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BUILDING AN AGILE ENTERPRISE

Case: OP Financial Group - OP Oulu

Master`s Thesis in Strategic Business Development

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ABBREVIATIONS

AC Absorptive Capacity

AM Agile Methods

AWM Agile Working Method

AWT Agile Working Technique

BM Business Model

BMI Business Model Innovation

LSA Lean Startup Approach

MVP Minimum Viable Product

PAC Potential Absorptive Capacity

RAC Realized Absorptive Capacity

RBV Resource-Based View

R&D Research and Development

VRIN Valuable, Rare, Inimitable and Nonsubstitutable

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ABSTRACT

The fundamental question in the field of strategic management is how organizations can achieve and sustain competitive advantage. Achieving such an ambitious goal has become even more difficult in the modern world of innovation-based competition. Moreover, past success does not guarantee success in the future, which is why companies need to embrace a dual transformation towards focusing on changing customer needs and other strategic interventions. Organizations need to become adaptive and ambidextrous. The enterprise agile framework is gaining popularity and is proposed as a comprehensive answer to the question of building sustainable competitive advantage by many managers in organizations across industries. Agile teams were originally designed for use in small teams and projects, but their potential benefits have made them attractive for adoption at scale. However, adopting agile at scale is complicated. Doing so also means transforming strategy work from long-term planning to a continuous process. Enterprise agile is designed to increase manoeuvrability at the entire spectrum of the organization's activities, which supports a continuous strategy process.

A theoretical representation of the agile operational model is presented. As the enterprise agile framework does not yet have an intellectual home in academic research, the concept of dynamic capabilities is proposed as a theoretical basis as it is well-researched and rooted in the research on adaptive and innovative organizations. Other concepts of interest in this thesis are innovation strategies, business model innovation, technological innovation and a specific dynamic capability, also a well-researched construct, called absorptive capacity. Absorptive capacity emphasizes organizational learning capability which helps firms assimilate and implement new technologies, practices and processes.

The empirical section of the thesis studies an independent branch of the largest financial services corporation in Finland. A synthesis between theory and research suggests that organizational learning capability manifests in absorptive capacity, which has comprehensive potential to affect the organization's ability to implement innovative managerial practices, such as enterprise agile. The enterprise agile framework is found to have potential to broadly strengthen several types of dynamic capabilities, which are at the heart of the organization's ability to create and sustain competitive advantage. The empirical results further suggest that agile can be divided between concrete agile working methods and broader agile working techniques, which help conceptualize and compartmentalize the broader enterprise agile framework.

KEYWORDS: enterprise agile, innovation, innovation strategy, business model innovation, technological innovation, dynamic capabilities, absorptive capacity

1. INTRODUCTION

Over a hundred years ago Charles Darwin notably remarked: "It is not the strongest of the species that survive, nor the most intelligent, but the one that is most responsive to change." Darwin's statement about the evolution of species is exceptionally relevant for organizations competing in today's constantly evolving markets. The fundamental question in the field of strategic management is how organizations can achieve and sustain competitive advantage. This question becomes even more difficult to answer in regimes of rapid change in the Schumpeterian world of innovation-based competition. (Teece, Pisano & Shuen 1997.) Past success is no guarantee of future prosperity, a lesson many companies learn too late. The lifespan of large, successful organizations has never been shorter. The average tenure for companies on the S&P 500 was 33 years in 1964, 24 years in 2016 and is forecast to be a measly 12 years by 2027. This turmoil in the business environment points to a need for companies to embrace a dual transformation towards focusing on changing customer needs and other strategic interventions. (Anthony, Viguerie, Schwartz & Landeghem 2018.) This new environment has also amplified the need to consider how to capture value from providing new products and services (Teece 2010). Competitive advantage can be achieved through the creation of something new, which is fundamentally connected with the concept of innovation in the business world. Many established, large organizations understand that they need to deal with an increasing amount of external threats by continually innovating and creating entirely new business models (Blank 2013). To profit from innovation, organizations need to outdo the competition on many fronts: product innovation, business model design, understanding business design options and customer needs as well as understanding technological trajectories and the possibilities of digitalization (Teece 2010). What organizations also need is an innovation strategy (Pisano 2015). In other words, the characteristically systematic nature of strategic management should extend to the management of innovation and organisational development as well.

By now, the concepts of agile teams and enterprise agile are familiar to most business leaders. Despite agile methods having originally been developed for use in small teams

and projects, their benefits have made them attractive for adoption at scale in large projects and large companies (Dikert, Paasivaara & Lassenius 2016). Agile teams are designed to excel in rapidly changing conditions through their adaptability and by staying close to the customers. For established companies the prospect of building such entrepreneurial agile teams and incorporating agile throughout the organization is exceptionally appealing in today's turbulent market conditions. Adopting agile at scale also means transforming strategy work from long-term planning to a continuous process. (Rigby, Sutherland & Noble 2018.) Enterprise agile is designed to increase the manoeuvrability at the entire spectrum of the organization's activities, which supports a continuous strategy process (Tseng & Lin 2011). However, big transitions are hard. The main challenge is to move from scattered use of agile teams in a function like software development to a more comprehensive use of the approach – to make agile the dominant way to operate. Scaling agile comes with an added challenge associated with the required level of coordination with other organizational units. Furthermore, large scale may result in increased distance between stakeholders and the development teams. Despite the known challenges of agile at scale, it is gaining popularity across several industries. (Dikert et al. 2016.) This is unsurprising, as companies that have successfully scaled up agile have seen enticing and measurable improvements in outcomes including better financial results, but also increased customer loyalty and employee engagement (Rigby et al. 2018; Barton, Carey & Charan 2018). For many companies the best outcome is achieved through operating with a mix of agile teams and traditionally structured units, which is how even the most advanced agile enterprises operate. It is essential that all the teams work in harmony for the transformation to be effective and beneficial.

Changes in the global economy, the advancement of technology and the establishment of a reasonably open global trading regime have caused customers to have more choices than ever before. This means that businesses need to be more customer-centric, and that they are required to re-evaluate the value propositions they present to customers. (Teece 2010.) Over the past few decades we have witnessed the success of dozens of startups who continue disrupting traditional markets with their undeniable capacity for innovation. They offer new products, new business models and new ways of creating value, they do it quickly and capitalize on utilizing cutting edge technology. They establish a continuous

stream of communication with their potential customers to discover gaps in their offers. They iterate and experiment in search of a business model that is scalable, and they are willing to pivot immediately if the data suggests it in a situation where the previous plan does not prove viable. Being innovative allows companies to not only retain their position in rapidly changing markets but also to create new business opportunities. To compete in this age of disruption, management in established companies are looking for ways to innovate like startups. (Edison, Smørsgård, Wang & Abrahamsson 2018.) Agile in practice can be exactly this: big ambitions achieved through step-by-step, iterative progress (Rigby et al. 2018).

Without a strategy for aligning innovation efforts with business operations any organizational change is at the risk of being counterproductive if not downright detrimental. Furthermore, from a strategic perspective, it is equally important for an organization to possess capabilities and competencies to compete in existing markets as well as having the ability to recombine and reconfigure assets and organizational structures to adapt in uncertain situations of new markets and technologies (O'Reilly & Tushman 2008). Strategic discontinuities and changes in the business environment often call for changes in business models. However, over time, firms naturally evolve increasingly stable and therefore rigid business models, especially in heavily regulated environments. Resolving this clear contradiction is not easy. Even large organizations operating in traditional industries today need to transform their business models with increased rapidity and frequency. (Doz & Kosonen 2010.) Thus, typical strategies that emphasize analysis and long-term planning are no longer sufficient for creating or maintaining competitive advantage. Blank (2013) comments on the conventional wisdom of business plans by saying that they rarely survive even the first contact with customers, quoting the famous boxer Mike Tyson: "Everybody has a plan until they get punched in the mouth". Tyson's comment on his opponents' pre-fight strategies is surprisingly applicable to the business world of today. Luckily, there are ways for organizations to systematically avoid even the figurative ways of getting punched in the mouth by becoming more resistant to creative destruction.

Furthermore, organizations need to be prepared for the fact that adopting agile and transforming their organization into an agile enterprise is likely to take years, which means that focusing on short-term profits might not be beneficial. Managers need to evaluate their organization's learning capability and be prepared to champion the transformation toward agile through their own example. The theoretical chapter of this thesis will explore the current state of theory on adaptive and innovative organizations based on the requirements of building an agile enterprise. Pisano (2015) argues that simply copying best practices from others is not good enough and an explicit innovation strategy helps organizations design systems appropriate for their specific competitive needs. The situation is similar with adopting agile, as there is no one correct way to adopt the framework. Instead, each organization must build their own, individualised version of an adaptive, agile enterprise.

While established, large companies often have vast resources at their disposal, they frequently lack a process for turning these resources into real-world successes. Fundamentally agile integrates personnel, business process organization, information technologies and innovation into strategic competitive attributes (Tseng & Lin 2011). This thesis aims to explore the attractiveness of the agile framework from a large organization's perspective. Moreover, organizational learning capability is studied through the concept of a specific dynamic capability called absorptive capacity. This thesis also analyses the strategic nature of innovation and organizational development and explores the role of enterprise agile as a vehicle in the pursuit of competitive advantage. Furthermore, the aim of the thesis is to explain how the enterprise agile approach can help organizations through the strengthening of their dynamic capabilities by providing them with tools to systematically address the uncertainties of innovation and thus succeed in an unpredictable and ever-changing business environment by being more adaptive.

1.1. Research gap, research questions and objectives

The objective of this study is to explore the role of agile in the context of large organizations, often called enterprise agile in literature. This is done by first creating a

theoretical framework through a review of relevant concepts and literature, and then studying a unit of a large organization that is currently going through an agile transformation. The current level of especially academic research on enterprise agile is underwhelming. Dikert et al. (2016) call for more case studies so that large-scale agile transformations and how they are done in practice could be understood better. Additionally, while the potential benefits of agile have been widely recognized, empirical evidence is scarce. Most studies that have been done are from software development organizations and thus understanding of enterprise-wide agile transformations from nonsoftware industries is limited (Kettunen, Laanti, Fagerholm, Mikkonen & Männistö 2019). Scientific studies presenting quantitative evidence on agile are also rare. (Laanti, Salo & Abrahamsson 2010.) Furthermore, Dikert et al. (2016) exhibit special interest for case studies on large-scale agile transformations. Thus, interest for exploring strategic organizational development from the perspective of adopting enterprise agile in the form of a case study is evident. The desired result is to help explain how established companies could improve their adaptive efforts by creating an environment conductive for continuous organisational development through the adoption of agile as the dominant mode of operation. The theoretical framework of the study is based on existing research on enterprise agile and other relevant concepts from the field of strategic management. The empirical part of this thesis integrates the concept of dynamic capability with enterprise agile and studies the subject through the construct of absorptive capacity.

The research questions for answering the objectives of the study are:

- **RQ1.** What are the potential benefits of the enterprise agile framework?
- **RQ2.** How could absorptive capacity affect the organization's ability to adopt agile?
- **RQ3.** How could absorptive capacity affect attitudes toward agile methods?

Answering these research questions will help understand the reasons behind the popularity of enterprise agile framework and why it is gaining recognition among large organizations across several industries. Moreover, the second and third questions help understand the agile framework's position in the research on adaptive organizations.

The empirical section of this thesis introduces the largest financial services organization in Finland. The case company is currently undergoing a major organizational transformation with the goal of becoming an agile enterprise, i.e. an organization with agile as the dominant mode of operation. This organizational change initiative is aptly named OP Agile, or OP Ketterä in Finnish. The antecedents of the transformation and benefits of agile can thus be studied effectively through a survey that focuses on absorptive capacity and attitudes toward agile methods. The organization was studied as a case study, through observation and utilization of available data and conducting a survey at OP Oulu, which received 53 responses.

1.2. Structure of the thesis

The thesis argues that for organizations to succeed in today's turbulent market conditions, they need to create an innovation strategy. Enterprise agile is introduced as a potential mode of operation for large companies. Research interests are then explored, research objective explained, and research questions presented. The literature review of the second chapter begins by defining adaptive organizations and then presents the enterprise agile framework and moves on to define innovation from the perspective of this thesis and introduces innovation strategies in general. Next, the concepts of business model innovation and technological innovation are explored in more detail. Following this, the concept of dynamic capabilities is introduced, and the interconnectedness of dynamic capabilities, business models and strategy explored to understand adaptive organizations and their operating environments more thoroughly. Next, the concept of absorptive capacity is discussed. Finally, a concise synthesis of theory is formed.

The theoretical chapter is followed by chapter three, where the background and reasons for the choice of research methodology are explained. The chapter will also provide an explanation for the collection and analysing methods of the empirical data. In chapter four, the case company is introduced in more detail and the findings analysed thoroughly. The final chapter consists of discussion and conclusions, theoretical and managerial implications and suggestions for future research.

2. BUILDING BLOCKS OF ADAPTIVE ORGANIZATIONS

Two prominent views have emerged in strategy research regarding organizations that do learn and adapt and manage to thrive despite uncertainty. The first argues for adaptation through dynamic capabilities and the second argues for ambidexterity, which focuses on a firm's ability to both explore and exploit simultaneously. (O'Reilly & Tushman 2008.) A theme of interest in the research of organizational adaptation has also been between incremental and radical organizational change (Benner & Tushman 2003). From a strategic perspective and in terms of long-term financial success, it is equally important for an organization to possess capabilities and competencies to compete in existing markets as well as having the ability to recombine and reconfigure assets and organizational structures to adapt in uncertain situations of new markets and technologies. The idea of ambidexterity challenges the assumption that innovation and efficiency automatically require trade-offs where one activity must be done while sacrificing success in the other. (O'Reilly & Tushman 2008.)

He & Wong (2004) found that a balanced representation of exploration and exploitation approaches has a positive relation to firm financial performance while a relative imbalance has a negative relation. Their results indicate that there is a clear need to allocate resources between explorative versus exploitative innovation. This is in line with Pisano's (2015) argument pertaining to the importance of organizations having a separate innovation strategy, a key component of which is resource allocation among different types of innovative activities. In fact, according to Teece (2007; 2018) efficient resource allocation is considered to be one of the most important dynamic capabilities of organizations. He further argues that dynamic capabilities directly affect an organization's ability to create and adapt business models. The concept of business models is deeply connected with innovation, as the economic value of a new idea, a process or a technology can only be realized through commercialization by having its value captured through a business model (Chesbrough 2010). Consequently, the firm's business model will thus determine whether an organization's efforts to explore or exploit, to innovate new technologies, products or business models, are successful and if

competitive advantage is created. Dynamic capabilities have been found to be at the center of the organization's ability to develop ambidextrousness, to explore and to exploit, to compete by allocating resources to both technological and business model innovation (O'Reilly & Tushman 2008). Moreover, research has identified a specific dynamic capability called absorptive capacity, which highlights organizational learning capability in a firm's attempt to assimilate and implement new technologies, practices and processes (Tu, Vonderembse, Ragu-Nathan & Sharkey 2006). The challenge of this thesis is to attempt forming a synthesis between literature on several subjects relevant in studying adaptive organizations and the empirical section, where an organization's absorptive capacity and attitudes toward agile methods and techniques were studied.

The theoretical framework of this thesis studies how the enterprise agile framework relates to existing literature on adaptive organizations. The goal is to further understand why it is an attractive mode of operation for many large organizations in various industries. First, enterprise agile is introduced in a way relevant to the empirical part of the thesis. Connections to existing theory of adaptive organizations are sought after. Innovation in general is the first topic after agile followed by innovation strategies. Next, innovation is divided between business model innovation and technological innovation. A comprehensive perspective is adopted that considers the interconnections between dynamic capabilities, business models and strategy. The concept of absorptive capacity is identified as a dynamic capability with the potential to affect the adoption of agile. Finally, enterprise agile will be reflected against the concept of dynamic capabilities.

2.1. The agile framework

In 2001, seventeen rebellious software developers met to share ideas for improving traditional 'waterfall' or 'stage-gate' development (Rigby, Sutherland & Takeuchi 2016). Their efforts were introduced as a set of iterative and incremental methods for software engineering, based on an 'agile philosophy' and captured in four core values in the Agile Manifesto (Fowler & Highsmith 2001). Furr & Dyer (2014: 10) list several other major disciplines that have developed their own answers for dealing with market uncertainty

over the last several decades, examples including engineering (design thinking), physics (active learning), the military (adaptive army) and entrepreneurship (the lean startup). Indeed, the process of innovation has developed in parallel to market conditions, from traditional models to agile and iterative processes (Mills, Berthon & Pitt 2020). These frameworks and variations of them can be characterized as human-centered innovation methods (Distel 2019). Instead of building isolated agile teams, units or functions, the premise of building entire agile enterprises with exceptional adaptability to uncertainty is gaining more popularity across functions and industries. Moreover, popularity is growing among organizations ranging from small and medium-sized enterprises to multinational organizations of thousands of employees. (Cappelli & Tavis 2018; Rigby et al. 2018; Rigby et al. 2016)

A radical alternative to the traditional command-and-control style of management, agile involves new values, principles, practices and benefits (Rigby et al. 2016). This characterization is important when distinguishing scaling agile and enterprise agile. In literature descriptions of 'transformations' and 'scaling up' are often used synonymously and ambiguously. Transformations refer to a more comprehensive, all-encompassing change whereas scaling up mostly refers to a scattered use of increasing numbers of agile teams. (Dikert et al. 2016). The theory on enterprise agile, referring to the first description, is largely underdeveloped. In this thesis, enterprise agile is considered to be a comprehensive implementation of agile values, principles, techniques, structure, roles and methods because by definition, enterprise agile includes incorporating agile values across the entire spectrum of organizational activities.

According to Cunningham (2016), an agile enterprise values individuals and interactions, working software, responsiveness to change and customer collaboration. Based on these values, agile teams are tailored for superior performance in turbulent environments through their adaptability and customer orientation. Empirical results, especially from the areas of software development (Dikert et al. 2016), project management (Serrador & Pinto 2015) and supply chain management (Sherehiy, Karwowski & Layer 2007) support several benefits of agile. Documented benefits include increased team productivity, employee satisfaction, minimizing waste inherently associated with redundant meetings,

repetitive planning, unnecessary and ineffective documentation and quality defects (Rigby et al. 2016). Because of these potential benefits, many companies are understandably enthusiastic about the prospect of building entrepreneurial agile teams and incorporating agile throughout the organization. Adopting agile at scale also means transforming strategy work from long-term planning to a continuous process, which can be challenging. This, however, is not the only challenge of implementing agile throughout the organization. (Rigby et al. 2018.) A solution proposed by both scholars and practitioners is that each organization seeks their own balance of agile and more traditional functions and units. In other words, each agile enterprise should be built based on the organization's particular needs.

