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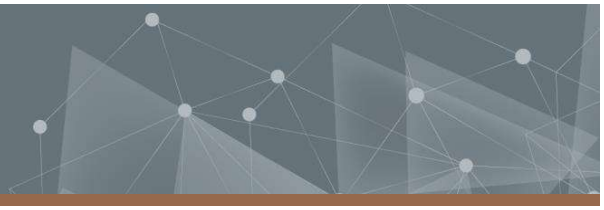

Navigating Business Control in the Era of Digital Transformation

Finance and Change Management within the Digital & IT Organization at a Swedish Manufacturing Corporation

Master's thesis in *Management and Economics of Innovation* and *Quality and Operations Management*

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Abstract

This thesis explores how the Digital & IT organization at a Swedish manufacturing corporation going through a digital transformation can adapt the way of working of the business control function. A case study is performed at Company X which is moving toward a product-centric organization, implementing the agile practice of stable teams and have an increasing need for IT capacity, resulting in a need to adapt the finance and business controller function. Two research questions are created to explore this:
1. How will the work of business control and their collaboration with business leaders, change amidst Company X's digital transformation process?
2. What challenges and opportunities might come from these changes to the ways of working and how should Company X mitigate or enhance them?

Data is collected through interviews with five business controllers and six business leaders, which are head managers of the business operations functions. The collected data is analyzed through a thematic analysis and frequency analysis and combined with a literature review. From this, four areas of changed ways of working for business controllers and their collaboration with business leaders are identified. These four areas of change consist of financial model, relationships, measurements and capabilities, which all lead to challenges as well as opportunities for Company X. The financial model leads to the agile paradox challenge, relationships and measurements lead to the mindset challenge, capabilities leads to the upskilling challenge, while simultaneously all areas lead to an efficiency opportunity. For each challenge a way to mitigate is suggested and for the opportunity a way to enhance it is suggested.

Keywords: Digital Transformation, Change Management, Business Control, Agile, Product-Centric Organization.

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Further on, we would like to thank our supervisor at Company X for your invaluable support and motivation. Our continuous supervision sessions with you gave us a clear understanding of not only Company X but of the group as a whole. Thank you for always pushing us in the right direction. You made this possible!

Thank you!

John Ekman
Liwia Larsson

Chalmers University of Technology
Gothenburg, 26 May 2023

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1

Introduction

To give an introduction to this thesis project, this chapter will present a background to the issues investigated as well as the research questions and the aim of the thesis. Finally, delimitations of the thesis is presented.

1.1 Background

As our society is moving towards a digital world, companies are simultaneously aiming to stay ahead and keep their organizations up to date with current technologies. Alongside a company's digital transformation, the ways of working are changing, requiring new approaches to both organizational setup as well as business control. A successful digital transformation opens up new possibilities for business control, essentially enabling new approaches for financial management and collaboration.

1.1.1 Digital Transformation

IT and digital solutions are becoming an integral part in companies striving to stay. As software in large companies continues to evolve, the complexity often follows along. Mazzone (2014) stresses that digital transformation is the only choice for a business in order to survive in the new digital era. Software has become overly complex which needs to be addressed. New businesses and start-ups are at an advantage as their business models have been digital from start, meanwhile large established businesses struggle with their history and baggage that is in need of being transformed (Mazzone, 2014). The baggage refers to the historic handling of software and IT solutions within a firm, which has been built up over a long period of time and tends to be rather complex. Companies need to address these issues in order to stay competitive and prevent their firm from becoming a digital die-off (Mazzone, 2014).

New software is constantly being developed, and in order to facilitate the control and development, companies are transitioning from a project-centric development process towards a product-centric organization. Rather than focusing on the milestones in a project related to the creation of a product, a product-centric management organization focuses on the value a product delivers to its customers (Lebeaux, 2019). The approach no longer ties the success of a product to traditional factors. Budget is allocated based on the delivery and business output rather than initiation of a new project. Product-centric software development can bypass traditional project problems such as poor predictability and inability to adapt to a new strategy (Angel, 2021). The project-to-product transition redefines focus from service produced to a service delivered.

1.1.2 Business Control

Amidst digitally transforming an organization, companies are in need of adapting their business control function in order to be aligned with their new organizational structures and ways of working. Preparing for and undergoing a digital transformation pushes for new requirements on the business control in a company. In order to fulfill a successful digital transformation, new ways of working withing finance is vital in order to survive.

According to Haupt (2021), CFOs have expressed a need to change the financial management to a new and more dynamic approach due to their own evolving roles and responsibility in driving digital business transformation. They have also highlighted challenges in doing so: limitations by old operational infrastructure, lack of capabilities and capacity to deliver the needed transformation while dealing with an increasingly unpredictable and turbulent business environment (Haupt, 2021). The business control function is one of many fundamental parts of a company. Effective and quick response to rapidly changing environments are considered critical success factors for survival, and this is where the business controller plays a major role.

1.1.3 Company Case

These challenges related to digital transformation can be typical for major companies. Company X is a subsidiary of a Swedish manufacturing corporation and is a part of a group structure called Group X. Company X's role in the group is a supporting Digital & IT function, delivering Digital & IT solutions as an internal partner. Company X does not have a profit and loss responsibility but is rather aiming to get a net zero result, matching costs with income. Hence, this thesis focus lays on cost management and all things related, rather than profit.

Group X, Company X included, is currently undergoing a digital transformation and is characterized by many traditional challenges and opportunities. Company X undergoes several transformation processes. They are in the process of implementing an agile mindset and agile practices, and in the near future will be implementing the use of stable teams across the company. There is also a vision to become a product-centric organization where the proportion of sales from services will increase. Reaching this goal, the IT capacity of the entire group have come into focus. The importance of common platforms and infrastructure, as well as reusable modularization of digital solutions have been realized and Company X as a Digital & IT partner have become responsible for the initiatives to create this improvement.

This transformation process affects Company X and its business operations. Business leaders, which are head managers of the business operations functions at Company X, are impacted by the changes. This in turn affects the collaboration between business controllers and business leaders as well as the business control functions ways of working. Hence the focus of this thesis project is to look into the future amidst the digital transformation to understand the changes to the business control functions way of working.

1.2 Research Questions

In this thesis project, the ongoing digital transformation in Company X and how it affects the work of business control is investigated and an analysis is made and discussed regarding how a company can adapt their business control function in order to improve performance. In order to stay relevant, undergoing a digital transformation is vital, and with this the business control function needs to be adapted. The future calls for more flexibility in order to meet the demands of the business. Hence an updated collaboration between business leaders and business control, as well as a restructured ways of working need to be addressed. Business controllers will decide the path forward together with business leaders, based heavily on requirements and demands on their collaboration. Business controllers are essential to the study as they are the foundation of the business control function and work daily with the finances. The business leaders are vital in their roles as operational heads and responsible for products in the organization. In order to achieve a widespread and viable answer to the new ways of working and collaborating, both business controllers and business leaders need to be involved in the process in order to identify challenges as well opportunities for Company X. This leads to the following research questions:

1. How will the work of business control, and their collaboration with business leaders, change amidst Company X's digital transformation process?

2. What challenges and opportunities might come from these changes to the ways of working and how should Company X mitigate or enhance them?

1.3 Aim

The aim of this thesis project is to analyze how the Digital & IT organization at a manufacturing company can adapt the ways of working of the business control function when undergoing a digital transformation process.

1.4 Delimitations

Delimitations of the study are set in order to answer the research questions and narrow down the area of research to provide relevant results and increase the quality of the conclusions. Because the chosen method of research is a case study, the area of research is limited to focus on the work of business control in the finance department in the subsidiary company, Company X, which is the Digital & IT organization in Group X. The focus includes the collaboration between business controllers and their respective business leaders, which are the head managers of the business operations functions, in Company X. Business control is a broad concept and all topics included is not relevant to this thesis project. The focus has been decided to be on the ways of working of business control and the collaboration with business leaders, as well as opportunities and challenges stemming from the changed ways of working. The findings of the study is therefor limited to be applicable to companies in similar situations. Due to confidentiality and anonymization of the case study, the recommendations provided are limited and are discussed in general terms and without specific and detailed actions.

2

Literature Review

A literature review is presented in this chapter. Section 2.1 covers literature on Digital Transformation, section 2.2 covers Product-Centric Organization, 2.3 covers Agile, 2.4 covers Business Control, 2.5 covers Finance for Agile, and finally section 2.6 covers literature on Change Management. Section 2.7 provides a brief summary of the literature review.

2.1 Digital Transformation

Digital transformation is the last of three steps in a flow of events often described as digitization, digitalization and digital transformation. The latter is latest and most common challenge for modern day companies in efforts to stay relevant and survive in the new digital era.

Digitization is the simple action of going from analogue to digital, such as from filling out a form on a computer rather than on a physical paper (Savic, 2019). Digitalization is the usage of digital technologies to change ways of working. As an example, this can be the automation of existing business processes and operations in a company (Savic, 2019). Digital transformation is the action of transforming not only the work but also the culture and management of a workplace or even society as a whole (Savic, 2019).

The first two steps are rather easy and is widely renowned by most companies and can still be undergoing today. The latter is rather a challenge as it puts a whole other pressure on the organization, but simultaneously opens up for future opportunities.

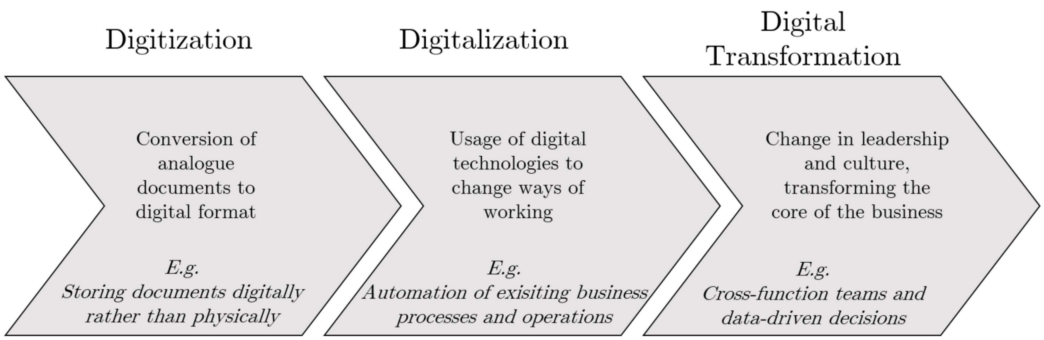

Figure 2.1: A visualization of the transition between digitization, digitalization and digital transformation as presented by Savic (2019). Figure created by the authors of this thesis.

