innovative, agile start-up techniques known from entrepreneurial management (INSEAD 2017). This makes it relevant to look at how the relationship between these two ways of working is in IBU. Continuously testing, experimenting, and bringing the customer closer to the project is the red way. A well-known book on the blue way, Blue Ocean Strategy (Kim & Mauborgne 2005), describes the strategic choice of creating a new market to avoid competition rather than compete in a market potentially saturated with other actors. In this case, the point is to work "in the red", as it is the better way if one is to innovate in a fast-paced environment. For Telenor as a whole, there needs to be a balance between the traditional execution in the blue and the exploration in the red. A mix of both ways of working is needed to achieve this balance (Telenor Group 2016).

2.3.2 The Lean Startup and The Startup Way

The book *The Lean Startup* by Ries (2011) explains how the author's startups failed in the market, and that it was believed to be a consequence of inferior technical solutions. It was after an advisor preached that the business and marketing functions in a startup should be considered as important as engineering and product development that things turned around. While the technological engineering had been done using rigorous methods, the business and marketing functions stood without any methodology. The lean startup as a process of innovation came to when Ries studied lean manufacturing and then combined it with his own entrepreneurial challenges. He then proposed the idea that the principles of what he calls "entrepreneurial management" could be applied in any industry, size of company, or sector of the economy (Ries 2011).

The Lean Startup as a Framework

The Lean Startup gives a concrete framework for managers to figure out what to do every day, and how to do it. The basics of the framework are as follows (Ries 2011):

1. Identify the assumptions that must be true if the concept is to succeed in the market.
2. Run experiments and tests on these assumptions using as little time and resources as possible. This effort involves the minimal viable product.
3. As a scientist would, treat each activity as an opportunity to learn something on what is working and what is not. This is called validated learning.
4. Do new experiments from the learning of the previous ones, creating a feedback loop.
5. Regularly decide on whether a change in strategy, a pivot, is needed.

Principles of The Startup Way

Ries' next book *The Startup way* he describes the combination of general management elements and the iterative way of working in startups. He created a system and a philosophy which he sums up with five key principles (Ries 2017):

1. *Continuous innovation*
   Long term growth requires a method for finding new possible breakthroughs using the creativity and talent found in all levels of the organization.
2. *Startup as an atomic unit of work*

In order to create new breakthroughs, you need teams that can experiment to find them. These teams act as internal startups and require a supporting organizational structure.

3. *The missing function*
   These internal startups must be managed in a way that includes entrepreneurship as a core discipline, something not prevalent in most organizations.
4. *The second founding*
   Changing the organizational structure like this is like founding the company all over again.
5. *Continuous transformation*
   The change in organizational capability should be done when necessary as the business environment changes. It is important to work on the ability to transform when needed.

In the process of going from ideas to launching a product or service, Ries (2017) explains what happens when a startup experiment is launched within a larger company (see figure 2.8). Ideas have to be tested, validated, refined and scaled by the internal startup team. As hypotheses connected to an idea are validated and refined, activities will go towards execution and less experimentation. Only when the project is dominated by execution activities can the startup team release themselves from the project. They can then continue experimenting on other ideas.

Figure 2.8: Ideas from experimentation to execution (Ries 2017).

An entrepreneurial function as a core discipline is lacking in most organizations. Several companies have created think tanks or innovation labs to promote creative and entrepreneurial thinking. According to Ries (2017), efforts such as innovation labs are not enough on its own. The same way that the finance function set standards that everyone uses to report progress or ask for resources, the entrepreneurial function should be a source of knowledge on entrepreneurial methods (Ries 2017). Even though the entire company should be committed to the changes being made, it does not mean each employee will work as if they were employed in a small startup.

For the internal startup teams, however, it is important to be able to work effectively with the rest of the organization. Differences between work methods could be barriers for the innovative teams. These differences often become apparent in the vertical perspective, and it is usually a clash between working the red way and the blue way. Managers need an understanding of how and why others are working using other methods what they might not find conventional. They also need to recognize when functions such as HR, IT, legal, and security are getting in the way (Ries 2017).

2.3.3 Summary of Innovation in Practice

Innovating in practice refers to the use of tools, activities, and methods designed to provide answers, enhance creativity, and bring knowledge into the organization.

Uncertainty is a large part of working innovatively. Working with something new, where little is known about the customer needs or the market environment could scare off many businesses. Sticking to the well-established revenue streams of the core business will only work for a certain amount of time due to the changing environment. Demand uncertainty is whether the customer will buy it, while technological uncertainty is whether the tools are there to make the desired solution. Technologies are adopted at a faster rate than ever before, also affecting the expectations and the needs of the customers. Operating in environments of high uncertainty requires effective testing and experimenting to figure out what the customer needs are as fast as possible. As the concept's properties get confirmed to be in line with the customer needs, the uncertainty decreases.

There will come a time where the results from a test or experiment show that you are on the wrong track. Having regular decision points where a pivot can be made is important. Pivoting could be a hard decision, so creating decision points with a focus on identifying when you are on the wrong track. Everything done is not wasted time either way because some new knowledge has been added to the company. Knowing what *not* to do could be just as valuable as knowing what you *should* do.

An MVP is about testing an early version of a new product that allows the company to learn more about the market from *real data* without spending too many resources. It is a strong tool to answer some of the most critical hypotheses that could make or break the concept. A pivot should be made if those assumptions are not confirmed. Another tool is the business model canvas, a canvas containing nine elements essential to a business model. A complete model

can be filled in in a short time as it is designed to be printed out and filled in using markers or post-its, making it an agile and creative tool. The marketing mix is a model often referred to as the 4P model due to its focus on the four elements deemed as most important to succeed in the market. A variation of the model with the same four elements but from the perspective of the customer has also gotten traction among marketing environments.

The Innovator's Method is an agile process for creating, refining, and bringing ideas to market. It uses experimentation cycles with feedback loops to decrease uncertainty until the concept becomes a scalable product. There is no strict linearity to this process, and different cycles could be done at the same time and in other orders. Working this way is in part inspired by startups, and is a part of the concept of the red and blue way of thinking. The blue way is the traditional waterfall methodologies while the red way is continuously testing, experimenting, and working agile after principles of entrepreneurial management. Working in the red is seen as more beneficial in fast-paced environments such as innovative units. The blue way is most effective where the uncertainty is low and the customer and market is well known and a part of the core competency.

The lean startup framework and the principles of the startup way can help companies work more effectively with innovative projects. There is a heavy focus on testing and learning using non-linear iterations and feedback loops. The idea is that this way of doing "entrepreneurial management" could be applied to any industry, size of company, or sector of the economy. The effort in large and established companies, however, should provide an entrepreneurial function that can cooperate with other business units.

Chapter 3

Research Methodology

This chapter provides an overview of the research methodology used in this study. The research design, context, and how the data was collected and analyzed is presented. In the end, the reliability, validity, and limitations of the research are included. The chapter clarifies how the information used to answer the research question was collected and processed.

3.1 Scientific Point of View

Ontology concerns how a given phenomenon renders itself. Tjora (2012) elaborates on this concept as the study of something that exists in our society and therefore is able to know something about. As the aim of this thesis is to understand and interpret how Telenor Norway innovates by trying to get an *inside* view of the organization, it conforms with how Tjora (2012) explains the interpretive tradition. This often involves a focus on the subjects' experiences, as this study does. Still, it is the process that is the object of the study, not the employees themselves. As such, the focus is on the subjects experience with the process.

Inductive and deductive are terms used to explain how the theoretical standpoint is made. Johannessen et al. (2011) defines the inductive approach as making general conclusions from specific observations, and deductive as the opposite, making specific and logical conclusions from theory and facts known to be true. This study uses a combination, but lean on the side of inductive reasoning. The study contains both inductive influences from the observations made, and deductive influence from the theoretical foundation made parallel to the observations. However, innovation as a field of research does not have an abundance of logical truths, limiting the

creation of specific and logical conclusions typical in deductive research.

3.2 Research Design

This thesis uses a qualitative research methodology. In contemporary research, qualitative and quantitative methodologies appear as two inherently different ways of thinking, or two paradigms (Kuhn 2012). Still, most researchers acknowledge that different research questions require different methodologies, often a combination, to get the desired results. On the surface, it would seem that qualitative research methods are subjective, while quantitative methods are objective. Tjora (2012) explains how this view of subjectivity vs. objectivity is flawed. The mathematical methods of analysis in quantitative research are objective in the sense that the results are not affected by the person doing the analysis. But while two researchers will get the same values and the same regression line if they use the same set of data (and calculate correctly), their interpretation of the resulting values will differ based on theories used, perspective, and researchers bias. Additionally, the data set used is often based on some subjective material through i.e. a survey. In other words, the *subjective source* could be from both the researcher and the informant. Table 3.1 shows how the stages of different research methods have links to different types of subjectivity and objectivity (Tjora 2012).

	Design	*Collection*	*Analysis*	*Interpretation*
Interview (qualitative)	Researcher-subjective and theoretical	Inter-subjective	Researcher-subjective	Researcher-subjective
Observation (qualitative)	Researcher-subjective and theoretical	Researcher-subjective	Researcher-subjective	Researcher-subjective
Survey (quantitative)	Researcher-subjective and theoretical	Informant-subjective	Objective	Researcher-subjective

Table 3.1: Subjectivity and objectivity

3.2.1 Pragmatic Considerations

When deciding the relevance of qualitative and quantitative methodologies for the research, pragmatic considerations will always play a part (Tjora 2012). As with all research, there are

limitations regarding the resources available. As such, the methods are also chosen based on what is practically possible. Telenor Norway opened its doors and gave access to the workplace and the activities that were taking place in connection with the research. This cooperation allowed for an in-depth methodology and very low interference from pragmatic considerations, which otherwise could act as barriers for some methods of data collection.

3.2.2 Observation Studies

Traditionally, observation studies are linked to anthropology and the study of humans and the human species. Most renowned are long field studies of foreign cultures so as to describe and compare the world's different cultures and communities. This is called *ethnography*, and is by Hammersley & Atkinson (1995) described as:

> *. . . a collection of methods where the researcher, either covert or overt, participates in people's daily life over a certain time period and sees what happens, hear what is being said, asks questions and collects all data possible that can shed light over the topic being researched* (Hammersley & Atkinson 1995).

According to Tjora (2012), depth interviews have been too widely used in organizational studies. He welcomes the trend shift happening now, where observation as a method is receiving more enthusiasm from several research areas. He cites Barley & Kunda (2001) in saying that in organizational studies it is often more relevant to study the work in practice rather than how the employees explain it. This is because the work is situated in the activities being observed and it is the work being done that is of interest. With observation, one studies what people do while with interviews one studies what people say they do. By using observation as a method in addition to interviews this study generates data from more than one perspective. This way the researcher could verify or refute thoughts made during observation.

It is relevant to clarify the role of the researcher as an observer as either a "participant" or "non-participant". This is the role the ethnographer has in relation to the social setting that is being observed. To give context to the level of involvement of these roles, theory from Gold (1958) and further discussed by Bryman (2016) is used. Bryman (2016) has arrayed the six roles in terms of the level of participation in the group or social context being observed. The table below is compiled from the description of these roles and is included to aid in further discussion.

Involvement	*Role*	*Description*
High	Covert full member	Status as researcher is unknown to the group
	Overt full member	Status as researcher is known to the group
	Participating observer	Participates, but not as a full member
	Partially participating observer	Observation may not be the main data source
	Minimally participating observer	Interacts with the group, interviews bigger source
Low	Non-participating observer with interaction	Interaction by interviews, often the main data source

Table 3.2: The different roles based on involvement

The role taken in this study was two-fold. While observing the processes, meetings, and activities the role is considered to have been that of the *partially participating observer*. Using a common meeting as an example, the observation was done while sitting at the table alongside the other participants. To someone not aware of the researcher status, it would look like any other employee. At one point, direct participation happened when a constructive comment was made on a quantitative analysis that had been done. Any other participation is better described as interacting with the group without directly participating in the process (Delamont 2004). The other consideration related to the role is in the social setting. This means any situation that was not a specific process element, meeting, or activity. The social settings could be sitting in the workspace in the office, during lunch, getting coffee, and any other casual activities. In these situations, the role is considered to have been an *overt full member*. The status as a researcher was known to the group but otherwise seen as a full member of the social setting. Data have been gathered from the social setting, but only regarding the researcher's interpretations of the process observed. After all, it is the process used by the employees that is the object of the study, not the people.