Comparably to the concepts of dynamic capabilities, organizational ambidexterity and absorptive capacity, agile is another framework designed to combat unpredictable and constantly changing environments (Ghezzi & Cavallo 2020; Kettunen et al. 2019; Roberts & Grover 2012). Conceptually, organizational agility as an attribute of enterprise agile is a dynamic capability, as it enables the firm to respond to uncertainty (Tavani, Sharifi & Ismail 2013; Roberts & Grover 2012). However, the perspective as a whole is different because the agile framework doesn't simply explain interconnections and correlations between processes, structures, skills and asset allocation. Instead, the framework is more practical by proposing concrete working methods, techniques and methodologies, organizational roles and architectures or systems that are based on agile principles and values. Teams are built to be multidisciplinary, customer-focused and self-managed. (Ghezzi & Cavallo 2020; Rigby et al. 2018; Rigby et al. 2016.) Most popular agile methodologies include e.g. Scrum, lean startup approaches and Kanban. Most popular agile techniques include e.g. the daily standup, sprints, retrospectives and short iterations. Several can be used comprehensively in varying environments, and some are mostly suitable for software development. (VersionOne Inc 2016.)

An agile organizational structure often consists of *tribes*, *squads* and *chapters*. While the value of such names is debatable, they are often used in descriptions of the enterprise agile operational model. A tribe contains up to 150 people and consists of several crossfunctional squads of nine people or less. One tribe usually focuses on the same domain

such as sales or customer service, a financial services organization's tribe might focus on mortgages or banking for SMEs. Chapters consist of members from different squads and their function is to develop expertise, share knowledge and communicate across squads. This structure is supported through specialized roles, where some are hybrid, i.e. the person with the role spends their working time divided among two roles. (Barton et al. 2018.) Figure 9 illustrates a version of a general agile talent structure.

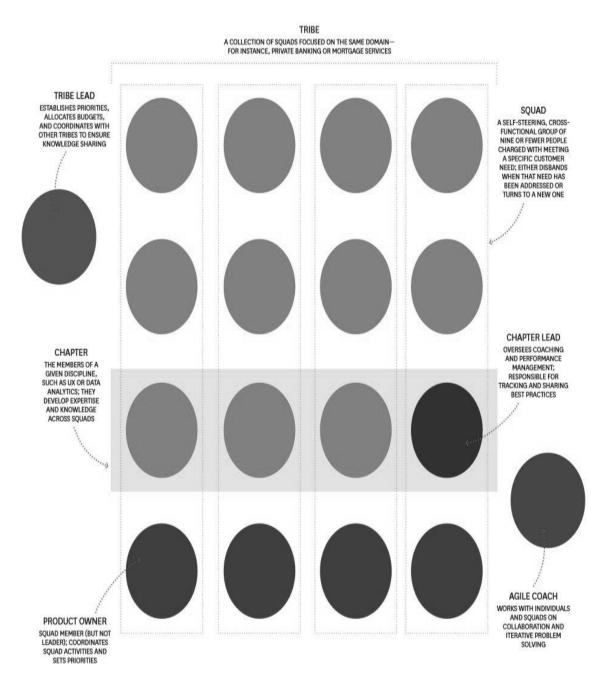


Figure 1. Agile talent structure of tribes, squads and chapters (Barton et al. 2018).

The tribe lead is the bona fide business manager of the unit, bearing the main responsibility for prioritization of work, allocation of funds and other resources, and ensuring internal communication within the tribe and external communication among tribes. Product owner and chapter lead are hybrid roles, where the former coordinates the squad's workload and the latter works as a sort of coach for members of a chapter, which includes professionals from one discipline, e.g. data analysts. In an important position, especially at the beginning of an organization's agile journey, are the agile coaches. Typically, a tribe includes one or two agile coaches who help squads and individuals look at the bigger picture and identify opportunities for agile practices. A tribe-level agile coach is also responsible for the agile training of the tribe lead and other managers, highlighting the importance of the role and that the framework needs to be used and strongly supported by management as well. As with most things related to agile, the organizational structure is an illustrated example of what organizations that have successfully made the transformation have used. (Barton et al. 2018.) This illustration is especially relevant for this thesis, as the case company introduced in the empirical section has employed a version of this exact operational architecture model.

As stated before, agile was first designed for the use of small teams in software development and single projects. Concurrently, as organizations need to build their own version of agile, one that fits their specific challenges and objectives, can make the implementation of agile more complex than commonly expected (Ghezzi & Cavallo 2020). One of the other main difficulties for adopting agile at scale is the organization of inter-team and inter-function coordination (Dikert et al. 2016). Moreover, compatibilities and analogous incompatibilities between agile methods and organizational culture have been recognized as an explanation for difficulties to the implementation of agile (Iivari & Iivari 2011). Cross-functional integration supports absorptive capacity, which has been linked with innovation performance (Yang & Tsai 2019; Liao, Wu, Hu & Tsui 2010; Lichtenthaler 2009; Lane, Koka & Pathak 2006). Furthermore, cross-functional teams are found to be crucial to support open innovation practices (Huston & Sakkab 2006). The structure of Figure 1, as well as agile working methods used for reviewing progress and identifying obstructions to it, such as the daily standup and a bi-weekly (or similar)

retrospective, support cross-functional integration, actively mitigating potential shortcomings stemming from organizational culture and internal communication. The structure also helps resolve one of the most common other issues organizations face when embracing an agile transformation: an agile approach needs to be taken for becoming agile. The roles, especially those of tribe lead and agile coach, support agile management of the change itself. (Cappelli & Tavis 2018.) Additionally, the objective of a strategy is to enhance alignment among different organizational units and groups, clarify intentions and priorities, and help focus work activities around them (Pisano 2015). In enterprise agile, a continuous strategy process is preferred and supported through these rituals, methods and techniques, such as quarterly business reviews, that allow for continuous strategic redirections of varying magnitudes (Rigby et al. 2018). Thus, adopting agile as a dominant mode of operation can significantly help organizations concretize and integrate their general and innovation strategies.

According to the agile manifesto (Fowler & Highsmith 2001), responding to change is valued more than following a plan, supported by several agile principles, techniques and roles. Agile working methods and techniques are designed to support work prioritization, and the agile organizational structure supports the employment of these methods and techniques. Teece (2018) notes that business models are seldom successful "out of the box" and require frequent fine-tuning and sometimes complete overhauls and posits that a lean startup approach can be useful to business model innovators. This thesis follows the example of Ghezzi & Cavallo (2020), who group Ries' (2011) Lean Startup and Blank's (2013) Customer Development under the title of Lean Startup Approaches (LSA). Teece's argument is congruent with Blank (2013), who argues that despite the link between LSA and agile development methods being potentially intuitive, the link is seldom elaborated on further. Furthermore, Ghezzi & Cavallo (2020) argue, that while there appears to be a further explicit link between the iterative process of business model innovation (BMI) and the mechanisms of LSA, this relationship is seldom recognized within BMI literature either. A potential explanation is that BMI literature is experiencing paradigmatic issues (Foss & Saebi 2018; Zott, Amit & Massa 2011) and the research stream lacks homogeneity and clarity (Johnson, Christensen & Kagermann 2008). As a theoretical antecedent, Ries (2011) and Blank (2013) identify LSA within the 'lean

philosophy', its first applications having occurred in the world of manufacturing. The model itself is a great example of BMI without technology development. It first saw daylight in the 1970s when lean principles were developed by Toyota in Japan, with the intent of optimizing production processes through a concept called the Toyota Production System, scientifically popularized as lean manufacturing. Since Toyota's original concept, lean principles have been developed and transferred to several non-manufacturing contexts. (Mueller & Thoring 2012.) Accordingly, Ghezzi & Cavallo (2020) argue that LSAs can be understood as agile development methods and can be applied diversely to products, services, value propositions and entire business models.

The LSA is defined as a model of entrepreneurial management that emphasizes continuous creation of customer value, viewing other activities as wasteful until a product-market fit is identified (York & Danes 2014; Blank 2013). Similar to design thinking, the approach is strongly user-centred and is often considered to be embedded in the research stream of user-driven innovation (Baldassarre, Calabretta, Bocken & Jaskiewicz 2017). It favours experimentation over detailed planning, customer feedback over intuition and iterative design over the traditional development of broad and intricate designs right away. LSA combats conventional wisdom of business plans that assume the possibility of figuring out a majority of the uncertainties of a business in advance, before executing a new idea. The traditional models predicated upon similar assumptions can be grouped under stage-gate models of innovation (Mills et al. 2020). Additionally, despite the lean startup approach's name, large organizations embracing it may be the ones that stand to benefit most from it (Teece 2018; Blank 2013; Ries 2011). Furthermore, to support this, evidence on successful BMI relates mainly to large organizations (Amit & Zott 2012; Johnson et al. 2008; Chesbrough 2007). The approach can help organizations create evolving systems and teams that improve continuously without strong top down directions in a highly relevant way, since the focus will be on customer value and reducing wasteful activities (Masai, Parrend & Zanni-Merk 2015). This is also in line with the agile manifesto's core values (Fowler & Highsmith 2001).

LSA is a scientific, hypothesis-driven approach where ideas are translated into falsifiable hypotheses, which are tested through minimum viable products (Ghezzi & Cavallo 2020).

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In practice, the method is based on an iterative process loop of three steps - build, measure and learn. The first step, build, includes creating a minimum viable product (MVP): A simple prototype, for which the goal is to be tested with (potential) customers as soon, as quickly and as cheaply as possible. Measuring involves using relevant metrics to evaluate feedback about the MVP. The final step in the loop, learn, refers to the collection of information from the previous step and applying it into further design of the MVP itself to start a new development cycle. (Ries 2011; Ries 2017; Blank 2013.) Based on the results of an iteration, the developers can: (1) persevere, pending confirmation of the hypotheses, (2) modify or pivot to a revised idea, or (3) perish, thus 'kill' the idea and begin the process again (Ghezzi & Cavallo 2020; Blank 2013; Ries 2011). An illustration of the method is presented in Figure 10.

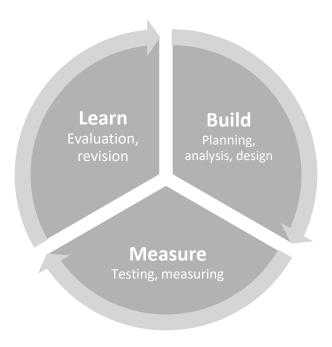


Figure 2. Build, measure, learn -cycle (adapted from Blank 2013).

The company using the tool can decide what to prototype, so the MVP can be a product, a service, a value proposition or the entire BM (Ghezzi & Cavallo 2020). The model is also simple to use and very engaging to both internal and external stakeholders, depending on who are involved in the development process. Moreover, using the method relates to open innovation, i.e. the use of external stakeholders in the innovation process, which has

a logical confluence with business models as both generally emphasize the role of the customer in innovation (Zott et al. 2011). This process further supports West & Bogers' (2014) process model for leveraging various external sources of information, as it supports the integration of information into the firm's R&D and potentially other functions. Thus, the LSA also directly affects both potential and realized absorptive capacity (Zahra & George 2002) and highlights the complementarity of the two dimensions (Volberda et al. 2010). In the words of Ghezzi & Cavallo (2020), "LSAs are agile methods for business model innovation." Mills et al. (2020) take a broader view and argue that as the subjects of innovation have moved from material-intensive toward information-intensive outputs, and the innovation processes have evolved from staged and gated into agile, iterative and cyclical. This is also why the core premise is now the introduction of more people and more flexibility in the innovation process. However, Mills et al. still acknowledge that even for the development of information-intensive offerings, traditional, agile and hybrid models combining the two are all viable approaches to innovation and highlight managers' need to understand the nuances of each particular model vis-á-vis the particular situation of the organization.

2.2. Innovation

Adopting agile as the dominant mode of operation imposes several requirements on organizations looking to do so. The goal is to build an adaptable, ambidextrous organization that has the ability to readjust and accommodate quickly to changing market conditions. Ambidextrousness, adaptability and agile are all closely related to innovation. Moreover, agile teams are best suited to innovation (Rigby et al. 2018), which is why it is first important to understand how innovation is defined in this thesis. Several definitions from literature are presented in Table 1.

Table 1. Definitions for the term 'innovation'.

Author	Definitions for innovation
Garcia & Calantone (2002)	"The generation and/or acceptance of ideas,
	processes, products, or services that the relevant
	adopting unit perceives as new"
Rigby, Sutherland & Noble	"The profitable application of creativity to improve
(2018)	products and services, processes, or business models"
Johnson (2010)	"The creation, diffusion, and adoption of good ideas"
Downs & Mohr (1979: 385)	"The earliness or extent of use by a given organization
	of a given new idea, where 'new' means only new to
	the adopting agent, and not necessarily to the world
	in general"
OECD (1991)	"'Innovation' is an iterative process initiated by the
	perception of a new market and/or new service
	opportunity for a technology-based invention which
	leads to development, production, and marketing
	tasks striving for the commercial success of the
	invention"
UK Department of Trade and	"The successful exploitation of new ideas"
Industry (1998)	

As illustrated above, definitions for innovation can be infamously diverse and even ambiguous. Innovation can encompass the creation of new technologies or business models, a new organizational process, a new division of tasks within the organization, the identification of a new business opportunity, the creative process of coming up with a new idea or a number of other things. Moreover, innovations can be incremental (continuous) or breakthrough (discontinuous) where the former refers to minor changes, simple improvements and minimal advancements to the existing situation. The former, in contrast, refers to novel, unique or state-of-the-art and significant advancements to the

current situation. (Zhou, Yim & Tse 2005.) The one thing all definitions for innovation have in common is that they all include the concept of 'new', i.e. change to some element of what has been done previously. Innovation needs to be understood with varied meanings as innovation needs to be understood differently in different organizational contexts. Furthermore, the point of enterprise agile is to adopt agile values and principles at all elements of the business. Consequently, a broad definition is most befitting for this thesis. This is useful as agile is about encouraging the continual alignment, synchronization and collaboration of all business functions (Cunningham 2016) for the continuous development of competitive advantage. Therefore, perhaps the most suitable definition comes from the UK Department of Trade and Industry, who define innovation as 'the successful exploitation of new ideas'. (Adams, Bessant & Phelps 2006.)

Furthermore, innovation is often differentiated from invention by the attached condition of successful introduction to market (Boons & Lüdeke-Freund 2013). What is defined as 'new', however, can also vary. The idea originating innovation does not have to be new to everyone and every company, which dismisses the requirement for creating, diffusing and adopting a particular idea within a certain timeframe. Innovation does not have to be a new technology or something else completely new either – it can be a new way of doing things or it can be about spreading and adopting new ideas. Thus, while innovation is about the development of completely new technologies and services, it is also about the development of management and work processes. (Knutsson & Thomasson 2014.) Ideally, an agile enterprise excels at these different types of innovation and is thus able to ambidextrously create and sustain competitive advantage. While agile teams are best suited to innovation, they are also suited, for example, for any situation where problems are complex, solutions are not clear or simple, requirements are subject to change and collaboration with end users is feasible. However, if agile units are limited and suppressed by bureaucratic procedures or a lack of internal collaboration, poor results are likely. Changes are thus necessary to ensure coherent work procedures between the functions that don't operate as agile teams so that support is guaranteed for those that do. (Rigby et al. 2018.) This is why enterprise agile is more about agile principles and values that allow the involvement of all aspects of the business and support enterprise-wide implementation even in complex organizations comprised of 'systems of systems' (Cunningham 2016).

As argued before, to further understand the attributes and capabilities required for building agile enterprises, it is first important to identify what current literature considers to be the building blocks of innovative organizations. The following chapters will examine different meanings and types of innovation, their connection to firm performance, study the role of innovation strategies and then move toward examining different capabilities of innovative organizations through the concepts of dynamic capabilities and the interconnected absorptive capacity.

2.2.1. The innovative organization

Foundations for sustainable enterprise success transcend success at one type of innovation. A key-defining aspect of innovation in business is how to use an idea profitably, which is why organizations must simultaneously invest in R&D and create and implement complementary and supporting organizational and managerial innovations. (Teece 2007.) Strategically, companies have an important choice to make about how much to invest in each type of innovation. Technological innovation is unquestionably an effective creator of economic value and competitive advantage but as stated above, some innovations have little to do with novel technology. Equally important is the art of business model innovation (BMI), through which companies such as Netflix, Amazon, LinkedIn and Uber have found tremendous success (Pisano 2015). A precursor for agile methods, the lean production system developed by Toyota in the 1970s is another example of BMI (Mueller & Thoring 2012). Indeed, the business model itself can become a source of competitive advantage. However, business models are fundamentally linked with technology and can be seen as a means for creating, delivering and capturing value through sustainable innovations. The positive effects of technological innovation are often easily observed which can distract focus from questions of how business models change in the wake of innovation. Simultaneously, management theory creates a requirement for increased precision regarding the means by which business models and changes in them facilitate and cultivate innovation. (Baden-Fuller & Haefliger 2013.)

Business model innovation usually fits with an organization's existing customer base and can enable companies to fuel growth and maintain profits for decades, which makes it an important subject in the study of innovation. Because a sizable portion of profits are created through innovation within a company's existing business model and technologies, it is important to consider business model and technological innovation as complementary rather than substitutes to each other. It is typically and often erroneously assumed that a substantially improved product or service will automatically lead to increased profits for the innovator either instantly, or by the very least, over time. This, however, ignores the severe difficulties companies face when attempting to understand the interdependencies between their choice of business model and technology effectiveness. (Baden-Fuller & Haefliger 2013.) For example, a service product typically includes interaction with customers as an integral part of the offering. Service innovation can therefore be multifaceted as services may also be influenced by innovation in the core service product, which in turn can be related to technology, e.g. there is a complementary relationship between personal banking services and a new mobile banking application. Changes in any part of the service product often require developments in other aspects as well. (Oke 2007.) The interconnectedness of business models and technology can be further understood through a simple fact: technology by itself has no objective value. The economic value is only realized when the technology is commercialized, and its value captured via a business model. (Chesbrough 2010.) Consequently, the choice of business model will inevitably affect the level of success a firm can draw from technological and product innovations and thus determine whether any competitive advantage is created through innovative activities.

According to traditional economic theory, a product sells if its utility to the customer is greater than the price of the product or service. These models are based on a caricature world of equilibrium and perfect competition. Opposed to traditional economic theory is the Penrosian way of thinking, which adopts a notion of 'permanent disequilibrium' where change is envisaged as a continuous process (Demil & Lecocq 2010). Accordingly, organizations must be prepared for the reality of innovation-based competition. (Teece 2010.) Baden-Fuller and Haefliger (2013) note that strategy scholars have underplayed the role of business models when attempting to establish a link between technology

innovation and competitive advantage. The importance of this vein of study is evident, as a poor choice in business model can lead to low profits and a good choice to superior profits, regardless of the quality of the product or service. In fact, there are several ways innovation affects a firm's financial performance. Figure 1 depicts a simple conceptual framework by Evangelista & Vezzani (2010) that elucidates some of the ways in which different types of innovation are linked to firm performance.

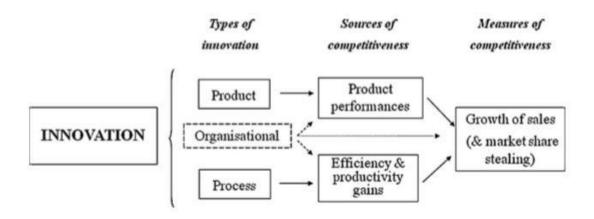


Figure 3. Innovation-performance linkages (Evangelista & Vezzani 2010).