The benefits of a digital transformation are almost not relevant, as this is a matter of survival for most firms. Mazzone (2014) describes digital transformations as a must for companies that are wanting to stay relevant. Digital and IT solutions are becoming an integral part in companies striving to stay. As software in large companies continues to evolve, the complexity often follows along. Mazzone (2014) stresses that digital transformation is the only choice for a business in order to survive in the new digital era. Software has become overly complex which needs to be addressed. New businesses and start-ups are at an advantage as their business models have been digital from start, meanwhile large established businesses struggle with their history and baggage that is in need of being transformed (Mazzone, 2014). The baggage refer to the historic handling of software and IT solutions within a firm, which has been built up over a long range of time and tends to be rather complex. Companies need to address these issues in order to stay competitive and prevent their firm form becoming a digital die-off (Mazzone, 2014).

2.2 Product-Centric Organization

In the midst of the digital transformation taking place in our society, an increasing number of firms are adapting their organization from a project-centric towards a product-centric business model. Product-centric organizations lay focus on the products that are provided to the market in lieu of focusing on the specific customers acquiring those products (Brown, 2012). Rather than focusing on demands from specific customers, a product-centric organization evaluates its own capabilities and aims to develop products that can be applicable for a wide range of customers. Brown (2012) stresses that product-centric companies strive to define themselves through their products.

There is an evident strive towards product-centric organizations in companies in an attempt to stay modernized and relevant. Goasduff (2019) highlights that CIO's essentially need to make the shift towards a product-centric organization in order to sustain a digital innovation. In order to complete the shift from a project-centric towards a product-centric organization, Garre, Mulimani and Welwood (n.d.) describe five steps in order to create lasting value. Garre et al (n.d.) describe these five steps as follows: establishing foundational elements, reimaginging the product organization, curating the product teams, building product-centric practices and supporting talent through change. The authors believe these five steps can be used to assess the current situation of an organization and identify key areas for future improvement in order to ease the transition.

A typical definition of a product is service or commodity provided by one organization to serve a customer's desire (Aha!, n.d.), which can also be applied to digital products. Working with digital products differs from projects as one team is responsible for the entire life cycle of a product rather than solely the development phase (Flewelling, 2018). The product is never necessarily defined but is rather seen as an ongoing process.

From Gottesdiener and Sinclair's (n.d) experience from a large global financial service firm on the journey of becoming product-centric, the most commonly asked during the process was *"What is a product?"*. Terms like product owner, product backlog and product is used often within agile but when the staff was asked the question of what a product is, the answers differed. This was because they had differing mental models, which is the conceptual framework consisting of general-

izations and assumptions from which we understand our world and take action in it. What they needed was to develop a shared mental model and this was the most important challenge in their journey to becoming product-centric (Gottesdiener & Sinclair's, n.d).

To create a shared mental model, Gottesdiener and Sinclair's (n.d) facilitated multi-day, collaborative product definition workshops. In these, the they were encouraged to answer the question *"What is a product"?* and representatives from all across the value stream of a product participated to make sure the mental model was shared with everyone. There were several interactive activities. They created a product canvas that explored the different aspects of a product and played a card game where they sorted products into "is a product" and "is not a product"-categories. They also created a product checklist with criteria for a product definition:

- A product is described from the customer perspective.
- A product is long-lived and evolves as needs and technologies change.
- A product spans the full customer journey.

2.3 Agile

Agile is a philosophy and mindset for software development. In this section, agile is described. The agile practice to use stable teams is described in section 2.3.1.

According to Flewelling (2018), Agile is not one specific methodology or practice, it is a set of values and principles that guide the way of working. These values and principles comes from the manifesto for Agile software development created by seventeen software superstars, called the Agile Alliance, in 2001. The manifesto can be found in Appendix C. They wanted to create a guide that would improve the software development process, making it more efficient and more accurate in delivering a product meeting the customer's requirements (Flewelling, 2018). The requirement of a customer might be unclear from the start and change during the development process, therefor, the development processes needed to be flexible and adapt to the changing requirements. The agile philosophy value individuals and interactions more than processes and tools, creating working software over extensive documentation, collaboration with customers and respond to changes over following a plan (Beck et al., 2001). Agile also focus on continuous delivery, continuous improvement and self-organizing teams, such as stable teams which is described in the next section (Tonnquist, 2019). Agile fit well for products and system that are

meant to work and be continuously developed over a long time (Tonnquist, 2019). There are methods, practices, tools and processes, that follow the agile manifesto. Examples of common methods are Scrum, XP and Kanban.

2.3.1 Stable Teams

Tonnquist (2019) describes being agile as being free to do what is believed to be most appropriate and relevant at the time, hence why the teams are self-organizing. An agile practice that follows the principle of having self-organizing teams is stable teams, a stable team is described as a cross-functional team that follow through with an assignment from end-to-end (Wise, 2016). The team is staying the same after they have fulfilled their assignment and is instead of breaking up, given a new assignment (Wise, 2016). Instead of creating a team for each project, the project is a assigned to a existing stable team or divided over multiple stable teams (Wise, 2016). A way to describe a stable team is to contrast it to a project team where the team is brought to the work when in a stable team, the work is brought to the team (Balshakova et al., 2016). Of course the team is not without change forever, because changes in life choices, personal careers and organizational changes result in change of membership (Verwijs, 2022).

There are many advantages with Stable Teams and according to Hackman (2002) does teams with stable membership perform better than those that constantly have to deal with the arrival of new members and the departure of old ones. A stable team becomes familiar with each other, their way of working and develop a shared pool of knowledge. They also no longer have to waste time and energy getting to know and adjust to new team members (Hackman, 2002). The team tend to get to know their own capacity and, in agile terms, their velocity which makes it easier to predict and plan the workload and time frames (Sutherland et al., 2014).

2.4 Business Control

The business control function produces and analyzes vital financial information and presents this to managers in the organization (Bragg & Roehl-Anderson, 2011). Business controllers are generally involved in the management accounting of a business in contrast from accountants who rather focus on the financial accounting aspect. Business controllers act like advisors to business leaders rather than accountants who more focus on the legal aspect (Kublash, 2019). Business controllers look at certain measurements to evaluate the current state of a company or business,

mainly internally. An overview of the difference between business controlling and financial controlling is portrayed in table 2.1.

Table 2.1: Visualization over the difference between business controlling and financial controlling.

Type of Controlling	Business Controlling	Financial Controlling
Type of Accounting	Management Accounting: Providing financial information to managers and others who control the organization and its operations (Seal et al., 2019).	Financial Accounting: Sharing financial information with outsiders of an organizations such as shareholders and creditors (Seal et al., 2019).
For who?	Managers and employees within the organization.	External shareholders and creditors.
Example	Business controllers providing data and analytics for managers to make business decisions.	Disclosing financial figures ahead of quarterly reports and closing.

In today's corporate world, business controllers work heavily with budgeting and forecasts. Budgeting is defined by Seal et al. (2019) as a financial tool for creating a detailed planning of the future in quantitative terms. Business control is responsible for consolidating and structuring this in collaboration with managers and business leaders. Business controllers are also responsible for creating forecasts. A forecast is a tool used together with future scenarios in order to structure long-term planning in a company (Nilsson & Olve, 2013). Business controllers together with other from the business are responsible for defining a company's strategic direction which is heavily based on the forecast among with other factors.

The role of the business controller is evolving as they are transforming from reporters to navigators and finally into business partners. Nilsson and Olve (2013) have identified three capabilities for business controllers that are becoming vital in order to enable changed ways of working. These three capabilities are increased analytical, interpersonal and formulative abilities. The analytical capability is vital in order to interpret and understand long-term financial strategic planning and decisions. The interpersonal capability is necessary in the communication, both among business controllers as well as with managers and business leaders in order to create valuable

collaboration. The formulative capability is necessary as business controllers need to understand complex problems and be able to break these down and come up with solutions in order to support the organization. Nilsson and Olve (2013) argue that the future business controller needs to adapt these capabilities in order to stay competitive while simultaneously delivering output to the company as per demand. On top of these capabilities, Degermark (2018) emphasizes the need to digital competence in order to be aligned with the digital transformation process and stay up to the date with the latest technologies.

Business control in a digital transformation can be considered to be an organizational paradox. Berti et al. (2021) defines an organizational paradox as two contradicting concepts that may not play along, such as incorporating a change in order to reach more stability. In fact, that change is the opposite of stability even if that is the intended outcome. In a digital transformation, the aim is to move towards agile ways of working and flexibility. However, business control is a rather static organization with responsibilities such as financial planning and budgeting, showing a clear organizational paradox.

2.5 Finance for Agile

In this section, the interaction between agile and finance is explored. First the dilemma with a traditional budget is described, then the principles of beyond budgeting, the rolling forecasts practice, block-funding and lastly what and how to measure.

Because of the increased dynamic and uncertainty in the environment organizations must become agile and quickly respond to changes in order to stay successful. This situation calls for a different way to perform financial processes, such as budget because the traditional way to do it has an aversion to the required agility. It is intended to provide certainty, stability and guidance which have become more of a barrier than a support for good performance (Corbey & Cornelissen, 2021).

2.5.1 Budgeting Dilemma

Neely et al. (2003) have summarized the typical critique against the traditional budget:

- It is seldom strategically focused, and often contradictory
- It focuses on cost reduction and not on value creation
- It limits the flexibility of the company and often acts as a barrier to change
- It generates little value and is often too bureaucratic and limits creative thinking
- It is time consuming and costly to create
- It is created and updated too infrequently, often only once a year
- It is based on unsupported assumptions and guesses
- It promotes dysfunctional behavior, creates incentive to manipulate results and shortsightedness
- It does not take into account the new organizational structure which is built on networks
- It strengthens vertical steering and control
- It increases the gap and competition between departments instead of promoting knowledge sharing
- It makes people feel undervalued

Francke and Nilsson (2017) also adds the argument that when the focus is solely on avoiding deviation from the budget, new opportunities are also avoided. Some mean that the business plan should not be dictated by the timetable of the financial accounting and it is difficult to predict the future in a dynamic world.

