Agile Project Management in Banking

- A study of how agile methods are modified to suit the context of a bank

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Abstract

Whilst there are studies that have been researching application of agile methods in different contexts, research have mainly been focused on the software industry. As the world becomes increasingly more digitised, the banking industry is having to keep up with this development and become more digital. Consequently, banks need to incorporate new flexible methods to keep up with the increasing demand for new digital products and features. However, the digital transformation and development processes are not as straightforward as in other industries because banks operate in regulated markets, making the application of agile methods more difficult. This study aimed to investigate and expand the knowledge of how agile methods are applied within the product developing processes in banks as well as what the challenges are with adopting such methods. Semi-structured interviews and internal documents were used to gather data regarding how a bank applies these methods. The main findings show that the bank applied agile methods and adapted them to suit their needs. Key themes identified from the data are agile framework adaptation, collaboration, motivation, and regulatory and internal challenges. The adaptation of specific frameworks is driven by the profile of the specific team as well as the nature of each project in a particular product area. Similarly, to pure agile methods, the motivation of workers is important for maximising productivity in the product development process. Internal and external collaboration was found to involve the interaction of internal teams and co-workers as well as receiving feedback from customers to improve their products. An important challenge in maximising agility is this sector is the regulatory environment in which banks operate in. The findings from this study contribute to the field by giving insight into how agile methods can be adapted in the context of banking by adding to existing literature.
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1. Introduction

This chapter will include a brief background regarding the research field as well as a formulation of the research problem. In addition, this chapter will present the purpose, research questions and delimitations of this study.

1.1 Background

In the last fifteen years, a vast spread of new project management methods has taken place within software development as a result of continued criticism of the traditional project management techniques (Conforto, Salum, Amaral, Da Silva & Almeida 2014). Generally, the traditional projects are well defined and documented at the beginning of the project. Furthermore, traditional management is made up of several independent stages where in order for the next stage to start the previous needs to be completed with no feedback, and the product is released only when it is deemed to be fully completed (Fernandez & Fernandez 2008). Contrary, agile projects determine the requirements of the projects by iteration, where the use of feedback loops is emphasised, resulting in reduced risk and uncertainty as well as increase of flexibility (Fernandez & Fernandez 2008). The rigidity of the traditional approaches started to create barriers for companies due to the dynamic environment the companies find themselves in (Azanha, Argoud, de Camargo Junior & Antonioli 2017). These dynamic conditions are the result of the competition becoming more global which makes the business processes more complex. Furthermore, managers having observed how the traditional approaches have failed to make the needed changes, have now taken advantage of new or emerging opportunities (Ciric & Gracanin 2017). In dynamic environments where change is constant, companies need to become more agile and flexible. To counter this, several companies have applied and adapted Agile Project Management (APM), which involves a modified application of processes regarding product features and scope of projects (Azanha et al. 2017).

Increased globalisation calls for the need for project managers to have flexibility in a project system in order to be able to adapt constantly to emerging challenges and explore opportunities (Fernandez & Fernandez 2008). As a result, there has been an emergence of new methods, such as Agile Project Management, that is considered to be a more flexible way of managing projects. The popularity of agile methods is increasing as well as the number of successful
projects due to the transition into Agile Project Management. Therefore, the argument is being made that agile working methods are more effective than traditional project management methods (Schatz & Abdelschafi 2005; Hobbs & Petit 2017; Alahyari, Svensson & Gorschek 2017).

The financial institution industry is a major building stone making up the national economy. A large part of the financial industry is made up of banks (Fasnacht 2009). According to the Swedish Bankers’ Association, the banks are the engine that runs the financial system (Swedish Bankers’ Association 2019). The banks provide services such as financing investments, asset management and the provision of credit. Banks collect savings and lend them out to businesses and manufactures. Thus, banks facilitate the creation of new capital and help the financial growth process. Swedish Bankers’ Association further explains the functions of the banks in society as helping companies and the economy to grow at a local and the national level thus driving economic and social development forward (Swedish Bankers’ Association 2019).

Recently, the nature of banking services has been changing rapidly as a consequence of the advancement of the information technologies of the internet. These advancements have created a dynamic banking environment which is driven by a demand for improved service quality and satisfying customer needs for faster, easier, independent, and real-time service (Levy 2014).

The banking industry is often characterised as a conservative industry resistant to change. Banks are generally known to be very rigid and to operate under inflexible frameworks and policies. In the past banks had a stable business environment that had clear business models, defined boundaries and linear predictable business meant that changes came about slower (Fasnacht 2009). However, with improvements in technology and evolving digitisation, these conditions have changed. As a result of a continuously developing society, important differences are observed in the way in which products are offered to consumers. Technology and digitisation have offered many new ways of offering services and products to consumers. The digitisation of business is removing industry barriers and is allowing for the exploration of new opportunities which challenge traditional successful business models (Weill & Woerner 2015). Van Oosterhout, Waarts and van Hillegersberg (2006) claim this sort of dynamic environment necessitates companies to agile. Business agility is measured by the firm's capability to alter their normal business processes rapidly and smoothly to successfully manage unpredictable external and internal changes (Van Oosterhout, Waarts and van Hillegersberg
As banks play an important role in society, it is important to understand how they cope with this dynamic environment regarding the development of novel processes and products.

1.2 Problematization

There is a significant amount of literature about agile methods and their positive effects in the software development industries (Azanha et al. 2017; Petrillo, Di Bona, Forcina & Silvestri 2018). The literature focuses on several aspects related to team dynamics, such as self-organization, trust and communication. Studies have also been conducted on the consequences of test-driven development and challenges of implementing agile in distributed settings (Moe, Dingsøyr & Dybå, 2009; Erdogmus, Morisio & Torchiano, 2005; Janzen & Saiedian, 2005; Cao, Mohan, Xu & Ramesh 2009). Furthermore, previous research has looked into defining agility, new product development using APM, and into identifying crucial differences between traditional and agile management approaches, mainly within the IT-sector (Conforo et al., 2016; Lehnen, Schmidt & Herstatt 2016; Eder, Conforto, Amaral & Silva 2015). However, there is a lack of empirical studies looking at the use of APM outside of the IT-sector, particularly in the context of traditional organizations such as banks, despite the important role they play in society. The limited existing research indicates that results of banks using agile practices to keep up with environmental development is positive, however there is not enough information and knowledge about adopting these methods on a larger scale which could be holding back the implementation, even though practice has shown it is useful (Petrillo et al., 2016; Ćirić & Gračanin, 2017; Christou, Ponis & Palaiologou 2010).

Banks must keep up with the software development evolution to satisfy their customers, however, the banking sector is known for using large and slow to response systems in that sense (Christou, Ponis & Palaiologou 2010). More important than satisfying and meeting customer demands is the need to evolve because of the fundamental part financial institutions play in countries’ economic systems. The market today is extremely competitive and there is a swift growth of technological communication and solutions. This evolution has been evident in the Nordic financial markets which creates a need for the conservative banking industry to evolve with the rest of society (Vasiljeva & Lukanova 2016; Tornjansk, Marinković, Săvoiu & Čudanov 2015). The need for technological solutions is affected by short term solutions or life cycles which forces banks to continuously launch relevant products and innovations. Focusing on large projects is very time-consuming thus by releasing smaller improvements and solutions
the banks can cope with the rapid changes and short life cycles. However, the traditional ways of financial institutions such as banks are way too vertical to implement different methods. From a holistic perspective, the financial institutions need to become more horizontal and thus more agile and collaborative (Radović-Marković 2019, Tomaš-Miskin & Marković 2019; Fernandez & Fernandez 2008)

By applying agile methods, the firm can acquire and develop abilities such as managing changing priorities, increasing team productivity and customer satisfaction, as well as improving its effectiveness in resolving unexpected risks (Čirić & Gračanin 2017). The positive effects of implementing agile methods extend beyond the software industry, therefore it is of interest to increase our understanding of how APM is used in a different context, in particular, to further explore how APM is used to streamline and modernise the product development processes in banks. Banking functions have become more digital and the teams responsible for developing applications, websites, features and functions on different mediums usually have a Product Owner (PO) who is responsible for the development team of engineers and is critical for the team to be able to succeed in the development of useful and usable software (Sverrisdottir, Ingason & Johansson 2014). They act as the link between the developing department of an organization and the business department. The PO has several key responsibilities which include being the link between customers, other stakeholders, as well as their development teams. The PO also sets objectives and requirements for the rest of the team to guarantee a high return of investment. (Sverrisdottir, Ingason & Johansson 2014; Alahyari, Svensson & Gorschek 2017). Thus, it is of interest to focus on the POs’ and developers’ perception of how APM has been applied within the banking industry.

Despite the recent application of agile practice in the banking sector, the lack of a widespread implementation is linked to a poor understanding and dissemination of how it has been applied in banking context. Further research is therefore required to improve the general understanding by establishing how these processes work in the context of a bank and by doing so, to identify advantages and deficiencies, or overlooked aspects, that can be learned from in order to contribute to the knowledge and hence spread of use within banks.

1.3 Aim and knowledge contribution

In response to the need for further empirical research on APM outside traditional software development studies, the aim of this study is to contribute to existing literature in the field by
gaining an understanding and providing knowledge of how APM is applied in the context of a bank. Due to a lack of knowledge, the implementation of agile methods in the bank industry is restricted. Further, the lack of knowledge in application of agile methods in banks is limiting the effectiveness of developing products demanded by the current technological-oriented market. By investigating how a bank adopts agile methods and what challenges arise in that context, the contribution of this study is to illuminate how a bank could adopt these practices in order to stay on the forefront of the technological advancements on the financial market. More specifically, how it has been applied in the development of digital solutions such as features on the webpage, application and integration of other digital aspects.

1.4 Research questions

1. How are Agile Project Management applied in product developing processes in the context of a bank?
2. What are the perceived challenges associated with the application of Agile Project Management?

1.5 Delimitation

Agile approaches are used throughout the organization meaning that the method is not limited to specific projects. In order to address the study's research questions, the area of application of agile methods was limited to the product development process within the chosen bank. For the purposes of this study, POs were primarily interviewed since they have a full overview of the product developing processes, starting from top management down to the development phase. Front and back-end engineers, as well as Scrum masters, were also interviewed to incorporate multiple perspectives. This study will not be looking at other processes of the company except for product development, nor is this study aiming to investigate the banks’ business model or other teams and areas other than the project development teams.
2. Previous research and theoretical framework

In this chapter prior research and relevant theories will be presented. These will be discussed, and their main contributions will be identified and provide perspective to this study.

2.1 Previous research

Swedish banks are becoming increasingly more digitised, thus meaning that their processes are becoming more driven by technology (Wilson & Campbell 2016). Banks are seeking to introduce new methods to existing processes and to become more efficient, both in terms of cost and processes. Banks are finding new ways of becoming accessible to their customers through digital channels which means their services will work in a completely different way than traditional banking, moving towards becoming more like fintech companies (Vasiljeva & Lukanova 2016; Wesley-James, Ingram, Källstrand and Teigland 2015). The financial industry is constantly changing, contributing to new means of financial resources (e.g. crypto currencies), phone and internet use. These variables are also affecting the behaviour towards the banks, however there are important variables that do not emanate from the customers. Banks must comply with a lot of regulations regarding their services, e.g. problems regarding know you customer (KYC) and laws concerning anti money laundering (AML) (Vasiljeva & Lukanova 2016). Fintech companies operate to some extent on the same market as the banks but are however not as restricted by the same regulations which is even more problematic. Banks are much more trusted and the preferable option by the customers, they have a lot more customers and systems that are integrated within the external surroundings (society) which also makes it difficult to implement new changes rapidly, as there is a lot of legacy that cannot be replaced or that takes some time to change (Knudson 2019; Collyer, Warren, Hemsley & Stevens 2010). Banks, however, need to catch up in the development and become more technological driven to not lose their competitive ability to their technologically driven counterparts. Traditional banking approaches are not suited for today's market and there is a need to catch up in technological advancements (Vasiljeva & Lukanova 2016; Harvey 2016; Wilson & Campbell 2016). Furthermore, it was found that banks are putting a lot of effort in automation but there is still a lot of work in that area. An Additional interesting and important finding was the use of customer data which should not solely be restricted to information via direct customer contact. User data gathered through digital and indirect means such as
customers' behaviour on the web or other patterns should be incorporated in developing processes. (Vasiljeva & Lukanova 2016; Harvey 2016).