Moreover, Oke (2007) finds that radical product and service innovation as well as incremental product and service innovation are all significantly related to innovation performance. Furthermore, to support this, Evangelista & Vezzani (2010) found that organizations embracing a complex mode of innovative activities encompassing technological, non-technological, process, product and organizational innovations is by far the most economically effective way to approach innovation. However, when adopting a complex approach to innovation, organizations are also required to be considerably more systematic about it. In other words, achieving competitive advantage and superior financial performance requires a complex and systematic approach to innovation. For an organization to orchestrate a system for synthesizing the required processes, structures, talent and behaviours for creating a complex capacity to innovate, an innovation strategy is required (Pisano 2015).

2.2.2. Innovation strategies

A considerable amount of literature supports the notion that competitive success for organizations is dependent on the management of their innovation process (Evangelista & Vezzani 2010; Adams, Bessant & Phelps 2006). However, in fast-moving business environments an innovation can only lead to competitive advantage for a point in time (Teece 2007). Much of the literature on business performance considers an optimal alignment between organizational strategy and business environment to be such that when environmental conditions evolve, the firm needs to respond by adjusting to a point where strategic fit is re-established. Such a principle of determinism does not fit innovative organizations. Instead of being reactive when responding to environmental circumstances, innovative organizations use their resources and capabilities to be proactive through innovative activities. (Morgan & Berthon 2008.) Consequently, a level of proactiveness and sustainability is essential in innovation management, especially when the goal is to effectively compete in innovation-based market conditions. Innovative activities must be consistent with the organization's wider strategy, which implies that management need to build conscious goals regarding innovation. An innovation strategy is called for. (Adams et al. 2006.)

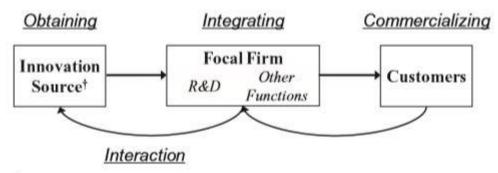
In its simplest form, a strategy could be described as a semi-formal commitment to a number of mutually reinforcing policies or behaviours aimed towards achieving organizational goals. The objective of a strategy is to enhance alignment among different organizational units and groups, clarify intentions and priorities, and help focus work activities around them. (Pisano 2015.) Adapting this definition, an innovation strategy can be described as a number of mutually reinforcing policies or behaviours aimed towards achieving a systematic approach for creating and cultivating new ideas and processes. Oke (2007) finds a direct link to innovation performance when the pursuit of different types of innovation have been defined in an organization's innovation strategy. Irrespective of the type of strategy, innovation strategies are primarily adopted to strengthen business performance or to mediate the effects of changing environmental circumstances (Morgan & Berthon 2008). A further justification for creating an innovation strategy can be identified: Instead of reducing the possible performance gap

caused by environmental changes, organizations can actually leverage innovation to increase performance despite the inherent uncertainty of global markets.

Existing research also emphasizes the roles of an organization's wider strategy and its business model in capturing value from different types of innovations (Cassiman & Veugelers 2006; Chesbrough 2010; Teece 2010; Osterwalder & Pigneur 2010; Zott et al. 2011; Baden-Fuller & Haefliger 2013; Boons & Lüdeke-Freund 2013; Osterwalder, Pigneur, Bernarda & Smith 2014; Pisano 2015; Edison et al. 2018). Assuming a simple relationship between technology development and firm performance disregards the moderating influence of business model choice. A business model determines the paths to the monetization of ideas and thus largely influences the level of complementarity with an organization's innovative activities. (Baden-Fuller & Haefliger 2013.) Another expanding stream of literature juxtaposes traditional closed innovation strategies with harnessing collective creativity through what is called open innovation, originated by Chesbrough's 2003 book. Traditional views on business strategy are based upon ownership and control of resources and capabilities and focus within the firm, or within the value chain of the firm. While the uncertainties of the environment are acknowledged in many traditional research directions, few consider the potential value of external resources that are not directly owned by the organization in question. (Chesbrough & Appleyard 2007.) Open innovation is about accessing these external sources of knowledge and information through collaboration with individuals, companies and other organizations who possess relevant knowledge that may be utilized in the context of the company's innovation process (Saebi & Foss 2015). In reality, most companies did not follow a fully closed innovation approach to begin with, making the transfer to open innovation more of an evolution instead of a revolution. Developments that lead to the evolution of the innovation model include social and economic changes in working patterns, increased labour division because of globalization, improved market institutions for trading ideas, and the rise of new technologies which support collaboration across geographical distances. While the transition to an open innovation paradigm is relatively recent, trends such as outsourcing, agility and organizational flexibility and the management theories that support them had already pressured organizations to reconsider their strategies and processes in other areas. Open innovation became the umbrella to

connect and integrate a body of already existing activities and enabled practitioners and scholars to rethink the design of innovation strategies in a globalized, networked world. (Huizingh 2011.)

Open innovation, like innovation in general, comes in many forms. To understand value creation and capture in the context of open innovation, West & Bogers (2014) studied 291 publications and created an integrative model (Figure 2) on how to profit from external innovation.



[†]Sources may include suppliers, rivals, complementors, and customers.

Figure 4. Process model for leveraging external sources of innovation (West & Bogers 2014).

The figure illustrates that identifying and acquiring ideas and knowledge from external sources is only half the battle: In order for companies to derive profits from them, the innovations must be integrated into the firm's R&D and other functions. Moreover, a compatible organizational culture is needed as well as a suitable level of technical capability to assimilate the information and ideas acquired from external sources. While the model is limited, it does highlight three major steps organizations who have successfully captured value from open innovation most often identify. The first step, obtaining innovations from external sources includes the searching, enabling, incentivizing and contracting of information and knowledge from external sources. The second step, integrating innovations, is a crucial one. According to Cassiman & Veugelers (2006), companies successful at innovation developed better internal and external communication networks, enabling a more efficient utilization of external knowledge. Their study is consistent with other research identifying the existence of

complementarity between internal and external innovation activities (West & Bogers 2014). The third step, *commercializing innovations* is directly linked to the company's general strategy of capturing value and thus intimately linked to the company's business model (Chesbrough & Appleyard 2007; West, Salter, Vanhaverbeke & Chesbrough 2014). Additionally, according to Saebi & Foss (2015), to effectively exploit the potential benefits of open innovation, companies need to employ diverse organizational and managerial practices, such as intensive lateral and vertical communication and crossfunctional collaboration between departments. Thus, despite illustrating the heterogeneity of open innovation practices, research on open innovation alone leaves major gaps on *how* such innovation is integrated and ultimately commercialized (West & Bogers 2014). A broader theoretical framework is called for, which is why open innovation is so directly linked with the concept of business models (Chesbrough & Appleyard 2007).

There is a logical confluence between open innovation and business model research: both generally emphasize the role of the customer in innovation, which is less pronounced elsewhere in strategy literature (Zott, Amit & Massa 2011). Saebi & Foss (2015) argue that pursuing open innovation is likely to affect business model design in three ways: With respect to (1) the *content*, i.e. the essential activities of the company, (2) the structure, i.e. the organizational units and functions involved in the innovation process and the way these units work together, and (3) governance, i.e. the mechanisms and managerial practices for controlling the organizational units and the linkages between them. They created a contingency framework for open business models for different type of innovation strategies that highlights the importance of aligning internal organizational aspects with the company's business model to accommodate open innovation. Simultaneously they argue that the choice of open innovation strategy directly affects the choice of business model and the extent of required business model reconfiguration. Their perspective is in line with Zott et al. (2011), who note that the business model encompasses the system of economic and non-economic transactions with external parties and outlines the elemental details of the firm's value proposition for its various stakeholders as well as the activity system used for value creation and value capture. However, West & Bogers' (2014) review found that current research is somewhat lacking on value capture from external sources of information and knowledge.

As established, the management of the innovation process includes internal R&D and external knowledge acquisition. The ability to combine these activities can be a critical source of competitive advantage (Cassiman & Veugelers 2006). The concept of open innovation is thus integral for innovation management theories and adds a further layer of understanding to the innovation process (West et al. 2014). However, studies have only recently begun to empirically address how companies need to redesign their business models so as to allow the successful utilization of co-creation of open innovation. For example, allowing external sources of knowledge to participate effectively in the organization's innovation process, complementary development of internal structures that facilitate assessing and integrating the acquired knowledge is required. Consequently, establishing business units capable of open innovation (Kirschbaum 2005) and crossfunctional teams (Huston & Sakkab 2006) are found to be crucial to support open innovation practices. Accordingly, Chesbrough & Bogers (2014) have extended the original definition for open innovation to accommodate the more recent developments in the research stream: "We define open innovation as a distributed innovation process based on purposively managed knowledge flows across organizational boundaries, using pecuniary and non-pecuniary mechanisms in line with the organization's business model."

Two different approaches to the concept of business model (BM) can be identified. First, the *static approach* emphasizes the word 'model' and thus highlights the coherence between the components of the BM. Second is the *transformational approach* where the BM is viewed as a concept or a tool that addresses change and focuses on innovation, either in the organization or in the model itself. The static view allows us to build categorizations and study the BM's relationship with performance whereas the transformational view deals with the managerial questions of how to change the BM itself. (Demil & Lecocq 2010.) In other words, the latter view consists of the process of BM evolution, i.e. business model innovation (BMI). Furthermore, business model research in general is also largely characterized by two complementary ideas. The first is that organizations commercialize innovative ideas and technologies through their business models. The second is that the business model itself is a subject for innovation,

which complements and combines the traditional subjects of product, process and organizational innovation. Moreover, the aspect of cooperation and collaboration is included in the BM concept. (Zott et al. 2011). While some critics view the concepts of BM and BMI to be no more than a repackaging of well-understood strategy insights, Foss & Saebi (2018) disagree and submit that the concepts are gaining popularity and are phenomena still in the search process of cumulative theory and on their way to becoming more paradigmatic.

Business model innovation is important to academics, entrepreneurs and managers alike for a variety of reasons. First, the construct represents an often underutilized source of future value. Second, imitating or replicating an entire novel activity system encompassing an innovative BM and an innovative product is more difficult for competitors to imitate, replicate or replace than a lone novel product or process. Thus, innovation at the level of the business model has the potential of translating into a sustainable performance advantage. (Amit & Zott 2012.) Strategically, the complex and multifaceted interplay between innovation and business model elements requires creativity from managers (Baden-Fuller & Haefliger 2013). Such ability emerges from diverse strategic choices on managing different types of organizational activities (Achtenhagen, Melin & Naldi 2013). A pivotal decision companies have to make is how to focus their efforts between technological innovation and business model innovation. Pisano's (2015) innovation landscape map (Figure 3) helps organizations determine how a potential innovation fits with their existing technical capabilities and business model. Despite these dimensions existing on a continuum, thinking of them as four separate categories of innovation helps managers focus efforts and resources based on the type of the potential innovation.

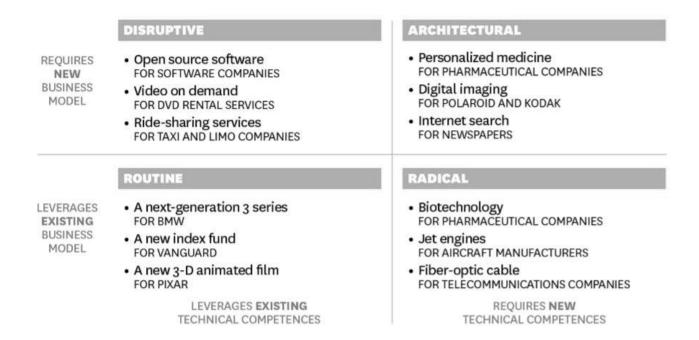


Figure 5. The innovation landscape map (Pisano 2015).

Pisano's matrix is especially helpful considering that a company's business model or a potential innovation cannot be assessed in the abstract because their suitability needs to be determined against internal and external environments and contexts (Teece 2010). Pisano's (2015) four types of innovation and the examples included in Figure 3 elucidate points made earlier in the thesis: First, from the perspective of leveraging an existing business model, routine innovation and radical technological innovation can both be drivers of innovation performance (Oke 2007). As an example, a car manufacturer can sustain profits for quite some time with existing technologies and routinely updating the features and design of different models. However, over an extended period of time, innovations often originating outside the industry pressure car manufacturers to include new technologies such as intelligent car computer systems or hybrid powered engines. Despite these radical technological changes, the business model has remained mostly untouched. Second, from the perspective of requiring a new business model, disruptive and architectural innovations show that even with a great technological innovation, success is not guaranteed without a fitting business model (Chesbrough & Rosenbloom 2002). Third, business model innovation alone can lead to phenomenal commercial success (Pisano 2015), illustrated by companies such as Uber, Netflix and Amazon.

Another example is the development of the lean production system by Toyota in the 1970s (Mueler & Thoring 2012). Fourth, these examples further show that incremental and radical innovations are in fact complementary rather than substitutes (Evangelista & Vezzani 2010; Morgan & Berthon 2008; Oke 2007). Moreover, besides embedding technology in well-designed and enticing products and services, a unique and suitable business model needs to be built to realize the innovation's commercial potential (Zott et al. 2011). To understand more about how to protect existing revenue streams and simultaneously facilitate innovation, BMI and technological innovation will be examined separately.

2.2.3. Business model innovation

Fundamentally, the BM and BMI constructs examine the architecture of the organization's value creation, delivery and capture mechanisms (Bocken, Short, Rana & Evans 2013). Theoretically the main focus of BMs is the complementarity between the underlying activities of these mechanisms. BMI considers novel changes of these complementary relations. (Foss & Saebi 2018; Teece 2010.) Spieth, Schneckenberg & Ricart (2014) suggest a categorization of three major motivations for engaging in BM research: (1) explaining the business, (2) running the business and (3) developing the business. Another characterization based on the Penrosian view of the firm describes the business model as the "(1) content, (2) structure, and (3) governance of transactions within the company and between the company and its external partners that support the company in the creation, delivery and capture of value" (Saebi & Foss 2015). Business models build a conceptualization of an organization, the three key aspects of which are value creation, delivery and capture. Moreover, the BM provides a path by which a selection of technologies and the operation of tangible and intangible assets are utilized to create a stream of profits (Teece 2018). These paths are only tacitly understood (Teece 2010), which is why scholars and practitioners are using different conceptualizations of business models to make these paths more explicit. Making the paths and their interdependencies and interconnections more explicit aids BMI through the discovery of previously undetected opportunities. (Joyce & Paquin 2016.)

Building on the organizational perspective, Amit & Zott (2012) suggest that BMI can occur in three categorical ways, by (1) adding novel activities (content), (2) linking activities in novel ways (*structure*) or by (3) changing one or more parties performing the activities (governance). Moreover, they identify four significant intertwined value drivers of business models. (1) Novelty communicates the degree or intensity of the BMI that is embodied by the activity system. (2) Lock-in considers BM activities that increase the likelihood of the participant of the activity system to remain by creating either costs to switching or incentivising participants to stay. Gaming console systems are a great example, as today they embody both perspectives: switching is expensive because games cannot be played on other systems, and players are encouraged to stick to one platform through multiple incentives ranging from reduced prices when purchasing game-time for several instead of singular months to point systems signifying different accomplishments in different games. The example of game consoles and their accompanying software ecosystems is also applicable to (3) Complementarities, which refer to the valueenhancing effects of interdependencies among business model activities. Another example is a well-designed mobile banking application for companies, which is makes switching banks less tempting. Finally, (4) Efficiency is about reduced costs through interconnections in the activity system. The bonus-system of Finnish cooperatives (e.g. S-Group and OP Financial Group) is a great example of an efficiency embedded in an activity system. Amit & Zott's (2012) approach focuses on the overall design of the activity system, which helps managers gain a holistic perspective and apply a measure of systematic and strategic thinking when considering innovative activities within the organization.

Another perspective is suggested by Osterwalder & Pigneur (2010), who consider the business model as a strategic blueprint to be implemented through organizational structures, processes and systems. More specifically, they describe the business model as a series of elements, based on Osterwalder's earlier work, that together form the business model canvas, a BM development and BMI tool they developed together. These elements are the *value proposition* (i.e. product/service offering, customer segments and customer relationships), activities, resources, partners, distribution channels (i.e. *value creation and*

delivery), and cost structure and revenue model (i.e. *value capture*). A view condensed in a similar trifecta concerning value is also adopted by Boons, Montalvo, Quist & Wagner (2012) and Schön (2012). This framework is visualized in Figure 4.

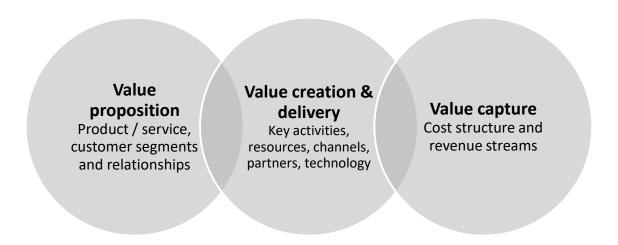


Figure 6. Conceptual business model framework. Adapted from Bocken et al. (2014); Boons et al. (2013); Schön (2012); Osterwalder & Pigneur (2010).

According to Johnson et al. (2008), it is common that companies do not understand their BMs well enough. When clearly understood, insight can be gained towards understanding the BM's strengths and weaknesses and natural interdependencies. Osterwalder's 9-point decomposition (Figure 7) of a business model helps making theoretical considerations of different configurations of the elements of the BM more concrete (Chesbrough 2010). Creating such breakdown analyses further enhances the organization's potential for differentiation efforts. Furthermore, such analyses provide an opportunity for gaining insights into the alignment of high-level strategies and underlying actions (*governance*) of the organization, which in turn supports strategic competitiveness. However, the risk is that if the information is made public, competitors might find it easier to copy the BM. (Joyce & Paquin 2016.)

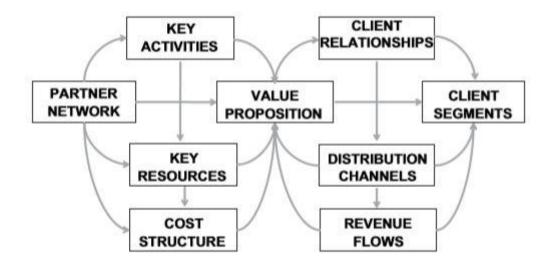


Figure 7. Osterwalder's 9-point decomposition of a business model (Chesbrough 2010).