2.5.2 Beyond Budgeting

Beyond budgeting is a collective term in an effort to consolidate all the faulty characteristics of the traditional budgeting process (Nilsson & Olve, 2022). Beyond budgeting aims to tackle all budgeting methods that tend to be rigid and complex. It is the idea of leaving behind the traditional budget processes and comes from the need to be able to make quick and competent decisions in a business environment which has a lot of uncertainty and change.

Beyond budgeting consists of principles divided into leadership principles and management processes. Here they are as presented by Bogsnes (2016): Leadership Principles:

- **Purpose** - Engage and inspire people around bold and noble causes, not around short-term financial targets.
- **Values** - Govern through shared values and sound judgment, not through detailed rules and regulations.
- **Transparency** - Making information open for self-regulation, innovation, learning and control; don't restrict it.
- **Organization** - Cultivate a strong sense of belonging and organize around agile and accountable teams; avoid hierarchical controls and bureaucracy.
- **Autonomy** - Trust people with freedom to act; don't punish everyone if someone should abuse it.
- **Customers** - Connect everyone's work with customer needs; avoid conflict of interest.

Management Processes:

- **Rhythm** - Organize management processes dynamically around business rhythms and events, not around the calendar year only.
- **Targets** - Set directional, ambitious, and relative goals; avoid fixed and cascaded targets.
- **Plans and forecasts** - Make planning and forecasting lean and unbiased processes, not rigid and political exercises.
- **Resource allocation** - Foster a cost-conscious mindset and make resources available as needed, not through detailed annual budget allocations
- **Performance evaluation** - Evaluate performance holistically and with peer feedback for learning and development, not based on measurement only and not for rewards only.
- **Rewards** - Reward shared success against competition, not against fixed performance contracts.

In the traditional budget process, the budget fulfills three purposes. Acting as a target, forecast and resource allocation. These three purposes are very different and by using the budget for all three, none of them are adequately fulfilled (Fahlén, 2016). Targets should be ambitious, forecasts should be realistic and resource allocation should be based on actual need and connected to strategy (Fahlén, 2016). Beyond budgeting suggests that these three processes should be separated and improved in-

dividually. Targets should be ambitious and relative to the competition. Forecasts and follow-up should be limited in detail, performed continuously and rolling over a shorter period of time and adapted to the rhythm of operations and the ability to react. The forecast should continuously be compared to the target and actions taken to close the gap between the target and the forecast. The strategic planning should be continuous as well, driven by the people closest to the customer to be able to act dynamically to what is happening. The resource allocation should be dynamic and handled strategically on all levels. A self-organizing team or unit can decide themselves when it is needed to make an investment to fulfill customer needs (Fahlén, 2016).

Nilsson and Olve (2022) argue that beyond budgeting is a step in decentralizing a company or organization. Fahlén (2016) believes beyond budgeting rather allows for a more loose steering, where the financial process is seen as something bigger than solely numerical figures. According to Bogsnes (2016) there are striking similarities between the concept of beyond budgeting and the concept of agile. For example the view on people, values, leadership, transparency and trust are all similar. The idea of continuous delivery in agile is similar to the idea of dynamic resource allocation i beyond budgeting which becomes a continuous delivery of resources. The agile community seems to understand beyond budgeting than many finance people (Bogsnes, 2016). Corbey & Cornelissen (2021) have created a comparative table where beyond budgeting principles are matched to the agile principles, this can be found in Appendix D.

2.5.3 Rolling Forecasts

Within beyond budgeting, one common solution to combat the concerns about budgeting is rolling forecasts. Rolling forecast is a method where a forecast is made for a rolling period of time, could be weeks, months, quarters or years (Fahlén, 2016). Every time you update the forecast, the same length ahead is illuminated (Bogsnes, 2016). You can for example make a forecast every month for the next twelve months, so the first forecast is for January until December while the next one is for February until January next year(Fahlén, 2016). This method aims to get an as accurate as possible and up to date forecast. Instead of handling deviations in the past, the focus is on handling deviations of the future, towards the organizations targets. The result is a more activity based operations that works toward getting the outcome of tomorrow to reach the operational targets, instead of following old irrelevant plans (Fahlén, 2016).

However, there is a risk that the organization, when implementing rolling forecasts, start the traditional budget process every time the new forecast is created. Instead of one cumbersome budgeting process each year, there are now several. The secret is to make the several forecasts approximately right instead of one forecast exactly wrong (Fahlén, 2016). Rolling forecasts make a good fit for markets or companies with often volatile environments where things tend to change rather quickly, and estimate need to be updated before the next years budget. However, (Nilsson & Olve, 2022) debate whether rolling forecasts can be seen as something that replaces the traditional budget.

According to Fahlén (2016), to work successfully with forecasts, keep the following in mind:

- Plan continuously on relevant time horizons .
- Customize the planning, follow-up and forecasting to the market dynamic and the operations time to respond.
- Base forecasts on the operations business rhythm.
- Don't tie the planing and follow-up to the fiscal year.

2.5.4 Block-funding

Block-funding opens up new opportunities for administering funding in business with a high uncertainty. Yousuf (2019) exemplifies that companies can allocate funding to a project, but choose to not release the full amount at one time, allowing for a more financial control while simultaneously creating requirements on deliveries in order to secure the next block-funding. This is an agile methodology that transforms the traditional funding models and allows for companies to easily tackle uncertainty (Yousuf, 2019).

2.5.5 Measurements

Measuring value can be a challenge as what is considered value varies depending on the perspective and view. Value can for example be measured in terms of profit, market position, utility or customer perception, which all use different parameters for measurements and all may show different results (Zamor, 2015). Zamor (2015) argues that value should be defined by the metrics that matters to the product owner, but with a balanced set of metrics, as it's important to pay respect both to customers and the business. According to Moreira (2017), outcome-based measures

are more aligned with agile than output-based measures, output measures focus on how much you deliver while outcome measures focus on the result of what you deliver, and it is the result that matters. People often focus on outputs because they tend to be easier to measure or are remaining from a more traditional mindset, while outcome-based measures help you understand business success (Moreira, 2017).

Metrics give a visibility of how well you are aligned with agile and sets a direction toward customer value, fast delivery and customer satisfaction (Moreira, 2017). There are many different metrics and they can be divided into leading indicators and lagging indicators. For example revenue is a lagging indicator as it is measured after a product is released. According to Moreirs (2017), for every lagging metric, you need to establish at least on leading metric that can indicate what is currently happening with the progress and if you are moving in the right direction. Customer satisfaction can act as a leading indicator of customer revenue and customer satisfaction surveys can be conducted periodically (Moreira, 2017). The metrics can with benefit be displayed on a common dashboard for all to see, where they can help ensure that one the focus is not unevenly placed on one metric and also help give insights, make decisions and decide on a course of action (Moreira, 2017).

It is important to consider the value of the metric itself, which can be defined as the usefulness of it divided by the effort it takes to collect and generate it. If the usefulness is not large enough to outweigh the energy it takes to collect it, it may not be worth measuring it (Moreira, 2017). Finally, value is not a fixed figure and is constantly evolving, hence requiring continuous reevaluation (Zamor, 2015).

According to Comella-Dorda, Kar and Sunderraj (2022) it is beneficial to measure and report and report the following to portfolio leaders and product owners:

- Progress on objective and key result (OKRs) which includes profit and loss metrics such as impact on revenue, through for example retention or renewal rates, and cost, through operational improvements.
- Consumed resources compared to the budget, including capital expenditure and operational expenditure utilization per agile sprint.
- Metrics related to agile-delivery such as progress on backlog, for example burndown charts, team engagement, time to market and quality.

2.6 Change Management

Digital transformation means changing the organization as well as the ways of working within a company, and a key factor in achieving the goals of a change requires focus on the company culture. Change management for culture is a vital part of a company's transformation, and can be described as supporting those most affected by the change in order to close any potential gaps or discrepancies (Nabeel, 2019). Upskilling and mindset play two vital roles in acquiring a change in the culture of a firm.

Nabeel (2019) highlights five benefits with change management that puts culture first. These five benefits are as follows: reducing costs and increasing profits, mitigating organizational risk, increasing the likelihood of success, employee engagement and a sustainable competitve advantage. An overview of these benefits can be seen in table 2.2.

Table 2.2: An overview of the five benefits of culture embedded change management as described by Nabeel (2019). The table is a summary interpreted by the authors of this thesis.

Benefit	Explanation
Reducing costs and increasing benefits	Change management is performance and in return increase profit. With a focus on culture, an effective change management style will ensure cost savings and increased efficiency.
Mitigating organizational risk	Neglecting the culture aspect during a major change sets the organization in front of several risks, such as declined productivity and morale.
Increasing the likelihood of success	With successful culture change management, the result will be long term commitment from employees, further increasing the chance of success within the firm.
Employee engagement	Steady support and active encouragement to employees during change will proactively enhance the same in return. By providing employees with the skills needed to succeed, a sense of value in the organization is created.
Sustainable competitive advantage	Change management means creating and implementing new and efficient ways of working in order to gain a competitive advantage. By keeping this advantage sustainable for the employees and the organization as a whole, the company culture for tackling complex problems is enhanced.

In order to achieve these benefits, it may be relevant to follow an established model as an aid. The Prosci Change Management Maturity Model portrays a framework of the different levels of organizational competence related to change management. The model defines an organization through the characteristics and capabilities as well as describes the necessary steps needed in order to advance to the next level (Prosci, n.d.). The model maps the extent och change management competency into five levels, with one being the lowest and five being the highest. At level 1, barely any change management is applied while at level 5, change management competency is apparent in all organization levels and is a central aspect in the ways of working and organization. Firms closer to level five have established a frame for continuous process improvement and in return have a generally high organizational responsive-

ness and profitability. Firms stuck at the lower levels are faced with higher rates of project failures as well as low revenue and productivity, again emphasizing the importance of change management in organizations.