Previous literature suggests that banks are facing constant environmental change in which they find themselves having to catch up with. Banks are considering how to adapt and capitalize on the occurring changes. Therefore, adapting agile approaches have become more evident in the banking industry (Menor, Roth & Mason 2001). In banks, the use of traditional methods has been the most applied when developing new digital solutions, however the adoption of agile methods has been more favourable in these settings (Roses, Windmöller & Carmo 2016). Organizations have implemented more agile methods in their software development processes to cope with the evolvement and progress in the market (Mohan, Ramesh & Sagumaran 2010). Roses, Windmöller and Carmo (2016) conducted a study regarding how the implementation of agile practices are favourable within the software developing teams in a Brazilian bank. The researchers found that agile methods were preferable amongst the methods used in the bank but there could however be methods that coexist. This meant that the bank could at times work with both agile and traditional practices. This was done by creating a model foreseeing different perspectives used to determine the coexistence of the two methods.

Similar experiments have been made in several large organizations where they combine agile methods with traditional (Lindvall, Muthig, Danino, Wallin, Stupperich, Kiefer, May and Kähkönen 2004). The authors found that agile practices were effective when implemented in certain settings. However, some companies are more reserved when it comes to implementing agile practices in more crucial circumstances and projects. This is due to some environments being more complex and therefore the companies are cautious, they want to see how it works until compelled enough to scale up the utilisation of the practices (Lindvall et al. 2004). Companies started implementing agile practices by combining with traditional approaches, however they combined the methods in their unique ways. The implementation of agile practises resulted in the companies being more flexible and they were responding faster to changes. This showed to be more cost-efficient while still maintaining the quality in the product provided as well as maintaining customer satisfaction (Lindvall et al. 2004). It was also found that the companies had it easier to find and work on tasks that were inadequate or contained flaws. By working iteratively and with small releases it was easy and less complicated to perform necessary adjustments and fixes. Agile methods were found to be clearly useful when implemented in the smaller development teams, however it is much more difficult to implement
the methods in the entire organization, e.g. making the entire organization agile and not just the software development teams (Lindvall et al. 2004).

Boehm and Turner (2005) highlight the fact that agile was originally intended for smaller teams which creates challenges when large scale organizations employ agile methods. Dikert, Paasivaara and Lassenius (2016) conducted a systematic literature review in search for challenges and success factors regarding adaptation of agile methods in large organizations. The findings of the literature review revealed a lack of academic studies, however the authors were able to identify both challenges and success factors within existing literature of agile adaptation. The authors identified challenges such as “agile customised poorly” where the inability to efficiently customise agile to their own organizations due difficulties to understand the importance of agile practises. Dikert, Paasivaara and Lassenius (2016) explore studies where case subjects removed or ignored important elements of Scrum which led to complications. Furthermore, issues arise when teams need to work with other teams within a large organization as the large organization was not responsive enough to the actions of agile teams (Dybå & Dingsøyr 2008; 2009). In addition, the review acknowledges the challenge faced when other functions of the organizations show unwillingness to change. This resulted in growing tensions between departments (marketing, sales, legal and operation) and loss of benefits because of a not fully transformed organization (Misra, Kumar & Kumar 2010; Livermore 2008). The results also reveal that different agile teams interpreted agile methods differently which resulted in tensions when moving members from one team to another. Other important success factors in adapting agile involves allowing teams to self-organise which proved to increase motivation and morale in the teams (Dikert, Paasivaara and Lassenius 2016; Lindvall 2004). Furthermore, another factor that facilitated success in the transformation to agile was recognising the importance of an adequate PO in place. Results demonstrate that motivation derives from understanding the agile values as well as emphasising agile principles over practices (Dikert, Paasivaara and Lassenius 2016).

A case study on large-scale transformation was made by Paasivaara and Behm (2018), which explores how an agile method was introduced and scaled up in the R&D department at Ericsson. Based on their case study, the authors present four lessons for adaptation of agile methods. The first lesson being to experiment with approaches to learn what works for the organization, by doing so they could quickly change the aspects that did not work as well as adapting the aspect that did. The second contribution by this study was that the transformation
to agile should be a step at a time. Transforming an organization at once could potentially result in losses of productivity. The third lesson named was limited team interchangeability, by studying different teams at Ericsson, they realised that cross-functional team members was the ambition of the firm, however due to the complexity of products, not every person had the right competencies to be able to work at different products. Thus, the authors promote specialisation within certain product areas where team members would more likely to have the right skills for different products. Lastly, initial stages of the transformation should implement a common framework that is properly utilized. As there might be a lack of knowledge about agile, the organization is unable to give too much freedom at the initial stage as that is proven to be ineffective. When starting with a common framework, the teams got the freedom to adjust the framework to suit the individual teams.

Abdelnour-Nocera and Sharp (2008) examine stakeholders’ assumptions, expectations, and knowledge amidst the implementation of agile tools in an organization and map out which practices emerge during implementation. The findings of the study emphasise the importance of including and engaging all stakeholders, in the implementation process and the fact that existing processes need to be taken into consideration when constructing new procedures. The authors also highlight and discuss the tensions when trying to translate principles devised for software development into a larger operation with different roles, understandings, and expectations. However, the study also showed that the aspect of collaboration was perceived to be beneficial in adding value to the end-product.

Svensson and Höst (2005) explore the consequences of introducing agile to a large software development firm. The authors’ focus was on how the complex structure of the company affects collaboration between the teams and their organization. An interesting observation was that the surrounding parts of the organization did not perceive a change in communication to the newly agile team. Nonetheless, the main findings show that collaboration was improved as the agile framework was introduced. The authors attribute this to increased trust between the organization and the team which was increased as the development team delivered upon agreed dates and increased communications regarding development issues. The setting of which collaboration takes place is however important, some developers like their own personal space when working but in other cases it is preferable to work together (Mangalaraj, Mahapatra & Nerur 2009). There are other personal traits or factors that might affect how well team members collaborate and interact with each other, such as competence or experience of the individuals
Serrador & Pinto 2015). Hoda (2013) states that self-organizing teams capture the spirit of agile values and principles which focus on human and social aspects of software engineering. The author explains that team members in self-organizing teams tend to take up informal roles, explaining this process through three main themes: self-organizing roles, self-organizing practices and critical factors influencing self-organizing teams. Further it is important that the collaborative is extended beyond the developers, the leadership should also be more collaborative in relation to the team and less formal, information should travel quickly and there should be transparency, open communication and decision making (Collyer et al. 2010; Collyer & Warren 2009).

Another aspect of collaboration regards customer collaboration and active user involvement which means engaging the customer throughout the entire development process. This means that the customer gets to contribute to writing user stories, influencing product features and their prioritization and most importantly regularly provide feedback to the development team (Hoda, Noble & Marshall, 2011). Finding customers who actively engage in collaboration is an essential point of agile development. Previous research has proven the relationship between customer commitment and customer collaboration contributing to the success of software development projects (Misra, Kumar & Kumar 2009, Nerur, Mahapatra & Mangalaraj, 2005). Customer collaboration is an important success factor for the company which needs to be a focal point through the development process, feedback and response should be welcomed and considered, the organization should hence have a culture that is adaptable to these changes. The company should engage with customers in order to create more value and increase satisfaction (Misra, Kumar & Kumar 2010). Companies need to be flexible in order to fulfil the needs of the customers and the changing market, thereby becoming competitive, which is why agile methods have been implemented in several contexts (Yusuf, Gunasekaran, Adeleye & Sivayoganathan 2004).

Collaboration within the organization as well as with the customers are indeed important to create products that provide more value and increase customer satisfaction. However, something just as important are the motivational factors that contribute to the work being performed in an effective and productive way. It is essential that the company considers the positive psychological effects created amongst the employees (Martin 2005). The company needs to consider the long-term happiness and wellbeing of their employees and doing so by creating positivity at the workplace, making sure the employees have positive experiences at
work. It is difficult to know what makes every employee happy and especially what makes
them happy in the long run, which is the challenge that is to satisfy all individuals and
personalities (Seligman & Csikszentmihalyi 2014). In a fast-changing environment, it is
essential to keep being innovative, however it is difficult to perform if employees are not
feeling motivated to work. Steiber and Alänge (2013) found that the organization should be
open, involving everyone and having intrinsic motivation. Intrinsic motivation related to how
workers approached their work and how they interact with each other. The motivation was also
driven by having people work on challenging tasks where they feel like they can develop on a
personal level and having co-workers who have a lot of competence (Steiber and Alänge 2013;
Matzler, Bailom, Anschober & Richardson 2010). In addition, including customers and
drawing from their knowledge and experience is a great way of receiving and being able to
respond to feedback by improving the product or service (Garud, Gehman & Kumaraswamy
2011). The feedback channels and open communication, both within the company and external,
makes it possible to respond accordingly. Further, this leads to people taking more
responsibility which finally results in intrinsic motivation which in term increases productivity
(Brown & Eisenhardt 1997; Hackman & Oldham 1975).

Customer loyalty decreases with the lack of real life interaction between banks and their
customers, which is a concern when banking over the years have become more digital and most
of the service could happen via their apps and websites (Levy 2014). The banks need to work
on creating strong relations with their customers and a lot has to do with how the customers
experience the interaction with the banks. It is essential for the relationship that the customers
are understood and that their needs are being fulfilled in a satisfactory manner (Bejou, Wray &
Ingram 1996; Ndubisi & Wah 2005). The customers attitude towards using the service will
therefore be affected by the perception of using the platform, hence affecting their loyalty to
the bank. Therefore, there is a severe need for the bank to interact with the customers and
provide them with necessary features and offer a service that is fulfilling, the customer
experience is essential to create strong relationships (Levy 2014). There are multiple channels
where interactions and customer service can be achieved, most common over the web, face to
face (even if less used), over the phone or through integrating feedback in the services (Sousa
& Voss 2006).
2.2 Project management

Before going into details, it is important to understand the definition of the term project management. A simple way to explain what is to mention the clear distinction between the terms project and project management. The project itself is the process of achieving a specific set of goals. This process comprises different tasks and activities that further includes a set amount of resources and time frame. Project management, however, is the management of all the processes that need to be executed to complete a project. The project managers role includes tasks such as setting goals, monitoring the process, allocating resources, and making sure that they reach their goals. (Munns & Bjeirmi 1996, p.81)

Project management has had a growth of interest in more recent times due to its capability of making companies more effective, competitive, and efficient in surroundings that are consistently shifting, unpredictable and often complex (Ika 2009, p.6). In this type of environment, it has been understood that the success of projects does not solely depend on the success of the project management. Rather, the success of the project is influenced by other criteria, primarily emphasis on time, cost, and quality (White & Fortune 2002; Ika 2009). Anbari (2003) makes similar claims about project management, arguing that there is value to the time, scope, and cost of the project. This allows the possibility to set up project forecasts, where schedule and costs are estimated. This, in turn, means that the project managers are able to adjust their strategies and agreements based on the performance and objectives of the project, as well as the surroundings in which they are conducting the project (Anbari 2003).

2.3 Traditional Project Management

Traditional project management revolves around planning, setting requirements and following a plan. The traditional approach is suitable for projects where the importance lies in completing projects in specific circumstances and within certain time frames. It is essential to have a clear plan of what needs to be done and how to execute it. However, it is important to understand that each project is unique and therefore every process needs to be adapted to the specific product or service. Each project has a lifecycle that consists of different phases of the project. Usually, the results of what has been done are shown at the end of the project when it is presented. This, in turn, means that the success of the project can not be identified or reviewed until it is completed. How it will be done, what must be done and the benefits are well planned and documented. The different phases of the project have a predetermined time frame that is
set according to the start and finish points. However, during the project, there are several controls to make sure that the plan is being followed, if not, then appropriate measures need to be taken. (PMBOK 2017; Salameh 2014)

Figure 1: Process interactions within projects. Source: PMBOK 2017, p.555

**Initiating**
The initiation phase begins after obtaining authorization to engage in new phases and projects. This phase consists of the processes which define the new project or new phases of an existing project. Usually, this stage entails gathering stakeholders and other involved parties, which first must be identified to discuss the objectives and expectations. During the initiating stage of the project the scope, time frame, financial resources and requirements are defined as well as the initial outcomes. Different stakeholders are engaged in the different stages and processes of the project which is also important to clarify from the start so that it is known who is engaged in the project and what everyone’s roles are. (PMBOK 2017; Salameh 2014)

**Planning**
During the planning phase of the project, the total scope and objectives are evaluated and defined, as well as how the objectives are to be met and what the risks are. Projects have different requirements in terms of feedback and stakeholder involvement, which is important to determine in the planning phase. In addition, progressive elaboration is important since new information is gathered that may require making adjustments or/and go over certain phases or
processes again. This means that it is important to refine the process and iterate the documentation and planning of the project. When the planning phase is considered complete, this will be the outline of the project and act as the baseline. (PMBOK 2017)

**Executing**

At this stage of the project, the work is done to meet the set requirements. The work is done according to what has been set during the planning phase of the project and the aim is to follow the plan to completion. In this approach, the processes are meant to follow the plan regarding, time, budget and resources. It is not unusual that changes during the execution phase occur or that certain situations, results etc require that some changes in the plan may be modified and adjusted accordingly. (PMBOK 2017)

**Monitoring and Controlling**

The processes of the project are being controlled and monitored in order to identify if there are certain areas which are lacking and if so, what changes need to be done. The three main objectives in this phase are (1) track where issues etc are identified, (2) review what needs to be done and (3) regulate which essentially means commencing the changes. Monitoring and controlling the project occur at regular intervals which is important to identify deviations from the plan and make adjustable corrections, while controlling the quality of the project and what is being done. (PMBOK 2017)

**Closing**

When the different projects or phases of projects are completed, they are closed. By closing these processes, the company establishes what the status is, which in this case means it is completed. This is done mainly, so that the phases and projects are closed in the appropriate manner. (PMBOK 2017)

2.4 Agility

Agile methods were created for working processes in business areas and environments that are highly changeable. The classic waterfall systems are more suitable for industrial work where perhaps objects are manufactured. Such processes require planning, designing, development, testing, implementation and maintenance (Mahalakshmi & Sundararajan 2013). But in more modern times, especially since the rise of the internet, much have become software-oriented even within the traditional industries. Business environments revolving around software are swiftly and continuously changing which requires a change of method in developing processes.
This has given birth to the agile methodology which is defined by working more flexibly and being able to release features and solutions more frequently (Dingsøyr et al. 2012). Software projects do not need to be released to customers in their finished format, solutions can be released in betas or finished formats and improvements can thereafter be added through new updates and releases. By releasing unfinished solutions, much of the updates are based on feedback from customers and users which makes agile methods more people and result-focused approaches compared to waterfall (Misra & Kumar 2009). Thus the releases are smaller than in waterfall projects, however, releases happen more often and frequently and also require the developing teams to have a much better communication than in waterfall where decisions are made from the top (Lee & Xia 2010).