Strategically, an organization needs to possess capabilities and competencies to compete in existing markets and have the ability to reallocate and reconfigure assets and organizational structures to adapt to changing environments (O'Reilly & Tushman 2008). A business model can tackle these challenges, as a BM can either help a company create a new market or allow the company to exploit business opportunities in existing markets. Changes to BM design do not need to be radical to be successful; even when the change is subtle without industry-disrupting effects, smaller and incremental changes can still yield important benefits for the innovator. (Amit & Zott 2012.) How to do this is up to much scientific debate. Several different perspectives and theories have been applied to the understanding of the constructs of BM and BMI (Foss & Saebi 2018), including the dynamic capabilities and organizational ambidexterity theories (Teece 2018; Achtenhagen et al. 2013; Teece 2010; O'Reilly & Tushman 2008), organizational culture and strategic flexibility theories (Bock, Opsahl, George & Gann 2012; Schön 2012), entrepreneurship theory (George & Bock 2011), the Penrosian view of the firm (Saebi & Foss 2015; Amit & Zott 2012) and innovation theories (Pisano 2015; Baden-Fuller & Haefliger 2013; Chesbrough & Appleyard 2007; Chesbrough & Rosenbloom 2002). This dispersion of approaches speaks of a wide interest in the concepts but also means that the scientific community has not yet formed a consensus on the intellectual home for BM and BMI research. Teece (2010) considers the frameworks to reside somewhere between economics and business strategy, without occupying a solid footing in either field.

However, it is clear that the phenomenon has transcended the role of a complementary reflection of strategy to become the focus of attention to managers and scholars alike (Spieth et a. 2014). As a result, more theoretical and empirical questions are being asked (Foss & Saebi 2017).

Despite any organization's best efforts, Teece (2018) also notes that most successful business models will eventually be imitated, at least to some extent, by other companies. As established, he and many other scholars apply the theory of dynamic capabilities to BMI. Building on the resource-based view (RBV) of the firm, dynamic capabilities is defined by Teece et al. (1997) as "the firm's ability to integrate, build and reconfigure internal and external competencies to address rapidly changing environments." Consequently, Teece (2018) argues that dynamic capabilities directly affect the firm's ability to design and adapt business models. The resource-based view is based on the focus of collecting organizational assets that meet four criteria: they need to be valuable, rare, imperfectly imitable, and non-substitutable (VRIN). As a part of a coherent strategy and a working business model they can provide some protection against competitors, but only for a point in time. According to Achtenhagen et al. (2013), "business models which create value over time are embedded into a multi-dimensional organizational and strategic setting of capabilities, which are formed by sets of activities." Combining the dynamic capabilities and strategy-as-practice perspectives, Achtenhagen et al. identified capabilities and activities that are important for sustainable value creation and created an integrative framework for achieving business model change (Figure 8). Moreover, they identified key variables (Table 2) related to the three key dimensions of their framework.

CRITICAL CAPABILITIES FOR SUCCESSFUL VALUE CREATION

IDENTIFYING AND USING RESOURCES ACHIEVING COHERENCE BETWEEN EXPERIMENTING WITH IN A BALANCED WAY **ACTIVE LEADERSHIP, CULTURE & BUSINESS OPPORTUNITIES EMPLOYEE COMMITMENT** Activities -STRATEGIZING ACTIONS FOR VALUE CREATION ...THROUGH COMBINING REINFORCING COMPLEMENTARITIES.... CRITICAL CAPABILITIES shaping, (and their activities), adapting, AND STRATEGIZING renewing **BUSINESS MODEL** SUSTAINED VALUE CREATION

Figure 8. An integrative framework for achieving business model change for sustained value creation (Achtenhagen et al. 2013).

Table 2. Measurements of key variables adapted from Achtenhagen et al. (2013).

Business model changes	Strategizing actions	Critical capabilities
New products and/or services New markets and/or customers Changes in the value chain -Changes in how value is generated -Changes in how value is captured (i.e. changes in the revenue model) Changes in key activities Changes in key resources Changes in cost structure	Strategy development process Growth strategy (organic, M&A, combination) Expansion across business model dimensions (product lines, customer segments, distribution channels, value creating activities, geographical markets) Policies and measures regarding quality Policies and measures regarding cost structure	Recognizing business opportunities Experimenting with new ideas and/or business opportunities Acquisition and allocation of different types of resources (human, financial, intangible etc., VRIN) Leadership style Characteristics of corporate culture Interaction of owners – managers - employees

The framework includes examples of business model changes, important strategizing actions and what the authors call critical capabilities. Strategizing actions presented here focus on organic growth with the added benefit of strategic acquisitions; simultaneous multilateral expansion; and a combination of cost structure and quality management goals. These actions are fuelled by critical capabilities, which are what the authors of the framework call those dynamic capabilities that "enable a company to shape, adapt and renew business models to create value in a sustainable way". These capabilities are divided into three types: an ideology exploiting new and experimenting with existing business opportunities; a shrewd and balanced use of resources; and achieving coherence between leadership, organizational culture and a committed workforce. Achtenhagen et al. (2013) further comment that they find the critical capabilities and strategizing activities to mutually reinforce each other, thus having a similar type of complementarity that the components of a working BM do.

As value creation is the practice of increasing benefits to different consumers where the business model's job is to focus on profitable delivery, studying them in a single framework provides potential ground for cross-fertilization (Priem, Wenzel & Koch 2018). The framework is in line with Bock et al. (2012) who found that organizational design and structure are critical features of BMI. Furthermore, they argue that advancing the understanding of how BM innovators achieve strategic flexibility requires a nuanced awareness of the interconnections between changes in organizational structures, managerial attention and control. While Bock et al. approached the subject from a knowledge-driven perspective and found that organizational reconfiguration impacts strategic flexibility outcomes negatively, they agree that a dynamic capability approach to BMI is more beneficial for organizations actively attempting to identify and exploit novel opportunities. These results lend support to Achtenhagen et al.'s (2013) framework, which illustrates clearly that the BM is not an isolated construct. Instead, it requires the support of strategic actions and critical (dynamic) capabilities. In other words, a viable business model must support the generation and capture of profits, not just the process of how the organization delivers value to the customer (Leih, Linden & Teece 2015).

2.2.4. Technological innovation

The interconnectedness and interplay between technological innovation and business model innovation deserves more attention from researchers (Visnjic, Wiengarten & Neely 2016). As stated earlier, the interconnectedness of business models and technology can be better understood through the simple fact that technology by itself has no objective value. The economic value is only realized when the technology is commercialized, and its value captured via a business model. (Chesbrough 2010.) Two broad types of qualitatively different learning have been suggested in innovation literature: *exploration* and *exploitation*. The firm's ability to both explore and exploit has been observed by strategy and organization theorists to be anchored in the organization's dynamic capabilities (Benner & Tushman 2003). Furthermore, He & Wong (2004) found that a balanced representation of these two approaches to technological innovation has a positive relation to firm financial performance while a relative imbalance has a negative relation. Figure 9 depicts an interpretation of the interactions among learning, technology and market scope of the organization. (Morgan & Berthon 2008.)

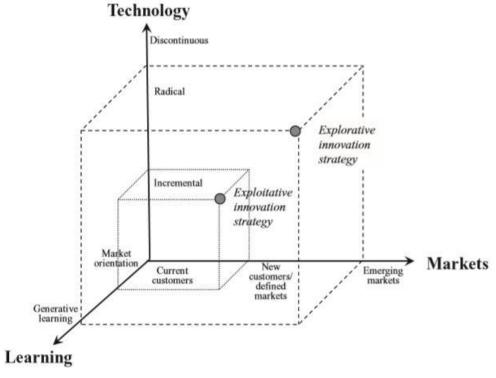


Figure 9. Innovation strategy map Morgan & Berthon 2008, adapted from Smith & Tushman (2005).

Conceptually, *exploration* is related to organizational behaviours like searching, discovery, experimentation, risk taking and radical innovation, i.e. discontinuous or breakthrough innovation. *Exploitation* focuses on behaviours such as refinement, implementation, efficiency, production and selection, i.e. continuous or incremental innovation. (He & Wong 2004.) Strategically, explorative actions clearly differ from previous norms and are characterized by an aggressive technology policy. In turn, exploitative actions include logical reactions to basic knowledge and learning, and adjustments to firm technological practices based on the new knowledge acquired and what has been learned from different sources.

He & Wong's (2004) results show that there is a clear need to allocate resources between explorative versus exploitative innovation. This is in line with Pisano's (2015) suggestion of organizations needing to decide on an innovation strategy, a key component of which is resource allocation among different types of innovative activities. In fact, efficient resource allocation is considered to be one of the most important dynamic capabilities of organizations (Teece 2018). Additionally, He & Wong suggest that it might be prudent to adopt a more continuous, evolutionary process of balancing exploration and exploitation. Furthermore, the figure illustrates a meaningful fact: exploiting and exploring are connected with different and inconsistent organizational architectures and processes but are still also connected to each other. Where exploration requires a level of encouragement for trial and error, i.e. variance-increasing activities, an exploitation approach prefers stability and variance-decreasing activities. Thus, these two approaches to technological innovation are contradictory in terms of organizational architectures and require the effective management of strategic contradictions. (Smith & Tushman 2005.)

When considering innovative processes broadly, these results are also congruent with the concept of critical capabilities as proposed by Achtenhagen et al. (2013). They suggest that fostering simultaneous strategic efforts at expanding through experimenting with new ideas and searching for new opportunities regarding technological development is beneficial for the innovating organization. The simultaneous successful employment of both explorative and exploitative innovation activities is called organizational

ambidexterity in literature (O'Reilly & Tushman 2008). Moreover, this all adds to the multifaceted nature of innovative activities managers need to consider in different organizational contexts. Possessing such critical capabilities that increase ambidexterity also support firm survival in market environments that are characterized by cycles of technological variation: the alternation between periods of rapid innovation and periods of incremental change. From time to time, discontinuous technological advances originated outside the innovative organization or outside the entire industry trigger periods of rapid innovation (Sull, Tedlow & Rosenbloom 1997). Once a dominant technological regime is established, the nature of technical change shifts from radical product or technological innovation to a comparatively long period of process innovation and incremental advancements to the technology in question. This stretch of incremental change will, in turn, be punctuated by a subsequent technological discontinuity. (Benner & Tushman 2005.)

Tensions between inconsistent and occasionally paradoxical firm and market environments need to be continuously managed by building organizational capabilities that can help create competitive advantage out of conflicting forces (He & Wong 2004). As one potential solution to improving understanding of the interplay and relationships between learning, innovation and business performance Morgan & Berthon (2008) suggest viewing firms as collections of processes instead of functions. The value in this distinction is especially apparent when considering the fact that processes often transcend functional boundaries and represent the workflows of organizations more realistically and accurately than a function-based view does. Furthermore, Benner & Tushman (2005) suggest that to understand the relations between various process activities and outcomes, research and theory regarding process management, organizations and strategy need to be connected more explicitly. Thus, a comprehensive perspective is required.

Consequently, Benner & Tushman (2005) argue that "ambidextrous organizational forms reconcile these paradoxical demands by building internally inconsistent architectures within a single organization – contrasting architectures that retain the benefits of experimentation and variability, along with the benefits of exploitation and process control." As established earlier, Evangelista & Vezzani's (2010) study found that

organizations embracing a complex mode of innovative activities encompassing technological, non-technological, process, product and organizational innovations is by far the most economically effective way to approach innovation. These cycles of technological development also help demonstrate that incremental and radical innovations are in fact complementary rather than substitutes (Evangelista & Vezzani 2010; Morgan & Berthon 2008; Oke 2007). Moreover, these environmental shifts, in terms of technological change and the rapidity of other changes in contexts point out the need to understand the interdependencies between the organization's choice of business model and its effects on monetizing different technologies (Baden-Fuller & Haefliger 2013). If capabilities required for the profitable deployment of different technologies through a business model are not acquired and developed, organizations may not be able to gain, let alone retain competitive advantage, even from a large stock of valuable technology assets (Teece et al. 1997). The theory specifically focused on how organizations can control these interdependencies through persistently changing valuable firm resources and capabilities over time is the dynamic capabilities perspective (Ambrosini & Bowman 2009). A question arises: how does the dynamic capabilities approach fit in with the organization's business model, their innovation strategy and their wider strategy?

2.3. Dynamic capabilities, business models and strategy

In terms of the influential resource-based view of the firm, competitive advantage can only exist at a point in time from the ownership of unique and difficult-to-trade and distinctive competencies (Teece 2007). If an organization possesses VRIN (valuable, rare, inimitable and nonsubstitutable) resources but does not use or have any dynamic capabilities, any superior returns achieved through the possession of these resources cannot be sustained (Ambrosini & Bowman 2009). This conceptualization highlights that even VRIN resources do not persist over time, especially in dynamic market environments. Thus, they cannot be a source of sustainable competitive advantage. (Wang & Ahmed 2007.) The creation of sustainable competitive advantage further requires unique and difficult-to-replicate dynamic capabilities (Teece 2007). In the words of Teece

et al. (1997), the approach "is especially relevant in a Schumpeterian world of innovation-based competition, price/performance rivalry, increasing returns, and the 'creative destruction' of existing competences." Thus, dynamic business environments have shortened the cycle of core competitiveness, and the construct of dynamic capabilities acknowledges that long-term competitiveness no longer exists in the traditional sense (Liao et al. 2010). Table 3 lists several definitions for the construct.

Table 3. Definitions for 'dynamic capabilities' (adapted from Ambrosini & Bowman 2009).

Author	Definition		
Teece, Pisano & Shuen	"The firm's ability to integrate, build, and reconfigure internal and		
(1997)	external competences to address rapidly changing environments."		
Eisenhardt & Martin	"The firm's processes that use resources – specifically the processes		
(2000)	to integrate, reconfigure, gain and release resources – to match or		
	even create market change. Dynamic capabilities thus are the		
	organizational and strategic routines by which firms achieve new		
	resources configurations as markets emerge, collide, split, evolve		
	and die."		
Zollo & Winter (2002)	"A dynamic capability is a learned and stable pattern of collective		
	activity through which the organization systematically generates		
	and modifies its operating routines in pursuit of improved		
	effectiveness."		
Winter (2003)	"Those [capabilities] that operate to extend, modify or create		
	ordinary capabilities."		
Wang & Ahmed (2007)	"A firm's behavioural orientation constantly to integrate,		
	reconfigure, renew and recreate its resources and capabilities and,		
	most importantly, upgrade and reconstruct its core capabilities in		
	response to the changing environment to attain and sustain		
	competitive advantage."		

In their original definition Teece et al. (1997) include the phrase "rapidly changing environments", to which Zollo & Winter (2002) propose an alternative, a more general definition. Virtues of their definition include explicating some of the characteristics of

the construct, as the words 'learned and stable pattern' and 'systematically' emphasize the point that dynamic capabilities are both structured and persistent. In other words, Zollo & Winter note that disjointedly albeit creatively adjusting to a succession of crises, even if done successfully, does not constitute exercising a dynamic capability. In their definition, Eisenhardt & Martin (2000) argue that through dynamic capabilities organizations could even be the originators of market change and to expand previous definitions further, and Wang & Ahmed (2007) argue that dynamic capabilities are not solely routinized processes – they are a comprehensive behavioural orientation embedded in processes. A decade after the original article, Teece (2007) considers dynamic capabilities to embody the firm's capacity to shape the ecosystem it occupies, develop new products and processes, and design and implement feasible business models. Notably, listing these definitions illustrates that a relatively strong consensus about the construct exists in literature with only minor adjustments having been made over time. Each definition considers dynamic capabilities to be organizational and strategic antecedents by which managers manipulate firm resources and capacities to facilitate the continuous development of competitive advantage.

Another consensus among scholars is that dynamic capabilities typically manifest in the decisions of senior leaders (O'Reilly & Tushman 2008). Naturally, the key role of strategic leadership is thus emphasized in the approach. 'Dynamic' from dynamic capabilities refers to the environment rather than the capability (Ambrosini & Bowman 2009), thus the challenge for senior leaders is to cultivate and develop these capabilities while maintaining readiness for the reconfiguration of assets in shifting environmental contexts. Senior leaders are responsible for recognizing business opportunities through the orchestration and integration of both new and existing assets. These assets and organizational capabilities are ingrained in the organization's existing routines, structures and processes (Wang & Ahmed 2007). To be more explicit, the routines can be identified in the way the organization operates, in its organizational culture, how the organization is structured, and in the general mindset of its senior leadership. (O'Reilly & Tushman 2008.) The connection between business models and dynamic capabilities is apparent, as BMI often requires changes to firm boundaries, changes or modifications in organizational structure and control, and even changes in internal organizational culture.

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Thus, most if not all business model changes are almost by definition strategic issues, for which the senior leaders are responsible. (Leih et al. 2015.) This is acknowledged by Teece in a recent contribution (2018), where he argues that the successful implementation of business models is predicated upon management's architectural design, asset orchestration and learning functions which he considers to be core dynamic capabilities.

Teece (2018) argues that in addition to closely understanding the organization's BM, it is also important to consider what it is not. His schema (Figure 8) separates business models, dynamic capabilities, strategy, and investment decisions (i.e. the allocation of resources).

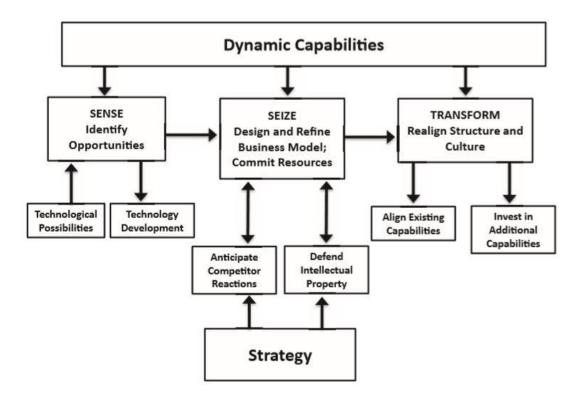


Figure 10. Schema of dynamic capabilities, business models, and strategy (Teece 2018).

In organizational terms used previously in this thesis, the schema illustrates that dynamic capabilities are at the center of the firm's ability to be ambidextrous – to explore and exploit – to effectively compete through technological and business model innovation (O'Reilly & Tushman 2008). Based on his previous research on the microfoundations of dynamic capabilities, Teece (2007; 2018) disaggregates the construct into a tripartite form for enterprise level of *sensing*, *seizing* and *transforming* capacities. Important components

of the innovative organization are divided under this taxonomy of capabilities. Consistent with the taxonomy, organizational ambidexterity is established on a coherent arrangement of capabilities, assets and structures, and a senior leadership equipped with the requisite cognitive and behavioural flexibility to build and develop each capability (O'Reilly & Tushman 2008). Thus, the schema also illustrates that business models, organizational design and strategy are interdependent (Leih et al. 2015).