The model can be of aid to firms that are struggling with their change management while simultaneously improving the operational aspect of the performance. Prosci (n.d.) strongly emphasizes the correlation between the change management culture and care for the people in the organization, with the success of projects and the organization as a whole.

2.6.1 Upskilling

To improve planning, finance departments will need to add people with other backgrounds than accounting and finance, data science and analytics are examples. They can bring the competence of extract the key business insights from data, and reduce the time creating spreadsheets (Heric et al., 2022). Fahlén (2016) highlights six components with ties to upskilling that need to be fulfilled in order to allow change. These sex components are vision, competence, rewards, resources and an action plan, that together set a foundation for permitting a change.

2.6.2 Mindset

The mindset of business controllers as well as business leaders is vital in enabling change, heavily influenced by the company culture. Although budget is a commonly used tool within the modern corporate world, it's relevance can be questions as its usage can affect the mindset of employees. Srivastav (n.d.) argues that budgeting is an effective tool for measuring performance in departments and cost centers as well as identification of areas in need of improvement. But on the other hand, Srivastav (n.d.) also argues that the future is not predictable, requiring constant revision of figures and is simultaneously a costly and time-consuming process. The author also brings up the fact that constantly comparing the actuals to the budget can be tiring for employees, affecting their motivation.

2.7 Summary

This literature review covers a wide range of topics in order to create a thorough understanding of the latest information in relation to the research questions presented in the introduction. The literature focuses on digital transformation and business control, but also relies on an extensive review of product-centric organizations. Literature on Agile is covered, with focus on stable teams. A wide rang of subtopics in finance for Agile is covered, such as the budgeting dilemma, beyond budgeting, rolling forecasts, block-funding and measurements. Finally, change management and literature on upskilling and mindset is covered and investigated. These topics together creates an extensive literature review which together with the findings helps thoroughly answer the research questions.

3

Method

An overview of the method used in this thesis project is illustrated in figure 3.1 below. A literature review was performed. In parallel, data was collected through interviews with business controllers and business leaders, this data was analyzed in a thematic analysis and frequency analysis, resulting in findings. The findings, in combination with the literature review made it possible to draw conclusions and answer the research questions and fulfill the aim of the thesis. In this chapter, the design of the research, steps in the method and quality of the research is examined.

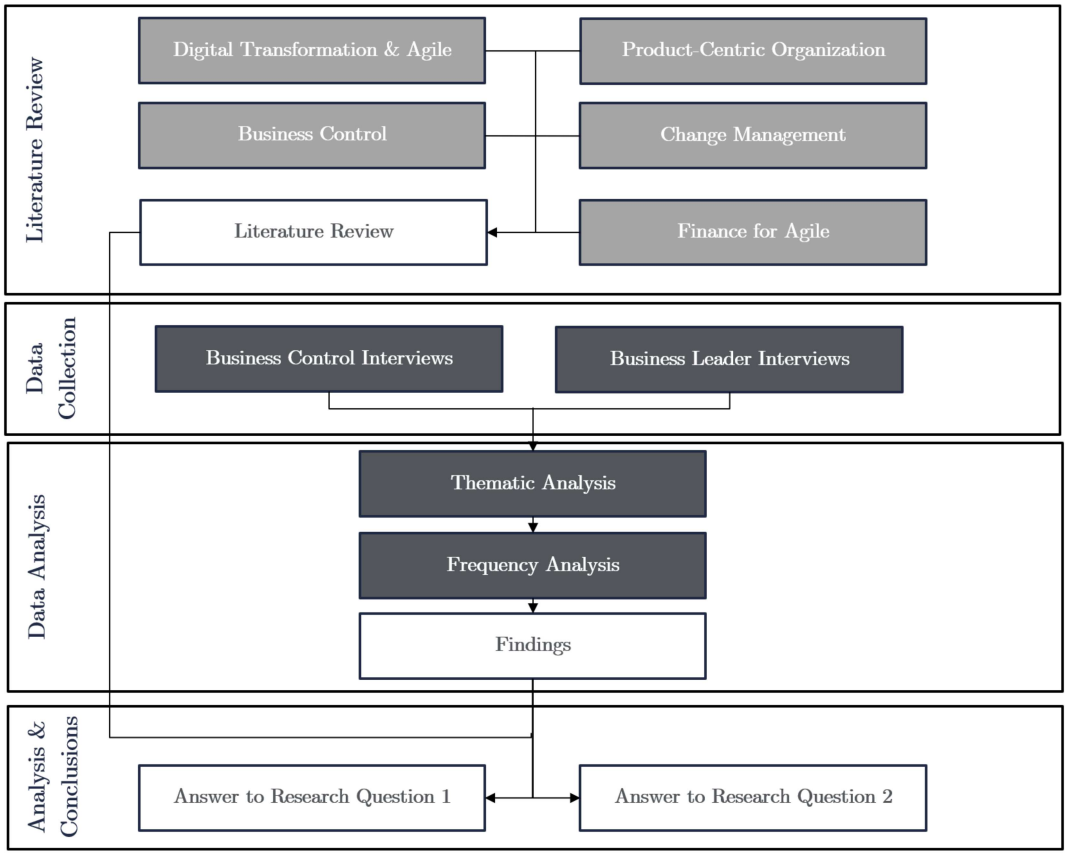

Figure 3.1: An overview of the method used to answer the research questions.

3.1 Research Design

To answer the research questions, an inductive strategy was used which is described by Bell et al. (2019) as a process where generalizable interpretations and theory is drawn from observations. It uses a bottom-up logic instead of the top-down logic used in a deductive strategy, where already existing theory is used to create hypotheses and then tested (Säfsten & Gustavsson, 2019). The inductive strategy is typically associated with a qualitative research approach, which was also applied in this thesis project. The term qualitative describes characteristics and nature of a researched phenomenon and a qualitative research approach is described as having a low degree of standardization, high flexibility and a large focus on the big picture and not the individual details (Säfsten & Gustavsson, 2019). A qualitative research approach enables a genuine understanding of the participants perspective and reasoning (Bell et al., 2019). This made it an appropriate approach for this thesis project.

The design of the research was chosen to be a case study of Company X. According to Säfsten & Gustavsson (2019), a case study makes it possible to in detail explore a unique phenomenon in its natural environment which means that meaningful and relevant theory can be generated about real situations. It is a detailed and intensive analysis of a single case and is often used in business research which made it a suitable design for this thesis project (Bell et al., 2019). A case study was performed at Company X where the situation outlined in the aim of this thesis project was investigated.

3.2 Literature Review

In order to gain a better understanding of the current research a literature review was performed. The literature review was used in combination with the findings from the data collection to perform an analysis and concludes in answers to the research questions. An initial literature review was also performed to aid in the creation of research questions, which often is appropriate in the beginning of a research process to achieve a base level of understanding of the area of research (Säfsten & Gustavsson, 2019).

The search for relevant literature was primarily performed using the database EBSCO and Google Scholar. Keywords used to find literature and examples of keywords was: *Digital Transformation, Change Management, Business Control, Agile and Product-Centric Organization.* In addition to keywords, snowball sampling was also used to find new literature, meaning that cited sources in relevant literature is investigated and possibly included in the literature review (Bell et al., 2019). This process was iterative, and the literature review was built and evolved over time and lead to more specific keywords as well as more detailed literature searches. Besides academic literature, reading material was provided by Company X and included in the literature review. This gave a better understanding of the current situation, the goals of Company X and the organizational structure. Examples of material is internal reports and organizational charts.

3.3 Data Collection

The data was collected through interviews which is aligned with the qualitative approach of the research design of this thesis project. In this section, the sampling of interview subjects and the structure of the interviews is be presented.

3.3.1 Sampling

Purposive sampling was used to sample the interview participants in a strategic way where the interview subjects with the most relevant knowledge are interviewed and the aim of the thesis project is kept in mind, ensuring an efficient data collection process (Bell et al., 2019). Purposive sampling means that there is a clear intention with the sample and that the interview participant fulfill some criteria (Säfsten & Gustavsson, 2019). The critera and intention in the sample used in this thesis project were to answer the research questions and collect data from two perspectives on the issue, which resulted in the sampling divided into two groups: business controllers and corresponding leaders in the business in Company X. It was decided to interview business leaders which were counterparts to the interviewed business controllers they worked closest with to get the two perspectives on the collaboration between them. The business controllers and business leaders were also picked from different business functions in Company X to find answers to the research questions which were true for a larger part of the organization and draw conclusions that will be most relevant for the company and make the largest impact. They were mainly found through consultation with the company supervisor and through organizational charts. The resulting list of interview subjects is displayed in table 3.1 below.

Business Controller Interview	Function	Business Leader Interview
Business Controller 1	Technology	Business Leader 1
Business Controller 2	Digital Delivery	Business Leader 2
Business Controller 3	Data	Business Leader 3
Business Controller 4	Infrastructure	Business Leader 4
Business Controller 5	Technology	Business Leader 5 Business Leader 6

Table 3.1: An overview of the interview subjects.

3.3.2 Interviews

The interviews was semi-structured meaning there was a set of predetermined questions but both the interview subject and the interviewer was allowed to deviate from the original questions (Bell et al., 2019). This ensured that relevant questions were asked in the interview, but possible relevant information was not missed if the interview subjects had unexpected valuable knowledge. An interview guide was created to be used for this purpose, created from the knowledge derived from the literature review and was continuously complemented with the insights gained in interviews.

The interviews with business controllers were mainly focused around the following questions:

- How will your work change because of the digital transformation?
- What will be a positive consequence or outcome of the digital transformation? What challenges do you see?

The interviews with business leaders were mainly focused around the following questions:

- How do you want to collaborate with Business Controllers to create value in the future?
- What will be a positive consequence or outcome of the digital transformation? What challenges do you see?

