# Vibrant development in the making – Organising the development function in a professional service company

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Leading Transformational Change

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**Laurea University of Applied Sciences** **Abstract**

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The purpose of this thesis was to develop an operating model for the development function in a professional service company called Efima Oyj. The commissioning organisation was a business unit providing financial administration services for medium and large companies. The newly established development team of the business unit was aiming at enabling more efficient and higher quality working as well as an increase in profitability by further developing policies, practises, and concepts. This thesis developed a wireframe description of the development function operating model to be iteratively further developed by the business unit.

The theoretical framework is based on three components: innovations and innovation management, industrial and organisational psychology (I-O psychology), and the theories of development focusing on agile methods. The section on innovation discusses the classifications and emergence, the diffusion and lifecycles, and the management of innovations. The chapter of I-O psychology covers topics such as organisational learning and knowledge management, organisational culture, and change management in an organisation. The third section examines theories of agile development such as Lean, Scrum and Kanban, continuing with the methods for development prioritization, PDSA (plan-do-study-act) cycles and closing with system thinking in the business context.

The actual work of the thesis was divided into two phases, the first focusing on research and the second on development. The nonstructured interviews within the organisation were used to identify obstacles to development in the research phase. The focus and the priorities for the development phase were based on the first phase interview results. During the development phase, the interview results were analysed and compared against the theoretical framework. Based on this analysis, a preliminary wireframe model was developed and described. This wireframe model was tested and iteratively further developed together with the organisation.

As a result of this thesis, the organisation was able to start practical development work and to further refine its operating model to meet the organisation's challenges and needs. In the long run, there are two critical factors for the success of the operating model. First of all, the executive level commitment to the development work determines how well the results of development meet the actual needs. Secondly, the results of development work depend heavily on how well management is able to secure the resources needed for development work.

The result is still just a wireframe and requires commitment and active leadership. It would also benefit from further development areas such as compatible metrics, automation of work steps, and consistent collection of customer feedback.

Keywords: development, agile, innovation, lean, organisational vibrance

Contents

# 1 Introduction

The often-repeated thought in business is that a company needs constant development to even stay afloat. The business must constantly innovate and develop its operations in order to provide its customers with appropriate services in an ever-competitive market. But what do development and innovativeness mean in professional service company, and how are they generated and obtained? What prevents development and which measures promote innovation and the creation of something new? These were the questions in mind when the planning for this research work begun.

“Disruptive technologies are fundamentally changing the economics of Professional Services.” declares World Economy Forum in its Professional service Digital Transformation Initiative (DTI) in 2017. This is no news for professional service companies, but the question often remains, how this disruption should be welcomed and allied with to remain competitive. What to develop and how? Whitepaper by World Economy Forum (2017) gives four recommendations including (1) challenging what is done today and being bold when looking for options on what to do and how, (2) reviewing priorities and piloting automation options, (3) deploying incubator capabilities such as new think tanks, customers, or start-ups to create marketplace differentiation and finally (4) working collaboratively with educational institutes to identify and invest in appropriate future skills.

It seems evident that innovativeness, development and change management are essential, but it is never easy, otherwise there would not be all those unsuccessful IT projects, bankrupt innovations and failed organisational changes. To have any possibility to succeed, development requires both current and target stage understanding, as well as limitations and restrictions of both. But most of all, successful change management requires compassionate, heartfelt understanding of people involved.

In Finnish language there are different words for *developing* (kehittää) a plan or seeing how things *develop* (kehittyä). Almost all the companies aspire to do the first but often fall short of their own expectations and end up doing latter. Business development is easy to understand as an effort to make business better but much more challenging to achieve real, measurable, adequate change that truly makes business, processes and people better.

The case company of this thesis is a Finnish-based B2B professional service and outsourcing company operating primarily with large and middle-sized companies in Finland, called Efima Oyj, later referred to Efima. Efima is also my current employer. Company has been growing fast and reached enough size and maturity, that service development processes would benefit from redesigning and more structure. Company has two main goals in its business, to provide the best service for customers and to be an exceptional workplace for employees. Efima sees these two aspects together create a successful business model. Company often talks about

digital heart of the organisation – a robust heart that operates as the centre of vital data, knowledge, and material flows. The digital heart metaphor is also used to describe the partnership between business and financial management, which in some organisations can be cracking. The digital heart is the missing piece that brings the family together. The company has rarely been settling for any ready-made solutions in anything and understands, that copy-pasting solution is a too easy answer to a rather complicated question.

The main question to be answered in this thesis is how development should be organized and measured in a B2B professional service company, to be effective, agile and appropriate, streamlined, and inspirational for the organisation to respond disruptive technologies and shifting market expectations and therefore remain competitive. The question and the answer will be discussed, researched, and developed through service and process development theories, innovation theories along with organisation psychology theories. The research aims primarily to provide added value and new knowledge for the case company operating specific market and in specific conditions. Therefore, the results of the study may not be applicable to other business areas or circumstances. This is acceptable but should be considered in applying the results.

In this chapter there will be first key concept definitions, followed by short background overview, purpose, and the goal of this thesis as well as overall thesis structure description. Following chapters will then go through the theoretical framework, building a theoretical backbone for the thesis and concluding to the summary of theory. After theoretical framework, the thesis process plan is described more detailed and followed by the description of the research process and execution. Finally, the end with results and analysis. The thesis report is closed with discussion, conclusions, and limitations.

## 1.1 Key concepts of vibrant development in B2B professional service company

Professional service company (PSC) developing their offering, processes, and customer value creation in business-to-business (B2B) context are facing largely different challenges than for instance mass manufacturing company producing physical products for consumer market. Therefore, starting with key concept definition seems like a good place to start.

Services can be defined in many ways but for the sake of clarity, in this thesis let us define them being intangible, inseparable from the provider as well as involved by customer, variable referring to human action causing services to vary, perishable as impossible to store and finally evaluation being complex and therefore affecting client satisfaction differing.

Professional services similarly have had multiple different definitions. In this research, professional services are understood to require large amount of expertise, be provided by profession practitioners, and hence requiring special education or training. Due to these

aspects, service quality is harder to evaluate, and recommendations often play a significant role in provider selection. To ease customer decision making, suppliers could increase external information available for customers, involve client in service design and delivery stages as well as reducing risks by discussing them openly and providing reducing incentives and redress procedures (Hill 1988, 18-23).

Tim Williams (2010, 8-9) points out, that while services can be considered as commodity, smart thinking is much more. He claims that especially professional service companies should not be selling all the services for all the customers but selling focused knowledge clearly defined, in other words being good in defined sector and there offering something that customers didn't even realize to ask.

Business to business (B2B) refers to a business model, where business engages in sales to other business and is usually separated from business to consumer (B2C) model. Kotler (2019) has rather comprehensive list of characteristics of the first: B2B market has fewer and larger buyers who have closer relationship with suppliers, purchasing in B2B is more professional and buying process is influenced by more people, hence the process is usually taking more effort and time, and finally demand is more inelastic and volatile in B2B due to larger scales and quantities, complexness of buying processes and requirement.

According to Finnish Corporate Law, the purpose of a company is to generate profits for the shareholders (unless otherwise provided in the Articles of Associations). Hence the development usually aspires to generate greater profitability. Market, business and customers have a strong effect on what and how a company should be doing when pursuing to develop. Companies can strive to develop strategy, business processes, operating methods, offering and supply, personnel skills, and knowledge, management, leadership and so on. In this thesis, development is understood as the measures aimed at improving the financial figures of the company by better meeting the expectations of customers. The next subchapter will introduce the case company more thoroughly and define what development means in this thesis.

Finally, we come to the first of our key words, vibrant. Vibrance is the word used in multiple occasions and can be understood in more narrow or broader perspective. Tiina Tarvainen (2015) strived to define the term through previous research and interviews and found out the wide range of term definitions. For instance, Tamošiūnas and Lukošius in 2009 defined very precisely, such as the ability of a company to sell annually all the products produced (Tarvainen 2015). However, most researchers use the term more broadly, referring to company's innovation ability, pioneering and internal sync, to leadership and ability to inspire and create positive change.

The Finnish Innovation Fund Sitra started in 2009 a development program with title Wellsprings of Finnish vitality. The goal was to study, where Finland can create vibrance in future. In 2010 (Sitra 2010, 28) the program defined the vitality term followingly: ”Vitality is energy that manifests itself as a positive spirit and generates added value”. According to the report, the sources of vitality included:

- Appreciative as well as caring interaction between people and communities, trust and responsibility
- Meaningful activity and work, influential opportunities
- Learning and health
- Understanding the world, managing life
- Diversity and the varying perspectives enabling creative tension
- Visions of the future, aspirations and dreams

This same approach is at the heart of this thesis. The objective is not only to research and develop a workable development function; there are ready-made solutions for that. The mission is to create an outcome, that would provoke (even slightest of) meaningful enthusiasm, understanding and interactions to enable real change. Despite of this grandiose goal, the case company finds it reached if the outcome enables such development.

## 1.2 Background and case company introduction

Business environments have grown more and more complex regardless of their market and offering. The case company has perceived this from the very beginning and decided to focus on customer and employee satisfaction as a means to grow and develop the business. Company has rarely been settling for an easy solutions and values unique individuals working for common goal in cooperative methods, innovative thinking as well as testing (and when necessary) failing fast. As Efima’s slogan states, “We specialize in you.” However, business growth and development has strongly been relying on experience of exceptional individuals carrying out magical outcomes instead of truly distributing workload and responsibilities evenly (Salminen 2021). Wheel has been invented here and there all over again and again instead of efficiently sharing knowledge, ideas, or best practises.

The development in service company can mean many things but it is quite often either directly or indirectly linked to the strategy of an organisation. As Teece (2010) points out, all the companies use either directly or implicitly a specific business model. A business model can be described as a conceptual model of a business. It is usually based on management’s hypothesis on what brings company a valuable competitive advantage and what best meets the customer needs. However, any business model requires continuous development and care to maintain competitive advantage and other benefits of the model. (Teece 2010, 191-192.)

What does business model development mean? As in a production company, development can focus on, for example, product itself, the way it is produced, usage of resources or the way the outcome is designed. It is especially important for a service company to invest in development of service concepts. Service concept can be defined as the thought and planned form of the main elements of the service, the way both the provider and the customer think the service should be. It includes both “what” is provided as well as “how” it is provided. To develop in a service company, it means developing both parts of equation. The service delivery components should be built on and around the service concept. (Goldstein, Johnston, Duffy & Rao 2002, 126-132.)

Development at Efima also means many things but current strategic projects focus on three areas: management and leadership, operational and operations management, and productization and product development. Development in Efima is always market and customer oriented, as can be seen in product and service development process (Figure 1). At the organisational level Efima creates completely new products and services, and further develops them to create methods that can be used to improve the quality and the sharing of know-how. These self-developed products and services complement partners' SaaS solutions. The productization is also a strategic focus and through that Efima is developing its scalability, the speed of service launches as well as streamlining sales with the help of ready-made concepts and models. With productized services, customers benefit from solutions created specifically for their own segment.

Company’s business, profitability and willingness has grown great enough to allocate more resources on systematic development methods to accumulate knowledge, increase efficiency and ensure perceived quality even further. It still emphasises the role of customer needs as well as software partners in the process development. An employee well-being, motivation and satisfaction are also considered an important aspect and indicator of development being successful. This view is based on the experience that satisfied employees provide customers with better and higher quality services, keep their own quality standards high and actively participate in development.

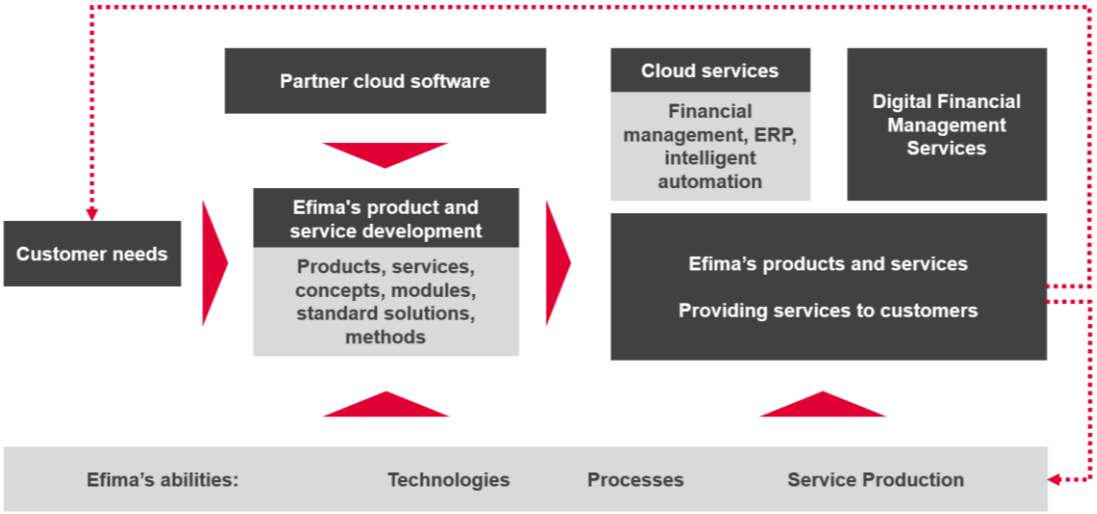


Figure 1: Efima's product and service development process

Efima has started the development by producing overall enterprise architecture in general level. Customer expectations haven been studied in couple different service design projects. However, outcomes have been focusing on technical solutions instead of service process development of outsourcing services. In short, customers are almost without exception, expecting continually developing processes and methods, latest technology usage with lowering costs and minimum maintenance. So far, most of the development is generated customer by customer and resource allocation for general internal development have been quite thin since customer projects and service always become priority.

Efima presents its internal operating model and structure in three parts (Figure 2), where first part refers to customer transformational projects and customer service deployment project. Depending on the customer, the deployment project may involve changes to processes, personnel employment and contracts, systems, or all of them. The second part describes the methods and practices of continuous service, while the third part refers to wider development work across the organisation and over interfaces. This thesis is focusing specifically to third part and aiming at describing how this should be organized for development to be vibrant and productive.

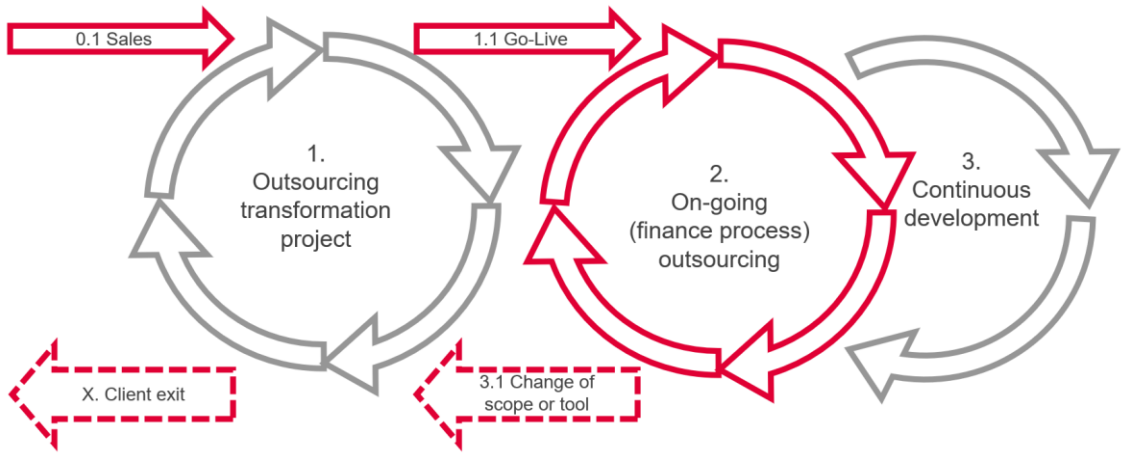


Figure 2: Efima's operating model and structure

Company has valid and functional key performance indicators (KPI) in four categories including profitable growth, customer satisfaction and profitability, positive development and business renewal and learning capabilities. These KPI's include customer net promoter score, employee satisfaction, certain turnover and profitability metrics as well as metrics focused on efficiency and development. The development of more accurate and adequate metrics has been identified as one of the areas for development and there is a desire to develop metrics in a broader perspective. The development work is closely linked to leadership and setting goals and thus concerns a wider audience and needs to take more stakeholders into account. Therefore, it is deliberately excluded from the scope of this study. What is in the focus of this thesis is discussed in the following subchapter.