2.5 Agile Project Management

Agile as a methodology first started to gain momentum when Sutherland and Schwaber discussed agile principles and their applications in software development at the Conference OOPSLA in 1995 (Cervone 2011). The results from analysing traditional software development approaches showed that traditional approaches do not suit empirical, unpredictable, and non-repeateable processes (Cervone 2011). Therefore, Agile Project Management was developed to better address and manage changes and uncertainties (Azanha et al. 2017). The term APM began to spread in the early 2000s after the introduction of a document called the Agile Manifesto, produced by professionals in the technology information area. The manifesto presents the fundamental values of agile project methods (Azanha et al. 2017).

Historically, projects have been very well documented in terms of the functions, requirements, and features. Agile projects, however, work in a completely different way. Instead of having a clear vision before working, the requirements are discovered by iteration. This process tends to reduce uncertainty more than traditional projects and is more flexible and adjustable though it is riskier (Fernandez & Fernandez 2008). Perhaps the biggest differences between the traditional and agile working processes are that traditional project managers have to do with a set schedule, budget, and scope. There are various factors the traditional manager must consider first hand when managing projects. Staying within the budget and schedule while working in such a low-risk fashion as possible is of the essence. On the contrary, the Agile project manager does not prioritise or work against time or the budget, these factors come in second hand after prioritizing business value and deliverables (Fernandez & Fernandez 2008). Conforto et al.
(2014) also discuss similar problems with the traditional ways when working in areas that require constant development, such as software or developing new products. An argument is that the solution for being more productive in those areas might be to implement a project development approach that is more flexible (MacCormack, Verganti & Iansiti 2001).

In rapidly changing environments it is important to have dynamic working processes otherwise, there is the risk of not keeping up with the changing environment. Aspects of that environment include business models, technology, and products, which are in need of speedy deliveries of solutions (Highsmith 2002). Customers demand products and services of high quality which is what the companies must provide to maintain satisfied customers. It is therefore important to create something valuable for the customers with their interests being what drives the need for continuous development (Oh 1999).

2.6 Agile Manifesto

The agile manifesto was created in 2001 by experts utilising different agile methods. The manifesto includes values and principles that assist the software development processes (Highsmith 2002). The Agile Manifesto consists of 12 principles and core values that one should possess while working with agile methods (Schön, Escalona & Thomaschewski 2015)

Before the manifesto was created, working in an agile way was not defined, however the different methodologies were using the same underlying school of thought in the different methodologies. Therefore, there was a need to collectively summarise as well as name the concept.

The principles stated below are extracted from the manifesto without any interpretation in order to convey their true meaning. While the core values are presented in the same way as they are stated in the manifesto, the explanation underneath each value elucidates the interpretation of this study (Fowler & Highsmith 2001 Highsmith 2002; Schön, Escalona & Thomaschewski 2015).

- Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.
- Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
● Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
● Business people and developers must work together daily throughout the project.
● Build projects around motivated individuals. Give them the environment and support they need and trust them to get the job done.
● The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.
● Working software is the primary measure of progress.
● Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
● Continuous attention to technical excellence and good design enhances agility.
● Simplicity - the art of maximizing the amount of work not done - is essential.
● The best architectures, requirements, and designs emerge from self-organizing teams.
● At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behaviour accordingly.

1. **Individuals and interactions over processes and tools**

People are valued more than the processes themselves, the individuals come firsthand. By valuing the individuals, communication increases and becomes more fluent rather than on scheduled appointments or when help is needed. This in terms makes the team more responsive and innovative in their work and solutions in order to satisfy the customers.

2. **Working software over comprehensive documentation**

Documentation in agile methods is important because it lets the people involved know what has been done and what is yet to be done in the project. Documentation is not a process that only exists within agile, it has been used for a long time in different contexts, however in agile this process is more reduced to the core information that the individual's need. Too much information and extensive documentation is time consuming and ineffective, which makes it better to keep it simple and relevant.

3. **Customer collaboration over contract negotiation**

Project development processes engage the customer throughout the entire process, from start to finish. The customers can contribute to the idea being created and can give feedback during the development period which makes the product more likely to fit the customers needs.
Through incremental releases the development team can respond to feedback and make suitable adjustments to the product. This method is preferable to collaborate with customers during the initial planning and then the customers will not be involved in the process until the entire project is done.

4. **Responding to change over following a plan**

The project plans in agile methods are adaptable to change. Instead of working in such a way that change is avoided, agile makes the project adaptable. Since agile methods use iterations, change that occurs during the project can be dealt with by changing priorities or processes. The new changes are thus dealt with during the project development which creates a solution or product based on the current circumstances since they can change from the initial planning of the project.

2.7 Different approaches

2.7.1 Dynamic Systems Development Method/Dynamic Solutions Delivery Model (DSDM)

DSDM are practices that are meant to be very adaptive to changes and deliver fast business solutions. Emphasis is put on delivering product and to work through a business perspective. The focal point of this approach is creating business value and solutions for customers (Highsmith 2002, p.138). By working efficiently and with low cost, the benefits of business maximize. Frequent product deliveries are essential which is a common denominator within multiple agile methods, where iterative and incremental developments and improvements are continuously made. Another important practice is that the changes made in these projects should be reversible, reason for this is that all configurations made during the process could be reversed to an earlier state (Highsmith 2002, p.139).

2.7.2 Crystal Methods

This practice revolves around communication within groups. Important aspects in this method are skills, people, community, talent, interaction and communication as necessities to good performance. The processes within the projects are also important but that factor comes in secondary to the other aspects (Highsmith 2002, p.144; Anwer, Aftab, Waheed & Muhammed 2017). The community and the people involved in the processes are prior concerns to the tools.
which are used to achieve the targets. This principle implies that every person contributes with their own set of skills and then it is up to the team to make sure they utilise those personal skills. This means that every team is unique since it utilises the groups personal talent (Highsmith 2002, p.144). There are two key elements within Crystal Methods, these are (1) incremental working cycles and (2) and reflection workshops. Those rules exist in order to make the process incremental and self-adapting, which are important aspects of Crystal (Highsmith & Cockburn 2001).

2.7.3 Feature- Driven Development (FDD)

Learning from experiences and short iterations are important principles within FDD. The processes within this method should be repeatable and scalable, at the same time innovativeness and creativity should be ensured (Highsmith 2002, p.151; Anwer et al. 2017). Affirmed notions in FDD revolve around building systems that are simple and capable of scaling, so they fit larger projects. This method comprises five main processes, of which the first three revolve around developing and creating a model and features respectively. The fourth process is to design by feature and lastly building by feature (Highsmith 2002, p.151). In comparison to other agile methods FDD focuses on doing as much as possible right already from the beginning rather than being as incremental and reversible (Highsmith 2002, p.158).

2.7.4 Lean Development (LD)

Lean Development approach consists of three tiers. The idea is to build improved dynamic yet stable internal processes that can be generalised through different parts of the organization. The core idea of this approach is to create opportunities by taking risks. This in turn makes the organization more change tolerant which means that even though there are market changes and turbulence, the organization will be able to respond to those changes. Further this concept does not only concern how the firm adapts, but also how they can cause changes themselves in order to gain a competitive advantage. For instance, if the firm can shorten its product release cycle with a few months less than their competitors, they will gain an important competitive advantage. (Highsmith 2002, p.160; Wang, Conboy & Cawley 2012)

2.7.5 Extreme programming (XP)

XP was originally created to fit smaller teams but has gradually been developed to fit even larger teams and projects. Commonly to other Agile methods, XP is characterised by short
iterations and consistent updates. Aspects more relatable to XP specifically are pair programming and stories, which are 3x5 cards that display required features for the project. There is a time frame on when the product is released but the process is based upon continuous small releases in each iteration, often consisting of 3-4 weeks. These releases should contain the most important business requirements of the project. The iterations and small releases are important as the team receives feedback after each release, and they can from that point make required improvements or adaptations. (Highsmith 2002, p.167; Erickson, Lyytinen & Siau 2005)

2.7.6 Adaptive Software Development (ASD)

The future is unpredictable but by having dynamic and agile practices, one can still make progress during change. A firm using agile practices does not automatically mean they are successful in that area; a lot of the success derives from having individuals within the teams that are competent and understanding. ASD is defined by three components: speculate, collaborate and learn. Speculate regards exploring possibilities without being afraid of deviation from the original plans. The second, collaboration, means complex problems cannot be solved single handedly. One needs to collaborate in order to gain information, analyse and finally apply the knowledge in order to contribute with a solution. Learn means learning by doing, by releasing solutions and looking at projects retrospectively, one can learn what to do differently in the next part of the project. The ASD approach begins with setting the objectives, identifying risks and requirements. Then a time frame is established, mainly based on previous aspects and how many iterations is to be used in every part of the project. Specific schedules and objectives are planned for each iteration apart from the entire project objective and schedule. The last step is delivery of the iterations, where the results must be visible. (Highsmith 2002, p.176)

2.7.7 Scrum

Scrum is the most known framework that adopts the agile approach (Abrahamsson, Conboy & Wang 2009, p.281). The method employs small cross-functional teams to work on projects (Bass, Allison & Banerjee 2013). The premise of Scrum is that the world is complicated and unpredictable which makes it difficult to predict what to deliver, when it will be delivered, what it will cost and what the quality is going to be like. These aspects are learnt throughout the process of delivering the product. Scrum principles are not solely restricted to specific
projects but are applicable to different projects, the aim is to be more effective and create better results in different situations. Results in Scrum are achieved by working iteratively, each iteration is called a Sprint. The teams work in iterations over a shorter period, sprints that are often between two to four weeks (Albarqi & Qureshi 2018; Schwaber 1997).