3.2.3 Interviews as Research

To approach the question of the researcher's role as an interviewer, two metaphorical approaches by Kvale (1994) is used. Kvale (1994) presents the two contrasting metaphors of the interviewer; as a *miner* or a *traveler*. In the miner metaphor, the interviewer has to dig for knowledge as if it was buried metal. Miners could be looking for objective quantifiable facts or pieces of information of essential meaning. The information uncovered is not contaminated by the interviewer and leading questions. The other metaphor, the traveler, wanders through the landscape engaging in conversations with the people encountered. The traveler could roam the landscape blind, by map, or seeking specific sites. Often, the interviewer discovers new roads to take along the way. In this metaphor the traveler, through conversations and questions let the subjects tell their story of the world they live in. The information is of the qualitative nature and is constructed as stories to be relayed to the researcher's audience, and often back to the people the traveler encountered along the way. In this study, the researcher took on the role of a *traveler* in the landscape of Telenor Norway.

The research interview is akin to a professional conversation (Kvale 1994). Kvale defines it as "an interview whose purpose is to obtain descriptions of the world of the interviewee with respect to interpreting the meaning of the described phenomena" (Kvale 1994, p. 5). As such, an interview is a conversation that has structure and a purpose. In this way, it differs from the spontaneous, casual conversations that are used as complementary qualitative sources in this study. According to Bryman (2016), more specific issues can be addressed in an interview because the researcher has a clear focus from the start, rather than a general notion of a topic to do research on. According to Tjora (2012), spontaneous interviews can be used in-between observations. These smaller interviews could clear up uncertainties that arise during observations where the situation does not allow for immediate questions. During a meeting, it would be a disturbance if questions not constructive to the activity is asked.

3.2.4 Other Interactions

In addition to the observations and the interviews, a considerable amount of the data was collected through asking questions to some of the participants, most often in a casual setting in between meetings, during lunch, or by the coffee machine. One could see it as "water cooler" talk, where the researcher could clear up uncertainties or misconceptions, or get further insight into something that was not uncovered sufficiently in the observations. The information gathered this way was then written in the field notes as soon as possible. This is in line with what

Delamont (2004) includes under the term *participant observation* as a "mixture of observation and interviewing". In the initial description given to Telenor Norway of what the researcher would be doing and how it would affect the day-to-day activities, it was characterized as a "fly on the wall" with some additional questions when it was suited. The researcher, therefore, tried to uphold this and keep the questions to a minimum during ongoing activities. Still, the actual distraction created by the researcher is believed to have been greater than what was intended. The helpful nature of the employees combined with their interest towards the thesis lowered some of the formal barriers and made for a lot more casual conversation om the topic of the study than first thought.

3.3 Research Context

When contact with the unit first was made, there was some uncertainty as to what the research would mean in practice for the employees, creating some hesitation. As a mutual understanding of how it would be done was established, the researcher was introduced to the relevant projects and given access to the workplace and its employees. Additionally, a personal desk space was provided so that the researcher could stay in the environment and close to the activities for an extended period. This access, together with the factors explained in the last paragraph, made it easier to achieve more diversity in the collection of data when it came to getting valuable field notes from conversations throughout the workday. Several quotes used in the empirical findings are from such notes. Being in the environment gave access to many informants who were very willing to help with what they could. They also gave important tips as to who should be contacted for the research. As long as the impact made on their workload was minimal they would make themselves available, even for a few interviews. These conditions exposed the researcher to an abundance of information. This presented a challenge on its own as it created an extensive amount of work filtering, sorting and coding all the information from the observations, other field notes, and the interviews. To clarify the statutes of confidentiality, an NDA[1] was signed by the researcher.

[1] NDA = Non-Disclosure Agreement

3.4 Data Collection

Now that the theoretical foundation of the relevant methods is set, the way the research was done in practice is explained. This study seeks a deeper understanding of a phenomenon that is better explained through words than with numbers. According to Johannessen et al. (2011), qualitative methods are preferred when studying a phenomenon the researcher does not know particularly well before the start of the study. Yin (2002) says that case studies are the preferred strategy when the questions to be worked out are "how" or "why", when the researcher has little control over events, and when the focus is on a contemporary phenomenon with some real-life context. Going by this, it is evident that a qualitative case study was the most fitting way of approaching the problem. As previously explained, Telenor gave the researcher enough access so that a combination of data collection methods were pragmatically available.

The combination of observations, casual conversation, and interviews was used in varying degrees dependent on the research question. The researcher spent one month at the company. The first two weeks of observation and taking field notes from interacting with the employees gave grounds for answering the research questions "How has the unit organized their innovative operations?" and "How does the unit work with innovation in practice?". This insight was valuable for the rest of the data collection. Knowing more about the situation and problems made it possible to focus the interviews towards topics that it was felt still did not have sufficient data. These were topics where the casual conversation and water cooler talk were not seen as enough. This is consistent with the view of Kuhn (2012) that different research questions require different methodologies, and often a combination, to get the desired results.

Each informant used in the empirical findings, whether they were observed, engaged in conversation with, or interviewed, were informed of the purpose of the researcher's presence. They were aware that the data collected could be used in this thesis, although with their anonymity preserved. A list of all informants whose information is used in the empirical findings can be seen in table 3.4. The column with dates refers to the date they were interviewed.

3.4.1 Observations

As explained in chapter 3.2.2, the observation of the meetings and other activities was done as a *partially participating observer*. The researcher was included in a variety of these meetings, ranging from short status updates internally or with external partners, to more substantial meetings with the controller group. Table 3.3 shows a list of the meetings observed. The researcher

was introduced and the topic of the study was explained to the participants before the meeting was started. As this topic was the project's process, not the participants themselves, the effect of the researcher's presence is believed to have been low. Because of being seated at the table along with the other participants of the meeting, it could be said that the initial plan of being a "fly on the wall" was not followed entirely. Observations of relevance were written down along with thoughts of important questions to ask to dig deeper into what was just observed. The researcher took note of the type of meeting being observed, the participants, what was presented, and who was presenting. Then any relevant observations were written down as field notes. These field notes were sorted after each meeting. The majority of the observation was done in the first two weeks at the company. This gave insight into how the unit observed was organized, and how they worked in practice.

Date	*Type of meeting observed*
02/19/19	Intro to teams and projects
02/19/19	Project status with external partner
02/28/19	Project status with business functions
02/28/19	Project status with controller group
03/07/19	Project status with tribes

Table 3.3: List of meetings observed

3.4.2 Other Interactions

Here, other interactions refer to any information not observed in meetings or gathered in the interviews. This means information gathered during conversations, often very casual, during lunch, by the coffee machine, in the hallways or quick questions and discussions at the work desk. This is where the researcher had the role of an *overt full member*. Valuable information from these interactions was written down as soon as possible to not risk it being forgotten. Since a great deal of these interactions occurred soon after something was observed, a lot of important empirical findings came from these conversations.

3.4.3 Interviews

The findings from the observations gave an understanding of the processes in the unit. But they also created new questions. Some of these were answered during other interactions, while

others required a discussion under more controlled conditions. As the understanding made from observations was an interpretation of how the processes were, they required validation. This was done by following an interview methodology. These conversations included a specific interview guide made to give an answer to claims and interpretations the researcher had. The interview guide can be found in the appendix. In many cases, the interpretation was presented to the object who then validated or disproved it. In practice, this method could be called a longer and more structured version of what Tjora (2012) calls spontaneous interviews. Tjora uses these interviews to clear up small uncertainties from observations. The same was done in this study, but in more comprehensive interviews after all the observation was conducted. The focus was a discussion on the interpretations that had been made on the process, instead of the person being interviewed. The results from these discussions were new interpretations, but these were now validated by the employees in addition to the observations. This made the interviewees more than just informants. As they did not always have immediate answers to the claims presented by the researcher, the discussion that followed created new insight for both parties. These interviews were used as tools to validate the researcher's interpretations using the interviewees, creating a combined perspective. Weaknesses can also be identified by looking for discrepancies and deviations between two or more perspectives. This is called triangulation of methods.

As the interviews had a very clear purpose, the questions were "to the point", and excluded more general questions often meant to "warm up" the subject. Instead, the interviews ended with two more general questions that could tell something about the importance of the subject of study. The interviewees were given an introduction to the purpose of the study, their anonymity, and the researchers signed NDA. The time allotted was usually 60 minutes, giving ample time to write down the important points made during the interview. These notes were used in the subsequent coding of the data but were also used to remember new points of interest that came up during the interview that the interviewer would like answered.

The selection of interview candidates was done based on several factors. To make sure data was collected from several perspectives, people from a variety of positions were selected. Among the informants were upper management, the leader of the unit, people with different responsibilities in the unit, and a representative from a supporting business function. This meant that perspectives were collected covering great parts of the vertical axis, but also some of the horizontal axis in the unit. This diversity gave the analysis more relevance when reflecting on the context behind the answers. Additionally, only people with experience relevant to the research questions were selected. Making these consideration is what Johannessen et al. (2011) and Tjora (2012) calls a strategic selection common in qualitative research.

Subject #	*Date*	*Position relative to IBU*
1	03/14/19	Upper management
2	03/11/19	Leader IBU
3	03/12/19	New business member
4	03/15/19	New business member
5	03/12/19	Tribe leader
6	03/14/19	Tribe member
7	03/18/19	Specialized business function

Table 3.4: List of subjects interviewed

3.5 Data Analysis

The field notes from observations, other interactions, and interviews were coded using the computer software MaxQDA (Verbi Software 2018). In the context of qualitative research, coding is giving pieces of information relevant labels. This divides the data into smaller, more detailed pieces, but some codes could also have a broad meaning. In this case, the information was coded using the same set of codes. This is in line with how Tjora (2012) describes the coding work. He also notes that the goal is for the codes not to be influenced by the researcher's theories, hypotheses or interview guide. It should rather be codes related to the text itself. It is, however, impossible for the researcher to do the analysis with a completely "empty mind", void of any bias from theoretical knowledge (Tjora 2012). Some of the codes used in this research resemble categories and are influenced by the theory collection and previous observation. This means the coding was not as "close" to the text as one would want, breaking with the principles of inductive analysis.

3.6 Reliability and Validity

The reliability of the results is affected by what information is used and the relation between the researcher and the informant during the qualitative study (Tjora 2012). Some of the information used, the books by Furr & Dyer (2014) and Ries (2011), were introduced to the researcher by the informants and could affect the results. Still, they contain information important to understand the *how* and *why* in relation to the research questions. Another element is the cooperation

that developed between the researcher and one of the informants. This employee got such an insight into the study while the observation took place that a decision was made to rule him biased, and no longer impartial to the inquiries from the researcher. Therefore, he was not interviewed and he is not quoted in the empirical findings. Some of the information gathered from interacting with him still served as inspiration for topics of interest. Casual conversations included many constructive discussions with this individual. According to Tjora (2012) it is important in qualitative studies to ask the same question one usually ask to test the reliability of quantitative studies: Would the results be the same if another researcher had done the same study? The factors explained above makes it unlikely that identical empirical results could be replicated. In qualitative research, there is a general understanding that complete neutrality does not exist (Tjora 2012).

The validity of the study is a term used to describe if the research gives an answer to the actual question that was asked (Tjora 2012). A way to test the validity is through peer reviews which determine if relevant theories and perspectives from previous research are used, as well as methods. The results are compared to others. Johannessen et al. (2011) divides validity into the validity of the concepts used, internal validity, and external validity. The first is how the theoretical definition of the concepts studied are related to the results. This study could present some unclear concepts, and it is important that the definition used in the theory chapter coincides with the use in the empirical findings and the discussion. The internal validity relates to how the results represent the selection of informants and the phenomenon observed. Yin (2002) explains how it is especially important in case studies to consider if the right conclusions are drawn from the data. Making these considerations has been a point of focus during this study. The triangulation of methods done by combining the observations and interviews increases the validity. The interpretations made from the observations were validated by being presented as assumptions and discussed in the interviews. The external validity determines if the results could be generalized to other cases than the one studied (Johannessen et al. 2011). This study does not aim to create theories directly applicable to similar cases, and some notions are probably not able to be generalized inside Telenor. The study seeks to shed light on and create an understanding of Telenor Norway's approach to its innovative efforts.

3.7 Limitations of the Research

The research involves some limitations. The researcher could only collect empirical findings during a one month period. Although this is enough to create a "snap shot" of how the situation

is today, it is not as easy to capture changes over time. A part of this study involves how the unit was organized and why it was organized that way, requiring the informants to look back and try to remember details. This also has an effect the other way. One would like to follow one or more projects from inception to eventual launch or termination, but this was not possible. This means that there are not as many effects to discover and even less tangible rewards. However, there were plenty of experiences to work from, as the employees had worked with the projects for quite some time. There was also not a lack of ongoing agile activities to inquire about.

Another limitation is the researcher's prior knowledge and how the perception could have been affected while being present at Telenor Norway. It is the researcher's opinion that because the theoretical knowledge coming into the study was rudimentary it allowed for an understanding of what was observed, but without much bias. However, the researcher's perception of what observed could have been affected by being around the same people for the length of the study. One step to counter this was, as explained in the paragraph on reliability, to exclude one employee from the interviews and make sure his notions were confirmed by others in the unit before they were included in the empirical findings.