With permission from the interview subjects, the interviews were recorded, and notes were taken to facilitate structuring of collected data and analysis. By recording the interviews, the interviewers were able to be highly alert, follow up on points made by the interview subject and be engaged in the conversation while making sure that

the interviewees' answers are captured in their own words (Bell et al., 2019). To only rely on note taking during interviews would create a risk of missing valuable information (Säfsten & Gustavsson, 2019). To ensure that the interview subject felt safe and comfortable when being recorded, information about confidentiality and how the material was to be processed and deleted at the end of thesis project was given before the interview started. If the interview subject still felt uncomfortable with being recorded, which was a possibility, the interview would be recorded through note taking instead. The time allocated for the interviews was 45 minutes to not exhaust the interview subject and the interviewer. To aid the communication and understanding in the interview, slides were shown to quickly introduce the interviewers and the subject of the interview to the interview subject. Information was also sent to the interview subject before the interview to make it possible for them to prepare themselves for the interview if they wished. The interviews were conducted in a face-to-face format whenever possible and if not, through a video call. Because of the global character of Company X, a number of interviews were performed in this fashion.

3.4 Data Analysis

Because qualitative research generally generates large amounts of unstructured textual material, which was the case in this thesis project as well, it was not obvious how to perform the analysis. However, one established way to structure the data is by thematizing it in a thematic analysis (Ryan & Bernard, 2003). Themes capture patterns and contents in the data which are deemed relevant to the research questions (Säfsten & Gustavsson, 2019). Thematic analysis is used to identify, analyze and present the themes which appears in the data (Braun & Clarke, 2016). It can be said to be a foundational technique in qualitative data analysis (Säfsten & Gustavsson, 2019). After each interview, the recording and notes were used to identify the themes and organized in categories in a spreadsheet. This made it easy to keep track of what data each interview subject contributed with, important themes connected to the research questions and enabled a frequency analysis later in the analysis process.

The thematic analysis was separated into the two categories which was used in the sampling of interview subjects, business controllers and corresponding leaders in the business. The two perspectives were further divided into answering research question 1: *How will the work of business control and their collaboration with business leaders, change amidst Company X's digital transformation process?* and identify-

ing challenges and opportunities to aid in answering of research question 2: *What challenges and opportunities might come from these changes to the ways of working and how should Company X mitigate and enhance them?*. The analysis was iterative and collection and analysis of data happened in parallel and affected the data collection process. Meaning that the findings from the interviews shaped the following interviews and which interview subjects where interviewed, which is a common technique in qualitative analysis according to Bell et al. (2019).

The frequency analysis made it possible to visualize how many of the interview subjects mentioned each theme and worked as an indicator of importance. A common critique against quantitative research is that the presentation of the findings are often anecdotal and does not clearly indicate prevalence of the issue (Bell et al., 2019). A frequency analysis is a way to give the readers a sense of the extent to which certain beliefs are held or a certain behaviors occurs (Bell et al., 2019). Also, as both the business controllers and the business leaders were working with different business areas in Company X, a natural consequence is that they face different changes, challenges and opportunities. To come to the most useful conclusions, an analysis method to indicate importance of the findings was beneficial.

3.5 Research Quality

According to Säfsten & Gustavsson (2019) it is of great importance that scientific studies are valid and reliable. Validity concerns whether the data generated, and conclusion interpreted, is accurately aligned with the aim of the research and accurately represents reality. Reliability means that the research would yield the same result if it was replicated (Waller et al., 2015).

Triangulation was used in the research to improve validity and specifically researcher triangulation was used, which is when more than one researcher participates in the research and is able to confirm the result from the data collection (Säfsten & Gustavsson, 2019). This was achieved by having two researchers present in all steps of the study. To have two researchers present and active in all steps of research also improved reliability because of increased accountability and made sure that the research method was followed. Other actions taken in order to increase reliability was extensive documentation of the work as it progressed and being consistent with the method the data was collected and analyzed. The interviews were kept in the same format throughout, with a set of predetermined questions for business con-

trollers and set for business leaders. The interviews were semi structured and the interviews were allowed to deviate from the interview guide, however by using the same questions as a starting point in every interview, the reliability was increased. The analysis were performed in a consistent fashion for all data collected from the interviews to increase reliability.

An additional action taken to ensure validity of the research was the sample size of interview subjects and from where the sample was taken. The aim was to have the sample encompass a wide enough range of interview subjects to be able to validate the insights gained with insights from other interviews subjects from´other parts of the company. The two perspectives, business controllers and business leaders, validated the findings and made it possible to more objectively analyze the situation and relationship between them. Business leader interview subjects were sampled from five different business operations functions in the company and the business controller interview subjects were sampled based on their collaboration with respective business leaders. Every business leaders counterpart in the business controller function were present in the sample of business controller interview subjects, as presented in figure 3.2. This increased validity in the conclusions by ensuring that the findings from the data collection represented the reality in a larger portion of Company X.

4

Findings

In this chapter, the findings from the data collection interviews are presented. In figure 4.1 and 4.2 below, the result from the thematic and frequency analysis is illustrated. The frequency of which the identified themes were mentioned in the interviews is illustrated with the number of figures in each theme-box. The themes from the result is then explored further in section 4.1, with focus on the business control perspective, and section 4.2, with focus on the business leader perspective.

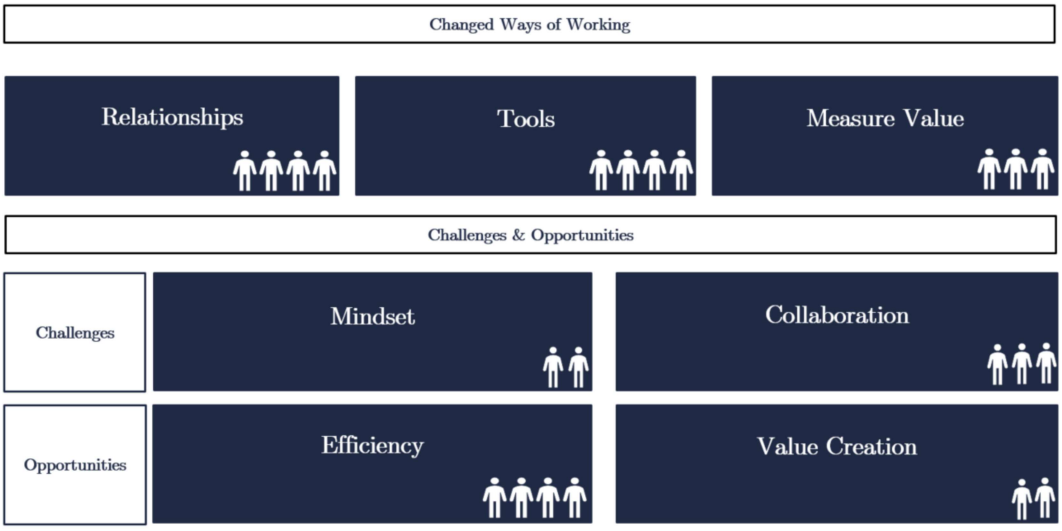

Figure 4.1: Thematic frequency analysis from five interviews with business controllers.

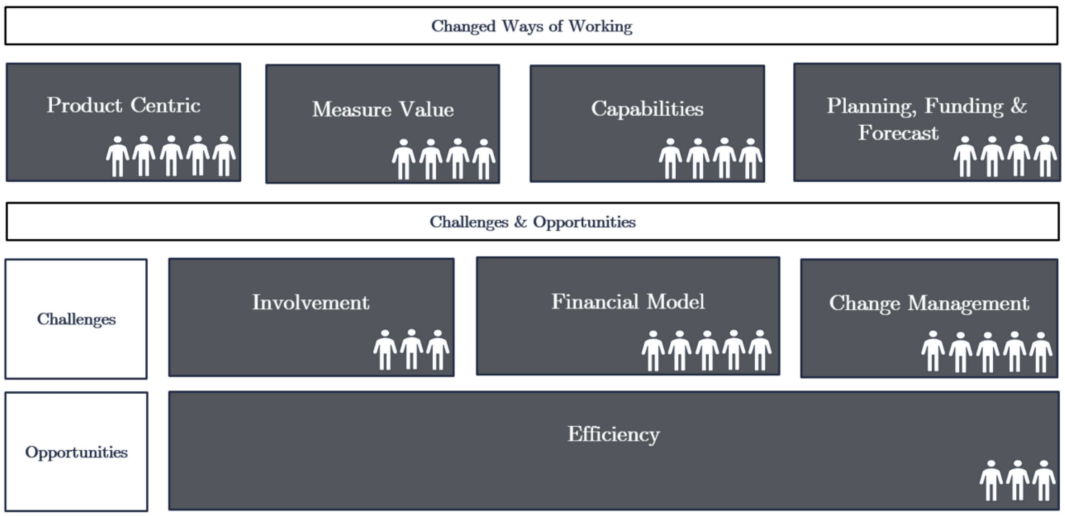

Figure 4.2: Thematic frequency analysis from six interviews with business leaders.

4.1 Business Control Perspective

Five interviews with business controllers resulted in the following findings. It is divided into a chapter 4.1.1, where how they imagine their ways of working will change is outlined, and chapter 4.1.2, where the opportunities and challenges they believe will follow the digital transformation is presented.

4.1.1 Changed Ways of Working

The business controllers were asked the question: *How will your work change because of the digital transformation?*. The answers could be categorized in, as illustrated in figure 4.1, the themes Relationships, Tools and Measurements.

Relationships

Four business controllers discussed how their relationships with business leaders, both inside and outside the Digital & IT organization, and their way of working together will change due to the digital transformation. One business controller says that they have lost connection with the business in the last couple years, *"We got a bit disconnected with the business somewhere on the way."* They expressed that this will need to be remedied and the digital transformation will require a closer cooperation, more transparency and more involvement in the business. The business leaders will request more information and the business controllers will need to have more insight into the business. By being involved and take part in discussions in the business,

they will be able to contribute with value and become more of a business advisor and do less financial accounting. Through increased transparency and unified ways of working, business control will easier be integrated into the business and one way to aid in this, is to use the same tools across the organization.