A backlog is used to contain written requirements and the PO then prioritises them and breaks them down into tasks for the team. The team has daily meetings where individual members of the team take on specific tasks to work with. The team registers their daily progress in a chart to show how much progress has been made. When the Sprint is done, they present the demo to the PO. In connection to that the team has retros where they discuss things they have learned and what knowledge they can take with them to the next Sprint in order to be more effective. (Albarqi & Qureshi 2018 Schwaber 1997)

Figure 2: Scrum framework. Source: Powerslides, Agile Scrum Process

2.7.7.1 Scrum Process

Scrum consists of three parts: Pre-Sprint, Sprint and Post-Sprint. The Scrum teams use something called Product Backlog which is a list that mainly contains technology and business requirements and features needed for the product. Each team has a PO or Product Manager that creates the backlog and monitors the project. The PO is business-oriented and therefore has not as much insight in the technical areas of product development. For this reason, even technical co-workers and managers are able to interpose with features to consider. The PO goes through the Product Backlog and chooses what features to take to the Release Backlog, the Product
Backlogs subdivision. Everything that is required to release features is written in the Sprint Backlog, a subdivision of the Release backlog. Everything that needs to be accomplished for the implementation of features is done within 30-day Sprints. Meetings are held where the PO chooses what features should be in the next Sprint while the development team decides what requirements are needed to supply the features. Together they plan what needs to be done in the Sprint. The planning phase ends with developing a mission for the sprint, Sprint Goals. If some of the features during the Sprints are left out, the Sprint Goals can still be achieved. (Highsmith 2002, p.133; Schwaber 1997; Cervone 2011)

Each member of the team works with specific tasks and works to accomplish them within the 30-day sprints. The Scrum projects are not as defined by guidelines and plans, but rather directed from the individual's own abilities and competences. Every day the team has meetings where everyone ought to participate. The meetings should be short and informative about the current situation for all individuals. The purpose of the meeting is for everyone to state what they have accomplished since the previous meeting, what they will accomplish until the next meeting as well as to update if they have run into any obstacles while working on their tasks. These meetings are a major component in keeping the communication within the team at a good level. The teams also have development meetings where a couple of individuals from the team come together to help each other solve certain problems, develop specific codes etc. These two types of meetings should be differentiated since one focus on information and status while the other ones are more individual and aims to help each other in the tasks. (Highsmith 2002, p.134)

After the sprint, meetings are held where the team reviews the process and looks retrospectively at what has been done. This is important to understand the progress and understanding what has been done from a technical point of view. Further, the features are demonstrated to the customers. The Post-Sprint meetings are important to get feedback and to know what to consider in the next iteration and what processes can or should be left out, what can be done differently and more effectively. These meetings end with setting up a plan for the next iteration in the project. (Highsmith 2002, p.135)

To monitor the progress of the project a chart is used, this is called the Sprint Backlog Graph. The chart shows how much work is still to be done by each day. The amount of work is shown in numbers representing hours and are measured by the amount of days left of the Sprint. By
day 30 the hours should be down at zero to show that the work has been done. The hours are reduced when team members, at the end of each day report the hours devoted to each task and its completion by percentage. The leader of the project is thus able to see the daily progress and react accordingly. (Highsmith 2002, p.136)

2.7.8 Kanban

Kanban is an agile and just-in-time (JIT) method that derives from the Toyota Production System (TPS) with Lean manufacturing. Kanban which is a Japanese word roughly translated to “card” was developed by Taiichi Ohno when studying the Toyota factory to make it more effective (Junior & Filho 2010; Womack, Jones & Roos 1990, p.62; Ohno 1988, pp.28-29). Kanban methodology differs from the other by not focusing on iterations, however, it still focuses on incremental solutions.

Kanban can be used as a complementary methodology to other Agile approaches such as Scrum. It is common for Scrum teams to use Kanban boards to define their work, but they change certain aspects of the methodology and adapt it to their methodology, a combination referred to as Scrumban. The main differences between the two methods are that Scrum boards have a set lifecycle defined by their sprints while Kanban boards lifecycle is defined by the entire project. Except for the stricter timelines, the roles of Kanban teams are much looser while Scrum teams are divided into specific roles, such as PO or developer. (Wang, Conboy & Cawley 2012)

The method uses Kanban cards that define what has to be done, the cards could be post-it notes. These are put on a board and categorised by phases of the project. Each member of the team takes one card (task) to work with and when the task is done the card moves to another stage on the board, a process called workflow (Kumar & Panneerselvan 2007). The board is the focal and most essential part of Kanban methodology which is very basic but important to understand. Each board consists of “visual signals” (cards) with written stories, things to do and work with (Albarqi & Qureshi 2018). The Board is divided in different columns of the different processes where the activities are structured, so called workflow. Tasks and ideas are put in the backlog column and moves through the workflow when a team member takes on that card (Albarqi & Qureshi 2018). A key aspect of each column is the number of cards that can be contained, work in progress limits (WIP). By reducing the amount cards each column can
hold, bottlenecks are exposed in the workflow which indicates where too much focus has been put (Albarqi & Qureshi 2018). The bottlenecks signal where the team needs to prioritise bringing the cards down to keep an effective workflow throughout the entire board. When the card has gone through the workflow and is ready it is put in the “Done” column to show that the task is ready (Junior & Filho 2010).

<table>
<thead>
<tr>
<th>Backlog</th>
<th>To Do</th>
<th>In Progress</th>
<th>Testing</th>
<th>Done</th>
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<tbody>
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*Figure 3: Kanban board.*

2.8 Translation theory and Scandinavian institutionalism

Scandinavian institutionalist theory explains that ideas are translated as they spread from one setting to another (Czarniawska & Sevón 2005). Sahlin and Wedlin (2008, p129) explain that Scandinavian research “came to highlight the dynamic aspect of circulating ideas; how and why ideas become widespread, how they are translated as they flow and with what organizational consequences.” This idea became popular with researchers seeking to develop their understanding related to the diffusion and adaptation of management knowledge (Wæraas & Sataøen 2014). Scandinavian institutionalism differs from traditional views on diffusion by allowing researchers to look at how different organizations have adapted practices to fit their way of working. This contrasts with the traditional diffusion model, which is based on unchanging practices being adapted or rejected by passive “acceptors.” (Ansari et al. 2010)

How are these practises translated into an organization? Sahlin & Wedlin (2008) observed that popularity and what is “in fashion”, acts as the driving force for the diffusion and translation of management practises. The authors describe how researchers in the 1980s and 1990s observed that organizations were imitating ideas that appeared to be popular and fashionable in terms of management practises. Czarniawska & Sevón (2005, p11) summarises it through
the following metaphor: “translation is a vehicle, imitating its motor and fashion sits at its wheel”. Thus, imitation is vital to the diffusion process as it serves as a mechanism through which firms can adapt new practices. In the context of AMP, this could explain the spread of the agile methods beyond software development firms, where it first originated, as APM is perceived to be a successful strategy to employ in order for banks to be able keep up with digital development.

Furthermore, Sevón (1996) defines imitation as a process of translation with a specific focus on conceptualising, and describes this process as “picking up an idea, translating it into something that fits its own context, and materialising it into action”. Basically, that the practice being spread is prone to change instead of being unchangeable. Sahlin and Wedlin (2008) explain that a common theme in institutionalist studies is that the idea does not remain the same as it spreads, rather that there is a process of translation happening - “to imitate then, is not just to copy, but also to change and innovate.” This study will look at the translation of AMP into the context of a bank. Therefore, after analysing the empirical findings, the study will attempt to explain the observations of the by drawing on translation theory.

2.9 Motivation theory

For any company to produce good results, it is essential that the workers are motivated at the job. Salary is not the exclusive motivating factor and often not sufficient to keep the workers committed productive because it is a necessity in life, money is what everybody needs to “survive” (Herzberg 2008). Employers can do much more to keep their employees satisfied by creating a good working environment, offer perks, making them feel like they accomplish something and giving recognition when they perform well. If employees are not feeling motivated, the results for the company will likely go down because the demands are not being met. Employees might feel tired of the job, they put little to no effort at work and perhaps even quit if the opportunity is given. Motivation-hygiene (M-H) theory is one of the most utilised theories regarding motivation in the workplace (Grigaliunas & Herzberg 1971; Oldham & Hackman 1976; Sachau 2007; Ganta 2014; Alshmemri, Shahwan and Maude 2017). The theory consists of two main parts regarding motivation, Motivating factors and Hygiene factors. The first one could be explained as motivating factors that are correlated to the actual work whilst the latter concerns the surroundings. Money has become a natural drive, but employers need to consider the characteristics of the unique person. There must be room for the employee to feel like there is a sense of contentment in the aspect of psychological growth. Some of the most
prevalent factors leading to job satisfaction are achievement, recognition, advancement, responsibility, and growth. On the other hand, factors leading to dissatisfaction are mostly related to policy and administration, salary, working conditions, work relationships and supervision (Herzberg 1968; Oldham & Hackman 1976; Alshmemri, Shahwan & Maude 2017). By motivating the employees and keeping them satisfied, their efficiency increases which have a similar effect on the company's efficiency and thus chances of reaching the goals set by the company increase. Internal relationships are important, there must be a good working environment and collaboration between colleagues (Ganta 2014). Research also shows that responsibility is a key driver in being agile and correlates to motivation. The research suggests that teams should become self-organized and autonomous which increases the level of managerial decisions within the team, thus giving them more responsibility and room for using their own knowledge in problem solving (Hoda & Murugesan 2016; Melo, Santana & Kon 2012).

2.10 Collaboration theory

Collaboration within the organizations is clearly important in order to maintain functionality and provide positive outcomes (Cao, Mohan, Xu & Ramesh 2009; Ryzhkova 2015). Members of teams are not the only ones who work cooperatively but several parts of the organization must synchronize their activities with each other, otherwise gaps are created internally which in turn affects the quality of the work. However, this is not solely restricted to the organisation, collaborative efforts with customers are also important to understand what the customers want and need (Sánchez-González, González-Álvarez & Nieto 2009; Ryzhkova 2015). Even though it is important to listen to customers, it would be problematic if all customers would be attended to since there would simply be too many voices and therefore extremely difficult to satisfy each one. To counter this, companies focus on their active customers who often constitute a minority of the entire customer population (Ryzhkova 2015). The active customers have a lot more feedback to give and more experience with the product or service which is why by listening to them, the company can create or develop something that also satisfies the more passive users. Chen and Popovich (2003) argue that such theories regarding customer relationship management (CRM) are more prone to be implemented in practice with the rise of software. Similar arguments could be found in Wood and Gray (1991) where they explain how the importance of collaboration is increasing and how the importance is explained in the theories. This is in a way opening innovation to incorporate external knowledge and integrating it with
competence and resources located in the company (Chesbrough, Vanhaverbeke & West 2006). By continuously involving customers in the necessary processes, the company is maintaining a consistent flow of information utilised in their workflow. This causes the relationship between the company and customers to improve but also their products and services (Sabath & Whipple 2004; Singh & Power 2009). Customer collaboration can either be in person or over the internet, with each method contributing in different ways (Yi & Gong 2013; Ryzhkova 2015). Whereas in-person meetings are more service oriented and might offer deeper reflection, online interactions preferable when information is gathered from a larger group of people but also contributes to lower the cost of collaboration and information. Yi and Gong (2013) argue that customers are co-creating value with the company and that consumers have a bigger role; it is not limited to only being a purchaser of the product. von Hippel (1995) argued that in some cases collaboration between consumers and the company should occur on an iterative basis i.e. trial and error, which in term calls for those who work on the projects to divide the tasks into smaller tasks and divide them up in the team. The team should thereafter work with trial and error where the company (1) design, (2) build, (3) experiment/release and then (4) analyse. By releasing and then analysing customer feedback the company can use this data to integrate the feedback in order to make the product more to the liking of the customers (von Hippel 1998).

<table>
<thead>
<tr>
<th>Manufacturer-based activity</th>
<th>User-Manufacturer Boundary</th>
<th>User-based activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer draws on local capability information to develop prototype responsive to specifications</td>
<td>User draws on local need information to specify desired product or service</td>
<td></td>
</tr>
<tr>
<td>Manufacturer iterates until user satisfied</td>
<td>User evaluates prototype, drawing on local information regarding application context, and improves/changes specifications as evidence dictates</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>User iterates until satisfied</td>
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*Figure 4: Iterative problem solving in product and service development. Source: von Hippel, 2005*

Internal collaboration within the organization is essential for a productive and effective working environment. There are different methods to make individuals and teams work more cooperatively where some of the methods are related directly to the job and some indirectly
related. The teams can work to become more transformational by doing different team building exercises and having different workshops. Collaborative teams can be put together relatively quick but in the longer run this must be constructed systematically within the firm. Over time, the value of individuals and teams working cooperatively will become conspicuous since the results will be actualized. (Bresnen & Marshall 2002)
3. Methodology

This chapter contains information revolving around the type of approach and design is used in the study, the research design of the study, what type of data is used and how it is gathered and analysed.

3.1 Research approach

This study uses deductive reasoning which necessitates that the researcher investigates whether the empirical findings concur with existing theories without generalising the results or offering new contributions to theories. Deductive reasoning generally follows a linear structure whereby the theory helps to guide and identify findings by creating a hypothesis and collecting data derived from theory. Through this, it aims to find links between empirical finding and theory. When the data has been collected and empirical findings have been made, deductive reasoning uses inductive traits to draw conclusions in relation to theory. However, deductive reasoning is not always as linear as literature suggests since it is possible that the relevance of data in relation to theories might only become evident after all the data has been collected (Yin 2009; Bryman & Bell 2011).

The research methods used in this study are inspired by several similar studies and research articles regarding the application of APM in contexts other than software development (Rosengren & Windahl Strömblad 2017; Alahyari, Svensson & Gorschek 2017, Adut 2016; Akhter & Åkerlind 2018; Bojs 2019; Azanha et al. 2017). By looking at prior studies and research, decisions were made regarding how this study should be approached as well as what type of information was needed and how comprehensive the collection of data should be in order to be sufficient enough to serve the purpose of this study.