3.8 Ethical Considerations

Johannessen et al. (2011) states that scientific research has to follow ethical guidelines and rules just like all other parts of society. Ethical principles have been broken down into four main areas (Bryman 2016, p. 135):

1. Whether there is a lack of informed consent.
2. Whether there is an invasion of privacy.
3. Whether there is harm to participants.
4. Whether deception is involved.

The overt and open nature of the research makes an ethical breach of these areas less likely. This was also helped by the focus of the research being the process and not the people. First and foremost, a test by the Norwegian Centre for Research Data (NSD) was taken. This test checks if the researcher is going to collect or process any personal data of any kind during the research. If so, the researcher has to notify them with detailed info of the methods of the study for it to be approved. The test concluded that there would be no such activity in this study, and NSD was therefore not notified of the study.

Although everyone knew of the status as a researcher, the gathering of information through casual conversation brings up some things to think about in this regard. When in a social setting, nothing overheard was collected or processed. Only information given as an answer to a direct question or from a discussion originating directly from this question was included. Because of this it is seen as unlikely that the use of this information in the research was misconstrued by the researcher as accepted by the informant. This prevented the collection of information that someone would not want to be included in the thesis. Because of the overt nature of the research, an invasion of privacy was less likely. This is because the participants have the chance to choose to not talk to the researcher about anything related to the research, or otherwise. This included the interviews, where it was informed that the information could be used in the thesis, but they would not be able to be identified. In one instance, an interview subject asked the researcher to withhold some of the details of an argument to make this person not seem as critical, but still bringing up the point. This request was of course adhered to. In the meetings observed, the researcher's role was presented before the meeting started so that there would not be a violation of the ethical principles. It is the researcher's opinion that the ethical principles have been kept intact during the study, and the consequences of participation have been very low.

Chapter 4

Analysis

This chapter contains an analysis where the empirical findings are presented and then discussed in light of the relevant theory. The chapter is structured in accordance with the research questions and collectively sheds light on the research topic of the thesis. Each section seeks the answer to one of the research questions and is further divided into relevant subsections. The choice of using this structure was made to highlight the research question that is answered in each section, the relevance between the empirical findings and the discussion, and to give a clear answer to each research question.

4.1 Organizing Innovation

This section gives an answer to the first research question *How has the unit organized its innovative operations?* To reach this answer the section is divided into subsections. The subsections include why it is important to innovate, an overview of the innovative business unit observed, how corporate governance and OKRs are implemented, and how the innovative efforts are funded.

4.1.1 Why Should Telenor Innovate

When looking at *how* the unit is organized it is useful to include *why* innovation is important to a business like Telenor. Knowing the reasons to do something is expected to give an increased understanding of what is done. It was established in the introduction and the theoretical foundation

that it is important for future wealth creation, but it is interesting to see if Telenor themselves share this notion. This subsection presents why the people employed in the unit believe this to be important, followed by an analysis of the same topic, including relevant theory.

It is important for the reader to note that in this thesis the terms "red" and "blue" are not absolutes. It is rather a spectrum, where something addressed as red or blue does not have to refer to either extreme. Something could be called red just because it is barely more on the red side than blue on the spectrum. It is the same with the concept of agility used in this thesis. There are levels of agility. In addition to the course run by INSEAD, Telenor runs a program called Digital Expertise, aiming to increase the digital competency of their employees through seminars and courses. During the month spent at Telenor to gather empirical data, one of these seminars was held. The topics vary, but this time representatives from the large Norwegian power company Hafslund gave a presentation on their experiences from implementing "Lean Startup". After the presentation was over, Telenor employees were observed actively engaging in the Q&A session that followed. It seemed as it was not only the organization trying to increase the competency of its workers, but also the workers interested in learning about this for the betterment of their job and their company.

It was interesting to ask the employees in IBU why *they* think it is important that the unit exists and that they manage to work agile and innovative. The respondent from upper management responded with the importance of being a part of the everyday life of Norwegians and Norwegian society.

> *At the end of the day, we live to give value to our customers. We touch the life of every Norwegian every day, whether they are our customers or not. Telenor is supporting everything that happens; all the value creation, all social care, everybody who is enjoying themselves. It is in the societal interest of Norway to have a successful Telenor, and Telenor cannot be successful without being innovative. If we fail at this, it is not just bad for us and our owners, but for the whole society.*
> (Respondent 1, Upper management)

Given the same question, the leader of IBU complements this with the changing market conditions experienced in the telecommunication business.

> *Actors in telecommunications are about to lose the end user relation on many of the traditional services. Voice is going out, messaging is already lost to OTTs*[1]*. To*

[1]OTT = Over-the-top services are content providers distributing media over the internet, bypassing the mobile

> *find new relations we need strong drivers of innovation, and on the project level, this has to be done the agile way. This is why this unit is so important.* (Respondent 2, Leader IBU)

These two perspectives alone are good indicators that this is a topic worth looking at, both for Telenor's sake, but also other companies in a similar setting. Although Telenor from a societal viewpoint is important to its direct customers, they also own and operate socially critical infrastructure required for the Norwegian society to function. Looking at the changing market conditions it is obvious that the cash flow generated from owning infrastructure is moving towards OTTs. This may raise concerns about future wealth creation which can be addressed by diverting attention over to the importance of being able to innovate in Telenor.

Following the view of Kotler (2000), the development of new products shapes the company's future. The reasons to innovate presented by the employees are harmonic with this view. The answers are a testament to how the strategy and focus on innovation have penetrated the organization and is not left as meaningless words uttered by the top management. It should be noted that these answers came from employees either working in IBU or closely related to the unit. These answers are expected from IBU, and employees from other parts of the organization may not have the same view. However, while attending the course on "Lean Startup" in the Digital Expertise program, employees from several parts of the organization were witnessed asking relevant questions and listening intently to the presenter's response. This gave the impression that also Telenor in the collective sense knows, or at least cares about why they should innovate.

It can be concluded that the answer to why Telenor should innovate is first and foremost to secure the future wealth creation of the company, a view shared by Kotler (2000). Secondly, Telenor has a responsibility to provide network access in Norway as this supports several societal functions.

4.1.2 The Innovative Business Unit

The Innovative Business Unit is a reaction to the need for innovation in Telenor, a need sparked by the changing business environment. This section provides an overview of how this unit is organized to successfully innovate. It is an important perspective to have before looking at how innovation in this unit is done in practice, as it is the foundation that the practical efforts are based on.

network and disrupting the traditional telco business model.

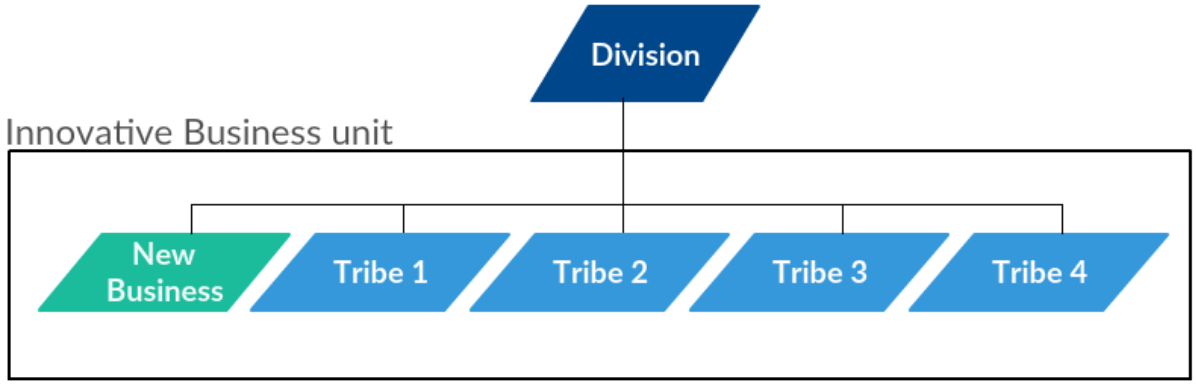

Figure 4.1: Simple chart depicting the Innovative Business Unit

From an outsider's perspective, one might not notice the organizational changes that have taken place in Telenor. This is because the culture and knowledge in the organization are not visible to the naked eye. On the other hand, these intangible changes gave way for efforts that *are* visible on the organizational chart. IBU is an example of such a visible effort. During the observation, the researcher got the feeling that IBU was something new, something being tested, and a product of the organization's new-found attitude towards agility and innovation. When asked about the inception of the IBU, the leader of the unit, strengthened this feeling by saying he was given some freedom of choice when he established IBU January 1st, 2018. The first time the researcher met with members of the unit, a run-down of how it is organized was presented. The teams in IBU are called "tribes", as known from Spotify Tribes. An additional team of about four people called New Business exists to work with ideas in the early stage, or the "fuzzy front end" as it was called. The tribes are included when the ideas to move forward with are chosen. The leader of IBU explained that the tribes are deliberately called tribe 1, 2, 3, etc. because "a project can live and die, but a team called 'Project X' could lose motivation because of a connection to a failed project". The Spotify Tribes model was chosen after looking for inspiration for agile setups. However, it is not a copy of their model, but an adaptation. The model in use in the unit today was created by trying out different parts of the original Spotify model.

> *We do not really follow the tribe-squad setup even though we call them tribes. We tried including chapters from the same model, containing specific functions. This did not work due to our size. We stopped it, learned from it, and found our own way of doing it.* (Respondent 2, Leader IBU)

One of the reasons he chose to incorporate parts of the Spotify model was that it would organize people in a way that allowed people to move around to tasks that required focus and was

relevant. It was easy for the researcher to realize through both interacting with the employees in IBU and just observing, that inside this unit were decentralized teams working rather dynamically on several projects. It was a strong sense of self-organization among the teams. Another employee confirms this intent:

> *You try to have a few units working autonomously with different projects. Those tribes both develop new and further develop existing services and concepts.* (Respondent 4, New Business member)

It was noted in an interview with respondent 6, a tribe member, that he thinks the way IBU is organized "does not reflect how the work is really done. Us tribe members are spread out on 3-4 different products, so in that sense, it is very agile". This conforms with the observations made, where it seemed like everyone was involved with several projects and worked with them interchangeably. It might sound chaotic, but it was more a state of controlled chaos. It was a combination of innovative and agile people in a unit organized in an effort to foster the agility. The employees in IBU was perceived as a good match to the way of working, both by the researcher and by one of the informants:

> *I think IBU is what it was supposed to be; an innovative unit working in innovative ways and with a pragmatic mindset.* (Respondent 5, Tribe leader)

Putting the organizational choice of creating IBU as a separate unit up against theory, lines could be drawn to the principles of The Startup Way (Ries 2017). While the first principle on continuous innovation takes place on a lower level, the second principle of a startup as an atomic unit of work can be identified. Based on the findings, each tribe could be seen as a small startup. The third principle calls for a way of managing these teams that incorporates entrepreneurship as a core discipline. The leader of IBU, together with the new business team takes on this role. The fourth principle is about founding the company all over in an organizational sense. The scope chosen for the empirical data collection meant that it did not create an overview of all organizational changes that might have taken place. The findings suggest that IBU is the most notable organizational change. Recreating Telenor Norway's entire organizational structure to facilitate for innovation would however be an immense and almost inconceivable task. To the researcher, it is unlikely that organizational changes larger than IBU exist in Telenor Norway, but that does not rule out other changes such as in culture and management styles in other units. There are also environments in Telenor using agile methodologies such as Scrum, but on projects closer to the core business. That puts them outside the scope of this thesis. The last

principle calls for continuous changes in organizational capability. To achieve this, Telenor as a whole has to have an agile approach to their entire structure. This does not seem plausible with an organization of such a size and already rigid structures. Inside IBU, however, such an approach is a lot more realistic in practice. To put this in the perspective of the red versus blue way by Furr & Dyer (2014), the traditionally blue Telenor is still blue except for the red unit IBU. However, the changes in culture, the understanding of the importance of innovation and agile principles, and the general innovative intent as it is defined by Klingebiel & Rammer (2014) might have penetrated the whole organization. Spreading this understanding throughout the organization is in line with the suggestion by Cobb (2011) on having a broad view when preparing the organization for innovative projects. While some parts of Telenor should work in the red, and others in the blue, a widespread *understanding* of the red way is believed to be important for collaboration between departments and divisions.