## 1.3 Research and development objectives and structure of the thesis

The starting point for this study was the establishment of a new development team. The goal of the development team was to enable more efficient and higher quality working and increase in profitability by developing policies and practises. The easy solution for all this would be appoint process owners and implementing Scrum methodology. However, it seems evident for the company, that there is more to obtain without falling into a trap of red-tape-issue. The question to be answered in this thesis is, how this should and could be done.

The goals were based primarily on senior management point of view. Senior management also had certain idea and assumptions on how the objectives should and could be reached but the question remained, whether hypothesis was correct. Did the management and leaders see the challenges and frictional matter the same way as the teams? Fast growing and developing organisation could see the starting point differently and that would lead the company to correct false needs. Just before this thesis work, company had carried out a cultural study. It revealed valuable insights and spurred company to adapt strategic goals, such as company

embracing the idea that cultural aspects require active leading. These were the issues this thesis was striving to explore and develop.

The main objective of this thesis is defined as to develop and to pilot a managerial model for a continuous development process and a function for the case company. In practice this would first require examining the problem and combining the results with the theoretical framework. Finally, the internal process and the architecture including roles and responsibilities would be drafted and piloted.

The research starts with the theoretical framework, which will cover innovation (chapter 2) and development aspects (chapter 4). Originally the organisational psychology was meant to be a supplementing point of view. However, due to and thanks to open question layout in the first phase interviews, this perspective grew into a major role in the theoretical framework. Under institutional organisational psychology (I-O psychology; chapter 3) we will discuss organisational learning, culture, change management and shortly some motivational aspects. Although the topic of this thesis strongly reflects on strategic thinking and strategy is referred to in many sections, this has not been intentionally raised into its own chapter. The case organisation has a selected and clearly defined strategy, which strongly guides the questioning of this work. The purpose of this thesis is to focus on a slightly more operational point of view without disregarding strategy; the strategical aspects are viewed through the lenses of three main topics.

Originally wide-ranging theoretical framework seemed like a matter to be corrected with more strict delimitation of the subjects, but on the way research process it proved to be very valuable and thus justified. Therefore, the theoretical framework is based on three main topics that are presented in Figure 3. At the centre of the framework is located the heart that as digital heart discussed before, brings the different aspects together. To make report more reader-friendly, main findings of the theory will be wrapped-up and highlighted in theoretical framework summary in chapter 5.

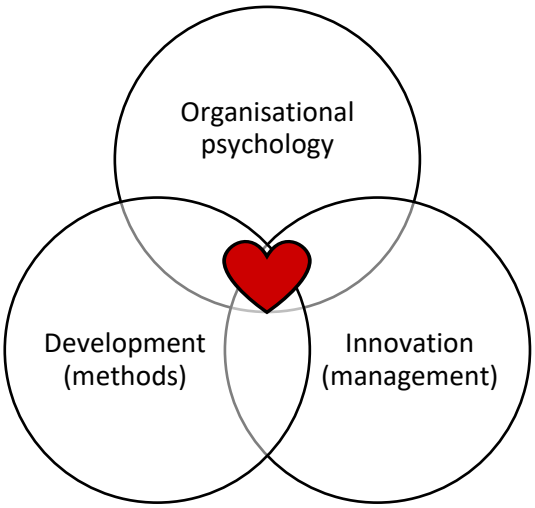


Figure 3: Theoretical framework of the thesis

Chapter 6 explains the research and development process plan and phases, describing the research and development method more detailed. Chapter 7 describes the execution along the way as well as outcome of the process. Finally, the chapter 8 draws out the conclusions, links them to broader context, discusses delimitations and gives further research suggestions.

# 2 Innovation, innovativeness, and their management

To stay competitive and grow, development and innovativeness is seen as a necessity. This chapter will go through questions such as, what is innovation, how innovations occur and are managed as well as their lifecycle and diffusion aspects.

## 2.1 Innovation types

Innovation is often offered as the answer for business development, no matter what the question is. However, innovation is so overused term that there seems to be almost an endless stream of definitions. Sometimes innovation is mixed with invention or seen only as product development, when innovation actually requires focusing on customer, processes and cultural aspects while excelling in many functions and areas (Webb, Sander & Thoen 2010, 98). Nowadays most scholars define invention being the initial idea of a new solution, whereas innovation is seen as a process that generates viable new offering (Fagerberg, Mowery & Nelson 2005, 7).

Innovations can be categorized in many ways. One of the oldest and still cited innovation theories was presented by Joseph Schumpeter, who already in 1940s saw innovation as a tool to generate market power and created well-known concept of creative destruction, a term

that refers to process where new products, companies and professions swiped away the old ones. Often innovations are divided into radical and incremental innovations, where first one transforms the business model and can even replace existing industries, while latter one improves within existing market. Radical innovations are often rare and most of the innovations are categorized as incremental. (Fagerberg et al. 2005, 6.)

Bower & Christensen (1995, 45) divided technological innovations as sustaining or disruptive. In this definition sustaining innovation is improving current attributes and hence often seen more attracting by current customers measured by current values and standards. This is often the chosen strategy by established companies. Meanwhile disruptive innovation offers new attributes and can be offering less value on current standards but can at the end outrun the established companies. Disruptive innovations often start in emerging market but can eventually increase performance level enough to invade the established market. This phenomenon, where established market and sustaining innovations are more profitable and hence more appealing to established companies until it might be too late to pick up, was later named as Innovator's Dilemma. (e.g., Christensen 2013). Even though disruptive innovation was originally understood mostly as a technology problem, it has since been relabelled as problem of business model and into a theory of competitive response (Christensen, McDonald, Altman & Palmer 2018, 1071).

Disruptive innovation originally meant specifically this Christensen's definition, where "product or service takes root initially in simple application at the bottom of a market and then – moves up market, eventually displacing established competitors" (Christensen, no date). However, the term has since been widely studied further and is often used in a broader sense on the other hand in the spirit of Christensen, or as a general concept referring to any revolution in the market. Later in this thesis, the concept of disruption is understood in this broader definition. Further studies have for instance been trying to understand how the incumbent companies should respond to disruption. The traditional approach to market strategy is so called Ansoff's matrix, where company chooses to either retain with current products or develop new and offer them either for current or new market (Ansoff 1957, 114), see Table 1. Since then, there have been many researchers pursuing to solve the puzzle. One of the best strategies seems to be establishing an autonomous organisational unit to focus on developing new innovations. Other viable options are to allow an ambidextrous organisation or the hybrid offering. The hybrid offering refers to new products combining features from both emerging and existing offerings (e.g., hybrid cars). The ambidextrous organisation in this case refers to organisation having one part of organisation to focus on established market and the other striving for breakthrough innovations (Christensen et al. 2018, 1062.) Ambidextrous organisation is also defined by O'Reilly and Tushman (2004) as mental balancing of an organisation (or individual) between looking backward through attendance to the earlier

products and processes, while at the same time looking forward by preparing for the future-defining innovations.

| | Current products | New products |
|---|---|---|
| Current market | **Market penetration** aspiration to sell more or find new customers | **Product development** attempt to produce new with current resources |
| New market | **Market development** attempt to reach new market with current resources | **Diversification** New products for new markets, the riskiest option |

Table 1: Product-market strategies, adapted from Igor Ansoff (1957, 114)

Innovations are also sometimes defined as open or closed innovation, that refers to whether the organisation is generating innovations purely by itself internally or if it does more cooperation and relies also on external sources. Closed innovation refers to innovation process running on private R&D departments, hence in silos and secrecy. Open innovation refers to more open innovation process that utilizes the supply and value chain both up and down. Closed innovation often leaves customer in the role of passive receiver while the open innovation can offer customer an active role in co-creation. Even though most organisations agree that strict closed innovation is a bygone option, there are different views of what level of openness is wise and worthwhile and it usually depends on innovation type and strategy. (Trott 2012, 349.) However, when innovations and business models are operating in networks and ecosystems, they also make it possible for parties to benefit from other's services or products but can also be affected by disruptive innovations faced by other parties in the ecosystem (Christensen et al. 2018, 1062).

Innovations have been categorized several times into a larger framework to classify them by their types. Many authors, starting from Schumpeter, are separating innovations into five types, that remotely resembles Porter's five forces: product development (improving the outcome), production development (improving how it is done), new source of supply (where the materials or components come from), generating new markets (who and why buys the outcome) and organizing business differently. Keeley, Walters, Pikkel and Quinn (2013, 16-17) divided innovations similarly into three categories that are configuration, offering and experience, see Figure 4. Configuration refers to innovations that are focused on company's internal business model, offering being focused on what is served, and experience focusing on

customer's point of view. In this categorization an operating model, which is the topic of the thesis, would fall into category of Configuration. An operating model would most likely involve all the four subdivisions of Configuration at least indirectly, since it would define a new structure and process within, involve network around it and, also affect (and in the best case) improve the profit model.

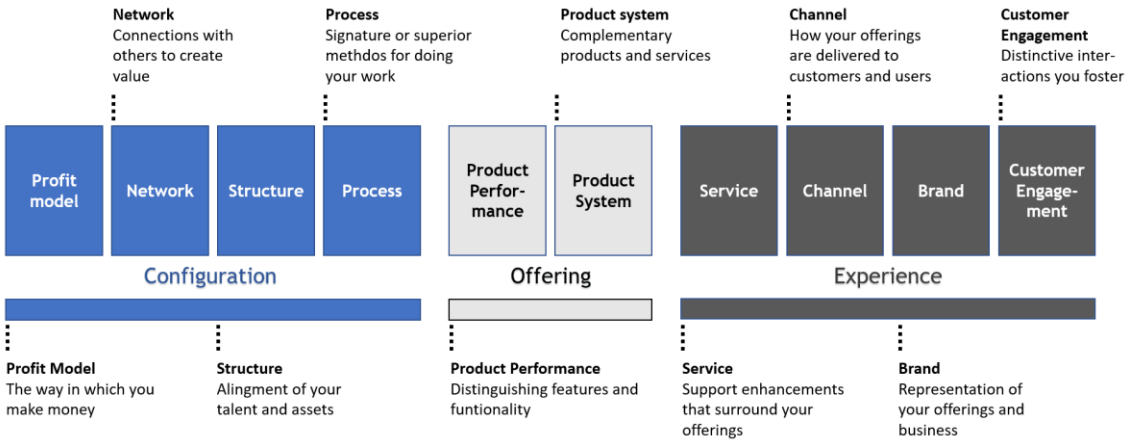


Figure 4: 10 types of innovation (adapted from Boblin 2022).

As this categorisation also indicates, innovation is often a strategic decision and there is no single type of best for all the companies. Innovations can have many different aspects with varying level of exceptionality. The common feature is that successful innovation enables growth in business, target market, and/or profitability. But how to generate innovations? Different innovations require different kind of management. How the innovation should be managed, will be discussed in the following chapters.

## 2.2 Innovation occurrence and management

It might sound appealing to just come up with an innovative idea and get rich with it. But as Google's co-founder Sergey Brin aptly summed up, "the fact is that coming up with an idea is the least important part of creating something great. – – the execution and delivery are what's key" (Kiss, 2009). Even though researchers are rather unanimous, that there are no one-size-fits-all-solution, and ground-breaking innovations are generated in many ways, there are some common features.

Many describe the innovation value chain with few (3-5) steps, such as idea generation, idea development and the diffusion of the invented concepts (e.g., Saunila 2014, 7; Chang 2010, 519-521). There are nearly endless stream of managerial books and manuals on how this ought to be done; how to create a culture and network to generate diverse flow of innovative ideas, how to recognise the ones to be refined and cultivated further, how to test and prototype viable ones and finally define and productize the best ones (e.g., Miller & Wedell-Wedellsborg

2013; Saunila 2014; Gutsche 2020.). However, many researchers point out that these are not phases but preferably process activities, since the elements occur and are carried out simultaneously and circulating the iteration process between phases.

Characters that support and facilitate innovativeness are usually in connection with commitment to long-term growth and investment in long-term development, acceptance of certain amount of risk and support for cross-functional cooperation as well as coordination within organisational structure. Knowledge and know-how need to be spread efficiently. (Trott 2021.) Saunila (2014) sums up the factors of an organisation's innovation potential into five groups.

1. leadership and decision-making processes
2. organisational structures and communication
3. collaboration and external links
4. organisational culture and climate
5. individual creativity and know-how

One thing seems rather certain about innovation management. The ability to manage and learn in the conditions of uncertainty is a vital condition, since uncertainty is seen as a build-in feature of innovations (Fagerberg et al. 2005, 101). However, the degree of uncertainty varies and requires different management styles. Pearson presented in 1991 his uncertainty map (Trott 2012, 86), which is a matrix where one axis presents the uncertainty of the output, i.e., solution as well as market, and the other axis presents the uncertainty of process, i.e., how to get there or make it (Figure 5).

The basic idea is, that quadrant 1 requires most resources and is often limited to large corporations or university laboratories, whereas quadrant 2 recognises the target such as business opportunity but lacks the solution to fulfil it. Quadrants 3 refers to cases where company is more assured regarding the process but is uncertain about the output, such as finding ways to utilise the technology most efficiently. Finally, quadrant 4 has the most certainty and refers to improving current products or combining opportunities and technologies. This quadrant is usually the most competitive and therefore requires speed and agility. The Pearson's uncertainty map can help the organisation to understand and communicate where it is aiming at and thus helps to understand required managerial decisions to be made depending on company's strategy and mission. (Trott 2012, 86.)

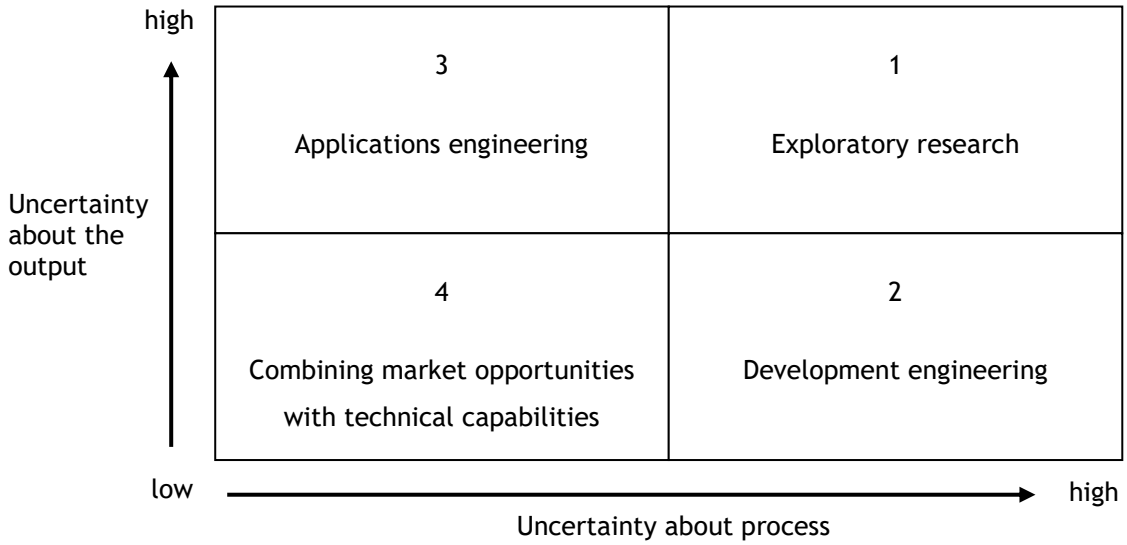


Figure 5: An uncertainty map, adapted from Pearson (Trott 2012, 86)

The term innovator has often understood as a synonym for inventor and developer – the person who comes up with the revolutionary idea. However, as the term innovation is not a notion but a process, innovator is nowadays referred as a facilitator who aggregates all the relevant parties to prompt and operate the process to proceed. (Fagerberg 2005, 5.) Or in other words, the leader is an architect of ideas, creating work environments to help company engage in their daily work. (Miller & Wedell-Wedellsborg 2013, 4-5).