Tools

Four business controllers spoke about how the use of tools will change. The tools will evolve, become better and create opportunity to digitalize simple, as well as analytical, tasks. They will both remove time consuming tasks from the day to day work and be an aid in complex analysis. According to the business controllers, there will need to be consensus on which tools to use, to enable the transparency and cooperation needed in the whole organization. One business controller emphasizes that this change will take time and that it will require increased digital competences to fully utilize these new tools: *"It is an important journey for all of us to build up the additional competence for how to utilize this kind of digital tools to our advantage."* Another business controller highlights the key competence to understand the consolidation of data and use what is provided.

There is an ongoing transformation of the data sharing across the organization and cloud services are used as a tool to achieve this. This transformation is an example of how the use of tools will change and how it can be more difficult than expected to implement which, according to one business controller, have become apparent and is to expect going forward. New tools also brings new important aspects to keep in mind. For example, as two business controller mention, the need to have high quality data and a unified definition of how each data is measured will become of greater importance.

Measure Value

Three business controllers addressed the possibility that what they measure in their work will change due to the digital transformation. There will be a realization that digital development and solutions not only is a cost but also brings value to the organization. In the future, there will be a larger focus on the value added in the organization and the big picture, instead of only the cost as well as setting and following a budget for an entire year. A natural step in evolving the business control is to remove the budget-thinking and focus more on the value added.

To measure the value added, other factors than today will be measured. Examples mentioned by business controllers are sustainability and life-cycle of a product. In measuring sustainability, finance could play an important part in developing business cases for the sustainability of a digital solution. Until now, the way of calculating the value of the digital solutions have been through setting a budget, but this is not the best way to do it. It have been difficult to calculate it in any other way and will continue to be a challenge but several business controllers believe that in the future, a superior method will be used.

4.1.2 Challenges & Opportunities

The business controllers were asked the question: *What will be a positive consequence or outcome of the digital transformation? What challenges do you see?*. The answers could be categorized in, as illustrated in figure 4.1, the challenge themes: Mindset and Collaboration, and the opportunity themes: Efficiency and Value Creation.

Mindset Challenge

Two business controllers identified mindset as a challenge. They expressed that some individuals in the organization are stuck in old rules and roles and they repeatedly need an explanation for how and why things are performed in a new way. These individuals believe that it was easier in the past and find the new ways complicated. They specifically find the budget-free way of working hard to adapt to.

The business controllers express that this is not only a challenge related to the relationship between the business controllers and the business leader but the whole organization. One business controller says: *"All practical challenges pale in comparison to the journey needed within the mindset of each employee at Company X."* It will become an enormous change management challenge to embrace the transformation and make it their own.

Collaboration Challenge

Three business controllers identified collaboration as a challenge. They think that the efforts have been made to collaborate across the whole organization and the work is well on the way, but the need for even more collaboration becomes apparent as time goes on and the digital transformation progresses. As one business controller says: *"We increasingly see the need to cooperate to be able to move forward. It is important for management to convey that message, so you not only look at your own organization."*

One aspect of the collaboration challenge is how there is a miss-match between how far the digital transformation have progressed in different part of the organization. When the finance department was reorganized recently, it was reorganized to suit a business organization which was not implemented yet. This led to continuous adjustment of the finance department to suit the current reality and tasks which was once removed, were added again. But as one business controller says, this is part of an agile process. You learn, test and perfect.

Even though, there have been reorganization in the finance department, the underlying financial model have stayed the same. One business controller states that real transformations due to the digital transformation have not been seen in the finance department, ambitions and ideas exists but there are no concrete solutions yet.

Efficiency Opportunity

Four business controllers spoke about efficiency as a positive outcome of the digital transformation. The increased efficiency comes from simplified processes and new tools, as a business controller says: *"A possible positive consequence is that we could build some analytical tools and digitalize the work we are performing."* Another cause of this opportunity is the move from using a budget, as a business controller expresses: *"It is a natural development to let go of the budget thinking."* Finance at Company X today is very transaction heavy and if digitalization and letting go of the budget thinking could decrease the amount of manual transactions, time could be spent on more value adding activities.

Value Creation Opportunity

Two business controllers identified increased value creation as a positive outcome of the digital transformation. Both themselves creating value for the organization with their way of working, and measuring value the business creates. One business controller says: *"A positive outcome is changed ways of working, less focus on meaningless details and more focus on the big picture and what value is actually brought into the organization."* The same business controller also highlights the difficulty of measuring value compared to measuring costs.

One way of creating value and focusing on the big picture is through looking at sustainability and life-cycle-management. This would according to one business controller be valuable and make the role as business control more interesting. Business control would become a true business support instead of only a financial reporter.

4.2 Business Leader Perspective

Six interviews with business leaders resulted in the following findings. It is divided into a chapter 4.2.1, where how their way of working together with business control will change is outlined, and chapter 4.2.2, where the opportunities and challenges they believe will follow the digital transformation is presented.

4.2.1 Changed Ways of Working

The business leaders were asked the question: *How do you want to collaborate with Business Controllers to create value in the future?*. The answers could be categorized in, as illustrated in figure 4.2, the four themes: Product Centric Business Control, Measure Value, Capabilities and Planning, Funding & Forecast.

Product Centric Business Control

Five business leaders expressed a strong wish to have a financial model where the business control and reporting is centered around products, to support the new product-centric organization. In the future, there will be much less projects because of the product-centric organization and from working in an agile context. Because of this, the costs will no longer be divided into run-time costs and one-time costs. It will be about processing one business or product area instead. Today it is already quite painful to match the use of run-time and one-time costs with the use of agile practices. One business leader communicates a belief that there would be increased

clarity and easier evaluation of the actions if the financial reporting was adapted to how the organization is actually organized. Another business leader says: *"Our whole financial reporting is divided into operations and development, I don't find that relevant and I instead want to know how much we want to spend on one product this year. I want to, together with business controllers, look at what products we need to invest in and follow the costs for each product."* To achieve this, a suggestion from two business leaders is to have one business controller per product area with end-to-end overview.

A lesson learned by one business controller from experience with another company, which went through the same transformation to a product-centric organization, was to transform the whole organization at the same time. This includes finance. By doing so, the speed and flow needed to reach the goal state is not lost. Without it, the result might be a half-done transformation where the old financial model and way of working is still used in the background and then only on the surface translated into a product-centric way of presenting it. Another business leader brings up a wish for business control to be a leader in the change: *"I believe that our business controllers need to stay one step ahead of the organization regarding understanding the nature of a product and how to prioritize regarding a product, to be able to show the way."*

The five business leaders all expressed an understanding of the difficulty of transformation of a financial model to this set-up and legal and other requirements need to be taken into account. One business leader states: *"We need to simplify but at the same time make sure that we are compliant with taxes, country specific requirements and other perspectives we have in our financial structure".* The same business leader is aware of how their viewpoint may differ from the financial department's because of their differing perspectives and knowledge.

Another business leader thinks that the application IDs used today can continue to be used and added together to represent one product. The product may be a sum of different application IDs, which could carry benefit from a cost control perspective if there is a need for the cost allocation to be on a more granular level. The financial community could cover the costs in multiple dimensions where the product could be one dimension, the application ID could be another dimension, country could be a third and time could be a fourth dimensions.

Measure Value

Four business leaders see that in the future, business control will move away from only measuring costs, to also measuring value. According to them, so far the IT has mainly been considered a cost and now there is an increasing need to track how much value it generates. *"In my world, business control is about more than costs, it is about the value we get,"* says a business leader. One business leader mean that to measure value, the value need to be translated into monetary terms. Company X, the Digital & IT organization, will not be responsible and own revenue the same way as the revenue-generating organizations in Group X it delivers solutions and support to. However, you could possibly measure contribution to the net income from the product that is sold to the end-customer. To achieve this, there need to be a strong connection between business control and the business side in the customer organization because the value generation happens there, and then business control in Company X can capture those figures. By consolidating the figures, it can be shown that the value presented to the board of Group X is based on real value generated in different business aspects.

Different ways to measure value have been discussed. One suggestion from a business leader is to measure the impact on technical debt, how much it decreases and how the product contributes to the value chain and the company as a whole. Another value to measure brought up is sustainability and softer KPIs, such as customer satisfaction, which can be turned into numbers. One business leader suggests that these value-metrics can possibly be divided into different buckets. For example, one bucket for the value for operations and one bucket for the net income for the company, meaning how much more sales it actually generated on the market.

One business leader has a contrasting view on the issue and says that the task to measure value belongs to the business division and should be left to those who own the business initiative. The business control organization should continue to put their focus on following the money.

Capabilities

Four business leaders talks about a future change in capabilities in the organization. Both business controllers and business leaders will likely need new capabilities. The business leaders will keep more structure of their costs and be able to more clearly give an account for what the funds have been used for and the reason for it. There will be a larger responsibility for the business leaders to have control of the entire

product and they will be required to be leaders that can both explain the technology and the business value. There will be higher demand on the business leaders to show the value they generate in the solutions invested in, this means that they need to secure the expected value of it, before starting an endeavor. It is not only the leaders on the top that will require this capability, but leaders across the entire organization.

For business controllers, one changed capability mentioned is the increased ability to look into the full flow of a product, which is connected to the product-centric way of working with financial monitoring. In the future, business control will be less specialized in silos and will see a larger picture.

The knowledge in the business area and the ability to discuss with the business leader will also increase. They will act more as a CFO to a CEO regarding the product. Four business leaders imagine that the business control could become even more analytical and prescriptive than they are today and they could provide more valuable input and advice on where actions need to be taken by the business leader. If the business controller is aware of the problem areas in the business, they can find their impact on the financial numbers and help make them visible. There is a lot of financial data and many reports, but how to use it in decisions is an area where business control could contribute with skill and insight.

Two business leaders highlight digital literacy as one capability which will become more prevalent among business controllers. It will make it possible for them to find processes which can be eliminated, automated or improved and also implement the change with the help of digital tools. It needs to be performed in a safe way which does not risk to damage important data and reports. Another capability connected to the digital literacy is data quality management, which will become increasingly important. Low quality data might be preventing business control from creating automatic reports and they need to be capable of handling this difficulty.