By looking at the way IBU is organized it is well justified to claim that the way they have incorporated the Spotify tribes is an example of using agile principles in structuring the unit. However, the findings demonstrate two more interesting agile elements relating to this. The first is how they did not copy the Spotify model, but drew inspiration from it, and used the parts that made the most sense to their situation and environment. This brings up the metaphor by Cobb (2011) that agile methodologies are like a menu where you create a full meal a-la-carte. This is also confirmed by a member of the tribe who says there is no common strategy. Agile elements are picked and used where they are needed and useful. The second is how they made changes when they saw that a part of the model, the chapters, did not work as intended because of their small team sizes. It is an example of tailoring and customizing methodologies after their environment (Cobb 2011, Heda & Goncalves 2010). Additionally, it conforms with the fifth principle from the startup way, but on a scale isolated to IBU. It shows an agile approach to creating the structure of the unit.

How the innovative business unit is structured is an important part of uncovering how innovation is organized in Telenor, as it is one of their largest innovative efforts. It is clear that in addition to following the principles of The Startup Way by Ries (2017), Telenor as an organization has become more aware of the importance of innovating and working in an agile fashion (Cobb 2011). IBU show an agile approach to creating their structure through customizing and tailoring methodologies (Heda & Goncalves 2010).

4.1.3 Corporate Governance & OKRs

Uncovering how the performance of the unit is evaluated through corporate governance structures is valuable as it affects what their deliverables are, and thus how they have to work to achieve them. How these structures are implemented in IBU as well as a discussion on how they are used in light of theory is presented in this section.

To control and measure the achievement of goals, both individual and for the unit as a whole, IBU uses Objectives and Key Results. The leader of IBU presents this as a more agile governance model, but one seldom spoken of in agile setups.

> *Everybody is talking about an agile setup but forget about the governance model. It only works when you have a complete agile setting.* (Respondent 2, Leader IBU)

He further explains that it is a model he runs strictly and in three-month lapses. To create their OKRs, the division management defines the "must win battles" and targets for the year using their vision and mission statement. Then, the IBU together with the division management decides the focus for the next three months; the quarterly OKRs. It is thus both a top-down and a bottom-up process in the end. The OKRs are used on three levels: on a higher level for IBU as a whole, per team, and per individual. Using OKRs on several levels of the organization and measuring different types of goals is perceived as agile traits. It has even replaced the traditional performance reviews and development discussions. The leader of IBU also asks his manager to judge his performance on IBU's OKRs. This way, they become his personal OKRs. This works the same way for the rest of IBU's employees. For example, one tribe's OKRs is that tribe's leader's OKRs. He has gotten positive feedback using this model. The informant from upper management put weight on the short time frame using OKRs and what it actually measures.

> *With OKRs we use a three-month time horizon versus 12 for a lot of the rest of Telenor. We are also not just looking at traditional financial KPIs, but specific objectives and key result elements which are more early indicators of future success.* (Respondent 1, Upper management)

He goes on to clarify that this does not mean IBU is exempt from being measured based on financial indicators, but rather that they are later indicators of success. Once a mature service is launched they will put more weight on the number of customers and the amount of money generated. With this it is perceived that OKRs is not just a scorecard tool used inside IBU, it is

also embraced vertically. It shows that IBU's method of governance is one of the points where someone outside the unit changes something about the way they work with those inside the unit, increasing the symbiosis with the rest of Telenor.

It can be discussed that OKRs have more than one use in IBU. One way of use is to keep the focus on goals, and the steps needed to reach them. This includes the creation of the goals, which was explained as a process involving divisional management, IBU's management, and the tribe members. An important observation here is the fact that the use of OKRs is not isolated to IBU. This is because of division management's involvement in the creation of the goals, and the fact that they also use these OKRs to measure the achievements. The other is their use of it as an internal evaluative tool, replacing traditional performance reviews and development discussions. These findings show that the use in IBU is beyond what is suggested by Wodtke (2016). In line with the theory, however, is the fact that it is used to track the achievements of goals for the unit, teams, and individuals. The use of three-month time horizons for the goals, as opposed to 12 months for many other parts of Telenor helps activate several of the agile effects described by Niven & Lamorte (2016). Mentioned effects are making sure the strategy is executed, avoid remaining stagnant, and engaging the employees in the goals. The three-month sprint could be seen as a cornerstone of how IBU work. It is a factual difference between the way of working in the rest of the organization, and it is a key element of IBU's use of the Scrum methodology. The use of sprints inspired by Scrum in IBU is discussed in chapter 4.2.2. The OKRs let IBU and division management measure early indicators of success rather than just financial KPIs, which are not relevant before a concept is being scaled in the market.

It can be concluded that IBU uses OKRs as a governance tool to create and measure the broad goals of the unit (Wodtke 2016). It is also used to evaluate employees' performance and development. IBU achieves agile effects (Niven & Lamorte 2016) by having three-month time horizons for their goals.

4.1.4 Funding

How Telenor funds their innovative efforts does to some degree reflect their commitment to becoming more innovative and agile. It is this researcher's opinion that it is important to ask "how" the resources are allocated, and not just "how much". This section presents an overview of how the unit is funded and subsequent discussion. Allocation of funds is an important factor in understanding how the unit is organized the way it is.

The division IBU is a part of has hundreds of employees and almost NOK 2 billion in costs this year. Knowing this, IBU does not seem like a relatively big investment when compared to the rest of Telenor.

> *With such a large division I cannot say that I cannot find any room for innovative efforts. In IBU, we have managed to fund a bigger innovative organization than we have ever done before.* (Respondent 1, Upper management)

Observing the unit gave a similar impression. With a large organization, one would think that *some* room for innovative efforts would be easy to find. That said, funding a unit of over 50 employees could still be called a sizeable allotment. The unit could be called well-funded on a relative basis, but again, the question is *how*.

There are differences in the methods for funding between IBU and other units in Telenor. For this unit, a methodology for funding where they allocate money in earmarked portfolios are used. This money is also released for shorter periods rather than for a two-year-long project. This gives a more dynamic funding process:

> *This allows us to fund activities without such rigorous and demanding central control processes.* (Respondent 1, Upper management)

This is a good example of how IBU as a different unit is managed in a more tailored way by the vertical organization. They are not funding a product or service to be launched after a certain amount of months, but rather the activities and the new insights and competency acquired through these activities. One could argue that being a separate unit makes it easier to run a different regime compared to the surrounding units and departments. From talking with one of the members of the new business team it seems as though this difference in the way of funding is not perceived as enough further down in IBU because of pressures on spending coming from the board of directors. A company exists in part to create value to its owners, and one of Telenor's long term targets is to reduce costs across the organization.

> *I think there should be one regime for the running business and one for the innovative efforts. We should be a little more sheltered from the guidelines for investments. Not to say it should be easier for us to get money, but it should be handled more separately than it is today.* (Respondent 3, New business)

Also the leader of IBU, although he commends the possibilities he has been given with the unit, notes that he does not get to try all the exciting concepts he would like to. “While maybe two out of seven would have been successful, I only get two shots and have to go with those” he says. He also connects this to the fact that the company has to do its utmost to deliver value to the owners. A natural effect of this is strict limits on spending, especially on something outside of the core business.

O’Sullivan (2000) arguments that understanding the innovation process is important when allocating funds because, as Kotler (2000) agrees, innovation is the foundation of future wealth creation. The latter suggests a division of resources based on an organizational view, assigning it based on business units (Kotler 2000). The findings show that the method for funding IBU *is* different from that of other units in Telenor. They fund portfolios of activities and the release follow the three-month sprints. This is in contrast to funding entire projects at once. It is an example of the organization outside IBU acknowledging that the innovation process should be considered when allocating funds, just as it is suggested by O’Sullivan (2000). Further details of how this allocation process is on a business unit level are not known, but a suggestion could be to follow the ideas of Klingebiel & Rammer (2014). That means using the three factors allocation *breadth*, *selectiveness*, and *innovative intent*. The findings informed that out of seven ideas maybe two are given resources, and this meant a lot of interesting concepts would not get the chance to be tested. This could be explained by the breadth being perceived as the factor that is easiest to constrain by the ones allocating funds. This makes for low allocation breadth. However, the ideas processed before they are ready to be considered for funding might have great breadth. If this is the case, that the evaluation process is thorough enough for the ideas before they are brought up to be selected for funding, then the concern about only funding two projects might be unwarranted. The number of concepts that get funding will always be limited, so it is assumed that making iterations to the process picking out the ideas that are eligible for funding should be a focus.

In light of this, the selectiveness is less crucial, as its importance increases with breadth. Although not present in the theoretical explanation of the selectiveness by Klingebiel & Rammer (2014), one could stretch the meaning of the factor to the decision points where it is decided if the project should be stopped or go on. Having only two projects running, it is even more important to stop or pivot if it becomes apparent that they will not succeed as they are now. If the right decision is to stop then it is better if it is decided sooner rather than later so that a new project could be started and be given the funds the stopped project would have gotten. The third factor, innovative intent, is where IBU really separates themselves from other agile environments in Telenor. Although the projects make use of the infrastructure Telenor already has,

the customer value is not the access to the network, but other functions. These functions decide the market the concept is to succeed in. Using theory from Klingebiel & Rammer (2014), it is obvious that the concepts' distance from Telenor's knowledge base and current capabilities show a higher level of ambition in the unit.

It can be concluded that there is an understanding of the innovation process by division management. The importance of this understanding is supported by both O'Sullivan (2000) and Kotler (2000). Theory by Klingebiel & Rammer (2014) suggests that the three factors allocation breadth, selectiveness, and innovation intent should be taken into consideration when the funds are allocated. IBU should also consider that the breadth of projects could be best evaluated on an idea-level. It can be determined that the innovative intent in IBU is great as the concepts lie outside their core business and market.

4.1.5 Answer to How the Unit is Organized

The collective analysis from the four subsections above gives an answer to the first research question *How has the unit organized its innovative operations?* The first look was on why Telenor should innovate in the first place. It is concluded from both empirical findings and by using theory from Kotler (2000) that innovation in Telenor is imperative to secure the future wealth creation of the company. In addition to this Telenor's networks provide access that supports several functions important in the Norwegian society. A more concrete look at how the innovative business unit is structured showed that they follow the principles of The Startup Way by Ries (2017). An increased understanding of the importance of innovation and agility is made in the organization, meaning a broader level of effect (Cobb 2011). IBU has shown they are able to customize and tailor their agile approach (Heda & Goncalves 2010). The unit incorporates OKRs as a governance tool the way Wodtke (2016) argues for their use, but they have also found the OKRs useful to evaluate the performance and development of employees. Their three-month time horizons for their goals is an agile trait pointed out by Niven & Lamorte (2016). Regarding the funding of the unit, O'Sullivan (2000) and Kotler (2000) argue for the importance of an understanding of the innovation process when allocating funds. The findings support the notion that the division management shares this understanding. Nonetheless, it is believed that they can benefit from taking into account the factors for research allocation (Klingebiel & Rammer 2014). IBU should look to the process of idea creation when evaluating the breadth of their innovative portfolio.

4.2 Innovation in Practice

This section gives an answer to the second research question *How does the unit work with innovation in practice?* The answer is formulated through analysis of empirical findings relating to the work in practice in IBU and discussion using relevant theory. The elements of the unit that is researched and included in this section are the tribes and the new business team, how they utilize agile tools and activities in practice, how they work with partners in development, and the uncertainty involved in working with innovative projects in an agile way. At the end of this section, the answer to the research question is presented based on the analysis of the mentioned elements.

4.2.1 The Tribes and the New Business Team

To find an answer to the research question, looking at how the different teams in IBU work is necessary as it is between these teams the work is done in practice. This aids in understanding why they use the agile methodologies they do. This subsection contains an empirical look at what they are trying to do, and how the teams work in relation to each other to get this done. It is established that what they choose to do is inspired in large by The Innovator's Method and The Lean Startup framework. Therefore, it is natural to compare how these theories have affected their work, and to what degree these are embraced by the unit. In combination with additional relevant theories, the results show how the tribes and the new business team work in practice.

As is mentioned earlier in the thesis, the work in IBU might sound chaotic. By first glance, it did look that way too, but during the observations, the researcher noticed the structured activities and the logical reasoning for doing exactly these activities.

> *When it looks like all we do is chaos and just experiments, it is important to go down a level and look at the systematic work processes.* (Respondent 3, New business)

Going down a level to find these processes was necessary to answer the second research question on how they work in practice. What lay beneath the seemingly chaotic surface? Autonomy, cross-functionality, uncertainty, experimentation, agility, and a dynamic focus on tasks. These are some of the traits that in practice could look like chaos. To explain the controlling functions and frameworks with broad strokes, the teams in IBU use a Scrum approach in their development of new services. They run sprints, no longer than three months long. During these sprints,

they test and experiment to validate hypotheses to learn and get more insight. As respondent 3 from new business puts it: "When you have shown what you learned from what you have done, you can ask 'should we go on with the next step?'" He calls it creativity put in a system. Looking closer at a single sprint one finds that several tools, frameworks, and workshops are also used. These are covered in section 4.2.2. The sprints could also be as short as weeks or days in the early phases of a project. The new knowledge and insight gained during a sprint could be what the customer needs are, but tests are also done to get indicators as to whether the needs are understood correctly and are covered by the functionality of the product or service.