Keith Pavitt (Fagerberg 2005, 101) explains, that top-down corporate guidance is often not the best way to proceed since continuous feedback is essential, both from the market as well as from past experiences and experiments. After all, the management usually does not have all the answers. Finding, identifying and deciding what is important is a challenging task and often the best changes to succeed is when different viewpoints are united. Therefore, leadership and decision-making from top to bottom is rarely the best option to choose and thus most organisations talk about customer orientation and learning from past (mistakes). But that will be discussed more in following chapters and next we will explore, how innovations are adopted and evolving.

## 2.3 Innovation diffusion and lifecycle

Even though by intuition and based on innovation typing, one might consider innovation process as a well-defined and homogenous thing to be defined, most often innovations are the result of a lengthy process involving multiple interrelated and complementary innovations (e.g., Fagerberg 2005, 5, 14)

Innovation development takes time but so does the adoption of new innovations. Diffusion theories try to explain the adoption of new innovations in a timeline. The often-referred S-curve is originally presented by Rogers in 1962 (Trott 2012, 67) and shows that first innovators and early adopters are minority and hence the diffusion is slow at first. Initially early majority and late majority speed up the adoption and finally (maybe) even the slow laggers are accepting the innovation. Geoffrey Moore published research in 1991 (Trott 2012, 68), showing diffusion groups in vertical axes, realizing it follows normal distribution. Based on this he could explain, why many innovative companies fail to cross so called Death Valley, first two early market adoption groups to reach majority and thus profitable sales. These markets have different expectations and values, hence, to cross the chasm company would need to change the marketing tactics and make (sometimes painful) compromises.

McKinsey & Company has created a three-horizon model to manage innovation portfolio and balance the short and long run development (e.g., Coley 2009). The basic idea is that there should be short, medium, and long horizon when considering the development of innovations. Short horizon innovations are incremental and therefore fast to complete, for instance in less than a year. Medium horizon takes a bit further but produces more attractive and profitable outcomes. Finally, the long-term development should produce revolutionary innovations that are hard to come up but can generate great profits. Balancing three horizons could maybe help companies to balance costs of development with sales and income and thus also more easily cross the Death Valley. However, for instance Blank (2019) has questioned this approach due to changing market such as platform economy. Even though criticism might have a point, three-horizon model guides resource allocation in different time frames. From my point of view, phenomenon such as platform economy should be considered as a disruptive and thus needs different weaponry, such as discussed in subchapter 2.1 Innovation types.

The other option to allocate resources is used by many successful companies, along with Google, who allocates resources based on 70-20-10 model. This means that 70 per cents of their development resources are spent on core business development and initiatives, 20 per cent on extensions or adjacent and finally 10 per cent on new innovations or transformational ones. Interestingly, long-term profits are usually reversed since new innovations generate 70 per cent when current core business present only 10 per cent of profits in the long run. (Nagji & Tuff 2012.) Even though there seems to be no research on the topic, combining these two allocation methods might make sense: 70 per cent on first horizon, 20 per cent to second horizon and 10 per cent on long-term development.

From resource allocation, let us recap what has been discussed in this chapter. We discussed innovation typing such as radical versus incremental, disruptive versus sustaining and open versus closed. We considered the role of uncertainty and different market and product strategies. In short it seems safe to say, that innovation is a highly strategic matter that

requires perseverance, ability to tolerate and operate in uncertainty, as well willingness to constantly collect and internalize feedback from stakeholders and from the lessons learned. How this ought to be done, we will discuss in the following chapter discussing viewpoints of organisational psychology such as knowledge, learning and culture.

## 3 Industrial and organisational psychology in change and development

Psychology examines people's attitudes, motivations, thoughts, and feelings towards certain issue yet industrial and organisational psychology (I-O psychology) studies people's actions in the context of work and organisations (e.g., Peeters, Jonge & Taris 2014, 5). Since services are seen as an activity or a process that is intangible and inseparable from provider (e.g., Swartz & Iacobucci 1999, 13), services are inevitably affected by people. Therefore, this chapter explores, how organisational psychology observes change and development and what could be learned from that perspective.

The ability to learn faster than one's competitors sounds like an obviously excellent advantage in any business position and enable an organisation to generate core competences. Prahalad and Hamel (1990) defined core competences being distinguishing skills and resources, that provide potential access to multiple markets, are hard to copy and contribute to the value experienced by the customer. How are such capabilities generated? Peter Senge (2006) popularized the term learning organisations to describe the capabilities in 1990's. According to him, the core learning capabilities for the team were

1. Personal mastery (individual responsibility for personal development and questioning)
2. Mental models (becoming aware and tearing down generalizations and assumptions from which we understand the world helps finding more creative solutions)
3. Shared vision (constructed together, enables common understanding of current stage and the future)
4. Dialogue (free knowledge sharing, learning together, shared vision put into practise)
5. Systems thinking (organisations consist of systems and subsystems, that can be simplified into models and that way find the original causes of the problem)

In this chapter, organisational learning and knowledge management will be discussed first. According to I-O psychological research, dismissing cultural factors, such as values, customers and traditions is often fatal from the change succeeding point of view (Mattila 2006, 62.) Hence, the cultural aspects of change and development are discussed second. Finally, the chapter will end with motivational aspects where we will discuss, what, how and why people are inspired and motivated. The last of the Senge's five core capabilities, systems thinking,

will be discussed in the chapter 4.4 but next we will discuss, how organisations learn and handle knowledge.

## 3.1 Organisational learning and types of knowledge

To grow and evolve, an organisation needs efficient ability to absorb and generate new information, cultivate it into useful knowledge and spread that among its members effectively. Since Senge, organisation learning is often understood as the change in organisational abilities and as a result arises new knowledge and know-how (e.g., Lämsä & Hautala 2004, 191). Companies able to leverage their strategic learning capabilities, are argued to perform significantly better than those who not but it requires not only learning but knowledge creation, dissemination, interpretation and implementation practises (Sirén 2014, 233). But how to foster an organisation able to learn and create new knowledge? Organisational learning requires organisational knowledge and knowledge management to generate a learning organisation (Easterby-Smith & Lyles 2011, 196). In the following paragraphs we will first discuss, how knowledge can be divided by their types and defined, then how organisations learn and how they process such knowledge.

Traditionally knowledge has been defined being either explicit or tacit, where the first can and usually is written down and hence easily accessible and passed along (e.g., Lämsä & Hautala 2004, 194-195). Explicit knowledge is usually seen as objective, rational, structured and therefore documented and shared. Tacit knowledge on the other hand is often personal and internalized, gathered through experience and often involves a lot of human interpretation. Depending on the definition, it can be conscious but hard to articulate or unconscious and therefore impossible to articulate (Easterby-Smith & Lyles 2011, 404).

In some cases, the term implicit knowledge is added to the list to describe the practical application of explicit knowledge (Alexander 2018). It seems important to differentiate the types of knowledge to take their specific challenges into consideration when improving knowledge sharing and organisational learning within an organisation.

When discussing, how organisations really learn, there is no one clear and acknowledged theory to cover the matter. Argyris and Schön described learning as individual process and separated three different methods for corrective actions or levels of organisational learning (e.g., Argyris 1977). So called single-loop learning refers to situation, where organisation is capable of detecting an error and correcting it. However, this is done without changing or challenging the underlying routines or norms. Double-loop learning is based on same process but before corrective action, is able to question the underlying values, rules and concept and hence maybe generate a new concept of the world. The third version of learning is so called learning to learn, where organisation learns to observe themselves and thus reduce organisational defensive routines that prevent learning. (Lämsä & Hautala 2004, 192;

Easterby-Smith & Lyles 2011, 168.) Learning to learn is claimed to require knowledge generation, open interaction, and personnel willingness to engage in development (Lämsä & Hautala, 2004, 192-193).

Nonaka and Takeuchi presented their learning model already in 1995. In so called the SECI model, which explains how different types of knowledge (tacit and explicit) transfers into the organisational knowledge and can be seen in Figure 6. This SECI is an acronym of model's four phases or modes, that are socialization, externalization, combination, and internalization. The socialization refers to tacit knowledge transfer through social interaction, while the externalization converts tacit knowledge into explicit through concepts or models and thus makes the information more widely available. The combination analyses and integrates knowledge into creative new entities and wholes. Finally, internalization refers to understanding of explicit knowledge, which then returns to socialization.

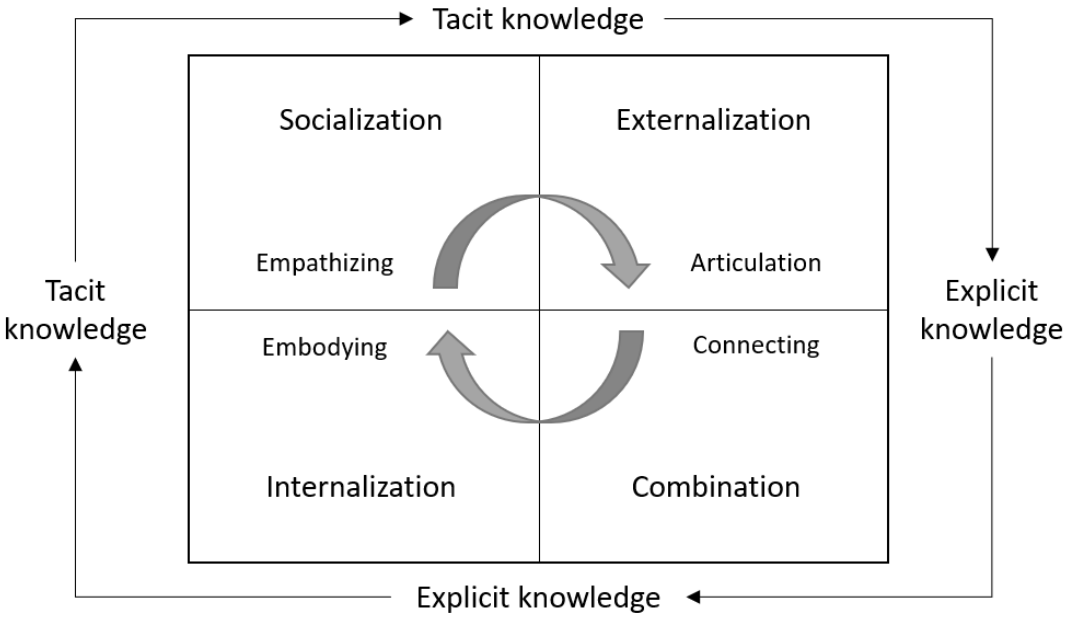


Figure 6: The SECI model of organisational knowledge creation (adapted Nonaka & Takeuchi 1995)

Easterby-Smith and Lyles (2011, 69) represent the theories in framework of four quadrants, where horizontal axis defines learning either as an individual activity or occurring in group settings, see Figure 7. Vertical axes determine whether learning occurs and evolves naturally or is "susceptible to control and direction". This distribution helps us understand how very differently learning is seen by different theories.

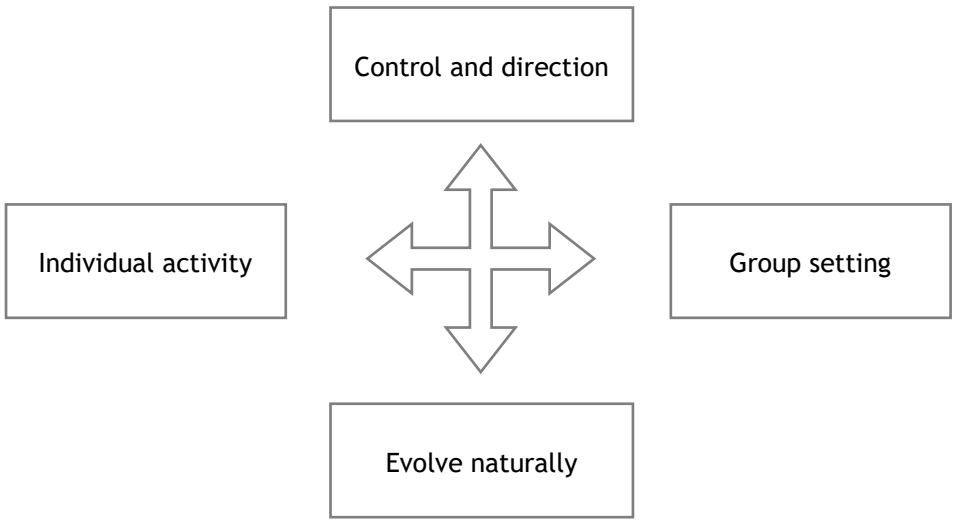


Figure 7: Framework of learning in organisations (four quadrans, adapted and simplified from Easterby-Smith and Lyles 2011, 69)

In her doctoral dissertation, Moilanen (2001, 40) defined learning organisation consisting of two levels, an individual and an organisational level. Therefore, organisation should be responsible of building conditions that support individual learning. Directing and developing daily operations and their interactions is one of the most important learning factors. Even though organisation should be identifying and removing learning obstacles as well as leading and directing (learning), individual motives are vital and essential since without personal motivation, learning does not occur. Finally, Moilanen (2001, 40) concludes that even for such a multidimensional concept as organisational learning, it is possible to (and should) build a well-functioning and distinctive metric. She proposes five elements to be analysed on both individual and organisational and presents the whole in the form of a diamond (see Figure 8):

1. Driving forces: organisation level managing the whole, individual level taking care of individuals to become better learners
2. Finding purpose: organisation level finding the meaning, individual level refers to motivation and willingness to learn
3. Questioning: both individual and organisational processes, routines, mental models and patterns.
4. Empowering: several different learning enhancements and choosing proper tools for learning
5. Evaluating: assessing the development of both individual level and on organisational

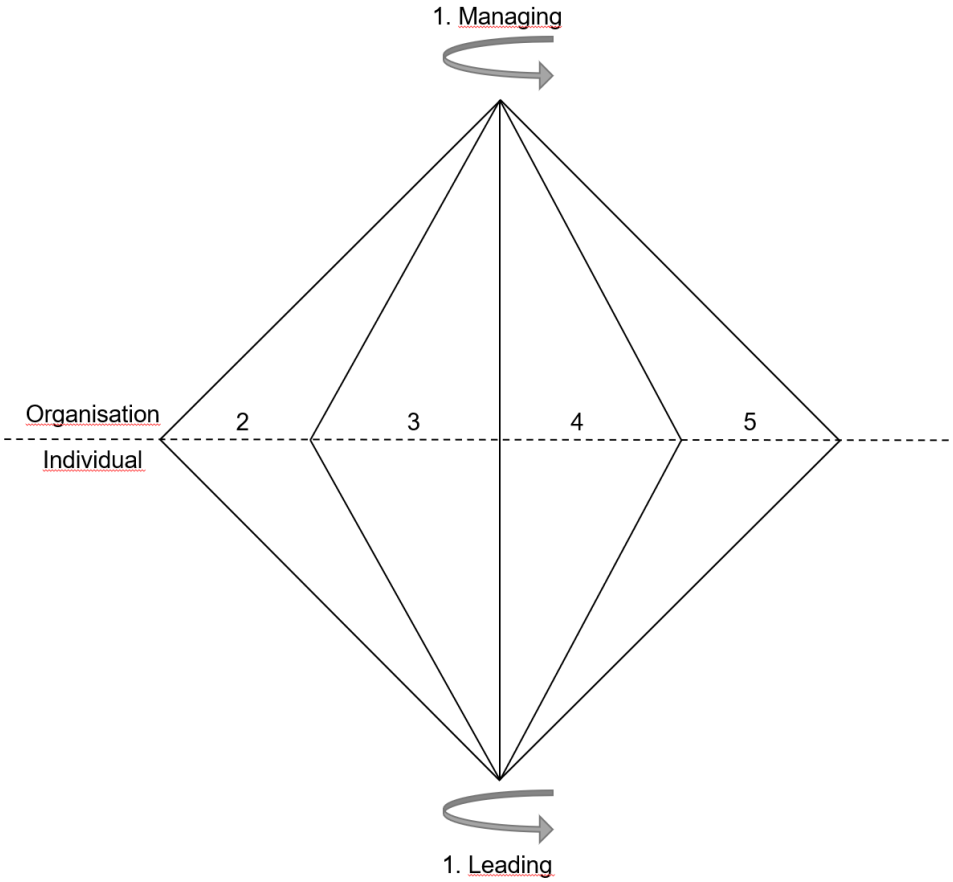


Figure 8: The Learning Organisation Diamond (adapted from Moilanen 2010, 11)

Other research has similarly found that style of participative leadership along with organic organisational structure, shared purpose and leading with simple guidelines facilitates culture of openness, learning and agility. However, this research suggests that (strategic) learning and its subprocesses are best fostered when work is organized around small and autonomous entrepreneurial teams and failure is seen as a valuable learning opportunity. Even though it can be risky, encouraging employees exploring further than their present work supports strategic knowledge creation and finding new ideas. (Sirén 2014, 109, 234) According to research, experts are also becoming rather like intermediary, wizards, and crystallizers of thoughts in this world of contradictory information and interests (Parviainen 2006.), which requires learning better is the ability to learn.