2.3.1. Absorptive capacity

The specific dynamic capability relevant for the scope of this thesis and supported by a considerable amount of empirical research (e.g. Denicolai, Ramirez & Tidd 2016; Biedenbach & Müller 2012; Liao, et al. 2010; Lichtenthaler 2009; Tu, Vonderembse, Ragu-Nathan & Sharkey 2006; Jansen, van den Bosch & Volberda 2005; George & Zahra 2002) emphasizes organizational learning capability which helps firms assimilate and implement new technologies, practices and processes. This capability is called *absorptive* capacity (AC) and was originally introduced by Cohen & Levinthal (1990), who defined it as "the ability of a firm to recognize the value of new, external information, assimilate it and apply it to commercial ends." Zahra and George (2002) further divide absorptive capacity into four dimensions that constitute *potential* and *realized* absorptive capacity. Potential absorptive capacity consists of acquisition and assimilation of new external knowledge and leads to having an ability to continually renew the organizational knowledge stock but may also lead to higher acquisition costs and no benefits from exploitation. Conversely, realized absorptive capacity includes a focus on transformation and exploitation, which may lead to short-term profits through exploitation but increases the risk of falling into a competence trap where responding to environmental changes is hindered. (Jansen et al. 2005.) In other words, potential absorptive capacity involves the acquisition and assimilation of knowledge and is comprised of efforts aimed at identifying and acquiring new external knowledge and assimilating such knowledge obtained from external sources. Realized absorptive capacity encompasses using a combination of existing and newly acquired knowledge to derive new insights and results and incorporating the transformed knowledge into operations. (Zahra & George 2002.) For

simplification, potential AC refers to external knowledge that the organization *could* acquire and utilize, while realized AC refers to the external knowledge that a firm *has* acquired and utilized. This distinction highlights the independence and complementarity of these four dimensions (Volberda, Foss & Lyles 2010).

Jansen et al. (2005) studied organizational antecedents' effects on absorptive capabilities and found that several pre-existing organizational capabilities affect potential and realized AC. More precisely, they found that coordination capabilities, i.e. cross-functional teams, job rotation and participation in decision-making, primarily enhance potential AC. Socialization capabilities, i.e. the density of linkages or connectedness and socialization tactics or how shared socialization experiences are shared, were primarily observed to strengthen realized AC. Jansen et al. further argue that organizational units operating in dynamic environments improve performance by developing their potential AC, which provides greater flexibility for the reconfiguration of resources and a cost-effective way for improving knowledge deployment. Interestingly, realized AC has the potential to decrease performance in dynamic environments. This is because despite realized AC promoting innovation, resultant improvements may rapidly converge to industry standards and thus become obsolete (Zahra & George 2002; Eisenhardt & Martin 2000). Accordingly, organizations need to manage how to selectively act upon their potential AC and only react to the most potential aspects of the newly acquired knowledge. (Jansen et al. 2005.) A potential answer is suggested by Distel (2019), who found that for building and maintaining AC, organizations should seek individuals who possess a high capability of taking different perspectives and exhibit a markedly high degree of creativity. A further suggestion Distel makes is the implementation of human-centered innovation methods, such as design thinking. Other similar methodologies include the lean startup (Ghezzi & Cavallo 2020; Teece 2018; Ries 2017; Ries 2011) and enterprise agile (Rigby et al. 2018; Rigby et al. 2016).

The benefits of dynamic capabilities are heavily contingent on organizational learning processes which manifest in the firm's absorptive capacity. Furthermore, a dynamic capability is difficult to observe and impossible to measure empirically unless it is put into use. (Lichtenthaler 2009.) Moreover, according to Tu et al. (2006), AC influences

the firm's ability to implement innovative management practices. Their results found a direct positive and statistically significant effect on time-based manufacturing practice but further argue that a similar relationship may exist between AC and other innovative technologies and management practices. According to them, "Absorptive capacity is at the heart of a firm's ability to initiate, adopt, and implement radical innovations." Consequently, Denicolai et al. (2016) argue that organizations need to acknowledge that a lack of AC may, over a longer time period, significantly reduce their performance. Other studies have established that a positive correlation exists between AC and innovation capability and firm performance (e.g. Lane et al. 2006; Lichtenthaler 2009; Liao et al. 2010) and project portfolio performance (Biedenbach & Müller 2012). However, this correlation may be indirect (Volberda et al. 2010). This assumption was confirmed by Yang & Tsai (2019), whose study established that a firm's AC benefits innovation indirectly through cross-functional integration. Furthermore, the study found that customer orientation enhances the positive effects of cross-functional integration innovation performance, which indicates the conditionality of cross-functional integration and innovation performance. Importantly, these positive effects are only observed in firms where customer-orientation is high to begin with. This result is congruent with Jansen et al. (2005) who found that realized AC has the potential to have negative impacts through opportunity costs or collaboration costs. According to Yang & Tsai, the most notable result of their study is that the "indirect effect of absorptive capacity on innovation performance through cross-functional integration is positive and increases with the level of customer orientation". In other words, the results suggest that higher AC facilitates cross-functional integration, which in turn increases innovation performance, but only for firms with a strong customer focus and high valuation for the customers' needs.

To summarize, organizational antecedents affect the current state and future development of AC. Through intermediating factors such as cross-functional integration (Jansen et al. 2005; Yang & Tsai 2019), socialization capabilities (Jansen et al. 2005) and customerorientation (Yang & Tsai 2019), an absorptive capacity – innovation performance relationship exists and thus, as established earlier in the thesis about innovation-firm performance linkages, the level of AC broadly affects firm performance through

innovation. Furthermore, the level of AC also strongly and extensively affects the organization's ability to develop dynamic capabilities by, for example, increasing the firm's ability to implement innovative managerial practices (Tu et al. 2006).

2.4. Dynamic capabilities and agile

Because enterprise agile is a comprehensive framework, the potential benefits are difficult to divide among the interconnected and complementary clusters of dynamic capabilities introduced by Teece (2007). Table 4 illustrates the broad scope and potential benefits of the enterprise agile framework when the entire organization is committed to the implementation of agile principles and values.

Table 4. Dynamic capabilities (adapted from Leih et al. 2015) and agile methods.

	Sensing	Seizing	Transforming	
	Identification and assessment of opportunities	Mobilization of resources internally and externally	Continued renewal of the organization	
Processes and activities	Exploring technological possibilities, probing markets, listening to customers, scanning the business environment	Identification, control, influencing and coordination of resources to create and capture value from discoveries, inventions and innovations	Phasing out old products, adjusting communication, changing BMs, methods and organizational structure and culture	
Related agile methods and techniques	Daily standup, retrospective, build- measure-learn cycle, chapters, sprints/iteration review, build-measure- learn cycle	Agile organizational structure of low hierarchy, agile roles, customer-centric, multidisciplinary and selfmanaged teams, daily prioritization of work	Agile organizational structure, quarterly business reviews, build-measure-learn cycle, crossfunctionality, agile roles	

The enterprise agile framework supports several arguments about what it means for an organization to be adaptive that were made made in this thesis. Introduced in chapter 2.2. discussing innovation, Evangelista & Vezzani's (2010) study found that organizations

embracing a complex mode of innovative activities encompassing technological, nontechnological, process, product and organizational innovations is the most effective approach to innovation. Chapter 2.2.2. related to innovation strategies argued that according to Saebi & Foss (2015), to effectively exploit the potential benefits of open innovation, companies need to employ diverse organizational and managerial practices, such as intensive lateral and vertical communication and cross-functional collaboration between departments. In chapter 2.2.3. about business model innovation, Teece (2018) argues that dynamic capabilities directly affect the firm's ability to design and adapt business models. Additionally, Achtenhagen et al. (2013) argue that critical capabilities and strategizing activities mutually reinforce each other and have a similar type of complementarity that the components of a BM do, thus emphasizing the need for strengthening several types of capabilities. The agile organizational architecture, agile methods, techniques and roles further diversely support the development of processes and capabilities mentioned above. Finally, in chapter 2.3.1., the concept of absorptive capacity was introduced, which emphasizes organizational learning capability. Having a high level of AC helps firms assimilate and implement new technologies, practices and processes. Thus, AC has the potential to affect implementation of agile.

2.5. Synthesis of theory

The theory on adaptive organizations is spread over a range of topics, several of which were explored and discussed in this chapter. These topics include the discussion on organizational ambidexterity which focuses on a dichotomy between exploitation and exploration, innovation in a business context, innovation strategies, allocation of resources between different types of innovation such as technological innovation and business model innovation and the constructs of dynamic capabilities and absorptive capacity, and the strategic significance of all of these topics. They were chosen carefully to represent and further understand the building blocks without which adaptive organizations would be incomplete.

To summarize, building agile enterprises is similar to building feasible business models: it is as much an art and based on intuition as it is analytic and scientific (Teece 2018). As established earlier in the thesis, the real competitive strengths of an organization are ingrained in its dynamic capabilities and strategy formulation. Teece (2007; 2018) disaggregates dynamic capabilities into three clusters of processes and managerial activities, namely sensing, seizing and transforming, which are all related to business model innovation, development and implementation (Leih et al. 2015). Enterprise agile has the potential to strengthen capabilities in all three clusters of dynamic capabilities. Further benefit from agile is potentially gained by senior leaders, as the time they would have traditionally spent on micromanaging functions and functional projects is freed for more important activities: creating and adjusting the corporate vision, prioritizing strategy work, simplifying and streamlining work processes, increasing cross-functional collaboration and removing roadblocks to progress. (Rigby et al 2016.) In other words, the enterprise agile framework has the potential to comprehensively facilitate the development of organizational processes and capabilities and thus competitive advantage.

Figure 11 visualizes the connections between the topics discussed in this theoretical chapter to highlight their relevance and interdependence when discussing the agile framework's role in the theory on adaptive organizations.

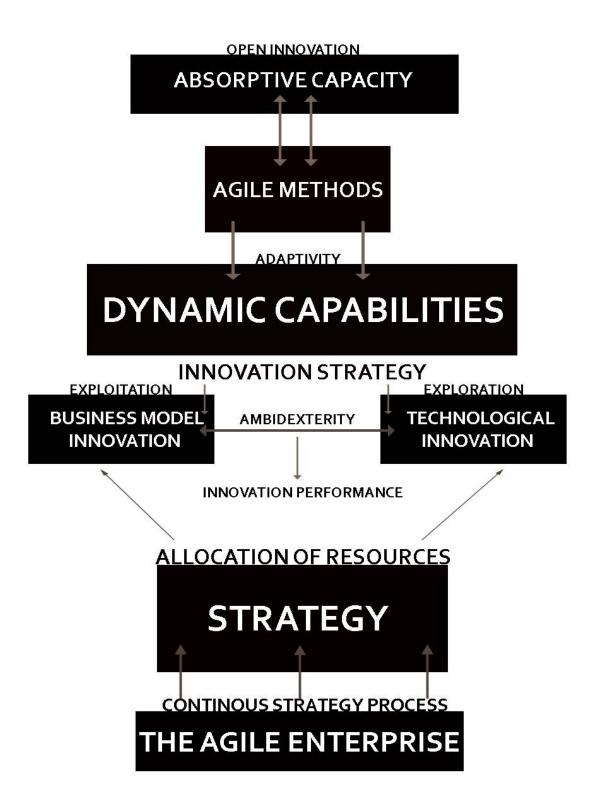


Figure 11. Theoretical framework of the thesis.

Next, connections between AC and agile are looked for and analysed in the empirical section of the thesis. Moreover, agile methods are subjected to a deeper analysis.

3. METHODOLOGY

This chapter will introduce the empirical research method that was employed in the study. Moreover, the chapter will examine the reasoning behind the choices for the methodology and research strategy. The process for data collection and analysis are explained, and the study's validity and reliability discussed.

3.1. Research methodology

Empirical research is based on methods developed through years and years of theoretical research. When designing a research project, methodological fit is an important overarching criterion that helps ensure the quality of the research. Table 5 illustrates key elements of a field research project.

Table 5. Key elements of a field research project (Edmondson & McManus 2007).

Element	Description
Research question	 Focuses a study Narrows the topic area to a relevant, manageable size Addresses theoretical and practical issues Defines the feasibility through answerability of the questions
Prior work	 The state of the literature Existing theoretical and empirical research that focus on the topic at hand Helps identify research gaps, unanswered questions, relevant related constructs etc.
Research design	 Type of data to be collected Data collection methods Type of analysis planned Selecting where to collect the data
Contribution to literature	 Theory developed as an outcome of the study New ideas that challenge prior assumptions, contest traditional wisdom, or refine or add to the understanding of a phenomenon Any practical insights that can be drawn from the findings

Edmondson & McManus (2007) define methodological fit as the "internal consistency among elements of a research project." Primarily, the research objective and research questions define which research method best fills the definition of methodological fit in a particular study. Often, several feasible methods exist for finding a solution for the research objective and questions, which leads to the choice of research method being dependent on the approach, perspective, prior studies or several other factors, including the limitations set by available resources. (Heikkilä 2014.) Based on these elements, especially existing literature on the topic of enterprise agile, the available resources and the possibility to address both theory and practice equally through analysis of the results lead to the choice of primarily gathering quantitative data and supporting this with publicly available data of the case company and supporting the data with the writer's experience from working at different units at the case company. Thus, elements of qualitative research are also included.

In quantitative, statistical research, variables are presented numerically and often illustrated through tables and figures. It is also common to explore correlations and theorize on causation through means of statistical analysis. However, the main limitation of quantitative studies is that while they are excellent for surveying and mapping the current state of affairs, the methods are not able to sufficiently explain causation. (Heikkilä 2014.) This is also why the researcher's ability to present the findings verbally and analysing the results thoroughly is extremely important. The interpretation should reflect the significance of the results broadly on theory and practice. The presented data should be limited to substantial results that introduce relevant new information. (Vilkka 2007)

Moreover, following the same considerations, the approach chosen for the thesis follows the principles and research strategy of a case study. A case study includes the empirical investigation of a contemporary phenomenon within its real-life context using more than one type of data. (Barratt, Choi & Li 2011.) This is why case studies are often used for studying contemporary business phenomena that are often not yet well-grounded in theory (Yin 2003). Indeed, case studies are considered to be the most appropriate research strategy in the early phases of new frameworks and theories when central variables and

their relationships are being explored (Gibbert, Ruigrok & Wicki 2008). Case studies can include both qualitative and quantitative data. This thesis is mainly *descriptive* in nature and partly *exploratory* as the research objectives lead to asking questions such as 'how' and 'why' and looking for explanations to such inquiries. (Eisenhardt 1989.) Inductive logic is characterized by the development of testable theories based on the collected data, whereas deductive studies mostly test theories created through inductive research to confirm or falsify their appropriateness (Barratt et al. 2011).

This thesis includes a case study where the subject is the largest financial services organization in Finland. The unit of analysis is a large branch of the organization. The case company was selected on several criterion. First, the organization is currently going through an agile transformation, providing ample ground for studying the main subject of the thesis in its real-life context. Second, as a key component based on existing research, the study uses the construct of absorptive capacity, which has previously been studied in a large financial services organization built on a similar organizational structure (Jansen et al. 2005). This earlier study provided a validated and reliable basis for the questionnaire used in the survey conducted at the case company. Third, existing research identifies case studies and surveys pertaining to the subject of the thesis as a clear research gap (Dikert et al. 2016). Fourth, the process for gathering the data for the study was opportune, as plenty of materials describing the organizational transformation are public and the writer has experience from working at different units of the organization, and currently works at the branch which was used as the unit of analysis. The key elements of a field research project are filled, and methodological fit can thus be achieved.

3.2. Data collection and quantitative analysis

This research was conducted as a questionnaire-based survey. The survey was made in Webpropol and distributed to the employees of the branch via Microsoft Teams in March 2020. The questionnaire was open for two weeks. The branch employed an average of 233 people in 2019, of these 53 completed the online survey for a response rate of 22,7%. The survey included background variables such as level of education, area of expertise,

work function and position at the firm. All other questions were all based on a 7-point Likert-scale. The survey was based on the questionnaire developed by Jansen, Van Den Bosch & Volberda (2005). The questionnaire focuses on the construct of absorptive capacity, which has further been divided into four dimensions that comprise two components defined by Zahra & George (2002), namely potential absorptive capacity (PAC) and realized absorptive capacity (RAC). PAC consists of knowledge acquisition, which was assessed by six questions, and knowledge assimilation, which was assessed by three questions. RAC includes transformation and exploitation of new external knowledge, both of which were assessed by six questions. The final part of the survey consisted of ten questions pertaining to attitudes toward agile working methods. There was no available validated questionnaire for agility. A measure was built based on the most common agile methods organizations use per VersionOne Inc's (2016) annual survey, and methods that are actually already being used at other units in the case organization.

The analysis was performed in SPSS. Sum variables were created for AC as a whole, each dimension of AC, potential absorptive capacity and realized absorptive capacity, one for attitudes toward agile methods (AM) and two for new variables that emerged from an exploratory factor analysis. Analyses were performed between the background variables and different elements of AM. As AC measures a unit-level construct whereas AM measures individual attitudes toward a subject, the data sets were considered to be separate, which explains the mainly descriptive nature of the study. Potential connections are considered in conclusions and discussion.

3.3. Validity and reliability

Generally, four criteria are used to assess the rigor of field research, namely *internal* validity, construct validity, external validity and reliability (Gibbert et al. 2008). Validity considers the indicator's ability to measure what it is intended to measure. In this sense, validity concerns the accuracy of the data. According to Yin (2013) the greatest challenge arises when case studies are explanatory and thus effectively examine causal

relationships. Such evaluations directly also confront the issue of *internal validity*, which refers to data analysis. Documenting and interpreting a set of outcomes is a key component of exploratory research which is straightforward enough to do, however trying to explain how those outcomes came about is often more difficult. The issue is whether the researcher is able to provide a plausible causal argument and logical reasoning powerful and compelling enough to defend the conclusions. Using a combination of quantitative and qualitative methods is proposed as an option for strengthening validity (Eisenhardt 1989; Yin 2013).

On the other hand, construct validity refers to the extent to which the research studies what it claims to study (Gibbert et al. 2008). The study used a questionnaire that had been previously validated by Jansen et al. (2005). However, the questionnaire was translated, which can affect the quality and is a clear limitation of the study. Further testing of the translation lays outside the scope of a master's thesis. Finally, external validity refers to the generalizability of the results (Gibbert et al. 2008). In quantitative business research, the generalizability should be reflected based comprehensively on other elements of the study (Vilkka 2007). As the subject of this thesis is highly idiosyncratic and context specific, the default assumption of generalizability of the results should be, according to Woolcock (2013), zero. However, Woolcock further argues that in conditions of contextual complexities, case studies are excellent for identifying conditions under which diverse outcomes are observed. In other words, analytical generalization refers to the generalization from empirical observations to theory, not populations or organizations (Gibbert et al. 2008). Thus, external validity can be better achieved when understanding conditions under which the observations were made, so that generalizations can be made to other similar organizations in similar environments.

Reliability means that the results are repeatable, disallowing randomness in the results (Vilkka 2007). The reliability of the variables was measured with Cronbach's alphas. They were measured as follows: absorptive capacity AC ($\alpha = .82$), potential absorptive capacity PAC ($\alpha = .74$), realized absorptive capacity RAC ($\alpha = .84$) and agility AM ($\alpha = .86$). An exploratory factor analysis revealed two further variables, agile working methods AWM ($\alpha = .79$) and agile working techniques AWT ($\alpha = .76$). For the individual

dimensions of AC, only knowledge *assimilation* showed a low result of $\alpha = .36$ which is likely caused by the use of only three questions and the amount of responses being only 53. However, as observed, Cronbach's alpha for the measurement of PAC is reliable despite this result. Other individual dimensions of AC were measured at $\alpha = .70$ for *acquisition*, $\alpha = .79$ for *transformation* and $\alpha = .77$ for *exploitation*.