> *The aim is to understand the user needs and to start designing and testing the solution as early as possible to get indicators as to whether we have understood the user needs correctly. This start is a more agile phase. When you are sure you are developing and implementing the right product, there is a bit longer lead time and one does not need sprints as short.* (Respondent 3, New business)

The new business team's involvement was through observation characterized by dynamic participation in the projects running in the tribes. However, their main function is to work with the projects in what was called "the fuzzy front end" where uncertainty reigns and there is great breadth in the portfolio of ideas.

> *New Business is responsible for pulling up new concepts, trends, and possibilities, and also initiating these projects and get new concepts going.* (Respondent 4, New Business)

When it is less "fuzzy" and the concept chosen to move on with is defined, the tribes are involved. This does not mean that the new business team lets go of the project and leaves it all up to the tribes to continue the development.

> *We try to involve the tribes as early as possible to build competency and familiarity with the concept. When we have a concept we think will succeed in the market and are ready to scale it up, it will be natural for the tribes to receive more of the responsibility.* (Respondent 4, New business)

During the month of observing meetings and other activities, it was the researcher's understanding that the new business team members still had ownership of the project. This was mostly due

to them having control of where the focus of the work should be, i.e. the experimenting and validation of hypotheses. They were also the ones reporting the progress to the controller group. It was interesting to find out how the handover of the project from the new business team to the tribes would fare. The question was raised whether the tribes should take ownership gradually or if there is a defined line where it happens.

> *There is no set structure to that, and I think that is smart as they should gradually take over more and more as it is natural. The danger of not having a structure is that it never happens. I am excited to see if we manage to put the ownership and responsibility where it should be.* (Respondent 3, New business)

As the last quote suggests, with IBU still being a rather new unit, no project has gone through a whole life cycle yet.

Taking a more thorough look at how they work in IBU using relevant theory, both *the innovator's method* and *the lean startup framework* is easy to recognize. The new business team is central in the innovator's method first phase, insight, as seen in figure 2.7. In this phase, Furr & Dyer (2014) recommend having a broad scope in the search for ideas and concept. This notion is shared with Klingebiel & Rammer (2014), and confirms that it is here IBU should emphasize the breadth factor as was suggested in section 4.1.4 where funding is discussed. The new business team further follows the model and starts acquiring a deeper understanding of the problem. A proper understanding of the problem the product or service is going to solve is essential (Furr & Dyer 2014). The third phase is where the tribes are actively involved and the lean startup framework is incorporated. The basics of the framework give five sets of things to do, and how to do it. As witnessed during the observation, hypotheses and concrete assumptions are made on how the concept's functions and properties serve the customer needs. These are tested and gives new knowledge about what the solution to the problem is. The findings show that between each sprint, what the next step is and whether they should go on with it is asked in light of what has been learned. This conforms with how the lean startup method uses feedback loops, and what is called a hypothesis, test, learn loop in the innovator's method (Ries 2011, Furr & Dyer 2014). In addition to these loops, a regularly evaluation of the need to change strategy and pivot is needed (Ries 2011). As the findings show, examples of pivoting did come up during the observation. This, and the unit's ability to pivot is discussed in section 4.3.1.

As the tribes are introduced, more work hours are added to testing and experimenting. The hypothesis or assumption that should be in focus is decided by all previous learning. The ownership and the management of this seem to be in the hand of the new business team, although

with valuable input from the tribes. When the tribes are to take over has not been defined by the new business team themselves, but it could be said that they would benefit from releasing more of this to the tribes. It is interpreted that there is not any structure to it, but that it also conforms with the agile mindset. Less rigid structures give room for things to develop when it is mature enough and with the most information available. Additionally, experimenting is central in IBU, and that also goes for development processes. If they see that the responsibility and ownership is not handed over as it should, they could make changes for the next project. It is to the researcher commendable that they chose to try it out with less structure and more freedom first, versus the other way around. Ries (2017) presents a visualization of how ideas go from experimentation to execution in figure 2.8. He suggests that it is only when the project is dominated by execution activities that the *startup team* can release themselves from the project. But as the tribes could be said to have many traits found in startup teams, this suggestion might not apply to IBU. As the experimental activities decline and execution takes over it becomes increasingly relevant to let the tribes be more independent.

Another reason to relieve the new business team of these projects is so that new business could spend more time working in the insight phase while other projects are further ahead in the model. Note that it is not known to the researcher how much time is spent working with ideas in the first phase. Still, doing this could be considered as valuable when a project is handed over to the tribes or even if it is stopped, and a new project is needed. Working with new ideas simultaneously could also bring up concepts that could supplement other concepts also in development, or affect pivots. Being able to work with these loops in parallel could from this standpoint be considered a highly agile trait, in addition to being in harmony with the model's non-linearity and the suggested overlapping of steps. On the other hand, relinquishing ownership too early could also have negative effects. The new business team's members are likely to be more qualified to manage these projects. The grounds for claiming this is not only that they probably have more relevant experience of such management because of the position they have now. It is also because they were perceived to be inspired and engaged in using the innovator's model and the lean startup framework on a higher level than those in the tribes. Their function of controlling that the projects are managed in an agile way, not losing the positive effects this has on the project's execution, must not be underestimated.

Continuing on the role of the new business in relation to the tribes there is the concept of balance between autonomy and control. According to Brown & Eisenhardt (1995), this is a balance it is hard to achieve. By design, the Spotify tribe model is designed to facilitate high levels of autonomy, also while scaling up the development. The results point towards new business extending their control function to also participating on a high level in the activities in practice.

This could suppress the autonomy in the tribes, but is closely related to their choice of not having a structure for when to hand the project completely over to the tribes. While the danger of not having such a structure could lead to it never happening. On one hand, this could make the new business team less effective as it takes their focus away from the important creative work with ideas in the "fuzzy end" of the process. On the other hand, it does seem to follow an agile way of approaching the challenge. No project has gone through the whole process yet, and setting a structure to this now could be more damaging than if they were to gather experience from doing it as it feels natural, as they are today. Iterating on this structure after learning from previous experiences could be construed as an agile approach to building their agile way of managing projects. Aiding in this retrospective look could be the S-curve depicted in figure 2.5, and using it reflecting over when the uncertainty was lessened to a degree that, according to Furr & Dyer (2014) calls for more traditional management and less entrepreneurial management. This is with the researcher's assumption in mind that the tribes are less fitted to keep to the red way of managing the projects and will tend to incorporate a more blue style.

From looking deeper and under the perceived chaos in IBU, several discoveries are made. Both the innovator's method by Furr & Dyer (2014) and the lean startup framework by Ries (2011) has had an effect on how they work. They hypothesize, test, and learn in loops, then evaluate the next action based on the new knowledge. IBU has chosen to not have a set structure for when the projects should be relieved of the new business team's control. This is an agile approach, but it is recommended that a retrospective analysis is carried out after running a project without such a structure. These considerations should include when the execution activities become more apparent, but avoid blindly following the suggestion by Ries (2011) that these activities have to be dominant in the project. The new business team's ability to control the level of agility in the project should also be considered. The S-curve (figure 2.5) by Furr & Dyer (2014) should also be used as an aid in the evaluation.

4.2.2 Use of Agile Tools and Activities

After looking at how the unit is organized and the teams cooperate using an agile logic, the scope for this subsection is now focused on the concrete work that is done. By looking at the specific activities it can be uncovered if these also are done with agile intentions, and whether the agility penetrates down to the practical work. The section takes a look at how IBU use different agile tools and activities to aid them in their innovative projects. An emphasis is made on whether the utilization of these differs from what is suggested by theory.

The teams were observed while working in what seemed like a dynamic, agile, and pragmatic way. This includes the usage of tools, frameworks, and activities that were used and followed in situations where they were thought of as most fitting. This is different from the normal sprints which always run "in the background" with three-month lengths. However, smaller and more intensive sprints are used as an agile tool when it is needed.

> *We try to use and adapt agile tools in different projects, but there is not a common strategy for their use. We use them where they are needed and useful, and also pick certain elements from the agile concept.* (Respondent 6, Tribe member)

The software tools used in IBU are those that they feel allow for faster and better collaboration than the ones used in the rest of Telenor. This means they use Google Drive[2] and Slack[3] instead of SharePoint[4]. The downside, according to the Leader of IBU, is that when working with the rest of Telenor he has to relate to both sets of software at the same time. Non-software tools in use are the Business Model Canvas or a variation, Lean Startup Canvas. "We use different canvases as we feel they fit best. They are often a good addition in a workshop or sprint." said respondent 3 from new business.

It has now been established that experimentation and testing hypotheses regarding customer value are one of the defining pillars of the way IBU work with new concepts. An important activity to aid in this is piloting[5]. In the project observed a pilot was running and a second pilot was in planning. The first one was tested on relevant users ranging from friends and colleagues and others with a more professional approach to the use of the service. This way they could gather valuable insight into the user experience and to what degree their needs are covered. The next pilot is done when they are certain they have covered the users' needs and want to test the commercial performance of the service. A selection of real, potential customers are given targeted advertisements to test the amount they are willing to pay for the service. The pilot is done to get answers to specific and important questions during development.

The Google Design Sprint has been used in IBU several times. In a creative and intensive session, they try to define the product's value propositions. Unfortunately, none of these sprints was observed by the researcher. Instead, it was explained that they have used the sprint "by the book". They have actually used a physical book containing a recipe for running the Google

[2]Google Drive is a file storage, sharing and synchronization service by Google.

[3]Slack is a cloud-based service containing a set of team collaboration tools.

[4]SharePoint is primarily a web-based document management and storage system that integrates with Microsoft Office.

[5]A pilot project is a test or trial done prior to full-scale launch.

Design Sprint. They found it easy to apply just by reading the book and without any further training. While the traditional Google Design Sprint runs over five days as explained in chapter 2.1.2, they have in IBU used sprints lasting three days, one day, or even three hours. They try to do the same but in a shorter time.

> *We may get less out of it as the process is not as thorough, but you are more effective and focus only on the most important work. We have had good experiences with it. I have been part of workshops where we have started from scratch, and after a three-hour sprint made a concept and a Facebook ad campaign that went live right away.* (Respondent 4, New business)

To discuss their use of agile tools and activities, it is fitting to start with how IBU use a scrum approach in their development of new concepts. When using Scrum in a software development environment, sprints longer than 1-2 weeks are rarely recommended. IBU, however, is not such an environment. Scrum has over time become a framework for project managing and is designed to eliminate waste similar to lean, making it a popular choice also outside the software development field (Cobb 2011). IBU is an example of this. Seeing as they work in a different field than the one the methodology originally got traction in, it is no surprise they have not incorporated the complete scrum framework. With what is known by now of IBU and their work with agile methodologies it is *expected* that they adopt some key elements that fit their challenges. In addition to the sprint logic, an important function is the empirical process control that is used in these sprints. This means working in short iterations using empirical learning from the last iteration to figure out what to do in the next one. This logic is also present in the innovator's method, and together with the elimination of waste resembles the lean startup. They have opted to not use certain components of the classic scrum team such as the product owner, the scrum master, and the development team. Instead, we know they have the new business team and have drawn some inspiration from the Spotify tribes.

IBU uses the Google Design Sprint to define a product's value propositions. The method as it was created by a subsidiary of Google spans five days (see figure 2.2). IBU has taken the concept and although they say they do it "by the book", they have done the same sprint over three days, one day, and even three hours. Even though they try to do the same, just in less time it could be speculated that some parts are not done as thoroughly as the creators of the method intended. Then it should be assumed that they do the things that are most important to them, and that the method could help them with the most. It is another example of customizing agile methods after their needs and capabilities. The creators say it is a method of answering crucial questions (GV 2019). This is exactly what they use it for even if some elements change.

A suggestion is to incorporate the customer-focused variant of the lightweight marketing mix model. The 4C model by Lauterborn (1990), a variation of the 4P model by Kotler (2000). The customer focus of the 4C model reinforces the values defined by the agile movement found in table 2.1 (Beck et al. 2001).

An example of an activity that was perceived to run unaltered was the business model canvas (see figure 2.6). Two theories have been made to why this is. Firstly, it is a financially relevant document expected by the controller group and division leaders. Secondly, it is not very rigid by design. While the nine blocks that make up the model has to all be filled out, the process of filling them out is an agile activity in which using an open mind and creativity is preferred (Osterwalder & Pigneur 2010). This gives an amount of freedom in the use of the canvas that reduces the need to tailor the canvas itself. While the innovator's method places the business model later in the process, a preliminary version is made early in IBU. Still, this does not break with the method as it is supposed to be non-linear.