Planning, Funding & Forecast

Four business leaders identify the use of new ways to plan, fund and forecast as things they want to change in the ways of working in the future. One business leader explains the paradox between being required to deliver forecasts on scope, timeline and cost and trying to implement the agile mindset and working in stable teams which is not philosophically aligned with this way of thinking. The most optimal delivery model for stable teams would be to not have to forecast how much

resources they need because when they begin, they are not aware of what they are going to build. This paradox is becoming more clear due to a company wide use of stable teams. It results in ending up in state of in between, being expected by the financial community to commit to a forecast while the delivery organization tries to escape that constraint, as it makes them inefficient.

Another business leader talks about how the financial planning process should be more connected with the one-rythm way of working in the rest of the organization. Right now, the business leader means that the planning in the rest of the organization is isolated from the financial planning and reporting. There are many meetings where the connection between them could be made and where it would be necessary to do so, but it is restricted by time constraints and how few business controllers there are.

Block-funding and rolling forecasts are highlighted by a business leader as suitable ways to improve the business control. With block-funding, the capacity planning becomes easier and more manageable with shorter time-frames. Today, there is a lot of fluctuation in staffing because projects are started, suddenly creating a large need for more staff which disappears when the project is stopped and people need to be released. With block-funding of stable teams, you define a capacity and then process the backlog at the speed the team is able to.

With rolling forecasts, instead of forecasting for 12 months and setting a budget for that time period, the forecast could be adjusted over shorter time-periods. It would create a better position to plan for the capacity required, anticipate the current capacity better and staff the organization in time before increased activity. A shorter time period could be 6 months instead of 12, and adjusting could be to revise and determine the need for staff in six months based on predicted activity levels.

One business leader talks about how there is a need for better tools to anticipate the evolution of the product-portfolio and events which will generate changes in the finances. Instead of only looking at a time-horizon of one year, a tool to calculate and keep track of the events on the midterm-horizon, of three to five years, would improve the ways of working together with business control.

4.2.2 Challenges & Opportunities

The business leaders were asked the question: *What will be a positive consequence or outcome of the digital transformation? What challenges do you see?*. The answers could be categorized in, as illustrated in figure 4.2, the challenge themes: Involvement Challenge, Financial Model Challenge and Change Management Challenge and the opportunity theme: Efficiency Opportunity.

Involvement Challenge

Three business leaders identifies the need for involvement of business controllers in the business as a challenge. In the future, it becomes increasingly important for business control to be involved in the business. Because, as one leader says: *"To be able to know when to question each other, you need to be able to dive into a subject."* Therefore, the business controllers require the right competence, capability and the time to understand and get closer to the business. By doing this, a business controller would be able to aid their business leader as a CFO aids a CEO. For this, the right tools need to be given to business control and they will need to feel confidence in their ability to contribute. There need to be upskilling in the organization.

To come closer to the business, one solution could be to involve business control more with HR, according to one business leader. If HR can deliver a prognosis of the current and future staffing needs, more quality can be delivered by the organization. Another way to become closer to the business is to create a stronger connection between the business controllers in the Digital & IT organization, with the business controllers in the customer-organizations. Through this connection, the business controllers could get an holistic view of the entire product. It is a challenge to create this close connection.

Financial Model Challenge

Five business leaders identifies the creation of a new financial model as a challenge. One business leader brings up the challenge of allocating the cost between the customer organizations in Group X in an efficient way which promotes sharing of digital solutions, platforms and infrastructure and says: *"The biggest challenge I see from a business controller perspective is to find the right financial model to allocate the cost."* It is not obvious how to do it because of multiple constrains, such as legal and country specific requirements. When the costs are connected to usage, the paying customer organization want to make the decisions, which is not possible sometimes when shared digital infrastructure is created by the Digital & IT organization.

Two leaders talk about the paradox between being required to deliver forecasts and still trying to implement the agile mindset, there is a challenge to find a solution in the financial model that can be accepted by both management and operations. One says: *"There is a big bunch of requirements on the overall financial model and big bunch of need to track costs. Which is not in line with the agile approach and the stable team approach."* They also raise the question: *"How can we understand the minimum requirement from a project-cost-tracking perspective, and how can we challenge that? /.../ How can we translate it in a way, where stable teams reports their time without killing the concept of stable team?"* Another business leaders explains that there will always be a need for more detailed reporting at finance but it might be required to let this mindset go and find some way to trust that if the reporting is set on a certain level, we can trust that we can explain the costs and the value generated. One business leader suggests that it does not have to be difficult to create a funding model for stable teams: *"You define the size of the team, you fund it and then you are done."* The difficult part is to get everyone to accept that it is not possible to forecast the cost and define the output of a stable team before they start working. It is about acceptance.

Change Management Challenge

According to five business leaders, there is a large change management challenge. As one business leader says; *"Culture takes a long time to change."* One expresses the need to really embrace the new model and how it will be challenging, but if they succeed, it will be beneficial to the organization. *"We, business controller and I, will evolve together, we know the rules of the game, we play the game together and now it is a new game,"* explains another. There need to be a change in mindset for business controller to take on the work of being an business advisor instead of a financial controller.

There is also a challenge in the organization overall to transform from being a supplier organization, to being an IT-partner to the customers organizations within Group X. This will be a culture change because not everyone will be receptive to this new way of working together. One business leader says that working in a costumer-supplier set-up is ingrained in their way of working and might be hard to get everyone on board with the change.

Efficiency & Prioritization Opportunity

Three business leaders identifies increased efficiency as an opportunity with the digital transformation. One says: *"We spend too much time on this number crunching, /.../ an improvement from this model is that we can focus on making things rather than reporting them."* It is about automating the work for the business controller so focus is on value, analysis and recommendations instead. The method to look backwards can be automated, requiring minimal manual adjustments, to leave room to become more integrated and act as an advisor to the business. It would also make the work of business leaders more efficient if systems became more advanced and they did not need to spend time every month explaining the same deviating costs.

Digitalization both enables delivery of new value and revenue streams and is also a way to improve the efficiency of the organization. This efficiency improvement need to be tracked to understand the benefits and translated into a cost decrease. Right now, the Digital & IT organization, Company X, creates efficiency and it is supposed to decrease the cost somewhere else in Group X but, because it is not tracked, the only visible thing is that the IT cost is increasing in the group. With the current focus on costs, it is hard to motivate certain actions, as there is no calculated value to compare with the costs. By being able to focus on measuring value and bringing value, the right actions can be taken.

4.3 Summary of Findings

In this chapter, the findings from interviews with five business controllers and six business leaders have been presented. They were asked how their work and collaboration with each other will change due to the digital transformation and what challenges and opportunities they see following it. Business controllers were asked: *How will your work change because of the digital transformation?*. Business leaders were asked: *How do you want to collaborate with Business Controllers to create value in the future?*. Both were asked: *What will be a positive consequence or outcome of the digital transformation? What challenges do you see?*. A summary of the findings is presented in table 4.1 below.

Changed Ways of Working		
Business Controllers	Relationships	Will be closer cooperation, more transparency and more involvement in the business. Will contribute with value and become more of a business advisor.
	Tools	Tools will evolve, improve and digitalize simple and analytical tasks. Will require time, digital competences, competence to consolidate data and high-quality data.
	Measure Value	IT is not only a cost, but it also brings value. Larger focus on big picture, instead of cost and budget. Measure value: sustainability and life-cycle of a product.
Business Leaders	Product Centric	Financial model where business control and reporting is product-centric. One business controller per product area with end-to-end overview.
	Measure Value	Track value IT generates in monetary terms. Measure value: contribution to the net income, technical debt, sustainability and customer satisfaction. Contrasting view: business control should not be involved in measuring value.
	Capabilities	Business control: digital literacy, knowledge in the business and products, analytical and prescriptive ability. Business leaders: Structure costs and account for used funds. Explain both technology and business value of product.
	Planning, Funding & Forecast	Connect planning to rhythm of organization. Match financial model with agile and stable teams. Paradox between agile and forecasts on scope, timeline and cost, Suggested solutions: rolling forecasts and blockfunding.
Challenges		
Business Controllers	Mindset	Individuals stuck in old rules and roles and find new ways of working difficult. Challenge to embrace transformation, in the entire organization.
	Collaboration	Need for collaboration apparent. Miss-match between digital transformation progress in different parts of the organization.
Business Leaders	Involvement	Right tools, time, confidence competence and upskilling is required for business controllers to get closer to business, HR and customer organization. Act as a CFO to a CEO.
	Financial Model	Allocating the cost between the customer organizations to promote sharing of digital solutions, platforms and infrastructure. Paradox between requirement to deliver forecasts and implement the agile mindset.
	Change Management	Change in mindset for business controller to be business advisor instead of financial controller. Organization transforming from being supplier organization, to IT-partner to the customers organizations.
Opportunities		
Business Controllers	Value Creation	Business controllers create value and measure value the business creates.
	Efficiency	Increased efficiency from simplified processes, new tools and not using budget. Decrease manual transactions, time spent on more value adding activities.
Business Leaders	Efficiency	Automating work for business control. Focus on value, analysis and recommendations. Enable delivery of new value and revenue streams. Track efficiency improvement to understand benefits and cost decrease.

Table 4.1: Summary of findings from data collection interviews with business controllers and business leaders.

The method used to analyze the data collected from interviews which resulted in the findings presented in this chapter was a thematic analysis and a frequency analysis. In the next chapter, the findings will be combined with the literature review in a discussion. An analysis and discussion of both will make it possible to answer the research questions and fulfill the aim of the thesis project.

5

Discussion

In this chapter, the findings are related to the literature review and discussed, in order to fulfill the thesis aim of analyzing how the Digital & IT organization at a manufacturing company can adapt the ways of working of the business control function when undergoing a digital transformation process. From the findings in interviews with business controllers and business leaders, four areas of change of the ways of working for business control and their collaboration with business leaders were identified in order to answer research question 1: *How will the work of business control, and their collaboration with business leaders, change amidst Company X's digital transformation process?*. The areas are: Financial Model, Relationships, Measurements and Capabilities. These are explored and discussed in section 5.1, Changed Ways of Working.