## 3.2 Organisational culture

Even though scholars usually agree that there is such thing as organisational culture, and that it plays an important role on behaviour in an organisation (Watkins 2013) and especially on situations like organisational change (Mattila 2006, 62), other questions often spark a vigorous debate. The research can be divided into two main camps, where one side sees organisations the ones having the culture, while the other camp considers the organisation being the

culture itself. Among the first group, developing the culture with active measures is considered possible and suggested, while the other side finds it hard or almost impossible to control since culture is created in common operations all the time. (Lämsä & Hautala 2004, 176-177; Buchanan & Huczynski 2004, 643-645.) However, it seems generally accepted, that organisations have "something, that goes beyond economic rationality, and -- gives each of them a unique identity" (Buchanan & Huczynski 2004, 655).

One much-quoted researcher of organisational culture is Edgar Schein, who defines culture followingly: "A pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integrations, -- considered valid and therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems" (Schein 2010, 12). According to this definition, not all organisations have or develop a culture due to lack of common learning experience or history.

Organisational culture is usually considered layered. One well-known theory is presented by Schein and includes three layers:

1. Surface manifestations, referring to artifacts, that refers to visible structure and processes as well as observed behaviour, such as ceremonials, used language and jokes, heroes and stories etc.
2. Values and believes adopted, including ideals, goals and aspirations, rationalizations
3. Basic assumptions, covering unconscious beliefs and truths that are taken for granted, relationships and human activity
   (Schein 2010, 16.)

The third, underlaying layer is the place where the essence of the culture is often considered to be located. It is also considered to be the hardest layer to access or change, while two more surface layers are more visible and therefore often easier to grasp and unwind. (Schein 2010, 17.) Scholars do not however agree on whether an organisational culture is a unitary thing, or in other words, whether culture is something that everybody consistently agrees on or if the experience is differentiated or fragmented and consist of subcultures (Buchanan & Huczynski 2004, 657-658). From managerial point of view there is a huge gap between these two aspects, since organisational culture can but unite and bring people together, also pull people apart, since public conformity does not necessarily correlate with corporate value acceptance (Traphagan 2017).

The question remains, is organisational culture guidable or manageable? Organisational culture is usually understood and learned through an organisational socialisation process, that includes three stages: (1) the pre-arrival stage is where the new employee is recruited and onboarded, (2) the encounter stage is when then new entrant learns about organisational expectations and values, and finally (3) the metamorphosis stage where new employee

adjusts to organisations norms, values and required behaviour. (Buchanan & Huczynski 2004, 651-653.) All this process can be either prescriptive or unconscious, but Schein sees leadership and culture even being different sides of same coin. He claims that leaders play an important role in building the culture by determining what behaviour is rewarded or valued and choosing the leaders. He strongly emphasizes that leaders need to become conscious of the organisation they are leading, or the culture will lead them. (Schein 2010, 146.)

Even though there is no clear consensus on how much culture can be directed, it seems evident that it has a strong impact on employees and in some cases clear effect on company profitability as well. As the famous quote from Peter Drucker goes, "Culture eats strategy for breakfast." For instance, strong ethical organisational culture is found to lower the amount of organisational sick leaves and personnel turnover (Kangas 2016, 63). Organisational culture can also support innovativeness. Organisational leaders have the ability to create a culture where innovativeness grows by fostering and communicating values that support innovativeness and showing respect and appreciation to employees. (Hogan & Coote 2014, 1618-1619.)

## 3.3 Change management and managing change

Change is an inseparable part of our daily (working) life. For instance, global challenges such as Covid-19 pandemic can toss any individual or organisation into facing completely new challenges. Change management has been studied for decades, and it has grown into a wide and ambiguous term. For instance, in business context managers often distinguish change management from managing change, and further from managing in change, where the first often refers to only managing things, while the second can be understood as broader concept covering also leading people and processes. The final term usually refers to dialogue and other management tasks during the process. In this subchapter change management is discussed from an organisation point of view to understand, how to avoid obvious pitfalls when pursuing for lasting and successful change. We will build on previous parts of the chapter and have soft emphasis on psychological aspects, in other words, how to inspire, encourage and support stakeholders in change.

### 3.3.1 Subject, drivers, and phases of change

To understand what is to be changed, Leavitt's model from 1965 explains organisational change in four elements that are structure, task, people, and technology, organized in a shape of a square divided into four equal parts. Leavitt saw these four as interacting variables, where change in one affects the others as well. (Paton & McCalman 2008, 33-34.) Even though the model is easy to grasp and fits to some organisations, it does not fit to all of them and gives no guidance on how to succeed in change.

Change types are often divided into four groups, where variables on the horizontal axis are triggers of change (proactive or reactive response) and on the vertical axis the scale of change (incremental or transformational and/or strategic), see Figure 9. Incremental proactive change refers to tuning and refinement by preparing in advance, while incremental reactive means readjusting and shifting contextual conditions when conditions already force to do something. Radical change is similarly either reaction to changing environment or based on internal will to change the core task of the organisation. (e.g., Lämsä & Hautala 2004, 184-185; Hodges 2016, 28-29.)

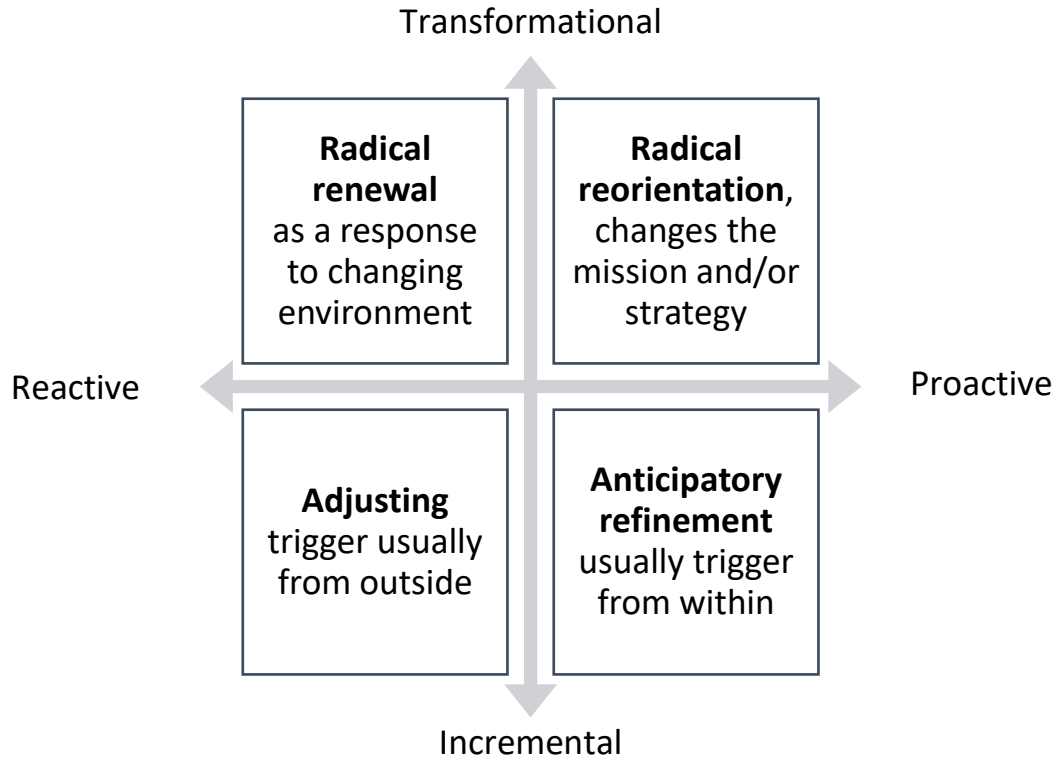


Figure 9: (Organisational) change typing (adapted from Lämsä & Hautala 2004, 184; Hodges 2016, 28)

On the other hand, change can be divided based on depth of organisational intervention, where the shallow section requires only straightforward managerial tasks, while the nature of managerial tasks at the deep are more challenging. For instance, shallow interventions are fine tuning and focusing on efficiency or restructuring or reallocating resources. Deep change refers to changing something fundamental such as definition of success, values or philosophy or at the deepest level, changing for example the way to think or solve problems. (Buchanan & Huczynski 2004, 611-612). It seems logical, that different kind of change faces different challenges and probably managerial emphasis also should be different.

Organisational change usually has both driving forces and restraining forces. One main reason why change management often fails is the lack of dialog. When the change is pushed in a top-down manner without open and honest communication, organisation can only see the change without fully understanding or accepting the triggers and driving forces behind it. Methods such as system thinking or business process re-engineering are often referred in change management literature to support the change, but results are varying. (e.g., Buchanan & Huczynski 2004, 617-622; Paton & McCalman 2008, 28-29.)

The phases of change have been defined many ways through the history of research. Schein (2010, 300-301) for instance has further refined the model originally presented by Kurt Lewin in 1947 which describes the change phases in young organisation. The model includes three main phases, where the first is often referred as unfreezing. That creates the urge to change, often trough experienced disequilibrium or disconfirmation. First phase usually includes unlearning something and organisations often first face some denial and defensiveness before proceeding further. The second phase includes the actual change process requiring to learn new and is often divided into two: learning through imitation or trial-and-error. This phase often includes so called learning anxiety, which refers to feelings of fear experienced during learning process and can be experienced as a fear of loss of power, membership or personal identity, fear of (temporary) incompetence and/or punishment for incompetence. The last of three phases is called refreezing, which refers to internalizing new standards, meanings, or new concepts. In short, the change occurs through disconfirmation, anxiety, and psychological safety.

### 3.3.2 The role of motivation and emotions in change

To succeed, the change requires commitment and motivation from all the stakeholders. According to motivational theories, behind every human action there is always certain need, pursuit of a goal, learned or instinctive behaviour. Regardless of theory, action is seen as aiming for equilibrium and failing to do so causes frustration. (e.g., Dierkes, Antal, Child & Nonaka 2003, 38; Schein 2010, 298.) Simplified version of motivation theories is that motivation arises from internal or external rewards that a person experiences (Buchanan & Huczynski 2004, 608-609; Viitala 2013, s. 4). Change management has also claimed to be hard because it involves people, who are complex and sometimes illogical. For instance, even though organisations often have some sort of hierarchical structure, people do not usually really work so. There often are informal networks within an organisation, that strongly affects the way people communicate and operate in practice (Krackhardt & Hanson 1993). In reality, relations and dependencies of people are intertwined and much more complex than what the eye meets. (e.g., Cabrera & Cabrera 2015, 350). From here it seems safe to say, that successful (intentional) change requires understanding of hidden drivers and motivations as well as relations and organisational dependencies.

The research indicates that neither skill nor will alone is sufficient for high quality results (Viitala 2013, 5). Change always requires development in competencies and ability to learn new (Dierkes et al. 2003, 198) and that is not possible without an experience of meaningfulness. What is meaningfulness? As Finnish researcher and philosopher Frank Martela, who is specialized in the question of meaning in life, shortly puts it: "The meaning of life is to do things that matter to oneself in a way that makes oneself meaningful to other people" (e.g., Martela 2017). In other words, people feel significant and relevant when they understand how their actions are meaningful for others, that being for instance customers, colleagues, or organisation in general. This is one of the reasons, why interactive and continuous dialogue through change is so important.

No matter what kind of change, it usually evokes emotions, and they can have a strong effect on change. For instance, positive emotions can increase commitment and engagement and help employees coping with change (Hodges 2016, 52-53). However, most often emotions are perceived as negative ones. It has actually been even proved, that many change processes have mostly been disappointing, with lower results than before change (e.g., Buchanan & Huczynski 2004, 606). From one perspective the origin of change management is in psychology and the theory of mourning. Since the change always requires some sort of personal loss and therefore moving through the mourning phases, so called coping cycle often describes what a person goes through along the change. Coping cycle includes five stages that are denial, anger, bargaining, depression, and acceptance. (Buchanan & Huczynski 2004, 614.) Even though rather pessimistic approach, coping cycle can help a manager to understand the feeling of stakeholders and should give guidance on how to avoid the worst pitfalls.

Regardless of the quality or nature of the feeling, feelings and emotions can have radical effect on the success of change. Emotions also have a temporal aspect, since along the change, feelings and emotions can change and therefore managers should be attentive to employee's concerns (Hodges 2016, 53). In other words, to manage emotions, one needs to recognize and accept that they are complex and evolving. Even though people are usually quite aware of the situations and their reactions to it, what goes often unnoticed are the interpretations given to situations. To analyse these factors or layers, Albert Ellis developed so called ABC model in the 1950's (Hodges 2016, 58). The letter A refers to what a camera could capture in the situation, B refers to thoughts evoked, or the story created from the situation, while C represents the reactions such as emotions, body sensations or impulses to reach in certain way. The model could help the organisation to identify beliefs and if needed, challenge their truthfulness.

Do these aspects or perspectives change in case of professional service company? There are some interesting studies regarding the issue, and the results seem to be consistent with other literature. For instance, Guiette & Vandenbempt (2013, 741) argue that an organisation

benefits when understanding how professionals perceive their organisation and how that perception affects their identification since that has a strong impact on strategic change. Expectations and their transformation should be articulated clearly and openly to enable participants to adapt their task and team related representation. Finally, they claim that it is important for managers to bridge different point of views and thought worlds to avoid disconnection and biased interpretations that could slow down or complicate the change.

In this chapter we have now discussed the topics under industrial and organisation psychology. We started with organisational learning and knowledge types, which was followed by cultural aspects of an organisation. The last subchapter examined change in an organisation, managerial point of views as well categorization and phases of change. Finally, we discussed how emotions and motivational aspects affect the change. In the following chapter we will move on to map out development-related theories that provide models and practices for development work.

# 4 Theories for Development

To develop is to solve a problem, an issue, or a need. Development can be organized with many ways. This chapter discusses modern development methodologies starting with system thinking and followed by agile methods. The chapter will be concluded with short introduction on service development.

## 4.1 Lean thinking and agile methods

Agile (and Lean) are terms used for collection of philosophies, methodologies (and practices) that have been strongly emerging during past three centuries. Agility is in a sense a feature of structure and thus sets the boundaries for agile. Agile methods are often seen as an alternative to long prevailing waterfall, where analysis, design, development, testing and delivery we executed in successive order. Meanwhile agile methods focus on incremental planning, building in quality upfront, addressing risks as early as possible and minimizing change requirements. Business value is maximized by delivering high prioritized features and encouraging constant communication between team and business to ensure usability, quality and acceptance of the solution. (Cooke 2012, 33-37.)