3.2 Research strategy

By conducting a qualitative study focused on the application of APM in only one organization, the intention was to gain a more in-depth understanding of the phenomenon. Furthermore, a qualitative approach was chosen because it allows the researchers to emerge themselves into the environment of the subject as well as seeing the meaning of the phenomenon as a result of its context (Yin 2009, pp.13–14; Ghauri & Grønhaug, 2010). This type of research enables an exploration into the social and organizational characteristics and individual behaviours and
their meaning. This angle of research aligns with the aim of this study, which is to further understand organizational characteristics by describing the adaptation of agile methods in a particular context (Thornberg & Charmaz 2012).

3.3 Research design

Robert Stake (1995, p. xi) describes a case study as a “study of the particularity and complexity of a single case, coming to understand its activity within important circumstances”. Case studies are utilised to analyse single cases when researchers aim to answer the “how” question in the context of organizations as well as when researching the nature of a specific case (Yin, 2019). Furthermore, Bryman and Bell (2011) state that for a study to be characterised as a ‘case study,’ the study needs to be based on the analysis of a single organization or workplace. By posing the question of how the bank applies the agile methods the case design was deemed appropriate in combination with a qualitative method. This design is preferred when conducting research in a management or business context, which is the case with this study (Eisenhardt & Graebner 2007). The focus of a case study is to examine the specific setting by generating deeper understanding, which is most commonly done by integrating qualitative research strategy. The reason being that qualitative strategy uses interviews as a tool to generate intensive knowledge (Bryman and Bell 2011).

3.4 Selection and data collection

Initial contact was made with several banks in an initial attempt to get a more general understanding of the adoption of APM in the banking industry. However, there was a low response frequency from several respondents and banks, principally due to a lack of availability and also because of secrecy concerns. Moreover, the limited time to conduct this study led the researchers to base the study on a convenience sample from the bank with the highest number of respondents (Denscombe 2014). In addition, this particular bank had in the early stages authorized the study, which meant that the researchers could access certain internal documents and observations in order to gather relevant data (Denscombe 2014).

Primary data was collected through semi-structured interviews, conducted via Skype and Zoom. During the course of the study, ten individuals with various roles were interviewed. In addition to the ten interviews, there was a pre-interview meeting with one employee in which information was gathered in order to help structure the questions used in the data-collecting
interviews. The interview protocol included background questions on the participants and questions related to the current adaptation of APM in the specific context. The interviews were designed to map out in more depth how agile methods are implemented in the product developing processes. Since this was a case study, participants were selected based on their positions in the product development process.

Furthermore, the researchers were able access and review internal documents regarding product development projects which served as secondary data as well as means to further confirm the saturation in the gathered information from the interviews. The internal documents were provided through an online resource which contained detailed notes on projects. This allows everybody in the organization to see what has been done, what needs to be done, who bears responsibility for what and general input such as feedback from customers and stakeholders. Obtaining this access ensured that the authors could triangulate the information the study gathered through the interviews, adding credibility to this study with the addition of another source of information (Bryman & Bell 2011). Being able to review the different projects provided valuable insights into the processes of the bank which assisted in the analysis of the study. However, due to this information being protected by the law of bank secrecy, the study cannot describe a specific project or document. Moreover, confidential documents were only accessed after the bank could be assured that the information would be treated in such a way that the confidentiality would be honoured and that no information would harm the bank or associated respondents (Denscombe 2014). This information was regarded as secondary data.

3.4.1 Interviews

By conducting interviews, the intention was to gather first-hand information about how the company implements and utilises APM. Semi-structured interviews were conducted due to their ability to generate a considerable amount of qualitative and contextually rich data. Semi structured interviews are somewhat defined by previously decided questions but also give space to expand on the answers as allowing for follow-up questions (Qu & Dumay 2011, pp.245-247). This interview method is often the most convenient and effective method due to being flexible, intelligible, accessible and suiting for uncovering organizational behaviour (Kvale & Brinkmann 2015). Furthermore, this method allows for the interviewees to answer in their own language, meaning they describe their perception about their job and environment in their own terms as they see it.
Interviews were conducted with several PO who are responsible for different product areas and projects as well as software engineers and Scrum Masters in order to capture the full overview of the processes involving product development. Ten interviews in total were conducted, informational redundancy was achieved after conducting seven interviews. Informational redundancy refers to the point in which new information is only confirming the information within the initial generated codes (Sandelowski 2008, p.875; Grady 1998, p.26). However, the decision was made to conduct three more interviews in order to increase the validity of the findings. The interviews were audio-recorded with the consent of the study participants and then transcribed verbatim. Each interview lasted around 60 minutes.

3.5 Analysing the data

The empirical information gathered through interviews was analysed through thematic analysis. A thematic analysis method is applied when attempting to find themes in the data collected. The study data analysis followed the top-down framework introduced by Braun and Clarke (2006) which involves six phases:

1. *Familiarising* yourself with the data and *identifying* items of potential interest. This phase involved transcribing the recorded data and re-reading the transcriptions with the purpose of noting down initial ideas and thoughts.

2. *Generating initial codes:* During the second phase the initial systematic organization of data began. This phase allows for the identification of relevant segments of data that added value in answering the research questions. Open coding was used, meaning there were no pre-set codes but rather codes were developed as work progressed through the coding process even though there were some initial ideas about codes. The transcripts were coded by the authors individually. This was done to discuss, compare and modify before moving to the next transcript.

3. *Searching for themes:* This step started when all the data was initially coded, and a compiled list of the codes was gathered. Here, the focus was to find a broader level of themes which involved sorting the different codes into potential themes and grouping together coded data within said themes. The purpose was to analyse the codes into overarching themes (thematic map might be applied here). The relationship between codes and themes were taken into consideration as well as different levels within the themes.
4. **Reviewing potential themes:** The process of reviewing themes involved refinement of candidate themes. Here, it was noticed that some themes could not be qualified as themes due to lack of data or that two themes could become one. In addition, consideration of breaking down themes is done at this step. There are two steps to this phase. The first step involved reviewing the initial data extracts that were coded to make sure that the themes were coherent. The second step involved reviewing if themes worked in the context of the entire data set.

5. **Defining and naming themes:** This step includes defining and further refining the themes used in the analysis. For each individual theme, there was an analysis made. Here, the study also tried to identify if there were any subthemes, as well as overlap of the themes. Furthermore, this step involved identifying the “essence” of what each theme was about as well as determining what aspect of the data captured the theme.

6. **Producing the report:** This phase started when the themes were fully refined. This phase involved writing the “story” of the data. The analysis was designed in such a way to explain how the bank applied agile methods by identifying themes that captured the significant aspects of the process. The data was gathered, coded, and themed and then incorporated into an analytical narrative in order to tell this story.

### 3.6 Validity and reliability

Case studies are generally utilised when the aim is to provide explanations for a small number of cases, which makes the results more difficult in terms of being representative (Yin 2009). The aim of this study is not to provide general information or a hypothesis, instead the findings from the analysis can be used to compare similar cases (Gerring 2007). Overall, the purpose of a case study is to generalise theoretical statements and not to measure frequencies, which means it is not the aim to create statistical generalisation. Moreover, case studies aim to develop existing theories which then need to be validated through further research (Yin 2009; Denscombe 2014). Cross-case studies have a higher external validity but, in this case, only one bank was studied, although it did include several different teams within the bank. However, generalisability issues certainly arise with the inclusion of only one organization in the study. (Yin 2009; Bryman & Bell 2011). Nevertheless, the processes behind the application of APM in the banking context and in projects might be transferable to other banks due to similar structures, the fact that they operate within the same areas, have the same type of customers with similar demands and operate under the same laws and regulations. Since they work in
similar ways and develop similar products and services, the findings in this study are to some degree transferable. Other aspects that may affect the transferability are the sizes of the other banks, the organizational structure, how digitised they are and how old they are.

Yin (2004) defines reliability as “demonstrating that the operations of a study … can be repeated with the same results”. Reliability mostly concerns repeatable results regarding measurements, which means that reliability has little to no impact in qualitative research. (Stenbacka 2001, Collis and Hussey, 2013). An attempt at replicating the methods in this study could be successful. However, this is a qualitative case study which means the replication of the results is not guaranteed due to the fact that respondents in other banks might interpret their experience of adaptation in a different way. In addition, other banks have other processes which can influence the way they adapt agile methods.

3.7 Ethical standard

There is an ethical approach which needs to be considered when conducting a case study, which this study has taken into consideration and followed. According to Yin (2009) this is necessary to protect the participants in the study and shows that the research has been conducted ethically. There are four main points to consider for the study to be conducted in an ethical fashion, which are:

(i) Obtaining consent from everyone involved in the study by informing the individuals about the study and its nature whereby they volunteered to participate in the study.

(ii) Those who participate in the study should be protected from harm by not being exposed to any disinformation about the study.

(iii) The privacy and confidentiality of the participants should be protected. The participants should not accidentally be put in positions where they are targets to participate in future studies as a consequence of being a part of this study, nor should they be put in any other type of inadmissible or troublesome position.

(iv) Protecting vulnerable groups by taking necessary precautions.

The chosen bank in this study is a Swedish bank with circa 500 employees. This bank was deemed to be appropriate for the study because of the implementation of agile methods in the
organization, specifically in the product development area. The bank has been keeping up with the overall digitisation in the society in order to deliver services adaptable to the evolution of digitisation. Several of the interviewees, especially the PO, have worked at different positions within the same bank and with many different projects, thus contributing to the interviewees having a lot of perspective from different types of projects and a more holistic view of the organization when answering the questions. In this study, the bank and the interviewees were made anonymous due to banking secrecy and regulations. The bank and the interviewees will therefore respectively be referred to as “the bank” and “respondent/respondents.” Except for the participants' roles at the bank, no other specific information is disclosed about them or the projects in this study. Hence, none of the quotes are linked to any respondents’ role in order to protect their identity and any descriptive characteristics about their specific tasks.

3.8 Methodology criticism

Since contact information for the respondents was not available, it was difficult to reach out to respondents. This made it time-consuming to find potential participants and establish contact with them (Denscombe 2014, p.30). Furthermore, the total number of respondents was not evenly distributed by role, which could potentially create biased answers, depending on who was asked. However, the reason for conducting interviews with individuals with different positions in the team was to minimize the risk of biased responses.

Moreover, this study uses a case study approach which makes it difficult to generalise the findings. Case studies are also difficult to define which poses the problem of which data collection methods and sources should be used. In this case, there were a lot of difficulties regarding obtaining access to documents and settings because of confidentiality and ethical considerations. This was very time-consuming since much effort was put into talking to different parts of the organization to make sure that confidentiality and compliance was upheld.

Furthermore, case studies do not focus on measurements but rather focus on processes. They contribute with descriptive and interpretive data rather than statistical data, which is difficult to quantify. Regarding the interviews, it was difficult to assess whether the respondents' answers were a reflection of reality, which is also why internal documents and web pages were used to confirm what was said. However, some answers may be subjective due to each respondent having different views on the topic which are based on their own experiences.
Qualitative studies usually do not have high reliability, however the research methods can be described in detail so future research could use the same method in an attempt to reproduce similar findings. This study utilised semi-structured interviews as the primary source of data which produces rich and deep data, however semi-structured interviews are difficult to conduct in a consistent manner due to their open nature. Moreover, booking meetings, transcribing and generating relevant results might be difficult to always achieve and takes a lot of time from the researchers but also from the respondents in regard to taking their time. The documents in this study were produced for the formal processes of the company and are therefore not censored in any way by the company, thus increasing credibility. The researchers used formal documentation and web information used within the company, this data was regarded as secondary data. (Denscombe 2014, p.240)
4. Findings and Analysis

In this section the empirical findings are presented and analysed along the themes that were identified in the data. By linking the identified themes to theory, the analysis helps to understand in what way the bank has translated APM tools in order for them to be efficient in their development process.

4.1 Describing and analysing the adaptation of agile tools

4.1.1 Adapting agile framework

Agile methods emphasise the importance of the individuals that compose a team and the interactions which take place within the team. Consistently with the agile methods, it was found that the concept of the self-organizing teams appeared to be central to the projects. This is manifested through the teams having an important role in shaping the framework of which they utilize.

“We as an organization are not very strict about how we work, instead we work with what the individuals are most comfortable with, basically how the team really prefers to work.” - Respondent 4

The findings showed that most of the teams preferred to use either Kanban or a mixed approach called Scrumban, which combines elements of Scrum with Kanban. Furthermore, two observations were made based on data. The first one being that Scrum was perceived to be an approach that required a lot of time spent on the different rituals, which include daily Scrum meetings, sprint planning, sprints, sprint review, and sprint retrospective meetings. Despite arguments in the literature which encourage a pure adaptation of the method, the reality in the context of a bank shows that respondents feel that adapting a pure Scrum approach is difficult since all the activities associated with this approach take too much time away from the actual development processes (Conforto et al. 2014).