In summary, construct validity was achieved through the use of previously validated constructs, which also strengthens the internal validity of the study, as the constructs were found to be reliable. A clear further limitation of the study is that the indicator based on attitudes toward agile methods has not been scientifically validated. However, one measurement of validity comes from the functionality of the used scale. The questionnaire used a 7-point Likert-scale, which is well established in business research (Vilkka 2007). Moreover, validity was strengthened through the combined use of quantitative and qualitative research methods. Reliability is easier to measure, which was demonstrated through Cronbach's alphas. These measurements also added to the internal validity of the study. A level of external validity was achieved through repeating the strong reliability measurements of the constructs of AC Jansen et al. (2005) developed. In this sense, the results can be generalized to other large financial services organizations and other large organizations operating in similar environmental conditions.

4. EMPIRICAL FINDINGS

This chapter will begin by introducing the case company and explain the rationale for why it was chosen. Next, results of the survey and SPSS analyses are presented. Finally, the results are analysed and reflected against the theoretical framework of the thesis.

4.1. Case: OP Financial Group – OP Oulu

OP Financial Group is the largest financial services group in Finland. OP is not a traditional commercial bank because of its structure as a cooperative. The group consists of 147 cooperative banks and a larger central cooperative which is responsible for a variety of functions. The group also includes orthopaedic hospitals and an insurance company called Pohjola. The group employs roughly 12 000 people and passed 2 million owner-customers in December 2019. OP Oulu, the unit of analysis in this thesis, is one of the independent cooperative banks, and with its almost 82 000 owner-customers and 6,7 billion euros in business volume, also one of the largest.

OP Financial Group confirmed their new strategy and vision for the future in June 2019. Their vision is to be "The leading and most appealing financial services group in Finland for our customers, employees and partners." The reason I chose OP as the case company becomes evident from the description of the new strategy process: "We at OP Financial Group have adopted a new type of strategy process in which we are continuously reshaping, reformulating and implementing the strategy. We are systematically assessing our business environment and operating model to be able to make and implement new strategic choices whenever needed. The new continuous strategy process helps us meet our owner-customers' changing needs and expectations and react flexibly to the ongoing changes and uncertainties in our business environment." OP is currently in the process of transitioning to this new agile framework, called OP Agile or OP Ketterä in Finnish. Naturally, the goal for the new strategy process is to support OP Financial Group's agile operating model and culture. (OP Financial Group annual report 2019.)

The transition was started in 2018 at OP Financial Group's central cooperative where it has been implemented gradually. The operating model is based on self-managed agile teams. Moreover, the organizational structure at the central cooperative is based on the exact model introduced in chapter 2.1. According to OP's 2019 yearly report, 90% of respondents to internal questionnaires felt that the operating model is better than the old one. According to the yearly report, "In the new model, teams' self-management and responsibility have increased, defined targets have steered work and its prioritisation better than before — and practices are constantly improved." A large number of employees have been involved in developing OP Agile. Other benefits OP lists are the increased meaningfulness of work and increased wellbeing reported by employees, which result in improving customer experience and operational efficiency. Furthermore, the transformation has already helped sharpen the strategic focus of the group through concentration on core business, rethinking development volumes according to business volumes and broad improvement of processes. (OP Financial Group annual report 2019.)

The actual unit of analysis is an independent branch which has not yet adopted the new agile operational model and culture. The independent branch has so far mostly been an observer of the transformation. Indeed, the employees at the branch are generally not familiar with agile working methods. There is also no clear path for implementing agile at the independent branches in a similar fashion to the central cooperative. However, as argued earlier in the thesis, agile working methods and techniques and especially agile values and culture need to be present even at units and functions not organized to agile teams to support the ones that are. Furthermore, the goal was to study attitudes toward agile working methods to understand what makes the framework so appealing to large organizations. In this sense, studying it at a unit which is not yet familiar with the agile framework is especially interesting. The conditions for such a study are even more opportune considering the attitudes could be studied against methods already in use elsewhere in the organization. There is also no reason why they could not be implemented at OP Oulu.

Moreover, the theoretical section identified absorptive capacity as a dynamic capability that is in key role at large organizations planning to adopt agile. Indeed, the thesis attempts to further understand connections between absorptive capacity and attitudes toward agile working methods in order to also understand what is required of a large organization interested in adopting agile, and how the phenomena of absorptive capacity and agile are connected. For such a study, an independent cooperative bank which is a part of a large financial services group undergoing an agile transformation, the conditions and environment at OP Oulu are extremely interesting and uniquely fitting to research the subject of this thesis.

4.2. Results of the survey

Based on Vilkka (2007: 162) this chapter will only present the relevant background information and variables, then present and visualize the responses to the survey. The next chapter will present the results of the analyses made in SPSS and thoroughly evaluate and interpret the results of the survey and the conducted analyses.

The background variables asked in the survey were level of education, area of expertise, work function and position at the firm. Of the respondents, 13,2% (n = 7) held a secondary school level education, 59% (n = 31) had an undergraduate (Bachelor or BSc) level of education and 28,3% (n = 15) had a graduate (Master or MSc) level of education. Position at the firm was divided into two: 60% (n = 32) worked as officials/employees and 40% (n = 21) were experts/managers. A majority, 90% (n = 48) of the respondents worked with tasks related to private (individual) customers, 7,6% (n = 4) worked in function not directly related with customers, such as HR or IT, and only 1,9% (n = 1) worked with corporate customers. To be more exact, 68% (n = 36) worked directly with customers, 24,5% (n = 13) worked in supporting/background roles but still directly in contact with customers, 3,8% (n = 2) worked in HR or IT and 3,8% (n = 2) were managers. Finally, 51% (n = 27) of the respondents worked in finance while the rest were divided among daily banking 11,3% (n = 6), savings and investments 13,2% (n = 7), wealthier customers labelled 'private' at OP 3,8% (n = 2), insurance 3,8% (n = 2) and 17% (n = 9) for

miscellaneous, such as legal or an individual online-unit, where each employee is responsible for their own customer portfolio. These background variables mainly demonstrate that the respondents at OP Oulu work in several different functional areas requiring high levels of expertise in financial services.

The next four clusters of questions measured the current level of all four different dimensions of absorptive capacity at OP Oulu. To reiterate, PAC consists of acquisition and assimilation, while RAC consists of transformation and exploitation. The questions utilized a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) where 4 was labelled neither disagree nor agree. Table 6 presents the means, modes and standard deviation for each dimension individually, as well as for potential and realized absorptive capacity.

Table 6. Absorptive capacity at OP Oulu.

		PAC	RAC	Acquisition	Assimilatio	Transforma	Exploitation
					n	tion	
N	Valid	53	52	53	53	52	53
	Missi	0	1	0	0	1	0
	ng						
Mear	n	3,88	4,69	3,51	4,63	4,43	4,96
Mod	е	4	5	4	4	5	6
Std. Devia	ation	,903	,884	1,010	1,016	1,005	,948

The results show that the level of potential absorptive capacity is quite significantly lower than realized absorptive capacity. The significance becomes more apparent when considering that values below 4 pertain to disagreeing with the statement while values above 4 agree with the statement. Moreover, both dimensions of PAC have a mode of 4 while transformation and exploitation scored at 5 and 6, respectively. The standard deviations for each dimension were slightly less than one point on the Likert scale.

Finally, the survey measured employees attitudes toward agile working methods. The respondents were asked to comment on if and how a proposed method would affect their work. The agile methods (AM) created for and used in the survey are listed below:

- **1.** A daily stand-up of roughly 10 minutes in duration. The most important issues of the day, such as current service situation, absences and the most important news would be discussed.
- **2.** Retrospective, the main goal of which is to recognize areas of improvement in the team's working methods to allow for continuous improvement. Customer feedback and observations from the business environment will be at the center. Arranged approximately once every two weeks, duration of roughly 30 minutes.
- **3.** The building of cross-functional, agile teams and increasing cooperation between different functions. The composition could be so that one team is responsible for the all-round sales to their own client portfolio.
- **4.** The continuous sharing of customer feedback and other information in, for example, weekly or monthly cycles within and between agile teams.
- **5.** Changing traditional performance appraisals to a continuous process of feedback and, for example, to more informal sparring conversations that would include team members in addition to the employee and their direct manager.
- **6.** Increasing the level of self-management in the teams by, for example, building a 'wall of goals' that includes the most important goals for the team and plans for how to reach them. Execution in e.g. Microsoft Teams. Responsibility of team members, not managers.
- **7.** Implementing quick-rewards, preferably monetary, for different types of successful completions of goals and tasks. The goals and tasks have to be challenging but can alternate over different time periods.
- **8.** Increasing cooperation with and periodical voluntary visits to other branches of OP.
- **9.** Increasing working with a colleague to facilitate learning from others. For example, a few hours a month would suffice. This also supports the practice of continuously giving and receiving feedback. Can be executed across functions (e.g. corporate private, finance investments, daily banking private banking).
- **10.** Piloting agile methods (e.g. ones mentioned above) in a smaller scale, for example within one pilot team.

The questions on agile also utilized a 7-point Likert scale, ranging from 1 (strongly worsen) to 7 (strongly improve), where 4 was labelled wouldn't worsen nor improve. Table 7 presents the mean, mode and standard deviation for each agile method.

Table 7. Attitudes toward agile methods at OP Oulu.

	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM
	1	2	3	4	5	6	7	8	9	10
N Valid	53	53	53	53	53	53	53	53	53	53
Missing	0	0	0	0	0	0	0	0	0	0
Mean	4,58	4,74	4,58	4,83	4,70	4,47	6,04	5,21	5,36	5,19
Mode	5	6	5	5	5	4 ^a	7	5	6	6
Std.	1,634	1,389	1,307	1,205	1,612	1,815	1,109	1,350	1,360	1,360
Deviation										

a. Multiple modes exist. The smallest value is shown

The results show that the respondents found the methods would likely improve their work, as the means are all above 4. The modes for each method are at least 5 for all but AM 6, which received two modes, 4 and 5. There is greater variance in standard deviations for the attitudes toward agile methods than there were for dimensions of AC, which speaks of a greater variance of opinions among the respondents. Next, statistical methods are applied, and the results are analysed thoroughly.

4.3. Analysis

Beginning with the current level of absorptive capacity, there is a difference of 0,81 between RAC (4,69) and PAC (3,88). The standard deviations for each dimension were low (<1). Moreover, Cronbach's alphas indicated that the dimensions measure what they're meant to. The results are thus reliable. As established earlier, according to Volberda et al. (2010), potential AC refers to external knowledge that the organization *could* acquire and utilize, while realized AC refers to the external knowledge that a firm *has* acquired and utilized. The results indicate that OP Oulu has better processes for utilizing and thus benefiting from the information that it has already acquired than it does for identifying, pursuing and then acquiring new knowledge. Agile methods are especially useful for facilitating processes of increasing the company's focus on customers, which requires understanding their hopes and needs. Notably, this dimension scored the lowest out of the four dimensions of AC in the study. Moreover, when considering the Likert scale that was used, the level of PAC indicates that the respondents

consider that OP Oulu is not particularly adept but neither particularly bad at identifying or acquiring new knowledge. A result so close to a 4, i.e. neither agreeing nor disagreeing, indicates a neutrality toward the subject. Thus, the level of PAC could be characterized as adequate, neither good nor bad. However, this is understandable and could actually be optimal for a bank, depending on how one would characterize their operating environment. This is because Jansen et al. (2005) found that a high level of PAC may even have negative effects to firm performance in non-dynamic environments.

The level of RAC (4,69) was considerably higher, indicating that the processes for, following the definition of Zahra & George (2002), deriving new insights and results and incorporating the transformed knowledge into operations are more developed than the processes for PAC at OP Oulu. This indicates that once acquired, there are recognizable processes for utilizing and profiting from the acquired new information. Jansen et al. (2005) found that socialization capabilities, i.e. the level of connectedness and level of internal sharing of information, was found to positively affect realized AC. This would suggest that a decent level of cross-team and cross-functional knowledge sharing practices are already in place at OP Oulu. RAC consists of knowledge transformation and exploitation, where especially exploitation scored high (4,96) in the survey, indicating that once the acquired knowledge has been understood and transformed into a useful form, there are processes in place for benefiting from it.

On a more general level, as a high level of AC helps firms assimilate and implement new technologies, practices and processes, it can be deduced that OP Oulu has a relatively good capacity for implementing but only a modest capacity for identifying new technologies, practices and processes. These results indicate that methods that help identifying and understanding external uncertainty need to be developed and a higher interest toward such methods might exist. It should be noted, that as OP Oulu is a financial services organization, the nature of its operating environment defines, in theory, an optimal balance between PAC and RAC where PAC is of lesser significance due to the bureaucratic and regulated nature of many of the operations. However, even the level of RAC is below 5 (moderately agree) which means that there still exists plenty of room for improvement in both areas. Definitionally, as PAC and RAC both measure different

dimensions of how the firm deals with external knowledge and all of these dimensions are interdependent, a strong correlation between PAC and RAC should still be expected.

When it comes to the measurement of attitudes toward agile methods, the results clearly indicate that employees are of the opinion that these methods would improve their work. Seven methods measured at 4,47-5, three above 5 and one above 6. More than anything, this speaks of the potential of these methods. As argued early on in the thesis, companies embracing agile need to build their individual versions of the framework and make sure that parts of the organization that won't organize into agile teams still embrace agile principles and values. OP Oulu is a traditional branch of a bank group with more than 100 years of history, where many existing processes are also accordingly slow, bureaucratic and stiff. The fact that employees see agile methods in a positive light speaks volumes about the potential of the framework, and its methods and techniques. The branch does communicate and work together with the central cooperative, however it is clear that there is potential for developing agile methods in a part of the organization (the branch) where agility is not as straightforward to implement nor is the need for agile methods as evident. If employees, some of whom who have worked in such an environment their entire careers, are open to agile values and principles, it is important for large organizations to understand how to facilitate the development of an agile organization.

As mentioned earlier, the questions used to measure attitudes toward AM in the thesis were not from an existing study. Thus, an exploratory factor analysis was performed to see if different constructs could be recognized among the survey items. Two factors did emerge, where the first (F1) included survey items 1 and 2, and the second (F2) included survey items 4, 5, 6, 7 and 9. A closer analysis of the survey items shows that F1 includes items that represent concrete agile working methods (AWM) and F2 includes items that represent broader agile working techniques (AWT). Out of the survey items that were left out, 3 and 8 had low communalities and pertain to general methods that do not have such a strong connection to agile. Survey item 10 was left out because it is about piloting new working methods, those listed in the survey and those not listed, and thus not a method or technique on its own right. Items 4, 5 and 9 also loaded on F1, but with significantly lower loadings than on F2. The loadings for F1 were above 0,7 and above 0,5 for F2,

except for item 4, for which it was 0,47. The item loadings were very significant (p = ,006) based on the goodness-of-fit -test. The two factors were able to cumulatively explain 63,6% of the variance among the items. Moreover, the Cronbach's alphas were measured at α = ,79 for F1 and α = ,76 for F2, providing further evidence of the reliability of the factors for AWM and AWT, respectively. For clarity, when the abbreviation AM is used, it includes both AWM and AWT and the three other survey items not included in F1 or F2.

Next, independent samples T-tests were performed between the background variables and attitudes toward agile methods. Interestingly, only one background variable was found to be significant in relation to perceived levels AM, AWM and AWT. To be more precise, level of education, area of expertise, and work function had no statistically significant effects to the way AM, AWM or AWT were perceived. Position at the firm, however, did. The division was clear between *employees* versus *experts/managers*. A statistically very significant (p = 0,003) positive correlation (0,386) was found to exist between position at the firm and attitudes toward AM. Based on this, T-tests was performed between firm position and AM, AWM and AWT. The results of the T-tests are illustrated in Table 8 below.

Table 8. Independent variables T-tests on AM, AWM and AWT.

	Position	N	Mean	Mean	Std.	Sig. (2-
				diff.	Deviation	tailed)
AM	Employee	32	4,68	,720	,904	,004
	Expert/Manager	21	5,40		,783	
AWM	Employee	32	4,30	,917	1,413	,016
	Expert/Manager	21	5,21		1,146	
AWT	Employee	32	4,83	,705	1,147	,017
	Expert/manager	21	5,46		,705	

The mean differences between the groups are significant for AM in general, but also for AWM and AWT separately. Employees rated their attitudes to be lower than experts/managers by a margin of more than half a point on the Likert-scale in each

instance, and almost a full point in AWM. Moreover, the standard deviation among employees was higher, signifying slightly larger differences of opinion within the group. Several potential interpretations exist for the differences between these groups.

The attitudes toward AWM, thus the two survey items that consider concrete and simple working methods, were ranked only slightly above the neutral level of four for employees, signifying a positive-leaning indifference toward them. Experts/managers on the other hand, on average, viewed them more positively than employees did, but still less positively than AWT or AM in general. The mean differences for both employees and experts/managers were clearly the highest in AWM, thus there is a greater variance of opinions regarding AWM within groups than there were for AWT or AM in general. Furthermore, the views on AWT were more positive than for AM in general, leading to the conclusion that personnel at all organizational levels are especially positive toward agile working techniques. AWT are broader manifestations of agile that are also arguably more difficult to implement than AWM. This is an interesting result which could indicate that personnel at OP Oulu yearn for more meaningful, deeper changes in the way they work rather than only implementing superficial tools that have limited capabilities regarding results. However, even the attitudes toward AWM were clearly positive, which means that through the adoption of very simple methods some positive results could be achieved.

An important factor which very likely contributes to the thinking and attitudes of experts/managers is that their work is, in general, more complicated which is likely to lead to a deeper understanding of organizational processes. The significance is, that once the complexities are further understood, the benefits of various agile methods might appear more conspicuous and thus explaining more positive views. Another possible, more pessimistic point of view is that people at the employee level are not equally well informed about the organization where they work. However, this is also understandable, because it is clear that when an individual's work includes more cooperation with other departments and functions, other firms and several other stakeholders, more processes are directly visible to them. If this is the case, the results are very positive: the more the employee knows and understands of the firm's processes, structure and operations, the

more positive their attitude toward the use of agile methods. Moreover, the standard deviation of employees' attitudes toward AWT were higher than for AM in general, whereas for experts/managers, the standard deviation was lower than for AM in general. This might also speak for the fact that the more complicated one's work, the more positive their views toward broader agile working techniques simply because the complexity of their work makes their benefits more apparent. On the same note, it is also possible that experts/managers naturally facilitate cross-functional integration, socialization capabilities and customer-orientation through the complexity of their work.

Overall, it is interesting that there were notable differences between attitudes toward AWM and AWT. It is moderately surprising that the attitudes were more positive toward AWT, especially considering that the survey was conducted at somewhat traditional bank of less than 250 employees. The size of the branch, however, is large enough to make internal silos quite steep across functions. The visibility of these silos is especially apparent at the office of the branch, because different functions are physically located in opposite ends of the building or on different floors. It is not uncommon to not see certain colleagues for several days or even weeks in a row. To that end, it is especially interesting that based on the studied background variables, these differences became apparent through position at the firm and not, for example, work function. To elaborate further through an example, 51% of the respondents work in finance, which is a complex work function regardless of position, yet the difference in perception toward AM is visible only through position across functions.