To talk about agile methods there is a need to talk about Lean first, as many find agile being further evolved from Lean (Medinilla 2012, 19-20). Even though some authors find roots of Lean much further back (Eaton 2013, 3-4), Lean is originally associated with Japanese company Toyota and principles in Kaizen (Cooke 2012, 52-53). The word “Lean” was used first time in this purpose by MIT research article in 1988, where they studied productivity differences in car manufacturing industry (Torkkola 2015, 13). In short, lean is usually defined

as a method aiming at constant development while getting rid of everything that does not increase the customer value without losing an inch of quality, safety, or long-term stability of the organisation (Eaton 2013, 23-24). The five principles of Lean are:

1. Understanding and maximizing the value from customer point of view, or in other words, stop everything that customer does not find increase customer's value perceived
2. Optimize value stream, meaning find out what is valued by customer and allocate resources accordingly
3. Pull production, keep stocks low and produce when the customer wants it
4. Create smoothly flowing process, that refers to doing one thing at the time and order flowing smoothly through the system
5. Continuous development, often referred as Kaizen and meaning the strive for perfection and always doing things even better (e.g., Medinilla 2012, 22-25.)

Toyota has 14 principles, that were described in the book called Toyota Way by Jeffrey Liker in 2004. Those principles start with philosophical foundation declaring to base the managerial decisions on a long-term philosophy instead of short-term financial goals. The following seven principles focus on creating a right process to produce right. This is done by focusing on smooth, pulling process flow, levelling out the workload and stopping the process to fix the problem occurring to get the quality right the first time. Task standardization is used for continuous improvements, visual controls used to visualize the problems and only tested, and truly supportive technology is used. Next three principles add organisational value by growing leaders who "talk the talk and walk the walk" of Lean, develop people and teams following the philosophy and respect, challenge and help the network of partners and suppliers to improve as well. The final three principles focus on solving root problems by encouraging to go and see yourself, making decisions slowly, with mutual understanding and thorough consideration but implementing fast, and finally becoming a learning organisation through constant reflection and improvement. (Eaton 2013, 31-32; Medinilla 2012, 26-30.)

Since Lean is originally developed in physical production, it often includes a thorough removal of "process waste", such as process halts and waiting, overproduction or rework, unnecessary movement or transportation, not-requested processing, and additional inventory (Eaton 2013, 34-35). The term Lean service has also been emerging when discussed the application of Lean in service sector. Lean service similarly puts the customer in the centre and focuses on constant improvement and innovation instead of only correcting the failures. This is done by investing on behaviour and skills training of the employees and that way enables waste minimization and value creation maximization. (Suárez-Barraza, Smith & Dahlgaard-Park 2012, 376.)

The application of Lean method includes tools such as value stream mapping (VSM), which is a visual representation of the service production divided by activity adding value and not adding value to identify wasteful activities. This and other process mapping tools help the company to streamline the process and focus on value-creating (and mandatory) activities. (Hidayati, Tarigan & Tarigan 2019, 3-4.)

### 4.1.1 Born of Agile

Agile is usually perceived to be born in Utah 2001, where 17 agile experts gathered to write the agile manifesto. Their goal was to overcome at the time traditional waterfall method that was often including exaggerated up-front planning while lacking sufficient communication, causing projects to exceed either budget, time, or both, and in worst case not delivering the must-have features for the customer. Agile manifesto is a document stating what agile is and why: it values individuals and interactions over processes and tools, working software over comprehensive documentation, customer collaboration over contract negotiation and finally responding to change over following a plan. It ends with a clarification, that even though latter ones have value also, the first ones are valued more. (e.g., Medinilla 2012, 38-43)

Agile methodologies aim at tackling the traditional method issues by focusing on iterative process where actions are split into rather small parts, strong alignment with customer's high-priority features and business requirements while keeping closer look at the risks and expenditures from the very beginning, maintaining status transparency and thus minimizing need for re-work and substantial documentation (Cooke 2012, 39-42). Agile methods often use cross-functional teams and some sort of daily meetings, visual tools such as physical boards. (Medinilla 2012, 53). Since the manifesto, the agile methodologies have developed far, and they cover wide variety of approaches suitable for different situations. In the following subchapters we will discuss few of the best-known methodologies.

### 4.1.2 Iterative project management with Scrum

Scrum is often called an iterative project management methodology that can be used for agile projects (Cooke 2012, 44). Scrum is built on Lean thinking and implements so called "empirical Scrum pillars" that are

- transparency: process is visible for those in team and outside of it
- inspection: all the features or "artefacts" are constantly inspected to avoid issues
- adaptation: self-managing team expected to adapt as soon as anything new is learned (Sutherland & Schwaber 2020.)

Scrum teams are usually small and cross-functional group developers, always involving product owner responsible for articulating and prioritizing business needs, and Scrum master

to facilitate (not manage or direct) the work by removing obstacles and ensuring usage of Scrum practices. (Cooke 2012, 44-46). The actual work is done in sprints, that are always certain length period (usually one month or less) following one right after the other. Each spring includes four stages:

1. Sprint Planning, a (lengthy) meeting held at the beginning of each sprint, where the goal for the sprint is defined and items to be developed from the backlog are chosen covering questions of why, what and how to be developed.
2. Daily Scrum, a short meeting held daily to inspect the process and go through necessary adjustments and thus reduce the need for other meetings.
3. Sprint Review, a meeting held at the end of the sprint to present the results for stakeholders and discuss following steps.
4. Sprint Retrospective, sprint concluding meeting where the team inspects the past sprint and plan ways to increase quality and effectiveness.
   (Sutherland & Schwaber 2020.)

Required development or work to be done is listed in Product Backlog, where items are prioritized and split into pieces small enough to be completed in one sprint. It serves as the platform for Sprint planning. One important aspect of Scrum is the Definition of Done. Each increment of product backlog needs to have specific definition of done and in increment can be released only if these requirements are met. (Sutherland & Schwaber 2020.)

Scrum is officially not suited for service development since it is a framework developed for agile software development but there are (non-academic) cases, where this has been done. Few intuitively good points are, that non-technical teams such as customer service are often full already, so adopting Scrum first should be identified non-value adding work to free some time for experimenting and improving. Psychological safety and education on agility are prerequisites for successful transformation, however it can increase transparency when applied. As in usual agile methods, team should be involved in problem defining and finding solution to improve ownership of work and pride in results. (Wykowski & Wykowska 2018.)

### 4.1.3 Kanban to visualise workflow

Kanban is Japanese word that means a card you can see, for instance a card in front of a shop or a theatre for the passers-by to see (Google Translate for Kanban). The word refers to an agile workload and change management methodology (Cooke 2012, 54-56), that was originally a tool of Toyota to balance and manage demand and capacity through the value chain (Skarin 2015, 4). The Kanban is a tool to visualize workflow with centralized Kanban boards, where so called Kanban cards are located, while each card stands for an individual part or item to be produced (Medinilla 2012, 30-32).

The idea behind Kanban is to produce just-in-time (JIT) by limiting work-in-process (WIP) (Cooke 2012, 56). This means organizing Kanban boards similarly as in Scrum, where the left column includes tasks to do and as cards or items move right in columns, they become more complete. Even though Kanban is an excellent visualization tool, it does not give answers to question, what to do and what to prioritize. In Lean the value is judged by the value perceived by the customer. (Skarin 2015, 7.)

### 4.1.4 DevOps – framework

DevOps is an operating model for the electronic services production, and it is usually presented as an infinity symbol, or horizontal figure eight, consisting of two parallel loops. It interlinks processes, technologies, and people through large-scale automation, by breaking the work into pieces and by using common monitoring, measuring and iteration methods. This enables shorter development cycles and produces development results faster to market and available to customers. The left loop of the presentation is called Dev i.e., development part of the process and usually includes four phases, where first the development is Planned, then coded and made executable by Building, and finally Tested for errors.

The transfer to right loop of the presentation or Ops part is referred as Release. The Ops part includes deployment, transfer to operations, and monitoring. The transfer back to Dev part is referred as continuous Feedback and is in one sense a key to successful collaboration. The details and definitions of DevOps differ from party to party, but the description presented here is a summary of the views of various parties available online and thus cannot be linked to any certain site or organisation.

## 4.2 Means of prioritising in development

When organisation works effectively, it produces development backlog items more than is possible or appropriate to implement. In that case, the question remains, how to choose, categorize or prioritize the demands, needs, and wishes. There are many ways to do that and next we will shortly explain few rather well-known methods.

RICE method is one technique to prioritise development needs to be taken under way. RICE was originally developed by Intercom and name is an acronym for four factors that are Reach, Impact, Confidence and Effort. The basic idea is that each development idea or need gets a numeric score. The evaluation process of an individual development need begins by giving each factor or letter a certain numerical value. The reach refers to number of users it affects, impact measures increase in delight but since it is hard to precisely measure, score is often generated through voting. Confidence refers to percentage of team’s trust to the estimations made, and finally effort is work required and calculated as “person-months.

(McBride no date.) To evaluate the priority of each development issue, RICE score is then calculated with a following formula:

$$\frac{\text{Reach} \times \text{Impact} \times \text{Confidence}}{\text{Effort}} = \text{RICE score}$$

Even simpler version of this scoring is called ICE score, where following values are multiplied: Impact, Confidence and Ease (level of effort to complete). The fastness and easiness of calculation makes ICE even more appealing even though it does not take competing goals into consideration. (Product Plan 2022.)

Impact-Effort matrix which is based on Eisenhower Methods and divides items based on their urgency and importance in four quadrants, see Figure 10. The horizontal axes represent the effort required for development while vertical axes represent the impact or value generated. All the items are allocated in four quadrants, where items with high impact but low effort are the quick wins to pursue while high effort with low impact are to be left out since they can be considered as money pits. Low effort but low impact usually offers incremental development and high on both factors means big bets. (Gibbons 2018.) Considering the allocation of development resources as discussed in the chapter 2.3, it seems important to reflect company strategy and risk tolerance when making prioritisation decisions. How much one wants to invest in large but high-risk projects and how much to focus on incremental development?

All these techniques can be valuable when doing conscious choices what to develop first and to what extent. These methods emphasize different issues and are of varying complexity. A simple method is practical and straightforward. A more complex method considers wider point of views but is naturally more laborious to define and more prone to faulty estimates.

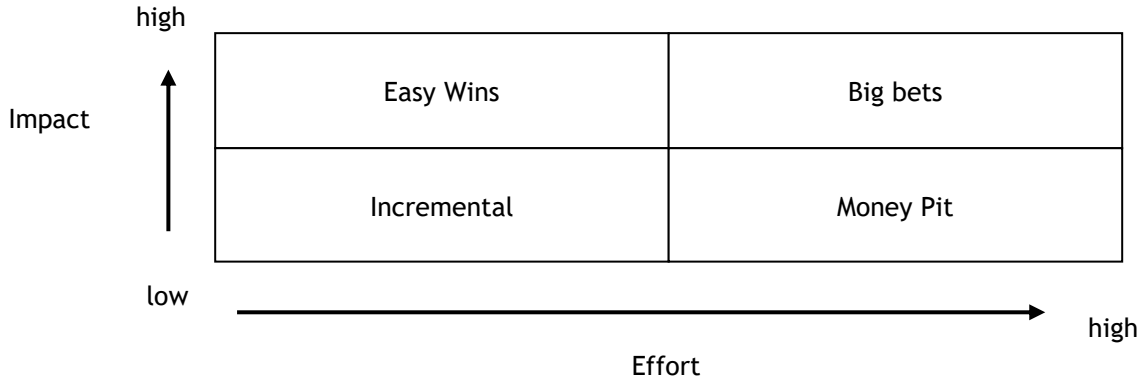


Figure 10: Impact-Effort matrix, adopted from Gibbons 2018.

Therefore, decision about choosing a prioritisation method should take into consideration organisations needs and conditions.

### 4.3 PDSA for problem solving

PDSA cycle is rather simple yet effective technique for managing change. PDSA was originally developed by W. Edwards Deming (Torkkola 2016, 40) and forms a continuous loop. PDSA is a systematic method to gain knowledge to continually improve (The Deming Institute 2022). The loop includes four repeated steps or phases, that are

1. Plan: defining a hypothesis, goal and expectation, building metrics and pondering how to know, if test succeeded.
2. Do: test run, in as small scale as possible to avoid too broad and long process.
3. Study: stop to analyse the results, was it successful, what barriers faced, what went wrong?
4. Act: decision making, whether to expand or reject the experiment; either way, new knowledge was generated. (Torkkola 2016, 42-46; The Deming Institute 2022)

In best case, cycle spins quickly and produces new information, enables systematic learning, and helps leaving hustle and bustle behind (Torkkola 2016, 43). Similar thinking can be utilised in project and other development, where learning method and knowledge management should be a systematic part of process, in other words, past experience contemplation should be imbedded into way of working (Chang 2010, 575.)

### 4.4 System thinking applied in business

System thinking is a broad concept referring to a varying set of tools and methods focusing on systems at large, instead of parts, to solve complex challenges or problems. (Sweeney & Meadows 2010). In this thesis will not be dived deep into this enormous area of research due to its magnitude but it is referred due to its significance and potential for development. Systems thinking can help organisations to zoom out from a certain symptom to identify the root cause. Even though the concept is quite foreign to most people, there are some concepts of system thinking that have become commonplace, such as suboptimization, which refers to goals of a subsystem to dominate at the cost of whole system. In following paragraphs, we will shortly scrape the surface of the topic.

Systems thinking has roots deeply in biology, physics and mechanics, and has still strong position in natural sciences, however since 1990's the methodology has also been applied in business and development (Wahlström & Ollus 2013, 62-63; Maani & Cavana 2007, 3-7). In practice, the system thinking strives to see the big picture of the case at hand – both the whole of it and the parts that it consists of. It looks for interdependences, causes and

consequences both in short and in long term and tries to understand the mental models creating our world and the future. (Maani & Cavana 2007, 9-11; Sweeney & Meadows 2010.)

System thinking often starts with system archetypes. Those are generic models representing a wide range of usual situations and helps recognizing common system behaviour. For example, the eight best-known archetypes, developed by System Dynamics Group at MIT, are:

1. **Drifting goals**: a gap between goal and current stage can be closed either by corrective actions (takes time and requires effort) or lowering the goal (immediate).
2. **Escalation**: two parties taking actions that each other perceives a threat, creates an 8-shaped double-loop (example, price war).
3. **Fixes that fail**: problem is (quick)fixed with a solution that with delay cause unwanted, unintended and often harmful consequences.
4. **Growth and underinvestment**: growth meet the limit requiring further investments but instead performance standards are lowered to justify underinvestment.
5. **Limits to success**: efforts first lead to improvement but over time, due to other constraints, performance increase slows down or even declines.
6. **Shifting the burden**: tendency to prefer quick fix before forced to deal with the fundamental problem. For example, using alcohol to relieve the anxiousness.
7. **Success to the Successful**: due to uneven resource allocation, one party performs better and that is used as a justification to allocate more resources for that party.
8. **Tragedy of the Commons**: over-exploitation of common resources due to individual short-sighted actions. (Kim 1992; Maani & Cavana 2007, 40-49)

Even though such complex models are often criticized for their poor ability to describe the reality, as George E.P. Box aptly said, ”All (mental) models are wrong, the practical question is how wrong do they have to be to not be useful.” (Carbera & Carbera 2015, 30.) Systems thinking can help an organisation to identify and understand dynamic dependencies as well as developable phases of process or parts of the system. It is recommendable to start with small-scale problems instead of diagramming the whole system at once. Systems thinking is rather iterative work, therefore it is often recommended to start with central parts and loops but filling in details only later. System archetypes are a good place to start with complex problems, since they can offer a focal point to begin. It is also recommended to have feedback from others, different point of views often add valuable insights or otherwise improve the diagrams. (Goodman 2018.)

# 5 Theoretical framework summary

Past three chapters have covered three main subjects or topics of this thesis. In this chapter we will review and combine the main points of the theoretical framework and discuss interrelationships of different topics and themes. This chapter aims at bringing a more conversational and reflective perspective to the theory and thus to find new observations in the theory.

Theoretical framework started with the concept of innovation, what it is and how it ought to develop. Discussion on types of innovation makes it evident, that innovation is much more than just an item such as an exceptional invention. Innovation is a process, where the initial idea is refined and implemented in a successful and profitable way that provides customers an attractive and appropriate overall solution. There is no unambiguous definition for innovation since innovation can mean different things for different companies. Innovation is closely linked to strategic decisions, and it provides valuable leverage in market and competition.