In addition, by following Scrum, there was a perceived loss of flexibility. This was exemplified in the team responsible for the development of the bank's application and its features, which has recently been exposed to changes. Previously, the team had to adjust according to set project deadlines handed down by the senior management, making the team strictly follow the
Scrum framework and everything that it entails. One PO described the process as inflexible due to not being able to add more things into the sprint when it was done, stating that when working with Scrum, if one needed to add a new element to the sprint, something else would have to be removed.

However, after foregoing this latter approach, it was decided that Scrumban should be used instead. Consequently, with this new approach, the team decided to remove the two-week sprints and instead decide what needs to be done at the beginning of each week. Usually, the team is working on a large body of work which can be broken down into several smaller tasks (known as epics). The smaller tasks are then sorted by priority, with the team members choosing tasks from the top of the list. However, here the PO can make changes to the list of what has not yet been done, which was impossible with the strict Scrum approach. It is important here to note the concept of dynamic requirements in APM; in that changes are usually part of the project, as requirements can evolve over time. However, in practice, following the Scrum methodology has the potential to result in a loss of flexibility when working on projects.

“If you follow Scrum religiously then in the holy two weeks sprint, you absolutely must not push anything new in that timeframe. When you take it to that level and adopt such an approach, that can become quite problematic. Working in a constantly changing world, a lot of things can happen during a sprint and to not have that flexibility could result in you being trapped in the theories around agile. Because of this I feel that you can not combine the theory with the practice in reality. An example of this might be that the rituals in a lot of these what I call meta meetings (planning meeting, grooming meeting, retro meeting) they take quite a lot of time from quite a few people. Time that could be spent on work so it is important that those meetings provide value and that one can learn from the retro meeting to work better.” - Respondent 3

The removal of the deadline is an important reason for removing the Scrum methodology, as it allows the projects to be viewed as “never-ending stories” meaning that there is no need to prioritise a deadline instead of quality, something that a team potentially must when reaching the deadline under Scrum. Thus, removal of the deadline approach not only adds flexibility but also does not compromise on quality.
“So always you have to pick which one is more important to you. Is it the timeline and the deadlines, or is it the quality of your developing? I guess we are happy because now we have switched to the quality, which is a lot better for us and for new users.” - Respondent 6

In addition, the empirical findings show that the seniority of the team seemed to play a role in the type of method which best suited the team in terms of increasing team efficiency. The respondent explained that the seniority of the team could potentially be the reason for why Scrumban is a better fit for the more senior teams or teams that have worked together for a longer period of time. This is credited to the fact that senior team members have the required knowledge to know the value of a specific task as well as a more developed understanding of what needs to be prioritised. Since the team is more self-sufficient, there is a decreased need for traditional Scrum rituals.

“In my experience, there is no answer to what is the most efficient way of working but I would say mostly it depends on the maturity level of the team, how long you work together and how senior they are. If you have a very senior team, the developers know each other and know why you do things and know how to do it and they have a good understanding of what is prioritised and are motivated to do the work. They solve problems themselves which makes it less important to have all these rituals. They have a pretty good picture of what needs to be done and do not need to hang up so much on these rituals.”- Respondent 3

The findings showed that there is no explicit method that the team should abide by, but rather the methods should be tailored after the team’s competence and preferences. This way the team can decide what is most suitable for the specific project regarding good performance. Some developers have experience with different methods from different teams or prior employment which they suggest might work well. Hence, the team draws from the individual’s prior experiences to learn and find ways to work in the best possible manner. The methods applied are therefore not strictly following any practical theories but rather use those theories as a guide and adapt methods to suit their own preferences.

4.1.2 Motivation

The teams being able to choose the way they work, was expressed in all of the interviews. According to the respondents, there is a lot of knowledge between the engineers which should
be utilised and not fully controlled by the PO. According to M-H theory, this creates a better working environment by recognising their competence and abilities by letting them use their knowledge to perform their work, thereby allowing them to perform and achieve their objectives. A high level of trust is also shown to the developing teams by giving them many responsibilities. This helps to create a sense of commitment to the job (Herzberg 1968; Oldham & Hackman 1976; Alshmemri, Shahwan and Maude 2017).

“Basically, I have the final say, however I gladly emphasise that the team can make decisions on their own. My role is to make quick and good decisions but, in many cases, when it comes to the technical aspects, I need the help of the team to help me make the right decisions... Sometimes what needs to be done is not what the developers wish to do. I have to explain to them the business side of the product and they explain how it could be done from a technical perspective. When we have better understanding, I leave a lot of decision making up to them to find the best possible solution” - Respondent 4

What was also highlighted is that what they develop is heavily influenced by the strategy of the company. More than half of product development taking place in the bank is not initiated by the business side, rather it is driven by regulatory requirements. This could be an issue since regulations and police have shown to dissatisfy workers (Herzberg 1968; Shahwan and Maude 2017). However, the technical aspect is still decided by the developing teams, meaning that the programming aspect of product development is completely up to the developers of each project. This is deemed to be a vital aspect of the projects:

“We have moved toward an organization where we try to let the developers take the responsibility for the solution, from an IT- perspective. In the long run, I think when you give this responsibility, it develops them further.” - Respondent 1

Furthermore, this gives the team members a sense of ownership, which seems to be an important aspect in keeping the team motivated. Ownership of the project enables team members to perform at a high level. The interviews also revealed that POs spent time helping team members understand the value of the product they were creating. As well as explaining the value of the product for the customer, the POs outline what business value products bring to the company. The PO bears the responsibility to communicate and make the team members understand the value of the developing product as well as making the team feel like they have
ownership over the product (Herzberg 1968; Oldham & Hackman 1976; Alshmemri, Shahwan and Maude 2017).

“I work a lot with collecting information from the business and stakeholders regarding what needs to be done. Then I have a start-up meeting with the tech team and explain what needs to be done, what the business value is or what the compliance value is, why are we doing this, for who are we doing this and what is the purpose of this. By doing so, they understand what the underlying purpose with all this is, they become more complicit in the project and feel much more ownership in the project. Instead of me giving them instructions on what to do, we break everything down together about how we should do this together practically.”- Respondent 3

This is a challenging task and requires that the PO understands how the individuals of the team think, work and how to communicate in a pedagogic and understandable way so they do not feel pressured or forced to do something they do not enjoy or are comfortable with. Therefore, it is essential to make the developers understand the value of their creation, not only the value they bring the company but more importantly the value they bring to the customers (Shahwan and Maude 2017).

“The team has learned and understands why they are doing these projects and where the value in it exists. They can do tests and release features easily and comfortably when and if it works. It is important to not build up any release anxiety within the team.”- Respondent 3

Another respondent added:

“I let the team decide who is going to work on what, I tell them what needs to be done and they organically decide. And we do not force anyone to work on something they do not want to do. If someone is interested in something, they can absolutely do it.”- Respondent 6

Furthermore, a lot of responsibility is put on the PO to make sure the teams are functioning well while he/she takes much of the pressure put on the development by the stakeholders or organization. The PO acts like a shield for the development teams, dealing with all the questions and issues so the team can focus on their part of the value creation. While POs admitted that they are dealing with a lot of pressure, they also share that they are comfortable in their roles and happy with their work which is important for motivating the rest of the team.
(Shahwan and Maude 2017). This is in line with the fifth of the agile principles whereupon it is stated that the projects should be built around motivated individuals. They need to be given the environment and support that they need, and also be trusted to get the job done.

The developers/engineers only work with tech and the decisions regarding what needs to be done comes from the business part of the company, which creates a communication gap between different parts of the organization. The business (stakeholders etc) come up with a vision for a product, however they do not possess an understanding of the programming process which is required to bring this vision to life. This knowledge gap creates issues with the developers. Furthermore, the developers might have unexploited ideas or improvements regarding products, services or functions but these cannot be implemented because of legal problems and regulation. These discrepancies are why the role of the PO is so important, as they have one foot in both parts of the organization, and thus act as the bridge between business and tech. The PO has therefore a huge responsibility in bridging the gap and making sure both parts of the organization understand each other and decide what the best solutions are. This is best illustrated by one of the agile principles, which states that business people and developers must work together on a daily basis throughout the project, in the context of the bank, the PO is the person who is able to ensure this takes place.

“We have Product Owners that are responsible for the bridge between the technical side and our business side, so we sit in between and work out and synchronise the requirements. We are the people who are familiar with the products, how they work and how they should be implemented on a technical level. So that we are right there, between tech and our business department.” - Respondent 2

Communication skills are therefore important, especially to make the developers understand what needs to be done without making them feel like the PO is dictating their work. By making them realise that their input in the projects creates value for the customers they understand the benefits they are responsible for, and how their work affects hundreds of thousands of people. Thus, their value creation is beyond just the stakeholders or company as one unit. When the developers understand how they directly contribute to what the customers get in form of a product or service, they feel ownership in the process of creation, therefore motivating them to create a product with greater consumer value (Herzberg 1968; Oldham & Hackman 1976; Alshmemri, Shahwan and Maude 2017).
“It is important to create a sense of ownership for the product so that everyone feels like they are contributing to create customer value and business value. A responsibility where everyone feels like they are a part of this and contributing to this product and this part. If some have a certain area they work with, then they should feel responsible for their area. That is what we are trying to create, the feeling of everyone contributing and working towards the same goals.”
- Respondent 5

In addition, the well being of the team is an important factor for team success. It was stressed in the interviews that there is a lot of effort making sure that the team is happy and feeling well. They should not feel too pressured or forced to work in an environment that is not making them comfortable. The environment should be relaxed, and they are striving to create an atmosphere that is more casual than strict.

“If the developers are not feeling well, the job will not get done. It is important that everyone feels well, have fun and work at a high tempo but in a healthy way. It is much more fun to work in a team where the culture is great, and everyone likes each other. If the team feels better, they perform better.” - Respondent 4

The empirical findings suggest that it is essential to have the teams feeling well and having fun in order to have everyone perform at the highest possible level. The workplace is demanding; however, it should be done in a healthy fashion where there is not too much stress or anxiety built up within the teams. These findings are relative to motivation theory and arguments from Ganta (2014) that suggest that the environment and communication amongst colleagues should promote a healthy workplace which creates a driving force, inspiring and motivating the employees to perform.

4.1.3 Collaboration

Collaboration is a core value that is one of the focal points of agile methods. This is because agile methods involve iterative processes in which feedback is reviewed and incorporated into the product in order to create a product with higher value for the customer. This is reflected in von Hippel's (1995) theory of implementing iterations as a problem-solving design. The importance of collaboration in agile methods is illustrated by the relationship between the bank
and customer. Compared to a traditional waterfall method where feedback is received after a product release, agile methods tend to involve the customer during the development process, including them in elements such as discussing product features, writing user stories, prioritizing the feature lists and providing feedback on a regular basis. Thus, this close relationship between the bank and the customer allows for better end-products through feedback and iteration (Sabath & Whipple 2004; Singh & Power 2009).

“We want to put something out that has value for the customer and is useful. Sometimes it happens that we release something pretty quick, but we will iterate on it over the coming weeks. During this time, we collect a lot of feedback from the customers and iterate on that and then we collect more feedback and so on.” - Respondent 4

The bank provides products for a large number of customers, the latter of whom are involved in the product development process. This collaboration with customers is facilitated through several feedback channels which include social media, conducting customer interviews, as well as tracking analytics on the bank's application and on the website (Yi and Gong 2013; Ryzhkova 2015).

“Except for what we want to achieve, the customers often tell us what they want, and it is mostly the more active and interested customers who voice their opinions. Sometimes they say a lot by not saying much, but rather we look at how the customers act on the web, analysing their patterns or by talking to customer service who are frequently in contact with the customers. We receive a lot of feedback through mail, Twitter, Facebook and also get calls from the customers.” - Respondent 4

This was also pointed out by Respondent 9 who mentioned that there is not always a direct contact with customers, but rather the teams receive a lot of customer feedback through internal communication channels. However, the bank has adapted this form of customer collaboration into something which suits the organization better. They have done this by cultivating an active relationship through iterations with the customer base (Ryzhkova 2015). Achieving a pure imitation of agile collaboration with customers would be impossible as the bank serves a large customer base (Sevón 1996; Sahlin & Wedlin 2008). Although customer collaboration is not as dynamic as it would be if the customers could give their feedback in person, the bank maintains an active collaboration with customers through a continuous conversation with their
customer base via their digital channels. An important part is to follow up and communicate back to the customer what has been done so consumers feel engaged and valued. Almost all of the respondents stated that the earlier the input comes in, the better the product will be as it is easier to improve upon the product early in the development process. This showed to be important in all projects and methods, as the further in a project you are, the more difficult it is to make changes. Customers appreciate when their input is acted upon and valued highly in the iteration process.