Many would probably argue that one is not unleashing a methodology's full potential by just using some elements from it. They would see it as taking away a link in a chain, and then the framework is not connected anymore. However, while acknowledging this discussion and agreeing that it might often be the case, it is by this researcher believed to be the other way around when agility is in focus. To reach the desired balance between agile project management and traditional management, a mixture of tools, activities, principles, and elements from both schools of management should be considered. Again, the a-la-carte metaphor from Cobb (2011) shows its relevance. Strictly adhering to a rigid framework will not give this balance. It is also this researcher's opinion that if any methodology, be it agile such as scrum, is strictly incorporated, then it is a lot harder to iterate on this methodology later. Trying to customize a complete incorporated methodology could have a negative connotation because it could be seen as "giving up" on it or as a way of saying it does not work. As such, having an open and selective approach from the start is seen as preferable, something IBU has done.

The results demonstrate that IBU have resorted to using sprints of various lengths and a focus on the empirical findings from each sprint (Cobb 2011), but they have not implemented all elements from the scrum methodology. They utilize the Google Design Sprint (GV 2019), but with shorter lengths than the recommended five days. The Business Model Canvas, on the other hand, is used as suggested by Osterwalder & Pigneur (2010). The way IBU in large use customized versions of agile tools and activities could in itself be called an agile approach. They pick elements that suit their environment best, as it is described by Heda & Goncalves (2010) and Cobb (2011). This approach lets IBU make further adaptations as they are put to use.

4.2.3 Working With Partners

It is generally accepted that working with external partners is an important part of innovative development. To IBU, working with smaller companies and startups is very relevant. Vast amounts of technological and market knowledge are found in these companies. Many of them have previously tested new technologies in the market. Many were not successful, but the knowledge gained from these ventures could be valuable to Telenor. This subsection uncovers how IBU collaborate with external partners and how this work is affected by the agile qualities found in the unit.

In IBU the partners are often smaller companies, even startups. It differs from many of the other commercial partnerships in the rest of Telenor. Those are often large multinational corporations such as Huawei or Nokia. Note that they are referred to as partners and not suppliers. This is important to IBU, that they develop something together and see the upside as a product of their collaboration. That way it is not just a supplier that wants to sell X amount of their product. Mutual dependence and win-win situations are sought after. For a small startup partnering with Telenor it could mean access to 5G[6] and IoT[7] testing facilities which would not have been in reach otherwise.

> *We try to avoid customer-supplier relations, but rather want to succeed together in the market. We have to work as close as possible with a common goal.* (Respondent 4, New business)

In the project observed a member of new business had two meetings per week with the tribe involved and the partner. In this case, it was a small company specializing in GPS trackers. Much of the development of the service or product in question is done by the partner, while testing, data collection and prioritizing of features is done in IBU. A risk when working with such small companies, often startups, is that they are vulnerable to parental leave or other forms of absence since they have less redundancy in their competency and functions. They are also dependent on funding, which may run out. “If they are always short on our expectations and plans we have to stop and find something else” said respondent 3 from new business.

When asking how IBU work with other external partners it was brought up how the large differences between Telenor and often a startup could affect the collaboration. The leader of IBU

[6] 5G technology is the fifth generation of mobile access services.

[7] IoT = Internet of Things. It is a network of electronics, software, and sensors able to communicate through internet connectivity.

believes the partners find it heavy and tough because of Telenor's demands for ethics, security, GDPR[8], consent, and brand exposure. This is something they cannot get around. A new business member agrees with this.

> *We have self-imposed demands for delivering products of high quality and safety. Some processes could get more comprehensive because of this and be perceived as a bottleneck in the development by the partner. It could sometimes feel like being agile and fast-paced, then suddenly hitting a wall.* (Respondent 4, New business)

Working with others is also about the people involved. Having "people skills" is important, and while observing meetings between one of the partners and the unit, it seemed like both parties were met with clear expectations, but also understanding and patience. The respondent from upper management puts emphasis on this factor:

> *In IBU we have very talented, cooperative people. The partners meet positive people that want to create value together and for the customer. I expect the partner to have a positive experience from this, but there will be examples when it just does not work out. It is also important to have a good process for managing these situations.* (Respondent 1, Upper management)

To discuss the importance of working with partners one of the projects observed is used as an example. In this project, the product required a platform utilizing GPS technology. As the value to the customer lies in the functions that use this technology, establishing a partnership with someone who has already developed units carrying this technology is beneficial. This lets IBU focus on the development of what creates the most value to the user. As these are often startups themselves, the agility and the startup traits in IBU make for a more productive collaboration. Especially the sprint lengths are believed to be easier for the partner to relate to. Still, there are differences in the resources, knowledge, and capabilities, meaning it carries some risk (Project Management Institute 2001). They can complement each other in some of these, such as knowledge. Telenor's demands for ethics, security, GDPR, consent, and brand usage is something both IBU and the partner has to work with. To the startup, this could be exhausting. They do not have a close relation to the business functions enforcing and consulting on these areas that IBU has. Good communication with the partner regarding this aspect could reduce the risk of it hampering the work of both them and IBU. Something that could minimize the impact

[8]GDPR = General Data Protection Regulation. It is a regulation in EU law on data protection and privacy for EU citizens.

of Telenor's size, regulations, and governance on the partnership is the fact that IBU also tries to work as a smaller company and the startup way (Ries 2017). As previously discussed IBU's employees, especially the new business team, are people that are more or less ingrained in working as a startup.

IBU's collaborations with external partners let them focus on developing the functions most important to the customer. Internal requirements could act as barriers and increase the risk of the projects being hindered (Project Management Institute 2001), but through communication, this risk could be reduced. IBU's agile traits and how they work the startup way (Ries 2017) makes IBU and their teams better fitted to work well with other startups.

4.2.4 Uncertainty

An important question when developing new products is what the uncertainties are and how it is handled. This is because when uncertainties are not handled, they become risks. To IBU, the goal is to reduce uncertainty as much as possible. Naturally, this is affected by the methodologies they choose to use in their practical work. This subsection reveals how uncertainty is handled in Telenor using both the perspective of IBU and those using more traditional development methodologies.

The observation was done with a preconceived belief that developing products or services in an agile setting, especially with concepts outside the core business areas, would involve great levels of uncertainty. Therefore, it was natural to inquire about this in the interviews to confirm or debunk this belief. As with most things, the answers pointed towards both greater and less uncertainty dependent on the perspective used. To start with the factors leading to greater uncertainty, we have the fact that IBU focus on services outside the realm of the core business, and often core competency. That means less knowledge about the customer's demands, needs, and behavior towards the concept in question. One informant draws a comparison to a newly launched concept for the mobile subscription service targeted towards young people called "Yng Goodies", developed outside IBU.

> *In the core business, we have a marked we understand very well. We also used a lot of insight from the customer to develop Yng Goodies, but this insight is probably easier to collect through market research. Starting with a totally new concept, the customers might not be able to give good insight because they themselves do not know how they feel towards it. Then you have more uncertainty and have to use*

> *different methods to gain insight.* (Respondent 4, New business)

The same person also says "To me the red way of working is not only about being agile but also how you handle uncertainty". A big difference between the work done in IBU and outside is how this uncertainty changes during development. The agile mindset in IBU is to a large degree about running experiments and tests to validate hypotheses and decrease uncertainty. This is done continually until launch using a variety of activities making sure the product has the right qualities when it is launched. In contrast, other units in Telenor decide early what the customer wants and often stick by it.

> *Working in the blue there was no uncertainty because they "knew" what was deemed to be the customer needs. There was no uncertainty until launch when it turned out nobody wanted the product.* (Respondent 3, New business)

Another way of looking at it is by comparing the business case and the goals used. The leader of IBU says he has "made many business cases in the blue, and they rarely hit the mark. Is it more uncertainty working in the agile red than the blue? I do not think so." This perspective is interesting. The customer needs might be more uncertain in the red because it is a new product in a new market, but what you will have after the three-month sprint is a lot less uncertain than what you will have in a 12-24 month plan, or a business case. In the three month sprints, you know which hypotheses you will have answered and where to keep your focus. "What the results will be is uncertain, but what questions we will have answered and what we have to do to get those answers is not uncertain at all." said respondent 3. During observation of status meetings, the presentation of hypotheses to be validated was witnessed. It showed how they break this down to concrete activities, giving no question to what is to be done, or who is assigned to do it. It should be mentioned that when the project contains less uncertainty and it moves from experimentation to more execution, the blue way of working is also useful and should blend in. A third perspective did come to mind. The one regarding the need for consistency in the work environment and job security. As projects are evolving, pivoting, and even get stopped, the competency needed also shuffles. The IBU leader mentioned that "People who like routine jobs may not like this, but for those who like change and a dynamic workplace think it is really cool."

Looking at the empirical findings in light of theory, it is important to consider the perspective when talking about uncertainty as well as the type of project. In their perspective, IBU operates with very low uncertainty because of their short time horizons and frequent experiments mean they know exactly what they are going to do. It is only the results of these tests that are uncertain.

All their activities during the entrepreneurial phase work towards defining how the final product will satisfy the customer needs (Furr & Dyer 2014, Ries 2011). These needs, and whether they meet them is highly uncertain. However, this is the nature of working with concepts outside the core business and knowledge. This uncertainty is rooted in the demand uncertainty and whether the customer will buy it. The technological uncertainty is also inherently large in projects where they have to use technology not presently developed in Telenor. As discussed earlier, working with partners reduces this uncertainty, and could even remove it. Working agile is then the preferred method to reduce this uncertainty (Furr & Dyer 2014). Looking from the perspective of those working in more traditional and less agile ways, the uncertainty present in IBU is almost nonexistent. They work with projects relating to their long-standing revenue streams and customer base. They know more about what the final product is and what the customers want. Their challenge lies in the actual development and engineering of the solution. As such, the traditional methodologies are more fitting in these units. However, due to the lack of agility and more rigid methods, the need for change in direction because of a misconstrued perception of the customer is harder to discover. Kotler (2000) presents both overestimating the market and rigid favoritism of ideas as factors that could lead to failed projects. With projects possibly spanning multiple years, the fast-changing technological needs in the market increase the risk of these projects (White Hutchinson 2016, Project Management Institute 2001).

From IBU's perspective their uncertainty lies in the customer and technological demand, but what they have to do to reduce this uncertainty is well known. This is because of their use of agile methodologies (Furr & Dyer 2014, Ries 2011). The environments in Telenor working with concepts relating to the core business are certain of what they are going to develop, and the challenge is rooted in the development process itself. Because of the fast-changing technological landscape, their rigid methodologies make them more exposed to the risk of not satisfying customer needs (White Hutchinson 2016, Project Management Institute 2001, Kotler 2000).

4.2.5 Answer to How the Unit Work in Practice

The empirical findings and analysis in the four subsections give an answer to the second research question *How does the unit work with innovation in practice?* The innovator's method and the lean startup framework is used by IBU to work in empirical loops to develop new concepts (Furr & Dyer 2014, Ries 2011). They use an agile approach to the ownership and control of the projects between the different teams. The unit utilizes sprints inspired by both scrum methodology (Cobb 2011) and variations of the Google Design Sprint (GV 2019). The business model canvas by Osterwalder & Pigneur (2010) is used to develop business cases in the early

phase of a project, an important deliverable when meeting the division management and the controller group. The results show that the agile elements they choose to incorporate in their practical work are chosen based on how they fit their environment (Heda & Goncalves 2010, Cobb 2011). IBU work with external partners allowing them to focus on the functions giving the most value to customers, rather than spending time on the technological solution. It is suggested that good communication with partners could reduce the risk of the cooperation being affected by Telenor's internal requirements (Project Management Institute 2001). The teams' agile traits make IBU better suited to work with other startup companies (Ries 2017).

4.3 Experiences Made

The last and third research question is answered in this section. The question is *What experiences have been made from the way the innovative projects are run and organized in the unit?* IBU has worked with innovative projects for only about a year, but their experiences can still be identified. To answer this research question how the effects experienced from working agile is uncovered, as well as how they experience working from a red perspective towards someone further towards the blue end of the spectrum.

4.3.1 Agility

This subsection unfolds the experiences IBU have had and evaluates how they align with the effects expected from following lean and agile frameworks and principles. It is important to provide an even deeper understanding of why they work the way they do in practice, and what the agile way of working does to the effectiveness of the unit.