In addition to the actual product the innovation may relate to its configurations or the experience of purchasing or using it. Innovation can also be targeted at either existing customers or new markets. In the past, many companies tried to innovate in a closed environment, but today only few find it very realistic and open innovation has gained a significant foothold. Nowadays most innovations seem to arise in networks formed by active individuals. Best innovations appear to be an inseparable part of a company's operations and activities and that way very challenging to imitate, such as agile methods of Toyota as described in chapter 4.

Innovations seems to thrive in organisations that foster new learning and accepts uncertainty but does not allow it to control itself. Many researchers believe that innovations arise as a result of cyclical project activities, rather than through stages. Innovativeness usually requires efficient knowledge transfer and active cross-functional cooperation and coordination. In this process, innovator is the one facilitating the activities, but that should not happen from the top to bottom. Instead, the guiding factors should be the feedback from both the market and from the organisation's past experiences and experimentations.

In the chapter 3, organisational psychology and organisational learning were discussed. Learning is often understood to take place at both individual and organisational level. It requires both individual motivation as well as active role of the organisation to remove obstacles and developing and directing daily operations. Therefore, it seems that organisation’s daily operations should be structured to include constant feedback loop and feedback learning procedures to enable innovativeness. In other words, organisation needs to be learning to learn and the basic activities should constantly be able to create and share

new knowledge. In the best case, this new knowledge can be effectively and creatively converted into attractive solutions.

Organisational culture is a concept that refers to both conscious and unconscious shared assumptions, practices, and problem-solving methods of an organisation. The right kind of organisational culture supports, encourages, and develops new learning, innovation and thereby expands the possibilities of the organisation. But it seems that the right kind of organisational culture does not arise by itself but requires active leadership and certain kind of structures. Even though explicit knowledge can be rather easily transferred through instructions and documentations, tacit knowledge requires personal experience and mastery. To transfer tacit knowledge, organisational culture and structure should allow and enable cross-functional people-to-people interaction and diverse on-the-job learning. Innovations and development are often iterative work and therefore information and feedback are generated from a variety of sources and methods.

Change management, discussed in subchapter 3.3, offers guidance on how to shape your organisation in the direction previously outlined. As innovation types, change types can also be divided according to the extent of the change as well as their motivational factors. A reactive change seeks to respond to an emerging need, but proactive change arises from internal drivers. In both cases, the change requires the dismantling of existing views and assumptions to adopt and learn new. That can generate a wide range of emotions and thoughts. Reactions can also alter as the change proceeds. When an organisation culture is psychologically safe and different feelings are recognised and accepted, the organisation has a better chance to succeed in creating an innovative and learning-appreciating culture.

As discussed in subchapter 2.3, the diffusion of innovations entering the market generally follows the so-called s-curve. First adopters are a minority, and are followed first by the early majority, then the late majority and finally the slow laggers. The same probably applies to an organisation’s ability to learn and embrace new innovations. In every organisation there are people who are more willing to take risks and try new, while others observe and evaluate novelties more critically. As it was pointed out in subchapter 3.3, managers should act as bridge builders, thus combining different views and preventing different perspectives from drifting too far apart.

Managers have a challenging task ahead. How the resources should be allocated, and development organised to enable development and unite different point of views? Small and straightforward incremental innovations are rather fast and cheap to carry out and are thus less risky. Radical innovations on the other hand take more time and resources to accomplish and are risky projects. Many organisations use model called 70-20-10 to allocate resources, to manage risks and to control the ratio of input and output. Based on the model, 70 per cent of

the resources should be allocated on core business development, 20 per cent on extensions and 10 per cent on transformational development. From here we could conclude that an innovation has many faces, and it is often more realistic in a short run to strive for small revolutions and improvements than to pursue a revolutionary innovation. Aiming high with a conscious risk management can sometimes hit the jackpot.

Development task prioritisations were discussed in subchapter 4.3. These methods are used to prioritise proposed tasks or issues to be developed. These methods could also offer a valuable tool for resource allocation. When an organisation needs to make a conscious managerial decision regarding where to allocate development resources, combining 70-20-10 method with any of these prioritisation methods could be valuable. Combining the two methods might make it possible to examine the priority areas for development in terms of their potential and time perspective.

The chapter 4 discussed different development methods and models. The core idea of agile methods is well in line with the perspectives discussed earlier in emphasizing customer-centric thinking and ongoing dialogue. Agile methods also seek to make processes and work transparent and eliminate everything unnecessary. From psychological point of view, it seems, the same principles help in the processes of learning and change. Many agile methods also have fast-cycling, regular reflection, and learning from the past as built-in features. Therefore, organisation would also support knowledge managerial aspects and shift organisational culture toward innovative thinking by adopting certain level of agile thinking.

This summary has sought to challenge thinking a bit by combining and equating things that are not automatically parallel. One needs to open and broaden one's mind in order to create something truly new. But before thoughts take off, it's a good time to move on to the actual development plan, which is discussed in next chapter.

# 6 The development process

This chapter is about the method, in other words, how the research process will be conducted, how the development process is carried out and how these together form a development process. The study aims at developing and piloting a structure and operating model for case company's development team. This is done by combining qualitative research methods with development practises. In a way one could say that the work aims at combining divergent and convergent thinking where first, ideas are generated and then separately analysed for decision making (Manning 2016.) The process emphasized development and can be divided into two main phases, where in the first part the priority is in the research while the second part emphasizes the development perspective.

### 6.1.1 First phase – sampling and data collection

The First Phase focused on researching and building a clearer picture of the current state of organisation's strengths and weaknesses. This is done to understand, where and how to focus the organisations development efforts and resources first. In other words, the goal is to identify both the most significant strengths of the business unit (and the organisation) to retain them, and the most significant barriers of development, to understand how these could be removed to enable broader development.

This phase uses qualitative research methods. The qualitative research is often understood as an opposed to quantitative methods, where the first focuses on understanding quality, characteristics, and meanings of the object holistically, while the latter describes and researches the object with numbers and statistics (University of Jyväskylä 2021). Kiviniemi (2018) describes qualitative research as a continuous decision-making or a series of problem-solving issues, which explains why research problem might not be clearly defined at the beginning but is specified along the process. Qualitative research is like a process, where perspectives and interpretations regarding the material can be considered to evolve in the researcher's consciousness gradually as the research process progresses. Therefore, it is important that researcher is aware of how his or her consciousness evolves. (Aaltola, Laajalahti & Valli 2018, chap. 1.) Qualitative method is used in this research to capture meanings and interconnectedness of different factors to support decision making and prioritization. Originally this phase was intended to take the form of semi-structured thematic interviews of chosen individuals. Even though the original plan changed somewhat as the work progressed, the decisions made are explained in the following subchapters.

The goal of sampling procedure is to strategically choose group of respondents, who can expose the matter under investigation from a broader perspective (May 2002, 183). The recommended number of interviewees to be enough varies greatly between different authors and depends on different factors, but the minimum requirement is sufficient interview data (Saldaña, Leavy & Beretvas 2011, 34). Considering, that qualitative research often aims to understand a phenomenon, not to provide statistical connections, which allows research material not to be large (Saaranen-Kauppinen & Puusniekka 2006).

The used sampling procedure is chosen for several reasons. First, it was tempting to interview quite many people both inside and outside the organisation to gain comprehensive understanding. However, the original goal was to get the development team developing. Senior management had a hypothesis that it was not going to be solely a question of supporting the strengths and enabling success but also removing obstacles. Therefore, the first task was to understand, what prevented the development currently and how did the team itself see the situation. It also seemed evident that middle management must support

and encourage development, therefore their opinion and point of view mattered. Based on these reasons, these two groups, the development team, and the middle managers, were chosen to be interviewed. Development team consisted of 10 individuals, six experienced consultants or equivalent and four early-stage experts. Middle managers were four customer-responsible service team leaders and two team supervisors. The sample included both individuals who had just recently started in the organisation and those who had worked there for several years.

The original plan for the first phase was using not structured or only loosely structured theme interviews, where themes and questions were prepared beforehand and based on theoretical framework and hypothesis. This plan was modified slightly after the start of the study and based on preliminary findings, but this will be described further in subchapter 7.1.

Interview is very common and often used methods for data gathering, when pursuing for information about people's experiences, and perceptions. It is important to make well thought and justified choices regarding advance preparations of questions and themes, interview situations (Hyvärinen, Suoninen & Vuori n.d.). In structured interviews, questions have been prepared in advance, are asked in the same way and answering options are limited. Semi-structured interview allows interviewee to answer as whished. Both methods lack the ability to capture interviewee's world view and perspective. For theme interview researcher familiarized him/herself with the topic, chooses own point of view and selects the relevant themes for the interview. Questions are formulated freely, which allows more freedom also for interviewee's speech. (Hyvärinen, Suoninen & Vuori n.d.)

Due to global Covid-19 pandemic, the whole organisation is working remotely, and thus face-to-face interviews were not an option. Since the organisation has Microsoft Teams as the common communication platform, that serves as a natural choice. Organisation had previously observed that recording meetings significantly reduced discussion and the number of questions asked. Although not recording interviews increases the risk that something essential might be lost, this is a conscious a decision made to ensure an honest and confidential discussions. Each interview will last one hour, will be held with the video connection on and discussions will be held in Finnish, which is a mother tongue of both parties. The interviewer writes the notes as accurately as possible given the relatively fast writing speed. Right after each interview, the notes will be proofread and clarified if necessary. This will hopefully help decreasing ambiguities and misunderstandings later in the data analysing phase.

When all the interviews are done, the notes should be read through once again to compare interviews, start outlining preliminary groups, subjects and patterns, recognising obvious from interesting (May 2002, 194). After that material will be coded, which refers to a heuristic

method to discover new meanings of data. (Saldaña et a. 2011, 95). Through coding, the material is distributed by topic for comparison and analysis. (Seale, Gobo, Gubrium, Seale & Silverman 2004, 80). In practise, fragments and parts of interviews will be combined and separated according to their characteristics. The aim is to simplify the diverse material and bring it into a manageable form. Coding is never a mere technical operation of classification operation, since formed categories and subcategories are largely generated during the coding process. (Juhila no date a.)

After coding, the material will be further analysed by themeing, where the aim is to create groups or themes of topics or issues that emerge from the material (Juhila no date b). Finally, the results will be prioritized according to their prevalence to highlight most important and most frequently observed issues and to fade out the insignificant ones. According to process plan, these methods would form an understanding of issues and organisation's current state, both core strengths and weaknesses of the organisation. After these analysing methods, the results are hopefully comparable against the theoretical framework to identify key insights and enable proceeding to development process.

### 6.1.2 Second and third phase – wireframe development and further iteration

The Second Phase focuses on development. The goal is to integrate theoretical framework and first phase results to generate a proof-of-concept, first draft, or in other words a wireframe model of the development model. This phase will be planned and formulated more thoroughly after the first phase results are ready and can offer an indication of where to focus the development investments and efforts. The generated wireframe will be the developed wireframe model will be tested and piloted by the development team and by the business unit for final phase iterative development. With piloting the aim is to test the model in practise and that way to identify benefits, disadvantages, and weaknesses of the model.

The Third Phase will continue first with research methods and thus involve organisation to collect feedback, observations, and remarks regarding developed model. Based on feedback and remarks, will be returned to model for further developed through iterations and alterations. At the end of the third phase, there should be a model description and documentation comprehensive enough that organisation can continue iteration and development work based on that. The second and the third phase are utilizing PDSA cycle described in chapter 4.1.5, where the four phases of planning, doing, stopping and acting take turns and through these test cycles model is iterated.

### 6.1.3 Outline of the development plan

As it has been described in this chapter, the research and development phases take turns in this thesis. Work will be carried out hand in hand with theory and consists of three main

phases that are presented in Figure 11. When the work was executed, the first phase was somewhat altered due to initial interview results. Original semi-structured theme interviews were changed into unstructured, and the discussions were guided through three rather open questions. To confirm the results obtained, the first phase was supplemented by semi-structured group interviews, which were based on the analysed results of the first interviews. These steps are further described in following chapter, where the work executed will be described in detail.

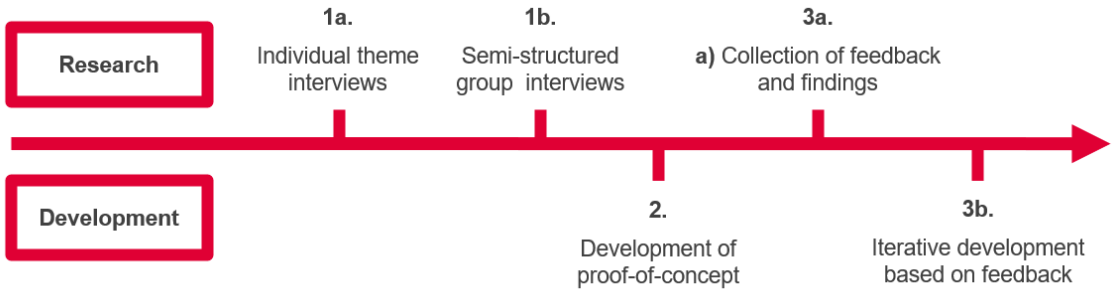


Figure 11: Research and development process of the thesis

# 7 The research and development process carried out

In this chapter the cycles of research and development will be presented. First the data collection with two rounds of interviews will be described in chronological order. Next the data analysing methods will be explained, and results of the analysis will be presented. The development and iteration phases, where the wireframe model will be developed, and feedback collected will be described after that. The chapter will be concluded with the final results and the description of further developed operating model.

## 7.1 The first phase - Data collection interviews

The data for the initial research was planned to be collected through dyadic, semi-structured theme interviews (phase 1a, Figure 11). Since the organisation was small enough, it was possible to interview most of the middle management and all the development-oriented consultants. Due to the Covid-19 pandemic, interviews were organized as video calls over Microsoft Teams. All interviewees were familiar with Teams since it was used by the organisation on daily basis. Each interview was bilateral, had been booked well in advance and lasted from 1 to 1 and half hours. Recording interviews was thoroughly considered. However, the organisation had often found, that recording almost always restricts and restrains candidness. People were not even willing to ask questions or have a conversation as long as the recording was on. Therefore, it was a thoroughly considered decision not to record

the meetings but stick to typing fast notes. This also meant accepting the risk of losing some of the nuances or details pointed out during the interview. Luckily the interviewer was quite fast at writing.

All the interviews started with some warm-up small talk and short introductions of both sides. Interviewees were told the purpose of the interview being to form an honest and a realistic overall picture. Therefore, answers would not be linked to respondents in final results and discussions would remain confidential in that sense. The original plan was to feel out the common ground by starting with only few open questions and then move to semi-structured theme interviews, where themes and questions were formed beforehand based on theoretical framework. The first two questions were

- When considering our current organisation, where are we already good at and what do you consider to be the core strengths of our organisation? What should not be changed or altered?
- When considering our current organisation what are the most significant weaknesses or problems of our organisation? What especially should we develop first? What are our weaknesses or issues causing most friction?

However, during the first two interviews the whole reserved time was spent around these two questions and answer without even touching the concepts opened up in the theoretical framework. Also, answers were quite not what was anticipated. Instead of innovativeness or development methods, discussion was bringing up matters like knowledge transfer and cultural issues, role ambiguities and lack of ownership. Therefore, it started to seem, that by structuring the interviews, there would be important aspects and barriers to be missed. By focusing solely on innovation and development, many fundamental obstacles of development would go unnoticed, which would prevent reasonable development operations.

Therefore, the plan to structure the interviews was abandoned for the rest of the interviews. Instead, the interviewees were given plenty of time to explore, reflect and contemplate these two questions and thus allowing wider range of answers.