“Everything we want to get done will not be done when we release it to customers. When we iterate on it, it may be that we swap placements on where information is located. This may come from feedback from customers, internal stakeholders and we iterate on what feedback is available but continue to work to add more value.” - Respondent 4

Collaboration in the bank takes on different forms; there is customer collaboration as discussed above, collaboration within the team and stakeholder collaboration. Collaboration within teams is important due to the different challenges that arise when it comes to programming. When the engineers are working on projects it is important that the form of coding or programming is not known exclusively to the individual within the developing team. This is because it could create difficulties if changes are needed in the programming or if the programming needs further development. In addition, Respondent 9 mentioned that receiving early feedback makes it easier to act and change rather than receiving it months later and thus creating a situation where the team might have forgotten exactly how they did it. Even though it is documented, this is time consuming and more effective when feedback comes in the early stages.

“Some engineers have their personalities that could be visible in their coding, they have their own method or way of coding. This makes it difficult for someone else to make changes to it. Let us say, the team has been working on a feature on the website and one of the developers has worked with the same task throughout the whole project, you know this could be months of development. If after the launch there is a bug in that code, it can be very difficult for someone else that did not write the code to change it, because it would be hard to understand how the previous colleague wrote the code. In bigger projects this is even more problematic, because if the developer is not there for some reason after launch, then this might result in delays.” - Respondent 7
Bugs in the program can occur after the engineer who wrote them is no longer available, which is why it is important that the engineers collaborate and learn from each other. Furthermore, if a developer only focuses on programming in the area(s) they feel comfortable in, there is a risk that they are narrowing their skillset down and will therefore not be able to contribute to other types of tasks and projects. When resources need to be re-allocated this creates problems because people are thrown into situations they are not prepared to handle.

The bank solves these challenges by having engineers work together with pair-programming or mob-programming, so that they can learn from each other. Pair-programming is often useful because knowledge is shared, e.g. a senior developer works with a junior developer so he/she can learn more about that specific task or coding. Mob-programming is used in smaller teams where the team needs to work together in order to be more effective. For example, going back to the issue of differing coding styles, mob-programming allows the teams to standardise their coding styles and detect bugs, which makes it more straightforward to go back and iterate their work. This enables the team to combine the individual’s perspectives and competence in order to eliminate personal flaws in the development.

“The advantage of working with mob-programming is that no individual’s personality is visible in the coding. In a sense, we eliminate each other’s flaws by working together almost all the time and we do not have to ask each other about who did this or that.” - Respondent 7

The team decided organically who is going to work on what based on the product backlog. Another process that happens organically without intervention of the PO is the process of a senior team member taking on the unofficial role of a mentor and the team then collaborates together, thus taking responsibility (Herzberg 1968; Oldham & Hackman 1976; Alshmemri, Shahwan and Maude 2017). The perceived collaboration between junior and senior members is something that manifested itself in other interviews as well. This type of relationship also manifested through the pair-programming initiative in the teams.

“I mostly leave it to the team to decide. But, then we have quite a high turnover of personnel in the industry overall, so it is very much about getting people on the track very quickly. The senior developer can help the junior developer without slowing the pace down too much.” - Respondent 4
There are two realised benefits; the first one is that there is an efficiency standpoint and the second one is that the culture in the bank promotes collaboration. The motive for pair-programming might be to not slow down the pace while teaching junior team members but junior members also need the learning culture in order for the team to be efficient in the long run. This type of working approach was similarly discussed by respondent 8. Hence, focus is on the individual to learn, be able to ask questions and to observe which can be traced to the agile value of interaction over processes and tools.

Traditionally, agile methods put a lot of focus on stakeholder collaboration due to its importance for understanding and defining requirements for product development (Inayat & Salim 2015). This is especially important in the context of a bank due to regulatory limitations which affect what and how products are developed for customers. When projects arise as a result of new regulations and other frameworks, ensuring collaborations between appropriate stakeholders is extremely important as they contribute specific legal and compliance knowledge.

However, this is not solely limited to regulatory initiatives, there could be other internal stakeholders such as various customer services and departments responsible for increasing business in different countries. Depending on what type of project it is, “decisions groups” are formed where people with the right competencies give their input and advice on decisions. These groups are formed before the start of the project, in order to define requirements, however, the PO is responsible for ensuring that the stakeholders are involved during the whole process. Drawing on translation theory, it could be argued that the “decision groups” are an adaptation of the stakeholder collaboration aspect found in agile methodology, and is an example of how an organization has adapted an agile principle to fit its needs (Corvellec & Eriksson-Zetterquist 2016; Czarniawska 2009). Moreover, there are many aspects to consider when developing a product, including economical aspects, security, compliance and commercial aspects, to name a few. Thus, there needs to be a source with all the relevant information that the teams can rely on to give necessary information and input.

“Often projects have many different angles... Then there are a lot of different aspects, there are security aspects, there are commercial aspects and other aspects that the different country managers are interested in and then, there are economic aspects. There are different heavy
stakeholders and many stakeholders have different angles and expect different things in the project.” - Respondent 3

4.2 Challenges

As previously stated, agile literature tends to make the argument that agile should be implemented in its pure form, where the practises and techniques are implemented as they are in theory (Conforto et al. 2014). However, in the banking industry, the implementation of pure agile methods is not feasible due to regulations governing the banking industry, as well as the need for banks to comply with laws and regulations set by the government and Finansinspektionen (Sweden’s financial supervisory authority). This means that when the banks translate agile methods into practice, there are contextual factors that affect the process (Sevon 1996), factors which do not have the same influence in the traditional software development setting.

The findings from this study showed most of the initiatives are handed down to POs from management and that the projects are usually based on regulatory/compliance aspects. Customer needs do not always drive the development of a project, as some projects arise as a result of regulatory or compliance pressures. In these kinds of circumstances, customers are not involved in product development processes and therefore exert little influence on these processes.

“In recent years, there have been very many law-driven projects. We spend a lot of development capacity on legal projects. Some customers want things that are impossible to offer because of laws and regulations.” - Respondent 3

Instead, these products are consequences of laws and regulations, leading to their prioritization over projects that create features for consumers. This means that due to regulations, situations occur where the bank must make decisions based on the regulatory framework rather than consumers wishes. The PO must therefore take into consideration all the wants and needs from all stakeholders as well as those of the customers before making a decision. One could therefore argue that this approach contradicts the first agile principle which states that the highest priority is to satisfy the customer through early and continuous delivery of valuable software.
In some cases, the bank started working on certain features but after the first iteration, they had to shift focus to compliance related work, which consumed the time that was planned to be put on the next few iterations to improve certain products. In addition to that, there is a shortage of developers not just within the bank, but in society in general, which affects the bank’s capacity to work more with technological development. There is much that could be done but most resources are allocated to projects arising from regulatory initiatives.

“The latest important compliance initiatives come from new legal frameworks that have come into power such as MIFID 2, GDPR or AML laws etc. These requirements come from the EU which one has to abide by. If this comes into power the third of march, then the bank must do everything in its power to make the deadline and not a day later.” - Respondent 10

Furthermore, Respondent 9 stated that when major legal and compliance initiatives are initiated, and there is a set deadline, then until that deadline is reached, the team is only focused on that, meaning regulations are prioritised above all else. The respondent therefore fails to perceive this as agile working. However, prioritisation is not the only element that is influenced by regulations. The programming process itself is affected as well. The team must have legal expertise in the product area they are developing in, in order to be able to develop the product or implement the change in an appropriate manner.

“We need to have good documentation and code review. We must have X number of people who approve a change. It is very structured in a bank how to actually implement the development itself. You need to be able follow the clean documentation to be able to see who has made a change, what is the change made, what time the change was made and so on. You have to have control over that process and in addition to that, you also have to take into account the laws and regulations that exist in that area in which you are sitting and implementing a change in.” - Respondent 2

The agile approach poses challenges in these circumstances, for instance when the team starts to develop a project, the project must respect all relevant legal aspects. However, since the software developers do not have the legal competencies, it is important that the relevant stakeholders verify the legalities before any programming can begin.
“But then we also have stakeholders like legal, compliance and security and all those people. So, it is either us reaching out to them and asking okay, we want to do this. What do you think with your input? Or it could be coming from them if they have an initiative that touches the app as well.” - Respondent 6

It is important to understand that compared to the traditional software setting, consumers hold a lot of trust for the banks. There are great legal and economic consequences for not complying to the regulations that could have adverse economic effects for consumers. Banks must hold a very high standard regarding security as well as making sure that consumers using the products abide by the laws of the government.

“In the banking world, changes are usually very complex, technically complex, meaning that what customers perceive to be a minor change, can be quite difficult to translate into how the solution should actually be implemented.” -Respondent 2

The potential implemented changes could mean the loss of a lot of capital, thus there is a much bigger responsibility to make sure that the quality of the product is assured. Consequently, there are processes in place in order to secure this standard of quality. The PO is the one responsible for finding what the legal requirements are and assisting the teams based on the input from the legal and compliance department. However, if the PO does not have the specific information, the process of getting that information can take time and as a consequence, flexibility is traded for control.

Czarniawska & Sevón (2005) argue that the existing institutional environment and the organization's ability, need or desire to transform this existing institutional environment affects the way in which they adapt agile methods. The bank does not have the ability to challenge these existing institutions in the form of regulations and compliance as they are legally binding, the translation theory therefore assists in understanding the form in which agile methods take place in the bank. By drawing on translation theory, it can be understood that in the adaptation of agile methods, contextual factors limit the bank's ability to implement “pure” agile methods.

An example of another contextual factor that seems to restrict agility is the documentation obligation. Swedish banks are obligated by regulation to document the development of projects. The agile manifesto contains several aspects where it highlights prioritisation of
working software above documentation, however as the documentation obligation exists, it appears to be an additional factor in the banking context which limits the ability to be flexible.

Furthermore, there are internal factors which affect the translation of APM into the bank setting, such as the fact that agile methods have not been implemented uniformly throughout the bank. As APM has not been widely implemented in the organization, a challenge which is perceived by respondents is cooperation with other departments. Respondent 10 stated that there are occasions in which another department can have expectations of the completed workload of his teams which is not always feasible. This can occur when another department hands down a number of tasks or requirements to be done, which hampers the flow of the teams working with product development, as the tasks are time consuming and challenging. Usually with APM, the requirements come in one at a time, however if several requirements come in at the same time, the development team has to adapt their work to the timeline of the department which requested this work (usually under tight deadlines). Because the product development teams are used to working iteratively on one project at the time, having to suddenly coordinate and develop several projects at the same time makes their work more challenging. One of the respondents describes this phenomenon as a shift to more traditional project management. As other departments in the organization are not agile, complications arise when coordinating activities between departments which consequently impacts the organization’s agility negatively. Differences in the way teams within product development adapt agile frameworks can also result in tensions.

“You have to take into consideration that some teams work one way, and others another way ... so you have to try to find a process that works in between. There is no definitive way that exactly tells what you need to do to get it to work. But I think the most important thing is to listen in with all the teams that participate and adapt continuously in the process.” - Respondent 2

The respondents discussed the need to compromise the way they work when collaborating with other departments as a result of the differences in the way in which they manage their teams. For instance, there are differences in the application of agile methods from one team to another, making it challenging to collaborate between these teams, which in turn can negatively affect the work they produce. However, spending time on finding a compromise could take time away
initially but would mean the teams would be contributing to finding an appropriate work plan that maximises efficiency.
5. Discussion

In this chapter, a discussion will take place around how agile methods are translated into the context of the bank and what challenges are perceived in this context according to the results of this study. Furthermore, the discussion will compare the themes identified in this study with those identified in previous research.

One of this study’s findings was that all the respondents stated that their teams used the mixed agile approach Scrumban instead of Scrum. This was because the respondents felt that adhering to a strict Scrum approach led to a loss of flexibility in their work. By taking elements from both Scrum and Kanban, the teams were able to adapt these two methods into a management framework which suited this particular organization. One of the main drivers for adopting a Scrumban approach was related to the high seniority of the teams, which negated the need for all the rituals found in the pure Scrum framework. Early research of agile methods push for a “pure” adaptation of agile practices, an idea which can be understood through the rigid traditional diffusion model, in which practices are either rejected or accepted as they are (Conforto et al. 2014; Highsmith 2004; Schwaber 2004; Ansari et al. 2010). However, the Scandinavian institutionalist theory argues that the adaptation of management practices in organizations can be explained through the influence of contextual factors. The idea of customising agile methods to suit the teams is also supported by previous literature (Dikert, Paasivaara and Lassenius 2016; Dybå and Dingsøyr 2008; Abrahamsson, Conboy and Wang 2009).