Being agile could serve as restraints in some areas while opening up others. Although it is more associated with the latter. While the core business of network access through both the mobile and fixed network could be seen as an inherent need in today's society, services and products developed in IBU often are not. The market might be narrower and the need harder to define. This makes it harder to stay relevant and close to the customer. The leader of IBU says the following regarding their ability to meet this challenge:

> *Working agile has given us great value in terms of staying relevant to the customer and adapting to the competition when they launch something we need to respond to. I would say our agility have brought us closer to the customer, we can try and fail, we have shorter lead-time and more solid plans.* (Respondent 2, Leader IBU)

He also believes that this could not have been achieved had IBU not been incorporated as a unit inside Telenor Norway. He draws comparisons to other units that are now dissolved. One of these was a unit placed outside the Telenor Norway organization that focused on all the 13 markets Telenor operated in at the time. One of the problems was that creating something that has to work in all these markets means you satisfy none of them completely. Different cultures want different things, taking the focus away from the important functions of the product. Moving the development unit inside Telenor Norway and focusing on the Norwegian market made

it a lot less complicated. If something proved to do very well in the Norwegian market it could be exported to others, first and foremost the very similar Nordic markets Telenor operates in. He says "We now have a shorter lead-time because we only work towards one market. This, in turn, has made us more creative and given new sources of revenue."

Another agile effect is the ability to pivot both people and projects when needed. The agile methodology and the organizing of IBU make people move to where they are most relevant and the focus is needed. The projects are also less prone to drain resources when they should have been stopped or pivoted. It comes down to the ability to test out hypotheses and gathering the information that affects what the next step should be. As respondent 3 says, "To succeed it is imperative that we think about pivoting when needed, also after launch as development continue." The need to pivot could also be related to the teams carrying out the project as well as the project itself. It was experienced during observation that one member of the project observed had to opt out of the group as she had to prioritize other projects. This caused the need for a status meeting to figure out the new division of tasks, an example of a pivot in the team's structure. Another more traditional pivot was observed in a project working on a product aimed at pet owners. After having run a pilot, the participants answered a questionnaire. The data from this survey showed that they were a lot further from satisfying the needs of cat owners than those of dog owners. A decision was made to exclude cat owners from the market scope of the first iteration of the commercial launch. The researcher was informed sometime after the observation had taken place that in this project even the technical platform was going to change for the next iteration of the product.

As determined in chapter 2.1.2 on agile principles (Beck et al. 2001), this thesis uses no defined line deeming if something is agile or not. As such, it is not within the aim of this thesis to decide whether IBU is agile or not. Still, one can identify elements believed to be the effects of working agile and the red way. The findings support the notion that IBU's relevance to the customer is influenced by their agility. Testing, experimenting, and piloting using real customers from the target market means the results will resemble those of a commercial launch of an MVP (Moogk 2012). This increases the validity of these results. Focusing solely on the Norwegian market also has this effect as the same customer group in different countries are affected by that country's culture and social environment, meaning you would never be able to satisfy everyone's needs. On the other hand, the validity of the experiments' results only transfers to the interpretation of these results, not the method of testing or the sample of customers tested. This means defining the market is still a very important task that should have its own dedicated activities and processes. Decreased lead times and improved knowledge management are effects both experienced by IBU and listed by Melton (2005) as benefits of

following lean principles. The findings also stated that these benefits have allowed IBU to respond to competition faster. The unit was observed pivoting projects while the researcher was present. It was witnessed that the decision to pivot came from evaluating results from the last hypotheses tested. This showed that the decision was knowledge-driven and that IBU is able to overcome the challenge of knowing when to pivot versus when to persist (Furr & Dyer 2014). This is considered a benefit from managing projects using the sprint logic and feedback loops (Cobb 2011, Furr & Dyer 2014, Ries 2017). The combined effects experienced in IBU should be attributed to the incorporation of the agile values (Beck et al. 2001). The effects are consistent with the modern meaning of the word *agility* in a business environment: "The ability to both create and respond to change in order to profit in a turbulent business environment" (Highsmith & Highsmith 2002, p. 16).

It is deducted that IBU has experienced several effects from working agile and the red way. They have become more relevant to the customer, work based on knowledge and learning from previous activities, and have shorter lead times. These are benefits expected from following the lean principles (Melton 2005). The unit was witnessed using new knowledge to decide whether to pivot or persist, a very important challenge to overcome. The ability to pivot is strengthened by using the sprint logic and feedback loops (Cobb 2011, Furr & Dyer 2014, Ries 2017). Following the agile values (Beck et al. 2001), IBU are experiencing the positive effects embedded in the word *agility* (Highsmith & Highsmith 2002).

4.3.2 When Red Meets Blue

Working with other parts of the Telenor organization is unavoidable, and with IBU incorporating a different way of working than others, complications could arise. The effects of these complications should be negated if possible. Therefore, this section is important to reveal how differences in expectations and ways of working affect collaboration and meetings.

Bringing forward the concept of IBU working more in the red and the rest of Telenor more in the blue, it was interesting to see if these differences have had any noticeable effect. This was also a topic in the interviews but before that something which was looked for in meetings and other observations. One of the project meetings observed was a status meeting held right before a member of the new business team, respondent 3, was supposed to present the progress of the project to the controller group. The participants were from the new business team, the tribe working on that particular project, and representatives from units outside IBU. These were people from important business functions such as IT, security, and platform. The impression

given was that these did not just have an advisory function, but were actively involved in the project. After all, each function comes with their share of regulatory compliance factors. As such, it is in the project group's best interest that they are included as much as possible to avoid sudden barriers. The presenter of the meeting was consistent in mentioning why things were the way they were. For example why exactly these hypotheses were going to be tested and what the results could mean to the project. Or specifying why the road map and business case involved very high uncertainty. Some of it could be explained as conforming with "the red way of working", meaning that the agile literature recommended using a specific method, canvas or analytical model. It could also be an *effect* of working the red way. An example of the latter is that because of working with shorter time horizons, as you do in the red, the road map or business case is very uncertain. This was communicated in these meetings. One of the members from new business comments on this.

> *You have to communicate that greater uncertainty is present than in the traditional cases and that this has to be taken into account. Still, I think it is smart to present a business case early even if it is very uncertain, as it gives you something to work from, although you adjust it underway.* (Respondent 3, New business)

This way of communicating the status of the project, but also why the status is what it is and why it is presented in that way, carried over to the meeting with the controller group. As this meeting involved participants from a higher hierarchical level, focus on where the project is going was a lot greater than where it is now. This increased the importance of the road map and business case, and also the need to communicate its uncertainty. The presenter commented on this situation later in the interviews that he feels the focus is in the right place in these meetings with the controller group.

> *We have a good controller group now, . . . I feel we discuss what has the most value to the project and get support on those things. But I still feel that as soon as you talk about financing, we have to go into the leader group. Then the question is suddenly "what is the business case" and "what are the revenues and the value of the business case in five years". I feel this is wrong and it could be a bit stressful. . . . We believe there is great potential, also economical, for this service, but that is not what we are testing right now.* (Respondent 3, New business)

It was clear that while the controller group was filled with people who knew how projects ran in IBU, the leader group was not. The leader group, as the name suggests, is higher up in the

system and more in the blue. The leader of IBU is in this group and as he puts it "I sit in the leader group every week and fight for my unit's cases." When questioned about the importance of his role being a link between the leader group and IBU, he says:

> *Yes, I have a leg in both camps. But I'm afraid that if you only argue that the red should be as agile, crazy, and high risk as possible you will risk not delivering success or breaking some compliance regulations such as GDPR or consent. This is Norway's largest brand, you do not act carelessly with it.* (Respondent 2, Leader IBU)

Here, he is talking about the balance between red and blue. The meetings with the leader group are one of the more defining areas where the red meets the blue. In these meetings, he is the link that makes sure the two opposites can function better together. He was also asked about how he communicates with the leader group, and if he explains how things are done the red way. His answer was that he does not refer to the red way at all in these meetings. "I think it has become a 'buzzword'. It is not my job to convince everyone what we need to do, I focus on getting things delivered." He punctuates it with saying that the IBU slogan is "Get shit done".

Cooperation with business functions such as brands, IT, security, sales, etc. is important when developing products and services. Not only are they there to make sure everything that launches is compliant with the set regulations, but they are also sources of expertise in their respective domain. It was said by a member of IBU that 2018 had somewhat of us-and-them culture between these business functions and the agile teams. It seemed like the difference in the way of working could be some of the reason. However, this cooperation was improved after some changes were made to the governance structure. Now, the mantra is that the whole division is responsible for IBU's projects to succeed. These business functions now help IBU in many of their efforts. Their involvement in the status meeting observed as was described earlier is an example of this. A specific business function that came up several times during the interviews was the brand function. The use of the Telenor brand comes with some restrictions, especially when it comes to quality assurance. Respondent 3 from new business was asked how their cooperation with the brand function is going. A follow-up question was whether it is as balanced as it should be now or if it is not, and if the brand function affects the time to market.

> *You have to choose whether the project will run with its own brand or use Telenor's, but then also accept a great deal of quality assurance. It is a balance we have to accept. . . . I have not experienced increased time to market, almost the opposite.*

> *Everyone is very happy to help, and seem to think it is cool when we come with questions. I do not feel they act as a barrier.* (Respondent 3, New business)

This quote and one of those by the leader of IBU shows the respect for both the Telenor brand and the value incorporated in it, as well as the business function known as just "brands" around the office. To get another perspective on this, a representative from "brands" was interviewed. He was asked if their function could be seen as a barrier in some cases, and if there is anything that he thinks might improve the cooperation they already have.

> *Yes, I can see how it could happen. We have our responsibilities related to the use of the brand, and they have to follow the guidelines. ... We could work more systematically together than today. Making contact earlier regarding projects could decrease the chance of our job becoming a barrier for IBU.* (Respondent 7, Specialized business function)

Aiding in the discussion are the findings from several meetings that were observed between teams from IBU and what could be called different shades of red and blue. It was found that the new business member often emphasized that things are done in accordance with the red way (INSEAD 2017). It seemed like a preemptive measure useful if there would be a lack of understanding of this way of working in the meeting. Meetings with the controller group involve varying levels of red and agile understanding. It is understood and accepted that the controller group has a mandate to also focus on financing and what could be called more blue factors. However, the presenter has to strive to satisfy both their blue and red needs. Communicating that deliveries such as business cases or road maps involve a high level of uncertainty is seen as a good approach to this challenge. Clear communication, especially in the vertical perspective, is important to avoid misconceptions and future barriers (Ries 2017). The leader group is even bluer than the controller group, but they should be because of the environment of their work (Kim & Mauborgne 2005). Because of this their focus on road maps and the business case is well justified. Also here, a balanced approach to communication should be taken. The leader of IBU is the unit's representative in these meetings. His focus on what is to be delivered is a sign that he knows his audience, as they most likely would not be as interested in the actual activities and learning as the controller group is. He is a strong and important link in what is believed to be the most polarized arena where the red IBU meets the upper management in blue (Cobb 2011, INSEAD 2017).

4.3.3 Answer to What Experiences Have Been Made

The observations and conversations with employees in IBU have revealed several experiences that are tied to their way of working, both inside the unit and when meeting other parts of the organization. These findings provide the answer to the third research question *What experiences have been made from the way the innovative projects are run and organized in the unit?* IBU has become more relevant to the customer, work is based on empirical results, and they have shorter lead times, all benefits expected from the lean principles (Melton 2005). They experience a greater ability to pivot based on new knowledge, enhanced by using the sprint logic and feedback loops (Cobb 2011, Furr & Dyer 2014, Ries 2017). By following the agile values (Beck et al. 2001), they experience positive effects found in the definition of *agility* by Highsmith & Highsmith (2002). During meetings with other parts of Telenor that work in more blue and traditional ways, communication was found to be a strong tool (Kim & Mauborgne 2005). Especially uncertainty embedded in the business case and road map is important to emphasize. Clear communication prevents misconceptions and future barriers (Ries 2011). The leader of IBU is an important link between the red in IBU and the blue in the vertical organization. His focus in meetings with the leader group is on delivering what is expected in what is believed to be the most polarized arena involving the red and the blue (Cobb 2011, INSEAD 2017). When IBU members meet other parts of Telenor they experience the difference in expectations and ways of working. Focus on communicating why they do what they do, explaining the uncertainties of long term plans, and delivering what the audience expects is used to reduce possible negative effects.

Chapter 5

Conclusion

The purpose of this study of an innovative unit in Telenor is to provide an answer to the problem statement *How can a large and established organization work to meet the demands of innovative projects?* To achieve this, a theoretical foundation was made and qualitative data were collected through observations, casual conversations, and interviews. An analysis of these findings was carried out, answering each of the three research questions. The results from answering the research questions and the conclusive answer to the problem statement is presented in this chapter.

The first research question aimed to shed light on how the innovative operations have been organized in Telenor. The innovative capabilities important for future wealth creation has been strengthened in Telenor through the creation of IBU. To ensure agile effects on a broad scale, they have increased the understanding of the principles and importance of working agile throughout the company. They have shown that they can use the preferred agile approach to how they choose, implement, and customize their methodologies. By doing this, they are following the principles of the startup way.