After the interviews all the notes were carefully read through couple of times. Then started the initial coding, where the issues brought up by the interviewees were identified and given certain initial codes. All the identified issues were collected on individual sticky notes. There was different colour of notes for the best and for the worst issues. To somehow formulate an overall picture, sticky notes were first categorized around certain themes. After several iterative rounds of categorizations, items started to form more distinct groups. Finally, both strengths and weaknesses were grouped under three main topics or themes – a total of six themes. Under each theme there were rather many similar items. To unclutter each main theme, items within were combined and grouped. After that, items under each theme were

arranged in order of priority according to the frequency of items and finally summarized into a handful of topics. At the end of the process, six main topics (three positive and three negative lists of items) each had three to five items in them. The final items on the lists were often overlapping, parallel, and strongly intertwined. Nevertheless, the issues clearly had different priorities and were hence kept separately.

Since the interviews were not recorded nor strictly structured, it seemed that method was not bulletproof. The second round of interviews or discussions was organized to ensure the outcome was in line with first interviews and correctly described the organisation's point of view. In practise, the results were confirmed, enriched and endorsed with two group discussions (phase 1b in Figure 11). First group meeting was held with team of consultants and development-related specialist, second group consisted of middle and senior managers of the business unit. In the group interviews the original results were presented in two PowerPoint slides and shortly explained starting with the strengths and continuing with problems or issues to be developed. After this short introduction, group and its discussion were only loosely controlled and only guided with following questions:

- What thoughts and reactions does this evoke in you?
- What was surprising or what you did not expect?
- Is there something you disagree with?
- Now seeing such a list, is there something missing?

Again, the discussion was not recorded, and notes were typed in manually. In both groups, the discussion brought up good and valuable questions and point of views, that enabled clarifications to wordings and prioritization. Few issues were added to slides. Other than that, the slides evoked approving nodding and commentary and even by asking more closely, no one was ready to leave anything out – all the items were seen necessary and accurate. The final lists of items can be found in Table 2. It should be noted that all the discussions, interviews were held, and material was compiled in Finnish, the translation to English was done only after group discussion clarifications.

The results of the first phase clearly showed, that the strengths of the organisation are diverse and there is a strong consensus within the organisation about them. People value high their colleagues and strong organisational culture and team spirit make it easy to do collaborate. The organisation considers its own competences to be high both in providing high quality services as well as utilisation of technology and automation. All these together enable organisation to operate flexibly and it is thus able to respond to even the most challenging problems. The management model and leadership methods are considered exceptional, and this can be seen in both human management and resourcing. These were also the issues that organisation wants to retain and value.

| **Good at and what to keep** | | |
|---|---|---|
| **Team spirit, solidarity** | **Knowhow** | **Organisation leadership** |
| People, dudes, teams, colleagues | High quality of skills and daily work | Customer relationship management and model |
| Culture of working together | Desire to provide high quality service | Leading people |
| Agility and flexibility | Technology and automation skills | Documentation and related skills |
| | Product and service offering | Resourcing |
| **Problems or what to develop** | | |
| **Interface friction** | **Transparency** | **Structuring** |
| Knowledge and expertise sharing across borders | Hard to figure out what's going on anywhere | Familiarization difficult, information is silent (tacit), not documented (explicit) |
| Process and system ownerships, ideas do not accumulate | Management fragmented | Great variation in skills even within the same roles |
| Role interface and responsibility confusion, causing unnecessary sorting out | Leading with data; an increase in the numbers available alone is not enough, education is needed. | Templates and operating models require further development and clarification |
| Customer perspective not always in focus; do we always create customer value? | (Project) resourcing, customers' perception of their current situation. process consulting rather general level. | Productization, standardization, copying not efficiently utilized |

Table 2: Results of the interviews in first phase of the development.

The negative issues or problems to be solved were divided into three categories. First category was named Interface Friction and included different kind of issues related to crossing the boarders within the organisation. This meant issues such as knowledge sharing between individuals and teams, confusion in roles and responsibilities and all this causing unnecessary work of untangling. Due to these issues, best practises are not always shared efficiently, ideas and development does not accumulate and thus creates additional friction in interfaces and collaboration.

The second category of development needs was labelled as Transparency. The most often repeated comment on all the interviews was probably under this category and was related to invisibility – people were not able to grasp, what was going on elsewhere in the organisation, who was worth asking for advice and where to find the necessary materials. Wheel was being reinvented here and there over and over again but expertise did not spread. People were frustrated since so many had to start from the scratch instead of being able to get on each other's shoulders. Similarly, although operating model and management structure was praised, it was also criticised for fragmenting leadership. This meant that management was not always clear and straightforward but there were ambiguities in the division of responsibilities. The functionality, the resourcing and the organising of customer deployment projects were also criticized, as leading with knowledge.

The final category of development issues was called Structuring. This section included challenges related to business model, standardisation, documentation, and definitions. People felt the amount of tacit information was significant and even the things that could be documented were not clearly documented - or people did not know where the documents were. The organisation felt that the levels of competence and performance required varied and getting to know the job and the organisation took an unreasonable amount of time and energy.

When the final results were completed, the organisation had felt it had a fairly accurate and comprehensive picture of the organisation's status – strengths, the main obstacles of development as well as the most important areas for future development. This was a good time to move on to the second phase and start developing the wireframe of development model. This will be discussed next.

### 7.2 The second phase - The proof-of-concept Development

The proof-of-concept development started with first phase result analysis against the theoretical framework. The original goal was to develop a development function for the business unit and the management was looking for a clear operating model. However, the results of the first phase suggested that development should take place in many areas, and it would probably require several separate development projects. Also supplementing

theoretical framework with stronger emphasis on organisational psychology was deemed necessary.

Comparing the results against the theoretical framework there were few key findings. First of all, knowledge management and organisational learning became clearly more important than expected, and this should be taken into consideration already when developing the wireframe. The organisation has a lot of knowledge and wisdom, but the distribution was an issue. Individual learning seemed to work well but learning at the organisational level was slow and laborious. How could knowledge be better produced in a shareable format? How could learning be transferred from the individual level to the organisational level as well?

The second important and not expected issue was related to obscurities of roles and responsibilities. The organisation has clear and comprehensive descriptions of each role. Despite of that, people did not clearly perceive the boundaries between and overlapping of roles and often found it difficult to apply these role descriptions to reality. This poses challenges as much in everyday work, change management as well as in the attempt to develop operations. When people do not know exactly where does my responsibility end, and colleague's responsibility begins, the obscurities create an excessive amount of unnecessary friction.

These findings helped to answer the main question; what to develop first and how to synchronize the tasks to other existing development projects in the organisation. The common guideline for the development was to think big but start small. The measures initially planned and implemented as well as their benefits are summarised in the Figure 12. The first part was labelled Development process and covers generating common development item backlog to collect all the needs and wished for development. It also allowed more accurate and justified resourcing. The second part was named General operating model and includes describing and documenting big picture of the organisational model, its interdependencies as well as defining common libraries and documentation. The third section deals with ownership of best practices and is called PT's and super users. In the following subchapters these development tasks and activities are discussed further. The actual proof-of-concept will be discussed and presented in subchapter 7.2.5.

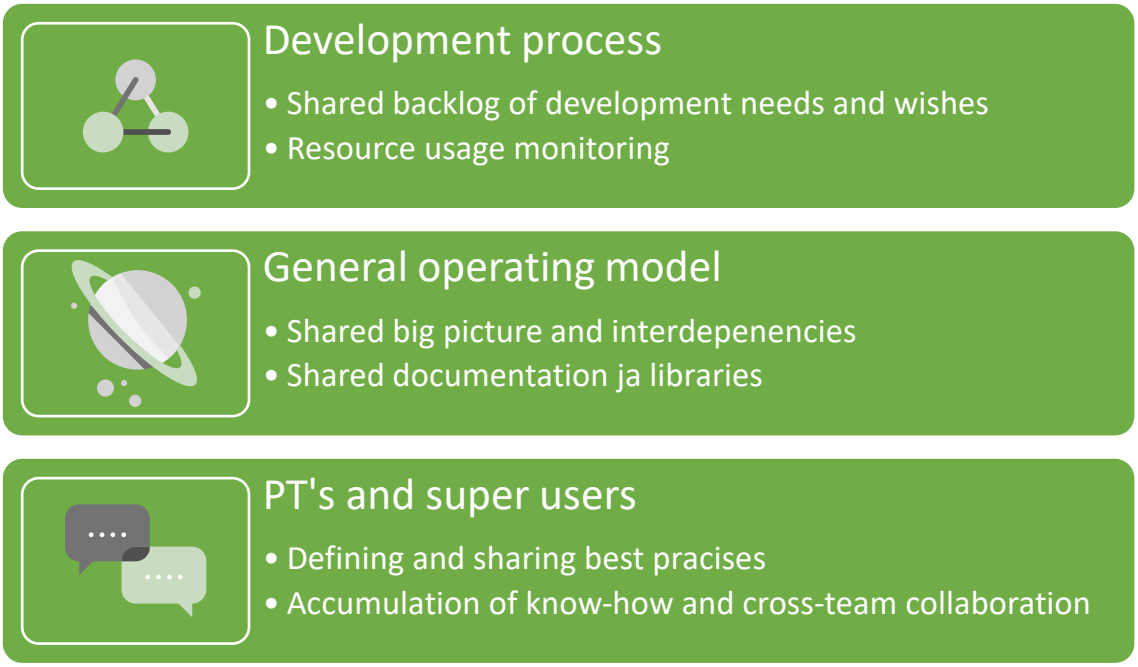


Figure 12: Summary of development arrangements

### 7.2.1 The general backlog of the development

The first issue to tackle was the issue that seemed to arise on several occasions – people did not know what was going on in other teams, operations, or other parts of the organisation. Company had several internal development projects underway, but their progress was not clearly communicated. Similarly, there was no clear picture of the development projects planned. To form a common view regarding status and development needs in detail, organisation started to form a common development backlog. This would allow for an open and transparent collection of development needs as well as their status and progress.

To make it easy for everybody to add new items, ideas, and comments, instead of new solution or software the format was chosen to be an Excel – something that everybody in the business unit uses. The development team and managers added in all the ideas, needs, wishes, hopes, and dreams that were earlier discussed here and there but were never collected into a one unified format and location. All the items were grouped under organisational phases (so called 1-2-3-model, that was discussed in the introduction and presented in the Figure 2). This structure made it easier to perceive how issues were related to each other and affected the whole.

After the introduction of the backlog, the proposals put on the list began to be broken down and defined into pieces to be implemented in a relatively short period of time. First of all, this improved the results, as the things to be done did not seem so huge but were more doable. This also made it easier to resource the development work and set aside the

necessary time for the work. Reasonable (or small) number of working hours were easier to take from often prioritized customer work. The development work was also helpful in general resource planning, as there were clear uses for the time suddenly freed up if projects were delayed or something got cancelled.

The development backlog was saved in the shared intranet and all the managers were informed about the file. That enabled, for the first time, the business unit to have a shared place for all the development needs, and from which the status of things and people in charge or responsible were seen. After first three months the backlog had grown into a large document with links to current materials, status of material under construction and it enabled organisation to discuss priorities and allocate resources based on prioritisation.

### 7.2.2 The development of the operating model structure

The compiling of development backlog clearly highlighted the lack of documentation and detailed specifications in the operating model of the daily work. Therefore, next step chosen together with the executive level was to document the current operating model structure in more detail. By describing the parts, steps and tasks of the operating model the organisation would further support and supplement the development backlog and help the organisation to see gaps and other shortcomings. As it was agreed with the business director, the work just had to start somewhere and have an active conversation with the managers along the process.

The author of this thesis started the work by comparing the scope and coverage of current documentation in both business units and continued by defining and documenting the overall structure of the operating model, phases and their content, as well as roles and responsibilities in each phase. Once the coverage of the documentation, deficiencies and gaps were identified, more accurate and better documentation was produced. In practise this meant better and more detailed documentation of 1-2-3 model both within the business unit and in relation to other units. In practice, the documentation work was divided and delegated according to who was responsible for the area or who had the best knowledge of the subject. This documentation enabled organisation and the development team to understand the interdependencies of things more clearly and further develop used models, templates and other documentation.

The interfaces, division and overlapping of responsibilities between roles and tasks were also defined more clearly in this context. The aim here was not only to help people outline their own plots, but also to empower and encourage them to develop their own skills and the performance of their own operations. Descriptions are also hoped to make it easier to detect if someone is not performing their duties This work was closely linked to a larger HR development project that clarified the demanding level of roles and possible career paths.

The documentation of the operating model was initially published in the company's shared intranet to be easily available for everyone. Another corporate level development project was defining method and solution for a supplementing knowledge base of Efima, and the intention is to use this model at a later stage to the extent that it would be appropriate. All this would enable business unit (and the company) to gather explicit knowledge into a clearly defined common locations in a unified format. But still the organisational structure or operating models did not support tacit knowledge distribution. As pointed out in figure 6 and SECI model of organisational knowledge creation, effective knowledge creation requires a constant circle of internalization and externalisation of knowledge. This would need to be supported by the organisational model.

Therefore, next challenge was, how to ensure, that best practises would be efficiently shared, and operating model and documentation would be further developed by iteration? How to collect and process feedback systematically and transparently? It turned out, there was a ready-made-solution for that. It was called Jira Software and will be discussed in the following subchapter.

### 7.2.3 Expanding the usage of development software

Discussions regarding interface friction showed that the cooperation between business units was challenging and causing unnecessary friction due to differing practices between units. The process of trial and error did not accumulate know-how and operating model did not support mentoring less experienced colleagues. The other business unit has organised everything around Jira, a software developed for agile development, process and task organising. But this did not apply to business unit offering financial administration services. Less than half of people even had the license and username to the system. Therefore, the second development task was related to expanding the usage of Jira Software.

Jira Software is a globally well-known issue and project tracking solution. It is used by many (agile) IT companies to organise the collaboration and operations, and enables teams to plan and track development work. Although designed especially for software development and release procedures, solution suites well for service providers such as Efima. Project settings, ticket (i.e., issues to be handled) information and workflows as well as reports and dashboards can all be configures as needed. The tasks can be easily directed to desired experts, work done can be documented with tickets, and the progress of tickets is easily traceable through workflows and dashboards.

Since the other business unit already had the solution up and running, development team decided to simply start with the same basic settings (settings of project, ticket types, ticket workflows, reports and dashboards) and test, what changes could be beneficial for financial management business unit. The internal development projects of this business unit were set

up in Jira and the team decided to create a separate Jira ticket for each development item underway. Used time would be also logged for these tickets to follow, how much time each development task would require. This also made it possible to monitor the accuracy of workload estimates and learn from deviations.

The development team started by choosing one or few simple and fast tasks from development backlog to be carried out by each team member. In development backlog these tasks were marked to be transferred to Jira (and ticket number was added to development backlog). Further communication, documentation and material links were tied to Jira tickets. Thus, the team tested the usability of Jira's functions and sought to identify areas for further improvement.

After the development team testing, the goal was to expand Jira usage to cover the whole business unit. This would require a separate planning and rollout would take several months but would enable business unit to operate the same way as other business units. It would also remove some of the unnecessary friction and bring a great amount of transparency and visibility through the organisation. It would also enable more agile development operations. This way the organisation would have a place to gather feedback and lessons learned.

At the time of finalising this thesis, team’s testing was underway. The solution seemed functional and appropriate, but the team had identified certain settings that should be modified for even more appropriate usage. The system was also intended to be used for customer service, but in this case the challenges encountered were not as easy to solve. For this reason, the organisation decided to investigate in a separate development project whether for customer service there would be more needs-based options, that could be integrated into Jira. But that is already a whole separate story.

Jira solved the challenges of monitoring and coordinating developments, but it did not help to spread and internalise the knowledge. Still the question remained, how could the solution or model developed be easily shared and taught to others? How could these best practices be efficiently iteratively refined? How to get the feedback accumulated efficiently? The solution was combining mentor-apprentice thinking with defined ownerships. This will be discussed next.

### 7.2.4 Process Trainers and super users

The next issue to tackle was related to lack of ownerships as well as knowledge and expertise sharing. Company has been developing general quality manual to describe general best practise processes, controls, and responsibilities. It was a huge step forward but application to everyday life caused headaches. The quality work still needs links and applications for practical daily operations, designated people in charge and practical operating models.