5. CONCLUSIONS AND DISCUSSION

This chapter will summarize the key findings of the thesis by synthesizing the key elements and findings of the theoretical and empirical chapters. Research questions are answered. Theoretical and managerial implications are discussed, and suggestions made for future research endeavours.

5.1. Synthesis and key findings

The research questions were the following: (1) what are the potential benefits of the enterprise agile framework, (2) how could absorptive capacity affect the organization's ability to adopt agile and (3) how could absorptive capacity affect attitudes toward agile working methods? Providing comprehensive answers begins with an overlook of the key theories discussed in the theoretical framework and synthesizing discussed theory with the results of the empirical study presented in the previous chapter.

This thesis began with a quote from Charles Darwin who posited that the survival of a species depends not on its intelligence, but its responsiveness to change. The quote was chosen to reflect the evolution and survival of species to the evolution and survival of modern organizations, who similarly jockey for position in a world of unrelenting uncertainty and an endless stream of obstacles. The key issue central for the field of strategic management is how to become resistant to creative destruction and how to create sustainable competitive advantage in such a Schumpeterian world of innovation-based competition (Teece et al. 1997). The topical subject of adopting enterprise agile as the dominant mode of operation was suggested. Agile methods, techniques and operational models are gaining wide popularity among organizations of different sizes operating in various industries.

The theoretical framework of this thesis reviews literature to first understand how a modern adaptive organization is built. Next, to narrow the scope of theories of adaptive,

ambidextrous organizations, the agile framework was studied. Agile was found to be as much about values and principles as it is about concrete working methods and techniques and organizational structure. Similar to the continuous development of market conditions, the process of innovation has developed from traditional models to agile and iterative processes (Mills et al 2020). As a concept, the agile enterprise is the organizational equivalent of an adaptable and ambidextrous agile team, and a manifestation of a larger entity that embodies the principles and values brought to life by the agile manifesto (Rigby et al. 2018; Rigby et al. 2016).

Agile teams were first created for and are also best suited to innovation work, which is why the subject of innovation is also central for this thesis. Moreover, adaptive organizations are able to both compete in existing markets and they are also able to recombine and reconfigure assets and organizational structures to adapt in turbulent market conditions, and constant changes in technology. (O'Reilly & Tushman 2008.) To identify the most relevant theories, innovation was first defined for the parameters of this thesis: based on the definition of the UK Department of Trade and Industry (1998) who define innovation as "the successful exploitation of new ideas", a broad perspective was taken. In a business context, an additional condition of successful introduction to market is attached to differentiate innovation from invention (Boons & Lüdeke-Freund 2013).

Sustainable enterprise success transcends success at one type of innovation, which is why Teece (2007) argues that organizations must simultaneously invest in R&D and utilize complementary organizational and managerial innovations. Strategically, critical decisions about resource allocation need to be made. The concepts of business model innovation and technological and product innovation were introduced (Pisano 2015). Technology has no objective value, which is why a business model is needed to determine the paths to monetization and it thus largely influences the level of complementarity with the organization's innovative activities (Baden-Fuller & Haefliger 2013). On a similar notion, innovation-performance linkages were introduced, and it was argued that the most effective way to approach innovation was to embrace a complex mode of innovative activities that encompass technological, non-technological, process, product and organizational innovations (Evangelista & Vezzani 2010; Oke 2007). To excel in several

types of innovation, organizations need to adopt a systematic approach to the subject. Thus, an innovation strategy was argued to be essential (Pisano 2015).

To begin with and to ensure that innovative activities are financially feasible, innovative activities must be consistent with the organization's wider strategy (Adams et al. 2006). The objective of a strategy is to facilitate and enhance the alignment of organizational units and groups, clarify intentions and priorities and focus work activities around them (Pisano 2015). Innovation strategies are generally adopted to strengthen performance or to mediate the effects of uncertain environments (Morgan & Berthon 2008). However, an innovative organization can actually leverage innovative activities to increase performance despite the inherent uncertainty of global markets. Modern organizations need to also consider the potential value of external resources not directly owned by the firm in question, which is why the concept of open innovation was introduced (Chesbrough & Appleyard 2007).

Open innovation is about accessing external sources of knowledge through collaboration with stakeholders who possess relevant knowledge that can be utilized in the context of the company's innovation process (Saebi & Foss 2015). To facilitate obtaining, integrating and commercializing knowledge from external sources of innovation, West & Bogers' (2014) process model was introduced. It argues that identifying and acquiring ideas and knowledge from external sources is only half the battle – these innovations must also be integrated into the firm's R&D and other functions. A compatible organizational culture and a suitable level of technical capability are required. Thus, a broader theoretical framework is called for, which is why the concept of open innovation is so directly linked with the concept of business models (Chesbrough & Appleyard 2007). Fundamentally, the business model (BM) and business model innovation (BMI) -constructs examine the architecture of the organization's value creation, delivery and capture mechanisms (Bocken et al. 2013). According to Achtenhagen et al. (2013), "business models which create value over time are embedded into a multi-dimensional organizational and strategic setting of capabilities, which are formed by sets of activities." Thus, according to Achtenhagen et al., the business model itself is not an isolated construct but requires the support of strategic actions and dynamic capabilities.

Next, two types of qualitatively different learning were briefly studied. These are called exploration and exploitation, where exploration refers to discontinuous or breakthrough innovation and exploitation to continuous or incremental innovation (He & Wong 2004). From the perspective of organizational innovative activities, it was found that these two types of innovation are contradictory in terms of organizational architectures and thus require effective management of strategic contradictions (Smith & Tushman 2005). The simultaneous successful employment of both explorative and exploitative innovation activities is called organizational ambidexterity in literature (O'Reilly & Tushman 2008). If capabilities required for the profitable deployment of different technologies through a business model are not acquired and developed, organizations may not be able to build, let alone sustain competitive advantage (Teece et al. 1997). The theory specifically focused on what kind of resources and capabilities are required to exert a modicum of control in the often chaotic and uncertain business world is called dynamic capabilities.

Several different definitions for dynamic capabilities were introduced. Each definition was found to consider dynamic capabilities to be organizational and strategic antecedents through which managers manipulate firm resources and capabilities to facilitate the continuous development of competitive advantage. Managers are also responsible for recognizing business opportunities through the orchestration and integration of both new and existing assets. These assets and organizational capabilities are ingrained in the organization's existing routines, structures and processes (Wang & Ahmed 2007). The routines can be identified in the way the organization operates, in its organizational culture, how the organization is structured, and in the general mindset of its senior leadership. (O'Reilly & Tushman 2008.) The connection between business models and dynamic capabilities is apparent, as BMI often requires changes to firm boundaries, changes or modifications in organizational structure and control, and even changes in internal organizational culture. Thus, most if not all business model changes are almost by definition strategic issues, for which the senior leaders are responsible. (Leih et al. 2015.) Based on these notions, Teece's (2018) schema was introduced, which illustrates the interdependent nature of business models, organizational design and strategy.

Finally, as the building blocks and their interconnections were studied to a satisfying extent, the specific dynamic capability relevant for the scope of this thesis of building an agile organization was introduced. Absorptive capacity (AC) emphasizes organizational learning capability which helps firms assimilate and implement new technologies, practices and processes. Thus, in theory, this particular dynamic capability could affect perceptions toward agile methods and techniques. Furthermore, AC was chosen as it is a construct where reliable and scientifically validated questionnaires exist (e.g. Jansen et al. 2005) that were also a perfect basis for the first part of the survey that was conducted at the case company. Lichtenthaler (2009) argues that the benefits of dynamic capabilities are heavily contingent on organizational learning processes which manifest themselves in the firm's absorptive capacity. Moreover, Tu et al. (2006) argue that absorptive capacity influences the firm's ability to implement innovative management practices. In a general sense, the entire enterprise agile operational model and framework is an innovative managerial practice and definitely includes innovative practices on a smaller scale (AWM and AWT). Thus, a synthesis begins to form, roughly illustrated in Figure 12 below.

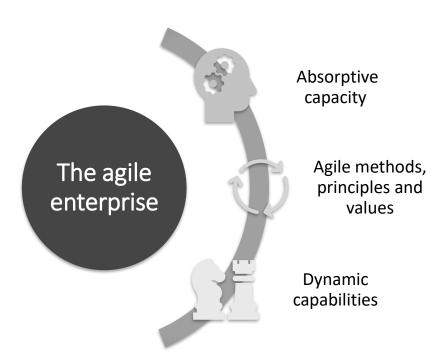


Figure 12. Synthesis of theory and empirical results.

figure represents a framework of contingencies, interconnections interdependencies relevant to building an agile enterprise. First, absorptive capacity was identified as a key capability that affects the firm's ability to implement innovative managerial practices. AC was further divided into four dimensions that comprise potential absorptive capacity (PAC) and realized absorptive capacity (RAC) (Zahra & George 2002). To quote Tu et al. (2006), "Absorptive capacity is at the heart of a firm's ability to initiate, adopt, and implement radical innovations." Due to its extensiveness and depending on the particular organization's current situation, the agile operational model introduced in chapter 2.1. could be categorized as a radical innovation which includes several innovative managerial practices. Moreover, the empirical part of the thesis was able to divide AM to the more concrete, smaller agile working methods (AWM) and broader agile working techniques (AWT). These especially relate to the results of Tu et al. (2006) who studied AC's linkage to the firm's ability to implement innovative management practices, not entire operational models such as the enterprise agile framework. Thus, it can be argued that an organization's level of absorptive capacity has the potential to directly affect its ability to adopt AWM and AWT, and more broadly, agile as the dominant mode of operation. On a smaller scale, units with high AC might be able to implement agile methods more easily than units with low AC.

The connection between agile methods, principles and values (AM) and dynamic capabilities is complex. Teece (2007; 2018) disaggregates dynamic capabilities into a tripartite form for enterprise level of sensing, seizing and transforming organizational capacities. Sensing includes the processes for identifying opportunities, technological possibilities and technology development. Seizing incudes resource allocation, designing and reconfiguring business models (i.e. business model innovation). Finally, transforming is concerned with realigning organizational culture and structures by either recalibrating existing capabilities or investing in additional capabilities. In a bigger picture, strategy is what defines the broader vision and objectives for why these activities are performed and dynamic capabilities are what affect how well the sensing, seizing and transforming can be accomplished. The agile enterprise framework permeates itself on every level of dynamic capabilities through the broader operational mode but also more concretely through AWM and AWT, and it could be argued that the level of AC partly determines

how effective the implementation and subsequent use of agile methods will be. To define the precise relationship between AC and AM, further studies on the subject from different perspectives would be required. I would characterize AC as an important underlying element that affects the organization's efforts to become agile. Table 4 adapted from Leih et al. (2015) attempted to visualize just a part of the extent and scope to which agile methods have the potential to enhance the development and utilization of different dynamic capabilities.

Moreover, dynamic capabilities can be visualized as chess pieces which also need to be strategically rearranged when the amount of resources changes in a constantly evolving environment. In chess the only source for these changes is the opponent, which makes the king of strategy games child's play compared with managing a large organization operating in contemporary global markets. Moving the chess pieces around randomly without a plan or intimate knowledge of how the different pieces work and what their strengths and weaknesses are is likely to result in disaster. This is why an innovation strategy is important concept when discussing successful adaptive, ambidextrous organizations. Without one, organizations must hope that being reactive to change is enough to succeed. It might work against an unskilled opponent in chess, or for an organization that exists in a fantasy world of perfect equilibrium. When that is not the case, an innovation strategy is comprised of the mutually reinforcing policies and behaviours aimed towards achieving a systematic approach for creating and cultivating new ideas and processes that ensure survival in today's turbulent markets (Pisano 2015). When the goal is not to merely survive but to thrive, organizations need to be reactive when responding to environmental circumstances. Agile organizations use their resources and capabilities to be proactive through innovative activities (Morgan & Berthon 2008). Furthermore, as has been argued earlier, the value of technology is only realized then the technology is commercialized, and its value captured via a business model (Chesbrough 2010). Business model innovation on the other hand often requires changes to organizational structure and control and even changes in organizational culture, which makes them almost by definition, strategic issues (Leih et al.2015). Thus, adopting agile as a dominant mode of operation can significantly help organizations concretize and integrate their general and innovation strategies.

The agile framework provides plenty of tools for navigating and responding to several environmental contingencies. For example, the strategy process as a whole is transformed from a traditional fragmentary set of plans to a continuous, iterative ideology supported by activities such as quarterly business reviews (which could be categorized as an AWT), retrospectives and even daily stand-ups (which are AWMs). Many agile methods and techniques have to do with reorganizing work by proposing a radical alternative to the traditional command-and-control style of management (Rigby et al. 2016). Edison et al. (2018) argued that to compete in this age of disruption, large organizations are looking for ways to innovate like startups. Agile has the potential fulfil this by helping them achieve big ambitions through step-by-step, iterative progress (Rigby et al. 2018). The agile framework provides concrete organizational structures, roles and methods to help firms improve upon cross-functionality, self-management, adaptability, communication and customer orientation while also increasing employee and customer satisfaction and team productivity. Conceptually, organizational agility as an attribute of enterprise agile is a dynamic capability, as it enables the organization to respond to uncertainty (Tavani et al. 2013; Roberts & Grover 2012). The enterprise agile operational model or framework, however, is much broader than a single dynamic capability. I suspect that another reason many organizations find the framework attractive is its versatility – it is also a requirement and a challenge but even more of an opportunity - organizations can make agile look what suits their particular needs by for example adopting the AWMs and AWTs that best serve their needs to begin with, before committing to an agile operational model. This also summarizes the key points that answer RQ1, what are the potential benefits of the enterprise agile framework.

To answer **RQ2**, how could absorptive capacity affect the organization's ability to adopt agile, the empirical part of the thesis needs to be considered. The study found that out of the background variables included in the survey, only position at the firm held any significance. Several conclusions can be made based on theory and the different types of agile methods and techniques that were included in the survey.

As argued earlier in the chapter about absorptive capacity, studies have empirically proven AC – innovation performance linkages through intermediating capabilities. These factors include cross-functional integration (Jansen et al. 2005; Yang & Tsai 2019), socialization capabilities (Jansen et al. 2005) and customer orientation (Yang & Tsai 2019). Out of the agile methods in the survey and the theory explored in chapter 2.1. and visualized in Table 4, several are designed to improve these intermediating capabilities. For example, the daily stand-up (AWM), retrospective (AWM), the paramount idea of cross-functional agile teams (AWT), increasing working with a colleague (AWT) and other methods of increasing internal cooperation all support cross-functional integration and socialization capabilities. Increasing teams' level of self-management and responsibility (AWT) also has potential to increase both. Moreover, the build-measurelearn cycle (which arguably, includes both AWMs and AWTs) is entirely predicated upon the idea of customer development (Blank 2013), which helps increase customer focus, among adding other fringe benefits to several capabilities. Thus, if future studies could prove that the implementation of agile methods increases absorptive capacity, it would mean that the adoption of AM has a direct link to the organization's dynamic capabilities through AC. Moreover, the factors for AWM and AWT could be expanded upon, which would concretize and potentially scientifically validate the concept of enterprise agile further. A similar conclusion was made by Tu et al. (2006), who argue that AC positively affects the organization's ability to develop dynamic capabilities through implementing innovative managerial practices – which, as argued, the enterprise agile framework could be characterized as, including AWM and AWT.

Correspondingly, what these results could also imply is that where PAC and RAC are higher, attitudes toward agile methods and techniques could also be higher, which might also translate into the easier implementation of agile. This, in turn, would imply that it might be beneficial to begin the organization's agile journey from units or functions where AC is high, led by individuals with positive attitudes toward agile methods. The most suitable people might be easier to find in places where employees are more familiar with AM, however companies need to be especially strategic about it in units and functions where adopting agile is predicted to be difficult. Consequently, Distel (2019) argued that for building and maintaining AC, creative individuals who possess a high

capability of taking different perspectives are the best bet for any organization to hire. Thus, such individuals also have the potential to help implement agile methods through absorptive capacity, or analogously increase absorptive capacity through the implementation of agile methods.

To answer **RQ3**, how could absorptive capacity affect attitudes toward agile methods, similar reflection between dimensions of AC and AM need to be made. The T-tests on AM, AWM and AWT showed that when an individual's work is more complicated, the successful completion of which would require more complex organizational processes and capabilities regarding the acquisition, assimilation, transformation and exploitation of knowledge (i.e. the dimensions of AC), agile methods were viewed in a more favourable light. Especially AWTs were favoured in the survey. More precisely, PAC facilitates greater flexibility for the reconfiguration of resources and a cost-effective way for improving knowledge deployment, which makes PAC essential in situations where uncertainty is constantly present. Rigby et al. (2018) argue that agile teams are well suited for any situation where problems are complex, solutions are not clear or simple, requirements are subject to change and collaboration with end users is feasible conditions which perfectly describe professional work in the financial sector at the case company. Thus, these conclusions support the arguments of Rigby et al. (2018). In other words, employees whose work requires a high level of organizational AC, and through whose work the organizational AC manifests, view that they could benefit from AM. This suggests a positive connection between the constructs. Conversely, this could also suggest that the use of AM has the potential to increase AC through employees working in positions central to the organization's measured level of AC. However, it could also mean that such individuals are more positive toward the potential benefits of AM, thus suggesting the somewhat counterintuitive fact that it might be beneficial to begin agile transformations from complex functions and units instead of simpler ones. Similarly, as even the easier to implement AWMs were viewed positively at all organizational levels, the attitudes might be potentially improved through the adoption of AWM before AWT.

These conclusions could also support the results of Yang & Tsai (2019) who found that AC indirectly effects innovation performance through cross-functional integration and

increases with the level of customer orientation. However, it would also put a condition on the firm to increase customer focus. As argued, some of the agile methods and techniques, especially the build-measure-learn -cycle, which arguably includes both AWMs and AWTs, is designed to achieve this exact result. Agile methods also have a great potential to support intra-firm distribution of knowledge and thus positively affect both PAC and RAC. The most widely used agile methods according to VersionOne's annual state of agile survey (2016) are the daily stand-up, sprint/iteration planning and retrospectives. Daily stand-ups and retrospectives were also included in the survey used in this thesis, both of which are methods designed to facilitate the sharing of knowledge, expertise and opinions. Moreover, the exploratory factor analysis separated them from the broader agile working techniques. They are simple to implement and effective, which probably partly explains their popularity.

To summarize, AC has the potential to affect the firm's ability to implement agile methods, values and principles and thus their ability to begin the journey toward becoming an agile enterprise. AC affects the firm's ability to develop dynamic capabilities, a concept interconnected with the agile enterprise framework, which argues for embedding research on enterprise agile with research into the more established research stream of dynamic capabilities. The empirical section of this thesis argues for the separate studying of AWM and AWT, as attitudes toward them were notably different among the two recognized groups at the case company. Moreover, this division allows for the further studying of agile from different perspectives which also represents practical opportunities concerning the gradual implementation of agile. Furthermore, these results and conclusions elucidate several potential future research paths and provide interesting theoretical and managerial implications.