The answer to the second research question is how IBU work with innovative projects in practice. In IBU the innovator's method and the lean startup framework is incorporated as empirical feedback loops in their development of new concepts and projects. An agile approach is used to determine the delegation of ownership and activities between the teams in the unit. Focus is kept on experimental activities and learning by partnering with other companies with pre-developed technology. They are able to collaborate well with small partners because of their agile traits from working as a startup. From the results it is determined that IBU manage to choose, utilize and customize agile methodologies based on how these fit their environment. The project

development process they use in practice allows them to effectively reduce uncertainties, a key focus when developing products and services outside the core business and area of competence.

By looking at the experiences made from the way the unit is organized and how they work in practice, an answer to the third research question have been found. Working towards utilizing agile methodologies to innovate has created several effects that the employees in IBU have experienced. They have become more relevant to the customer and have shorter lead times as a result of using an empirical logic for deciding their next action. They experience a greater ability to pivot based on new knowledge, enhanced by using the sprint logic and feedback loops. The positive effects found in the definition of agility is experienced in IBU because they follow agile values. The employees of IBU have experienced the challenge of working with other Telenor employees residing in the "blue", working after more traditional methods. Communicating the uncertainty involved in long-term plans such as the business case and road map is a reaction to this challenge. Additionally, focus in meetings is kept on what they are actually doing and learning.

Telenor must successfully innovate in order to secure future wealth creation and revenue streams (Kotler 2000). This notion is supported both by theory and the opinions of employees in Telenor. Through creating a separate unit in which the focus is to innovate through empirical learning, the organization has facilitated for the implementation of agile methodologies in a single unit. This follows the principles of the startup way (Ries 2017). Increased understanding of the importance of innovation and agility is spread in the organization through coursing and seminars, giving a broader level of effect (Cobb 2011). An agile and iterative approach to the utilization of agile methodologies to structure and govern the unit is used, as is suggested by Cobb (2011) and Heda & Goncalves (2010).

Using empirical loops to develop new products and services (Furr & Dyer 2014, Ries 2011) means they are able to stay more relevant for the customers, have shorter lead times, and have a greater ability to pivot the project (Cobb 2011, Furr & Dyer 2014, Ries 2017). The positive effects they have experienced from working this way is in line with the agile values and the properties embedded in the work *agility* (Beck et al. 2001, Highsmith & Highsmith 2002). This has also led to an effective way of handling uncertainty and cooperation with external partners and other units in the company. Tools, activities and frameworks found in agile methodologies are utilized in practice based on how they fit their environment, making their approach something that could be called an agile approach to working agile (Cobb 2011, Heda & Goncalves 2010). Using the analogy from the beginning of this thesis, Telenor has from starting this innovative initiative and until today been able to turn the large oil tanker it was into something

bearing more resemblance of an aircraft carrier, with the teams in IBU well on their way to being agile units deployed to different projects.

Using the unit IBU in Telenor as a case, it is concluded that the answer to the problem question is as follows: First and foremost, a culture of understanding agility and innovation has to be established throughout the organization, even the areas where less agile methodologies are used. This understanding should be created through activities attended by all employees, and based on principles and values central to the agile way of thinking. By embracing this, an agile approach is used to organize the innovation effort working on concepts outside the core business and competency. Organizing the innovation effort in a separate unit allows for autonomy in forming and tailoring the agile approach to be used in this unit. Using a governance model fitting the different way of working in this unit must be worked towards. When deciding how the unit is going to work in practice a truly agile approach should be used to allow for a combination of methodologies that are dynamic and non-rigid. This is important to prepare the unit for future changes in the environment and their situation. By doing this, a large and established organization resembling an oil tanker could become as agile as an aircraft carrier.

5.1 Implications

To Telenor, the implications of these findings are twofold. Firstly, Telenor as an organization has laid a good foundation for the future of their innovative efforts. It is still important that the use of courses and seminars to spread understanding and knowledge on how to innovate and be agile should not subside, but be a continuous effort to strengthen the agile mindset throughout the organization. Secondly, IBU should continue their work on implementing governance structures that are acceptable to the vertical organization, but also have positive effects inside the unit. They should keep their current approach of refraining from using methodologies that look good on paper, but rather testing out elements that they believe are best to handle the task ahead of them. Continuously customizing, tailoring, and switching out what does not fit their situation and environment should be preferred over incorporating rigid processes. To other large and established companies that could find themselves in the same position Telenor was in, the findings suggest a similar logic. Emphasis is made on the need for a tailored agile approach to meet the challenge instead of copying others. The principles and values that lie behind the choices that are made include some rigidity by nature, but it is recommended that the methodologies should be tailor-made through an iterative process.

5.1.1 Suggestions for Further Research

For further research it is suggested that similar cases are studied from the start of the innovative initiative until one or more projects have been commercialized, instead of just one month of observation which this study was limited to. This could give a more in-depth perspective and could give more and clearer examples of causes and effects through having less of a retrospective look. Another suggestion is for the case to be a unit using a more rigid approach to agile methodologies such as scrum. This could prove something about the validity of the findings in this study, and whether the agile approach to incorporating methodologies is as beneficial as this study suggests. Cases in other industries and not in large and established corporations could prove useful for many other companies that are not startups at their core, but envy their agility.

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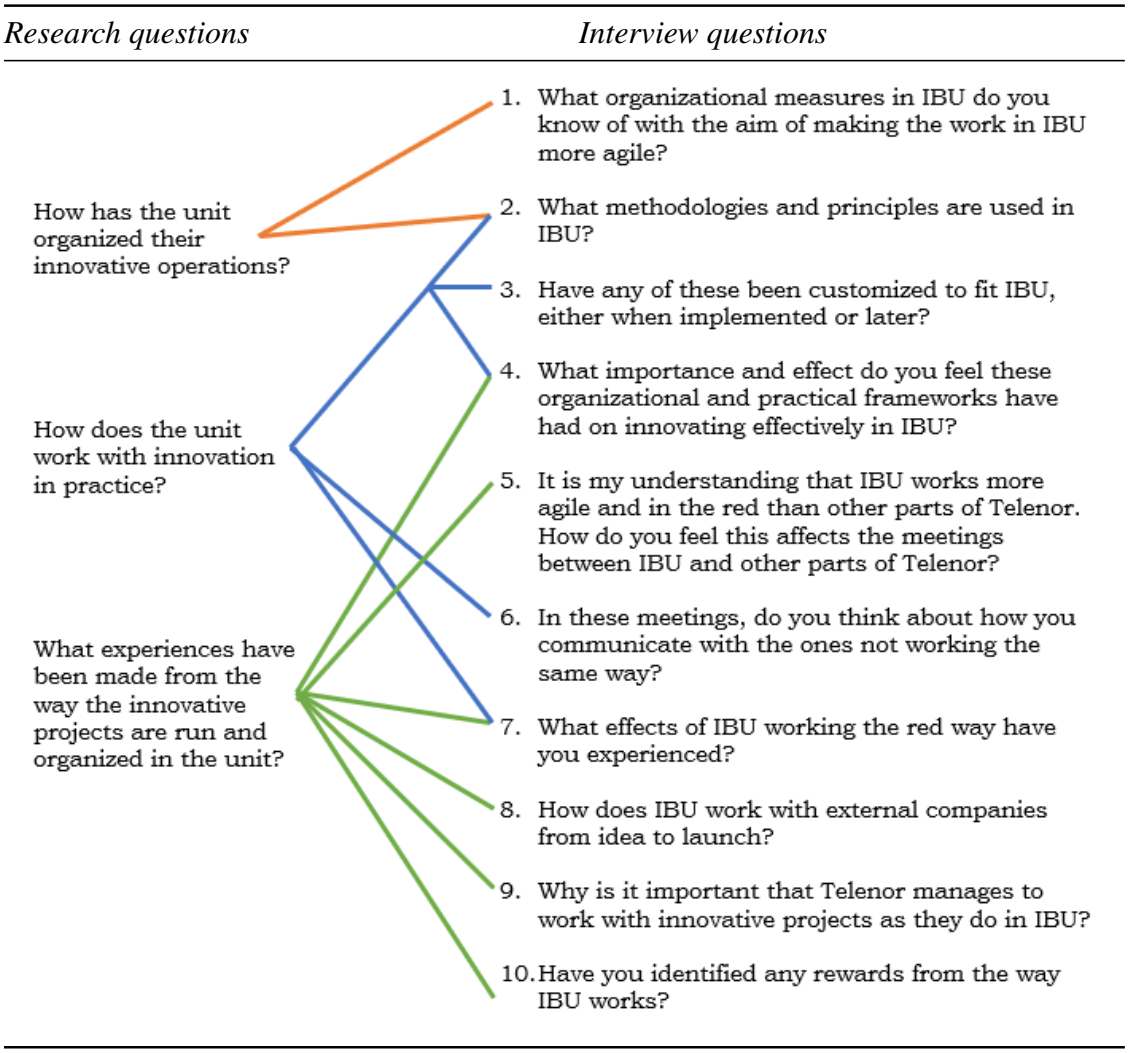
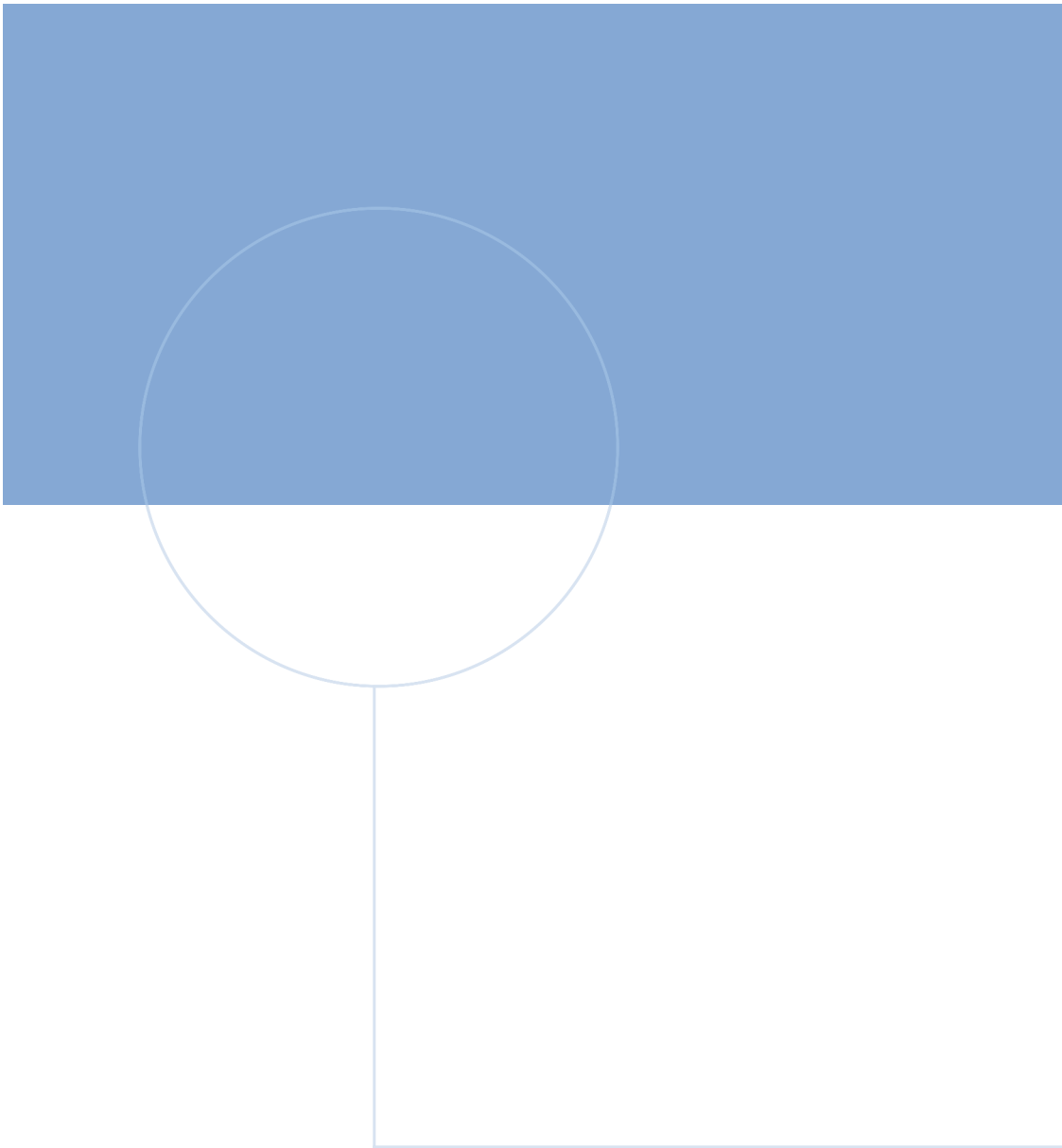
Appendix

A.1 Interview guide





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