Many organisations appoint process or product owners to be responsible for the best practices and the accumulation of expertise. Efima had few product owners in the level of business directors but now the need was very mundane and pragmatic. Business unit needed people who would be able to define best practises to make everyday operations more efficient and streamlined. The teams needed guidance and tips on what automations or practices to use in any situation and when to do the work manually. All the experts could never know all the possibilities, tips and tricks.

The quality manual already covered the basic processes of financial management but in practise the work was done in different solutions and software. For the sake of clarity, the systems used by the customers were compiled in a matrix table, where the names of the customers were on the rows and the systems used in the columns. The table turned out to be like being shot with a shotgun - each system was used by only a handful of customers. All the solutions and systems each have their own characteristics and constrains. To be able to use a solution or software truly efficiently you need to know tricks to embrace the strengths and circumvent the shortcomings. That is why the organisation decided to appoint people in charge of collecting and spreading this kind of knowledge and know-how. This is where the role of process trainers was invented.

The term process trainer was chosen to emphasize the educational perspective of the role. In short, the role was called PT and the association with the personal trainer was no coincidence. PT's task was to learn and document best practices to further consult and train teams and processes to top condition. Originally the idea was to appoint one PT for each software but since there were so many software used, testing the role with few prioritised software seemed like a sensible option. Development team also pointed out, that by appointing only one person, the team would lose the opportunity to spar and brainstorm together. On the other hand, shared responsibility is often not anyone's responsibility. Therefore, the team came to a compromise, appointing a responsible PT as well as a primary combat pair. PT's were planned to be appointed from the development team.

The organisation and development team wanted to involve customer teams also in development. This would enable better cross-team collaboration and thus ease the knowledge spreading. Therefore, organisation began to look for those interested in the role of super user. The idea was to find technically oriented and competent people who could solve the problems encountered in using the systems. Instead of contacting IT support or solution consultants every time, the unit would be able to accumulate and share know-how better. This would also increase the amount of tacit knowledge and hopefully further process it into explicit and more teachable form. Organisation announced PT and super user roles to be open for applications and those interested were asked to contact their own supervisor or

development team leader. Interested were also asked to inform, what systems or software they were interested in.

The work of PT's and super users was started in a common kick-off meeting. Initial system-specific roles were agreed at the meeting and the first task of the teams was defined. System teams were to first get to know the customers using the system and document, what tasks and actions the organisation performed for each customer in the system. While performing the task, teams could hopefully also identify easy areas for development and methods to integrate ideas from one customer team to another. The task would give teams the opportunity to get to know not only customers and processes but also each other more closely. Throwing oneself into something new and open-mindedness requires mutual trust and for trust you need to know each other. At the time of the return of this thesis, the PT's and super users had just begun their work but no feedback or observations on the task(s) had yet been received. It seemed evident that the work had just begun and to succeed, it would require many iterative alterations. Still the focus was shifted to a broader perspective for a moment. All the steps described above were only the first steps towards the most essential, which was the development of the operating model. This is the topic of the following subchapter.

### 7.2.5 Proof-of-concept of the development function

The main goal of this thesis was to develop an operating model for the development function. Previous paragraphs have described the first and initial actions after the interview results were fully published. Still the question remained, how to organise the development work in development team. Did the organisation require more, or could they proceed with what had already been done? It seemed this was not enough. What these procedures were lacking, was the feedback loop and the implemented method to utilise lessons learned. Also, prioritisation and resource allocation methods were missing. All these shortcomings would leave the operating model shorthanded.

To tackle these issues and fill in the gaps, the actual proof-of-concept was still to be developed. This work began by once more crosschecking the interview results against the theoretical framework. The initial idea was to combine PDSA model to agile methods and create a simple phased model. Executives tend to play significant decision-making roles in agile methods such as Scrum, but the development team consisted mainly of experts who did not have a management role. In the case organisation, the managerial level is more tightly involved with account management and customer relationships. Therefore, they should somehow be involved in decision-making, while the development team would still need to have sufficient freedom to decide on working methods and ways of doing. The idea to solve

this issue was inspired by the eight-shaped DevOps model described in subchapter 4.1.4, in which development activities are closely tied to IT operations.

The infinity symbol was also used to combine customer and managerial point of view to the perspective of the development team. The developed and constructed wireframe of the model aimed at using similar characteristics but keeping in mind the PDSA model as well as aspects of change management. For instance, the goal is to balances both the pulling and pushing, as well as reactive and proactive aspects of development. A graphic representation of the model can be found in Figure 13. The left loop is called Development and includes three phases. Check phase refers to checking actual and accurate customer needs, current status of the issue and involves defining a minimum viable product which meets the original needs. Do phase is to actually develop the solution and Feedback refers to testing and gathering preliminary feedback from one or few end users. After that comes the Review, where the team of management and/or customer responsible have a change to comment on and evaluate the effectiveness of the solution before opening the solution to the market or using customer service.

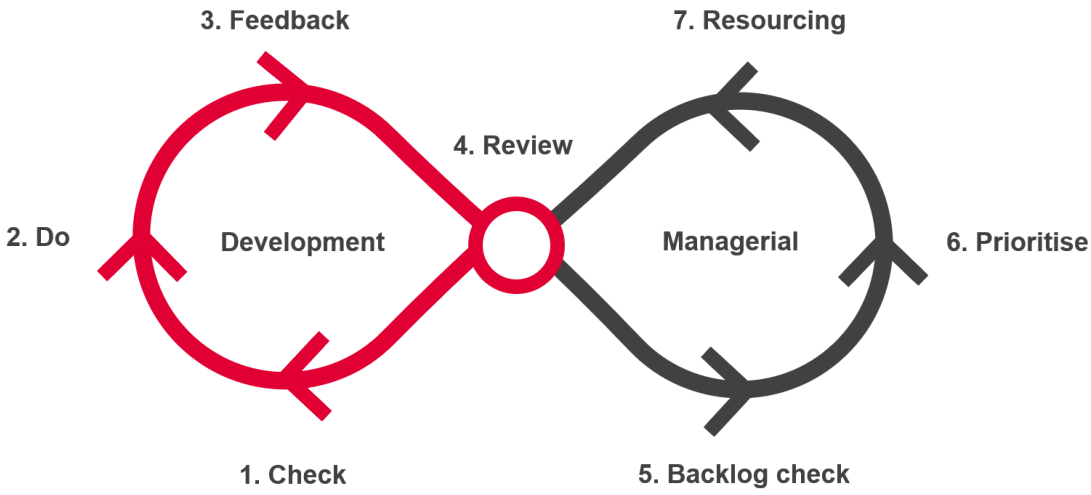


Figure 13: The Development of an operating model, a proof-of-concept

The right loop in the Figure 13 is labelled Managerial and emphasizes both the business and the customer's perspective. It also allows the organisation's executives and managers to influence development priorities. The first phase called Backlog check, has the purpose to update and supplement the development backlog based on the feedback received from the development as well as from the customer service. This could be done in a common meeting with and Excel or in Jira Software, whatever suits the organisation best. The second phase is to re-evaluate the priorities of the updated backlog and is thus called Prioritise. At the beginning, method of prioritisation should be as simple as possible but sufficient enough to

offer real additional value. For instance, from Impact-Effort matrix with two factors or ICE method with three factors (as described in chapter 4.2) either would probably be adequate and workable.

Final phase in the Figure 13, before returning to Review is called Resourcing because it involves issues related to resourcing of priority development sites. The method for resourcing should be similarly simple yet adequate to start with. Simply, each development site can be given an hourly workload estimate that is available for development. Exceedances should be discussed separately by the developer and the workloads used could be compared to the workloads regularly estimated. Even if the deviations were large at first, this method would teach both management and consultants to better evaluate workloads in the future. It would also set clear boundaries for development work and would enable better input-output assessment.

### 7.3 Third phase – Implementation, feedback and iteration

The basic idea of the model was first introduced to the business director and the head of operations receiving positive feedback. Both presentations included model visualisation, and brief explanations of the steps. Both discussions raised valuable perspectives and suggestions for improvement but agreed on agile piloting of the model. In short, it was decided to test the model first with a more limited group and to expand the group only after the functionality had been honed to shape. The perspectives and suggestions for improvement that emerged during or after the discussions are described below.

Firstly, it was shared view, that a clear and documented budget allocation would be a precondition for the success of the development work. The constant problem of development was that customer work always took precedence over internal development and there would be no visible results unless the situation changed. If we use means of transportation as a metaphor, the organisation often ended up running faster instead of learning to ride a bicycle, since the latter took more time on a short run. However, as it was brought up in the introduction, the organisation’s new strategy has made scalability an important factor and the organisation wants to invest in development.

The second finding related to the content of the development backlog. In the original model, the list consisted of internal development topics only and customer specific development would be handled separately within customer teams. But what if these two could be combined? This would allow for a better overall picture, more efficient cross-border development of customer teams as well as joint processing of ideas and thoughts. There were several valuable benefits in combining and merging the lists but implementing would require some modifications since the customer development lists had been created at different times and on different platforms. Despite that, it was decided to look for ways to combine the lists

and to find a simple and inclusive solution. The work began with the collection and comparison of existing documentation, after which the data was enriched, and the settings were harmonized so that the data could be collected into a single document. This was sufficient for the documentation to serve as the basis for the testing phase

Merging the lists brought up a third idea, which was related to prioritizing method. Development issues were identified as falling into three main types. The first type were internal development proposals that were visible to customers at most indirectly. The second type were customer-specific development proposals that could not be shared with other customers and therefore only that organisation would benefit from the development. The third group of development proposals were proposals that would be directly visible to customers, but the same model could be copied for use by other customers. This meant that the organisation has a wide variety of development proposals and ideas, still the development team has only a limited number of people and working hours. Different types of development proposals would benefit significantly different numbers of people and organisations, and this should be taken into account in some way when prioritizing development proposals. For this reason, the number of benefiting customers was added to the prioritization method as a fourth factor.

With these three modifications, it was decided to take the model for testing and to further develop it as part of the organisation's normal practices. For this thesis, it was decided not to wait for further results, as it was desired to allow several months for the pilot. Thus, for this thesis, it was stated that the development work had been completed and the goal had been achieved. What the results ultimately looked like from an organisation's perspective, will be discussed next.

## 7.4 Result analysis

At the time of writing the result analysis of this thesis, the organisation has only just begun to implement the results of the development work. The real impact and any broader results of the development work will only be seen over a longer period of time. However, the development work and the many discussions related to it have already taken the organisation to a new direction and formed a common understanding of what development in this organisation means. Even the results of this thesis are not merely successful, and all the development work executed have its benefits and weaknesses. These are summarized in Table 3.

In short, the development work has at least helped the organisation define common goals and clarify expectations even if none of the policies and models described now would be operational in a few years. The organisation is in a better position to further develop and improve its methods once the structure and operating principles have been defined. As I often

recall, it is much easier for others to comment on even a bad model than on blank paper. Therefore, any model is better than no model at all.

The benefits presented in Table 3 are, for the most part, more opportunities and potential than concrete achievements, although they have been experienced by the organisation. The table describes the broader perspective of management and the long-term goal of creating a lasting competitive advantage. As it was discussed in the introduction, the business model is of great importance for competitiveness and even in this case, the effort is to develop competitiveness by supporting the efficiency, agility and quality level of the organisation. Therefore, thesis focused on the internal operating methods of the organisation and thus the assumption has been that the needs and expectations of the customers are sufficiently known.

| Development arrangement | Benefit | Weakness |
|---|---|---|
| **Shared development backlog** | Ability to distinguish and categorize development types. | Still in Excel, focus on small improvements. |
| **Resource usage monitoring** | Appropriate planning easier. | Variations between resource allocations and actual usage. |
| **Shared big picture** | The organisation better speaks the same language. | Still requires improvements, people need to internalize it. |
| **Shared documentation** | Enables learning from past mistakes and successes. | Even the best documents are useless if people don’t use them. |
| **Shared best practices** | Designated people to accumulate the knowledge. | The voice of more quiet people is not always heard. |
| **Cross-team collaboration** | Better knowledge sharing and mutual trust. | Requires constant communication to build trust. |

Table 3: Benefits and weaknesses of the development work results.

Many of the weaknesses presented in Table 3 require constant communication and active leadership as well as keeping the topic at the top of people’s minds. No change is self-evident but requires active leadership and dialogue. As it was discussed in Section 3.3, clear goal

setting and defining of realistic expectations are prerequisites for successful change management. People need to understand their own role in change and see their importance in the whole to be motivated and committed. This applies to this development work as well. Even the change described in this thesis will not become permanent if people do not see its importance and commit to working together towards the common goal. The management of the organisation plays a particularly important role in all this, both communicatively and through decisions it will make.

# 8 Conclusions, discussion and limitations

This thesis originated from the need of a case organisation to define and implement a new structure to organise the development activities. The business unit had just formed its first team dedicated for consultation and development and needed to define processes, roles and structure for daily operations. Initially the organisation did not want to settle for a ready-made solution but preferred finding a solution that corresponded to the organisation's culture and ways of doing. The solution was expected to be agile, efficient and customer oriented. Most of all, the organisation was looking for vibrance, which referred to appreciative and caring interaction between stakeholders, appropriateness and meaningfulness, as well as future oriented aspirations to serve better both the employees and the customers.

The work began with the construction of a theoretical framework and continued with data collection within the organisation. At this point, the intention was to work with the organisation to understand the current state and the most pressing development needs. The data was collected through unstructured interviews with the organisation’s middle management and developers. Based on the results, the most important issues to be solved with development were structured and analysed. The focus of the development changed somewhat from original plan. In order to develop an operating model for development, the organisation had to first define the framework, roles, and responsibilities of other activities. There were also attempts to overthrow some of the boarder fences that served as barriers of collaboration and development within the organisation. One such issue was tackled by expanding the usage of the technology (Jira Software) widely utilised by other units of the organisation.

Once the top obstacles had been removed, the actual development of the operating model could begin. The operating model had to link managers and customer-responsible people to development experts more strongly. It also had to take into account the prioritization and resourcing of the development to ensure that the organisation would allocate enough time for actually important development tasks. Based on these expectations and requirements the draft operating model was presented in the form of infinity sign, which resembles the number

eight turned horizontally. The left loop describes the steps of the development team while right loop represents the phases of the managerial or executive work.

The final results of the development work were seen as useful and valuable in the organisation, although from the author's point of view many concrete results are still pending. The results of the thesis enable further development and create the conditions for many achievements, but still require commitment and consistent work from both the organisation's management and employees. In the worst case, the results of the thesis will be forgotten in a few years and there will be no concrete benefit at all. At best, however, management is committed to leading change and the results can be used effectively, making this thesis the foundation for successful change. Probably the truth is somewhere in between, but only time will tell.

## 8.1 Limitations

It was pointed out from the beginning, that this type of development work has several limitations when it comes to applying the results to other situations or organisations. While the results have been in many ways valuable and useful to the case company, the work and its results are strongly tied to the case company’s culture and circumstances. For this reason, great care must be taken in applying the results to other organisations.

This work was also fairly limited in time and scope. At the time of publication of this work, the model has only tentatively been implemented in the organisation. Only over time will it be seen how useful the model is in the longer term and how much the organisation is able to further develop the model. There is also a real risk that an organisation will abandon the model because it no longer sits on strategy, serves its purpose, or serves the needs of the company.

## 8.2 Future opportunities

This research and development work focused on operating model of development in a service organisation. Although the results clearly took the organisation forward and provided new information, it leaves several areas for development. The model developed is still only the first whole version and the purpose of this work is to create the conditions for further development of the model. It is essentially important for the organisation to develop metrics and goal setting to support development work and its prioritization. Without them, development priorities can slide far beyond what is really needed and expected.

This research focused on internal operations of development. Even though the case company emphasises the customer orientation, it lacked uniform and built-in methods for collecting feedback at the time of the study. It would be interesting to further investigate, how could

the customer feedback gathering be organised to be efficient yet meaningful in the context of B2B. Automation of work steps such as prioritization and resourcing would also provide attractive research topics.

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Figures



Tables