5.2. Theoretical and managerial implications

Beginning with *managerial implications*, several potential benefits can be gained from the adoption of the agile framework. However, the challenge is that there is no one recipe that fits all for becoming agile. To start with, before beginning the journey toward

becoming an agile enterprise, managers need to deeply understand their business models and technological capabilities. The senior managers themselves need to be extremely committed and adopt agile methods, principles and values in their own work if they want to expand agile throughout the entire organization. Building an agile enterprise is not a sprint, it is a marathon. However, as the empirical results showed, attitudes toward AM are broadly positive, which could allow for beginning an agile journey with the adoption of some simple AWMs, and when agile and its potential is further understood and positive results potentially achieved, the organization could move on to the adoption of AWTs. Moreover, the separation of AWM and AWT might help non-agile units and functions at the organization adopt some concrete methods that would still suit them, which in turn could help them embody agile principles and values. As argued though, every organization must design their own way and choose which parts of agile to implement.

In his op.media blog, Timo Ritakallio, the president and group executive chairman at OP Financial Group, discusses the role of management in a self-managing organization. He argues that the requirements for management do not disappear, they simply transform into something new. Instead of commanding employees and micromanaging work, they need to become coaches that enable the employees to reach their potential. He further argues that through concrete principles and values for management, it is easier for managers to understand what is expected of them, and for employees to see what kind of an organizational culture the firm is attempting to build. In his op.media blog, Pekka Puustinen, the chief strategy officer at OP Financial Group, argues that agile is a management philosophy suited for the digitalized world where transitions of power are happening on several fronts – from organizations to customers, and from managers to employees. He describes OP Agile as a framework which combines daily management, business development and the continuous production of services together. The customer is at the centre of operations, the reign of bureaucracy is being dismantled and decisionmaking is being simplified. Strategic focus is aimed toward excellent employee experience, the best possible customer experience and the efficiency of operations.

As can be understood from these thoughts by OP senior managers, the role of managers is equally important as it ever was, the changes are not so much to the responsibilities but

a change in perspective from that of the commander to that of a valued coach. The case company OP Financial Group's agile journey is far from being complete, despite having begun in late 2018. This further solidifies the argument that building an agile organization requires a high level of commitment from individual managers but also the organization as a whole. It requires employees to champion the idea to ensure that it won't become just another tool or useless management verbiage, as there is so much more potential considering agile is fundamentally about principles and values which are embedded in organizational culture, practices and processes. As with any major strategic initiatives, the probability of failure is high without commitment, and the results may be devastating. It is difficult to say what specific industries agile is suited to because organizations are free to make their own definitions and orchestrations of the framework. It could be argued that different AWMs and AWTs could be implemented nearly universally. However, existing literature and experiences highlight the fact that enterprise agile is especially suited to deal with diverse types of uncertainty and complexity, which makes it an especially interesting subject for firms that have complex units, functions or work tasks.

The *theoretical implications* are quite pervasive because agile is an under-researched subject. More than that, it is an under-researched subject that deals with several paradigmatic changes in the organizational world, and organizational sciences in general. Based on the findings of Dikert et al. (2016), there is a lack of academic research on the topic of agile. When their study was conducted, almost 90% of the papers included in their literature review were experience reports. Because of this, finding relevant and quotable literature for this thesis was also challenging. Based on this important and impactful limitation, the thesis was mainly descriptive in nature. Answering the second and third research questions combining the theoretical and empirical sections of this thesis unveiled some interesting theoretical implications. I shall limit the discussion to the theoretical implications to mostly them, however I recognize that there is a larger issue for the search of an intellectual home for the enterprise agile framework.

First, the agile framework is not embedded into an existing research stream, which is why I chose the dynamic capabilities perspective, as the research on innovative organizations and business models is heavily focused around the subject. The implementation of

business models requires senior leadership to articulate a vision, establish a suitable organizational culture, and adopt adaptive organizational structures and incentives that facilitate the creation of an agile state of mind that can symbolize the entire organization (Leih et al. 2015). Moreover, the dynamic capability of absorptive capacity was chosen because adopting agile is heavily contingent on organizational learning capability. The basis for the survey carried out in this thesis was directly translated from Jansen et al. (2005), who distributed their questionnaires to management in financial organizations branches similar to OP Oulu. Unexpectedly, the study conducted at OP Oulu showed that attitudes toward AM were different based on position at the firm. Additionally, the difference of attitudes was prevalent and materially different toward the two variables that emerged from the exploratory factor analysis. This is interesting because it provides insight into the effects an organizational structure of some traditionality, hierarchy and bureaucracy has on individuals' perceptions of innovative working methods and managerial practices, such as the ones that were included in the survey. Moreover, it provides insight in terms of the way organizations adopt agile, which can be divided into entire operational models (e.g. Figure 1), concrete working methods (AWM) or broader techniques (AWT) which all represent different manifestations of enterprise agility.

The results also implicate that agile methods can positively impact the development of PAC and RAC and thus increase organizational learning capability through AC. Moreover, Lichtenthaler (2009) argues that the benefits of dynamic capabilities are heavily contingent on organizational learning processes which manifest themselves in the firm's absorptive capacity. Thus, it is likely that an adaptive organization already exhibiting a high level of AC is likely going to have an easier time implementing agile. However, as a side note, this will only mediate and not remove the issue of designing an enterprise agile operational model and choosing the most useful agile methods and techniques suitable for any particular organization, which increases the responsibility and competence requirements of an organization's senior leadership. As mentioned earlier, to understand the precise relationship between absorptive capacity and the actual level of use of agile methods, further studies on the subject are required. For example, it could be measured if AWM or AWT increase or decrease the level of AC. Exploratory studies, on the other hand could expand the relationship between AM and dynamic capabilities and

create frameworks where the connection could be visualized – similarly to Osterwalder's 9-point decomposition of a business model, or Osterwalder & Pigneur's (2010) business model canvas. As such conceptualizations help make the interdependencies and interconnections between concepts (e.g. dynamic capabilities and agile methods) more explicit, they have the potential to advance both theory and practice of agile. The concept could become scientifically more established, and practitioners could use strategic tools to understand what agile methods or techniques could work for them through concepts similar to AWM and AWT, or any further comparable conceptualizations research finds.

Moreover, and perhaps most importantly in terms of theoretical implications, the enterprise agile framework could help concretize often difficult to understand and abstract theoretical constructs such as dynamic capabilities and absorptive capacity through measurable constructs that could be developed from the premise of AWM and AWT. Teece (2018) argues that dynamic capabilities directly affect the firm's ability to design and adapt business models. Thus, considering if absorptive capacity directly affects the firm's ability to implement agile, and as argued earlier in this thesis, agile has extensive effects on all three types of dynamic capabilities, adopting agile would directly affect the firm's capability to design and innovate business models. Furthermore, Achtenhagen et al. (2013) argue that critical dynamic capabilities and strategizing activities mutually reinforce each other and have a complementarity similar to the components of a business model, which emphasizes the need to comprehensively strengthen relevant processes and capabilities. This further argues for a good fit between the enterprise agile framework and the concept of dynamic capabilities. Moreover, AM could be studied from the perspective of different components of business models as well, and by extension, from the perspective of business model innovation.

5.3. Suggestions for future research

In summary, to paraphrase Teece (2018) and as argued before, this thesis highlights that building an agile enterprise is as much an art and based on intuition as it is analytic and scientific. The competitive strengths and ability to create sustainable competitive

advantage are ingrained in an organization's dynamic capabilities and strategy formulation. Enterprise agile has the potential to comprehensively strengthen the organization's ability to compete and succeed in the Schumpeterian world of innovation-based competition, which is why, in my opinion, the framework should be embedded in the research on adaptive organizations and more precisely, the research on dynamic capabilities. A clear limitation of this study was the moderate amount of responses to the survey and the fact that it focused on a specific branch of slightly more than 200 employees, future studies need to also be conducted on a large scale. Finding a case company, such as OP Financial Group where a study could be conducted on all 12 000 employees, is a meaningful challenge on research strategy and design.

Future research could build on the notion of enterprise agility as a dynamic capability and based on the suggestion of Jansen et al. (2005) investigate how contextually ambidextrous organizational units could combine contradictory elements and increase their levels of both potential and realized absorptive capacities simultaneously. I suggest adopting agile methods as a potential answer. Further measurable constructs similar to what the empirical results of this thesis suggested could be used to obtain empirical evidence about the effects, positive and negative, of the enterprise agile framework. To scientifically study agile, several different types of academic studies need to be completed. Dikert et al. (2016) identified five topics that require significant further study to form a research agenda on large-scale agile transformations. These topics are the following: (1) Case studies on transformations, (2) scaling practices, such as different agile methods and techniques (e.g. AWM and AWT), (3) scaling frameworks, such as the operational model visualized in Figure 1, (4) *enterprise agile*, which was also the perspective this thesis adopted, i.e. transforming the entire organization, even parts that won't reorganize into agile teams, to adopt agile principles and values to support the ones that do, and finally (5) surveys on challenges and success factors on what supports the building of agile enterprises and what hinders such endeavours.

Thus, future research should move from questioning *why* enterprise agile is so attractive for many organizations and what are the framework's potential benefits to *how* it can be adopted and what needs to be considered. More empirical studies of several types are

required to further understand the complexities and possibilities, and also positive downsides of enterprise agile. Scales for the suggested and perceived benefits could be created so that the benefits could be concretized, and results between companies measured and compared. Solidly established constructs such as absorptive capacity could be used to understand what processes and to what degree different types of AWMs and AWTs has an effect. Moreover, a scientific consensus needs to be reached as to what is the intellectual home of the framework, which would likely help focus future studies on the subject.

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APPENDICES

Appendix 1. Online survey distributed to employees of OP Oulu.

(Background variables)

Ketterän organisaation rakentaminen

Ketterät toimintatavat ovat kasvattamassa suosiotaan organisaation toimialasta ja kokoluokasta riippumatta. Kun organisaatiossa ymmärretään omaa toimintaa, prosesseja ja mekanismeja syvällisesti, voidaan ketterien toimintatapojen rakentaminen ja jalkauttaminen toteuttaa tarkasti ja tehokkaasti. Näin voidaan huomioida yritysten, yksikköjen ja tiimien yksilölliset tarpeet siitä miten, missä ja milloin ketteriä menetelmiä otetaan käyttöön. Tämä on tärkeää, sillä yhtä oikeaa, kaikille sopivaa toimintamallia ketterän organisaation rakentamiseen ei ole.

Kyselyssä pyydetään arvioimaan erilaisia väittämiä, oikeita ja vääriä vastauksia ei ole. Kun kyselyssä puhutaan yksiköstä, viitataan tällä OP Ouluun. Yrityksestä puhuttaessa tarkoitetaan OP Ryhmää kokonaisuudessaan. Aluksi kysytään lyhyesti taustatietoja vastaajasta, jonka jälkeen siirrytään muihin kysymyksiin. Kyselyyn vastataan anonyymisti. Kyselyyn vastaaminen kestää noin 10 minuuttia.

Asema:

- Toimihenkilö
- Asiantuntija tai Ylempi toimihenkilö
- Esimies tai Keskijohto
- Ylin johto

Koulutus

- Peruskoulu
- Toinen aste
- Korkeakoulu
- Ylempi korkeakoulu
- Tieteellinen jatkotutkinto

Toimialue

- Henkilöasiakkaat
- Yritysasiakkaat
- Muu tehtävä

Työskentelyalue

- Päivittäispalvelut / maksuliike
- Rahoituspalvelut
- Säästämisen ja sijoittamisen palvelut
- Private
- Vakuutus
- Muu, mikä?

Työskentelyalue

- Asiakasrajapinta
- Tausta- ja tukifunktio
- Esimies- tai johtotehtävä
- Muu, mikä?

(Question 1 regarding the dimension of knowledge acquisition)

Vastaukset mitataan asteikolla:

- 1. Täysin eri mieltä
- 2. Eri mieltä
- 3. Hieman eri mieltä
- 4. En eriä enkä samaa mieltä
- 5. Hieman samaa mieltä
- 6. Samaa mieltä
- 7. Täysin samaa mieltä

Yksikkö = OP Oulu Yritys = OP Ryhmä

Arvioi seuraavia väittämiä

1. Yksikkömme on usein vuorovaikutuksessa yrityksen keskusyhteisön kanssa saadakseen uutta tietoa.

- 2. Yksikkömme työntekijät vierailevat usein toisissa yksiköissä (esim. muut Osuuspankin yksiköt tai muut pankit).
- 3. Keräämme tietoa toimialalta epävirallisilla tavoilla (esim. lounaskeskustelu toimialalla toimivien kumppanien kanssa tai keskustelu yhteistyökumppaneiden kanssa).
- 4. Vierailemme yrityksemme toisissa yksiköissä harvoin.
- 5. Yksikössämme järjestetään ajoittain erityisiä tapaamisia tai tapahtumia asiakkaiden tai kolmansien osapuolien kanssa uuden tiedon hankkimiseksi (esim. asiakasillat, seminaarit, tapahtumat, joista kerättyä tietoa hyödynnetään liiketoiminnassamme).
- 6. Työntekijämme kontaktoivat säännöllisesti kolmansia osapuolia, kuten viranomaisia, konsultteja, juristeja, tai kirjanpitäjiä.

(Question 2 regarding the dimension of knowledge assimilation)

Arvioi seuraavia väittämiä

- 1. Tunnistamme muutoksia toimintaympäristössämme tai markkinoillamme hitaasti (esim. kilpailijat, sääntely, demografia).
- 2. Uudet mahdollisuudet palvella asiakkaitamme ymmärretään yrityksessämme nopeasti.
- 3. Markkinoiden asettamia muuttuvia vaatimuksia analysoidaan ja tulkitaan yrityksessämme nopeasti.

(Question 3 regarding the dimension of transformation of knowledge)

Arvioi seuraavia väittämiä

1. Yksikössämme tarkastellaan säännöllisesti muuttuvien markkinoiden vaatimuksia uusien tuotteiden ja palveluiden osalta.

- 2. Yksikkömme työntekijät keräävät ja tallentavat työssään saatua uutta tietoa tulevaisuuden tarpeita varten.
- 3. Yksikössämme tunnistetaan nopeasti uuden ulkopuolisen tiedon hyödyllisyys nykyiseen tietoon verraten.
- 4. Työntekijät jakavat harvoin käytännön kokemuksia työstään.
- 5. Työskentelemme aktiivisesti uuden ulkopuolelta saadun tiedon perusteella heränneiden mahdollisuuksien toteuttamiseksi.
- 6. Yksikössämme on ajoittaisia palavereita tai työpajoja, joiden tarkoituksena on keskustella markkinatrendien ja tuote- ja palvelukehityksen seurauksista yksiköllemme.

(Question 4 regarding the dimension of exploitation of knowledge)

Arvioi seuraavia väittämiä

- 1. Yksikkömme työntekijät tietävät selkeästi miten ja missä eri toiminnot ja palvelut toteutetaan (esim. päivittäispalvelut, kassapalvelut, rahoituspalvelut, sijoituspalvelut, yrityspalvelut).
- 2. Asiakkaiden valitukset ja reklamaatiot kaikuvat yksikössämme kuuroille korville.
- 3. Yksikössämme on selkeä jako tehtäville ja vastuille.
- 4. Pohdimme yksikössämme jatkuvasti kuinka voisimme paremmin hyödyntää saatavilla olevaa tietoa.
- 5. Työntekijöillä on yhteinen kieli ja yhteisymmärrys puhuttessa yrityksemme tuotteista ja palveluista.
- 6. Yksikkömme työntekijät tietävät selkeästi milloin ja missä aikataulussa eri toiminnot ja prosessit toteutetaan (esim. päivittäispalvelut, kassapalvelut, rahoituspalvelut, sijoituspalvelut, yrityspalvelut).

(Question 5 regarding attitudes toward agile working methods)

Osiossa selvitetään asenteita ja suhtautumista ketteriin periaatteisiin ja työskentelymenetelmiin sekä ketterän organisaation ominaisuuksiin.

Vastaukset mitataan asteikolla:

- 1. Huonontaisi merkittävästi
- 2. Huonontaisi
- 3. Huonontaisi hieman
- 4. Ei huonontaisi eikä parantaisi
- 5. Parantaisi hieman
- 6. Parantaisi
- 7. Parantaisi merkittävästi

Miten seuraavat toimintatavat voisivat vaikuttaa työhösi?

- 1. Päivittäinen tilannekatsaus, kesto noin 10 min. Käydään läpi tärkeimpiä asioita, esim. palvelutilanne, poissaolot ja tärkeimmät uutiset.
- 2. Retrospective eli retro, jonka tarkoituksena on tunnistaa kehityskohteita tiimin työtavoissa ja mahdollistetaan jatkuvaa parantamista. Asiakaspalautteet ja havainnot toimintaympäristöstä keskiössä. Järjestetään noin 2 viikon välein, kesto noin 30min.
- 3. Moniosaavien, ketterien tiimien rakentaminen ja yhteistyön lisääminen toimintojen välillä. Tiimissä toisiaan täydentävää osaamista. Rakentaminen esimerkiksi siten, että yksi tiimi vastaa yhden asiakkuussalkun kokonaisvaltaisesta myynnistä.
- 4. Asiakkailta saadun palautteen ja tiedon toistuva, esimerkiksi viikoittainen tai kuukausittainen jakaminen tiimin sisällä ja tiimien välillä.
- 5. Kehityskeskusteluiden vaihtaminen jatkuvaan palautteenantoprosessiin ja esimerkiksi epämuodollisempiin sparrauskeskusteluihin useammin, joissa mukana esimiehen lisäksi tiimiläisiä.
- 6. Tiimien itseohjautuvuuden lisääminen. Esimerkiksi suunnitellaan ja rakennetaan tavoiteseinä, joka sisältää tiimin tavoitteita ja suunnitelman miten niihin päästään. Toteutus esim. Teamsiin. Vetovastuu tiimeillä, ei esimiehellä.

- 7. Pikapalkkioiden (mieluiten rahalliset) käyttöönotto erinomaisista onnistumisista. Tavoitteiden oltava haasteellisia mutta voivat olla vaihtuvia.
- 8. Yhteistyön, esimerkiksi ajoittaisten vapaaehtoisten vierailujen lisääminen toisiin Osuuspankkeihin.
- 9. Parityöskentelyn lisääminen toisilta oppimisen hyödyntämiseksi. Esimerkiksi muutama tunti kuukausittain, tukee myös jatkuvaa palautteenantoa- ja vastaanottamista. Voidaan toteuttaa myös tiimien yli (esim. ya ha, sijoitus rahoitus, päivittäinen private).
- 10. Ketterien toimintatapojen (esimerkiksi edellämainitut) pilotoiminen pienessä mittakaavassa, kuten yhden pilottitiimin sisällä.