The findings from this study also show that customer collaboration in the bank differs from traditional software development settings. Traditionally, the customer is involved in processes such as writing user stories and has influence of which features are prioritised. On the other hand, banks do not deal directly with individual customers, as that is done via digital channels in order to develop a relationship with committed customers (Yusuf, Gunasekaran, Adeleye & Sivayoganathan 2004, Misra, Kumar & Kumar 2009, Nerur, Mahapatra & Mangalaraj, 2005). In the context of a bank, customer feedback takes place early on in the product’s development to allow the team to incorporate feedback before the product is finalised and distributed. Here, customers partake in an active collaboration with the bank and are able to test out the product during the development phase. This feedback is received via various communication channels and aims to improve product features or the product itself. This is another example of the bank
adapting agile methods to allow for the input of a large customer base. (Sevón 1996; Czarniawska & Sevón 2005). Although input is mainly derived via digital channels, analytics tracking also makes it possible to receive indirect feedback from customers. However, an important finding is that the bank does not always prioritise customer needs when developing a product, something which goes strongly against agile principles. The reason for that is related to the strict regulatory frameworks which govern the banking sector, which in turn drives product development processes.

Previous research highlights the challenges associated with stakeholder collaborations resulting from a lack of uniformity in the implementation of agile methods in an organization leading to inter-departmental tensions (Dybå & Dingsøyr 2008; 2009). Similar studies also show this tension between departments which can be linked to parts of the organization being unwilling to change the way in which they operate (Dikert, Paasivaara and Lassenius 2016).

At the bank, stakeholder collaborations involve the legal and compliance departments as well as departments responsible for commercial aspects. In order to circumvent potential tensions between the agile teams and other parts of the organization during a project, the bank forms a decision group composed of individuals with the right competencies during the initial stages of the project. As part of these measures, the teams are tasked with having regular scheduled meetings with the representative of the development group (the PO) in order to properly define the requirements posed on the projects, to stay updated and to give feedback on what has been accomplished in the project. In order to encapsulate all the competencies needed to develop a product in the bank, the programmers would need to have competencies within legal, compliance and business aspects. However, this type of scenario would not be possible in reality as it is not feasible for developers to also be expected to have the appropriate legal competencies to ensure the product falls within regulation requirements. This is yet another example of how the bank has adapted stakeholder collaboration as defined in agile principles to suit their context. Interestingly, the formation of decision groups has not been previously described in the literature to the author’s knowledge, which could suggest that this a unique adaptation of agile stakeholder collaboration.

In terms of within-team collaborations, the findings show that in the bank, this is founded on principles of openness, trust and the promotion of a learning culture. Collaboration also takes the form of pair-programming and mob-programming. For example, this is the case when a senior developer assists a junior developer or when someone that has more expertise in a certain
area helps someone who usually works on different tasks. By working in this way, the team becomes more well-rounded by expanding the skillset and not allowing individuals to become experts in a very limited area.

Previous research shows that these types of practices increase collaboration within teams due to such practices facilitating transfer knowledge within the team, thus making it easier to find solutions together (Hoda & Murugesan 2016; Svensson & Höst 2005). In addition, based on the findings from this study, the application of such practises in the bank seemed to not only be derived from the collaboration aspect but also from an efficiency standpoint. However, it can also be the case that some teams adapt management frameworks differently to suit the experience of the personnel in a particular team. Consequently, it can be the case the management frameworks are adapted based on the particular individuals making up the team.

Motivation and morale increase by giving the teams freedom in choosing how to work (Steiber and Alänge 2013). However, if the teams interpret and apply the methods in different ways, there is a risk that this will result in a loss of agility in the case when two teams have to collaborate to develop a product or product feature. This challenge has also been identified by Dikert, Paasivaara and Lassenius (2016). Nevertheless, although the findings here highlight this challenge, a solution is also identified. The solution is for members of the team to find a common practise that satisfies the needs of both teams and therefore eliminates tensions. However, a disadvantage with this solution is that it takes valuable time from the development process. This highlights the challenge that is identified in the literature regarding the lack of a common framework applied throughout the organization (Paasivaara and Behm 2018).

The development teams have a lot of freedom in how they work - they organize as they see fit and work based on the knowledge they possess. It was evident from the interviews with the PO that they accepted the fact that their knowledge in coding was not on par with the engineers, which is why they are responsible for ensuring requirements are met and coming up with ideas while allowing the engineers to focus on the technical aspects. The development teams have a lot of freedom, which consequently comes with more responsibility. However, this was a strong driver for maintaining motivation. This is because when the team is given more responsibilities and freedom by not being too controlled, they become more committed to the tasks. This was also shown in several studies where commitment to the job or task became stronger as a result of individuals being given freedom to utilise their capabilities, resulting in a heightened sense of responsibility (Herzberg 1968; Oldham & Hackman 1976; Alshmemri, Shahwan and Maude
This is further illustrated by previous research suggesting that commitment and satisfaction decreases when employees are given tasks and orders that are heavily influenced by regulatory driven requirements (Herzberg 1968; Shahwan and Maude 2017).

In the banking context most product development initiatives come from regulatory requirements, which based on the above arguments, should lead to a decrease in the performance of the developers as a result of decreased freedoms. In such situations, it was found that the PO had an important responsibility to keep developers committed and thus motivated. The PO has a lot of responsibility regarding explaining the projects and requirements to the teams. This puts a lot of emphasis on explaining what needs to be done, why it needs to be done, what is the value in it and how it will affect the customers. It was important that the developers understood what impact the project had and what the implications were going to be. By making developers understand everything, their sense of responsibility increased, which is important in creating a sense of ownership of the product. In addition, the developers themselves were given the responsibility of finding possible solutions, which further increased their freedom, responsibilities and commitment, which consequently increased their motivation performance (Steiber & Alänge 2013).

The empirical findings in this study show that the requirements of what needs to be done come from the top and the solutions for how it will be done come from the bottom. Furthermore, it was also made clear that the teams organically decide who is going to work on what, if they need to work together or if someone is interested in working on a specific type of task, without the intervention of the PO. The teams have a lot of autonomy regarding how they will approach their work and how they will get the work done which is an important factor in keeping them happy, motivated and productive (Hoda & Murugesan 2016; Melo, Santana & Kon 2012). In line with Hoda, Noble and Marshall’s (2013) research, the finding appears to line up with one of the informal self-organizing roles as it became evident that informal leadership was taken by the senior team members when dividing up the tasks. The team, with the guidance of senior developers, decided together who should work on what and if pair-programming is needed in necessary cases. This promotes a learning culture within the bank and contributes to having developers who are more diverse in their knowledge.

In some cases, however, it is challenging to find the exact guidance on how the project should be approached. In such circumstances, the PO can refer to the business strategy of the bank in order to decide which approach is the most appropriate. Prior research also suggests that
individuals are motivated by working on challenging tasks. On a psychological level, individuals tend to want to focus on personal development and crave to feel a sense of accomplishment that they are able to improve and evolve. When individuals are challenged, the motivational factor becomes that of self-improvement and personal development (Steiber and Alänge 2013; Matzler, Bailom, Anschober & Richardson 2010).

Prior research and this study have shown that banks are struggling to let go of legacy systems and processes which are difficult to move on from (Knudson 2019; Collyer, Warren, Hemsley & Stevens 2010). There are several key factors which explain this, namely issues related to security. Banks are unable to quickly change the way they work or move to new platforms or solutions because there are hundreds of thousands, and in larger banks or in financial branches, millions of people who would be affected by such changes. The interviews highlighted these important factors and the fact that large changes necessitate taking big risks. If they were to implement drastic or extremely changes, there is a risk that coding bugs could result in severe security breaches. There is a lot of capital belonging to customers at stake, and since banks have such an important role in society, the consequences of such breaches could inflict damage beyond the banks themselves and their customers. The interviews highlighted that these are very important and relevant challenges that the banking sector struggles with as a whole, however it could be argued that this could be a driver for motivation, as is suggested in the literature. These challenges could potentially incentivise the developers to create new innovative solutions that could be applied on the market (Steiber and Alänge 2013; Matzler, Bailom, Anschober & Richardson 2010; Brown & Eisenhardt 1997; Hackman & Oldham 1975).

It has been highlighted throughout this paper that banks mostly use traditional methods and systems in their operations. In addition, banks struggle to let go of their legacies as a result of these systems being so integrated into their organization and in the banking industry in general (Harvey 2016). The traditional methods and legacy systems that were designed in a previous era can still be found today and act as barriers to innovative methods of working.

However, rapid advancements in technology in recent decades have shaped the financial market, creating incentives for banks to become more digital, despite being constrained by regulations and legacy (Harvey 2016). This has been most evident in the Nordic region and specifically in this case, Sweden (Vasiljeva & Lukanova 2016). The findings in this study concur with what previous literature has found regarding changes in internal methods and legacy systems in order to cope with the technological evolution in society (Tornjansk et al.
The traditional methods that were used before were too slow and meant that entire projects were completed and released to the customers before they received any feedback. This was very ineffective, time-consuming and expensive since it could happen that the company was working in the wrong trajectory without realising it until the project was done (Christou, Ponis & Palaiologou 2010). This lack of feedback at critical times in the development of a product meant that other issues related to market, regulatory and environmental changes affected the project development timeframe. Through an adaptation of agile methods, the bank is able to collect relevant, real-time data and feedback which enables them to be on the forefront regarding satisfying customer needs as well as enabling them to adhere to regulations (Roses, Windmöller & Carmo 2016).

E-finance has become more integral to society which has contributed to a rise of companies from the IT sector that are emerging in the financial sector with technical payment or banking solutions. This evolution in the financial market has disrupted the traditional banking market, forcing older traditional institutions, methods and legacy systems to evolve and catch up with the changing environment. Furthermore, the implications of this reaches beyond the banks and financial industry, even governments, laws and regulations are adapting and changing, making the financial market and banking industry more competitive (Wilson & Campbell 2016).

In the process of imitating and translating practices used by fintech companies, the bank encounters challenges which complicates the adoption of strict agile frameworks. One of these challenges are the regulations governing the banking industry. This challenge arises due the characteristic of the industry the bank is operating in, therefore differentiating it from the setting of software developing settings. The banking industry is regulated in order to provide security. However, regulatory factors compel developers at the bank to follow practices that are not part of the agile methodology. Examples of this is the prioritisation of regulatory initiatives instead of focusing on customer features and documentation obligation. These two aspects do not only go against agile values but also have the potential to limit the flexibility of the development process as is manifested in our results. In addition, a challenge identified in this study was the fact that the entire organization is not agile. Thus, agile teams work in non-agile surroundings, which can sometimes create issues when cooperating with other departments. However, with formation as decision groups this can be solved.
6. Conclusions

This section will present the concluding findings for the research questions and arguments for this study's contribution to the research area.

6.1 Summary

Our findings show that the bank does not completely adopt agile methods according to agile methodology, but rather that the agile practices employed by the bank are adjusted to satisfy the needs of the bank as well as the industry the bank operates in. Based on our findings, it can be concluded that the bank has succeeded in finding solutions for both customer and stakeholder collaboration. Even though the practice differs, the bank has been able to successfully incorporate feedback from customers and stakeholders into their development process. Regarding team motivation, it was found that motivating factors and practices do not differ in any major way from previous research, i.e. motivation in an agile environment in the bank does not differ from other contexts. In terms of challenges perceived with the adaptation of agile methods, two categories are identified - internal and external challenges. Internal challenges arise due to the lack of widespread implementation of agile methods within the entire organization. External factors involve regulations and obligations of the industry which the bank has no control over, therefore solutions particular to this context arise. Thus, regulations in the industry influence how the bank applies agile methods. Finally, this study has been able to identify elements which elucidate how a particular bank has been able to adapt agile methods to suit their work in product development, which could serve as a guideline for other banks who are interested in implementing similar management tools in their own teams making them more adaptable to rapid changes.

6.2 Future Research

This study was focused on how agile methods were implemented in product developing processes which mostly concerns the technological department of the bank. The few existing studies on agile methods in banks focus on the adoption of agile methods, however, there is little research regarding how banks should implement agile in the entire organization. By focusing on what can be done to implement agile rather than focusing on how it has been implemented, banks can learn how to incorporate and adapt methods not just in the technology departments, but also in the rest of the organization. As discussed in this study, banks need to
adapt to the surrounding environment and are on the forefront of new digital payment and banking solutions. Since technological development is not on the same level across countries, it is important to consider the wider context surrounding the bank which is being investigated. This however could raise generalisability issues since not all banking organizations and technological advancements are uniform. Furthermore, future studies could make the research more comparative by investigating different banks in order to find similarities, differences and draw knowledge that could be applied throughout the banking industry. For instance, by comparing old, large banks with each other or with newer, more digital, niche banks and thus identify successful adaptations to suit particular contexts. This would also illuminate different challenges in the respective contexts which could be learned from and by doing so, make the banking market as a whole more efficient.
References