Based on these four area of change, three challenges and one opportunity Company X will face due to the digital transformation were identified in order to answer research question 2: *What challenges and opportunities might come from these changes to the ways of working and how should Company X mitigate or enhance them?*. They are: Agile Paradox Challenge, Mindset Challenge, Upskilling Challenge and Efficiency Opportunity. These are explored and analyzed in section 5.2, Challenges & Opportunities.

The areas of change, challenges and opportunities and how they relate to each other are visualized in figure 5.1 below.

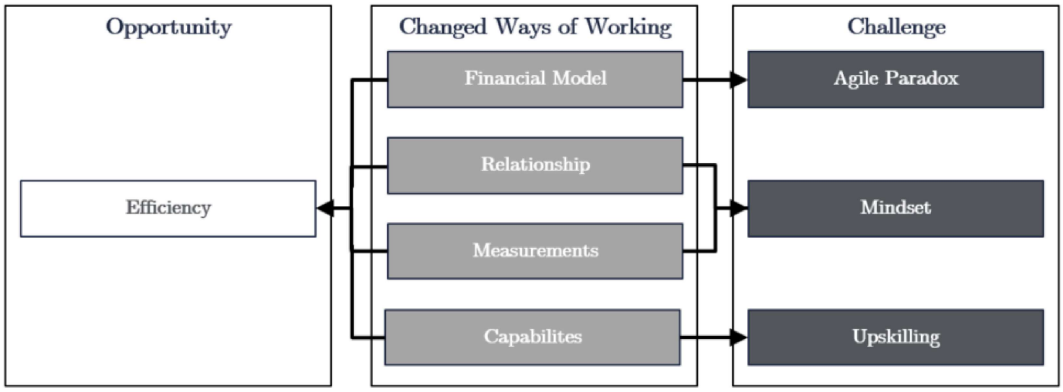

Figure 5.1: Changes to the ways of working for business control and their collaboration with business leaders, with challenges and opportunities connected to them.

5.1 Changed Ways of Working

From the findings in interviews with business controllers and business leaders, four areas of change of the ways of working for business control and their collaboration with business leaders were identified: Financial Model, Relationships, Measurements and Capabilities.

5.1.1 Financial Model

According to the findings from interviews with business leaders, the financial model will likely change due to need to be suited to the digital transformation. There is a strong wish for the financial model to be adapted to the product-centric way of working. Meaning that business control will be centered around products, which according to some business leaders will lead to increased clarity and easier evaluation. The planning will likely need to be more connected to the rhythm of working in the rest of the organization and the planning and reporting will be performed with an end to end perspective for each product.

The business leaders also see a need to match the financial model with the agile way of working, specifically the soon to be implemented use of stable teams. There is a paradox between implementing agile ways of working and at the same time require forecasts on scope, timeline and cost, because of the philosophical misalignment. It results in a state of being in between, being expected by the financial community to commit to a forecast while the delivery organization tries to escape that constraint which makes them inefficient. A suggested solution is the use of rolling forecasts. Block-funding is an additional suggested method of creating a more manageable planning of capacity.

Summarized, following the business leaders requests, the financial model will become simpler and more flexible but also more predictable in the future. It will suit their way of working, with less time spent following up on, from their perspective, unnecessary variables. Business controllers have also highlighted the natural departure from the classic budget-thinking in the organization and that it is in this direction the financial model will move in the future.

The vision of business leaders and business controllers, to leave the budget behind, is in line with the literature about beyond budgeting. Beyond budgeting is the idea of leaving behind traditional budgeting processes and stems from the need to be able to make quick and competent decisions in a business environment which is ridden with uncertainty and change (Fahlen, 2016). Examples of companies that are using beyond budgeting are Volvo Cars, Bayer Pharmaceuticals, Equinor and the most famous one Handelsbanken which removed their budget in the 1970s. There are critiques against using a budget in beyond budgeting theory, some examples are: the budget often has a weak link to strategy, it limits flexibility, it focuses on cost reduction and not value creation, it is based on guesses, it is a time consuming and resource intensive processes and it does not promote creativity and continuous improvement (Neely et al., 2003). These critiques have been brought up in the interviews with Company X as well. Beyond budgeting and agile have many similar principles and because of these similarities it is not surprising that the agile community, and Company X which practices agile, is drawn to beyond budgeting (Bogsnes, 2016). Some examples are that they both endorse transparency and communication, they both promote continuous delivery and a rhythm where management processes is not organized per calendar year and they both promote autonomy and self-organization where they rely on the decision-making power of self-managing teams and managers (Corbey & Cornelissen, 2021).

Setting a budget often has three reasons, it acts as target, a forecast and a way to allocate resources. However, targets should be ambitious and something to strive towards, forecasts should be realistic and resource allocation should be based on actual need and connected to strategy and when the same numbers are used for all these purposes, the budget does not fulfill any of them as well as it was intended (Fahlen, 2016). In beyond budgeting, these three reasons are separated and fulfilled individually, in ways that are more efficient for the purpose. The goal is not to stop counting, measuring and follow up, but about simplifying and looking ahead instead of backwards as traditional budget variance analysis often does (Fahlen, 2016). By having a gap between forecast and targets, innovation and improved performance is promoted to close the gap between them (Fahlen, 2016). By not using a budget, the cap on growth and revenue, and the floor for costs disappear (Bogsnes, 2016).

One of the most common actions in companies adopting beyond budgeting, is the implementation of rolling forecasts (Francke & Nilsson, 2017). Which also business leaders mention as a way to improve business control. Rolling forecast is however only one small part of the move away from strict use of budget in beyond budgeting. The more overarching philosophy of beyond budgeting is to become more agile and more human, giving trust and autonomy to people to make intelligent decisions, using transparency and strong values as a self-controlling mechanism. While creating dynamic processes by letting go of the detailed budgets, create relative and directional goals and using dynamic planning, forecasting and resource allocation (Bogsnes, 2016).

Rolling forecasts is a method to achieve dynamic forecasting and being aware of how the gap between targets and forecast is increasing or decreasing. It is important that the forecast is created based in the rhythm of the business to make it possible for the business to act if the gap between the forecast and target is increasing (Fahlen, 2016). A rolling forecast means that the forecasts are created over a rolling period of time. In the case of Company X, this period could be the rhythm already implemented in the company which is a set number of weeks. At the beginning of each iteration of this rhythm, a common planning and prioritization of the work during the next period is decided upon. To connect the finance function to this rhythm would be beneficial. This is also in line with how business leaders want to make forecasts because, as one business leader says, it will give them a better position to plan for the capacity required, anticipate the current capacity better and staff the

organization in time before increased activity.

Both the findings from interviews and the literature review indicates that the financial model, how finance and business controllers work with planning, budgeting, forecasting and reporting, will change. It will move towards being more product-centric and with less focus on budget to be more aligned with the digital transformation and the agile and product-centric way of working. This is an improvement which combats the paradox of trying to implement agile and keeping the traditional financial management methods. This agile paradox which is a challenge for both the current financial model and a transformed one is further explored in section 5.2.1, Agile Paradox Challenge.

5.1.2 Relationships

The relationship between business controllers and business leaders will change according to both business controllers and business leaders. Business control claims that the connection to the business has been lost in the last couple of years and now it is time to get closer again. The digital transformation will require a closer cooperation, more transparency and more involvement in the business. They believe that through increased transparency and unified ways of working, business control will easier be integrated into the business.

Business leaders also seek to increase the cooperation. Most of the interviewed business leaders want their business controllers advice on actions they should take and want to work more closely. One leader uses the metaphor of a CFO to a CEO regarding the relationship between a business controller and a business leader. They see a benefit of having one business controller per product area to get and on end-to-end view on each product.

Over the years, business controller's have evolved from reporters to navigators and finally to business partners. Nilsson and Olve (2013) argue that business controller's are responsible for providing the employees with financial information in order to ensure responsible financial decisions. This puts a set of requirements on the business controller's, with a foundational focus on communication. Nilsson and Olve (2013) emphasize the importance of communication between business controllers and employees as well as managers. This communication also symbolizes the difference between a business controller and financial controller. Seal et al. (2019) explains how business controllers are involved in management accounting whereas financial

controllers are rather involved in financial accounting. The difference between the two is the idea that business controllers are more involved in the organizations and rather collaborate with managers and employees to create value. The involvement of business controllers and the collaboration with business leaders is vital to ensure an evolving organization as well as business.

Business controllers will in the future engage as a business advisor rather than solely running reports and looking at financial figures. The relationship will be as close collaboration between business leaders and business controllers. Business controllers will need to engage more proactively and analyze facts and figures to make strategic business decisions and a proactive approach is more important than retroactively following up on figures each period. This change in relationship is predicted by business controllers, business leaders and in the literature. Nevertheless it will require a change in mindset which is a challenge explored in section 5.2.2 Mindset Challenge.

5.1.3 Measurements

Business controllers says that there will be a realization that digital development and solutions not only is a cost but also brings value to the organization. Business leaders concur by stating that so far the IT has mainly been considered a cost and now there is an increasing need to track how much value it generates. Examples of value that can be tracked are, according to business control, sustainability and the life-cycle of a product. In measuring sustainability, finance will play an important part in developing business cases for the sustainability of a digital solution. Business leaders also bring up sustainability as an example of value to measure and adds decreased technical debt, contribution to the value chain and the company as a whole and customer satisfaction. One business leader suggests that these value-metrics can possibly be divided into different buckets. For example into one bucket for the value for operations and one bucket for the net income for the company, meaning how much more sales it actually generates on the market.

There is a contrasting view in the findings from interviews with business leaders regarding if business control should be involved in measuring value. The other way to handle it is to let the business manage the value tracking themselves, if needed. There already exists efficient ways to prioritize between tasks, for example through agile practices.

Business controllers involvement in measuring value can be debated. As some business leaders argue for involving business controllers in this task, others argue that this is the responsibility of business leaders. Comella-Dorda, Kar and Sunderraj (2022) emphasize how finance is moving from a control function towards a strategic business partner in order to capture value. The authors argue that business leaders want to receive updates on Objectives and Key Results (OKRs), and more specifically Profit and Loss (P&L) metrics from finance. This resonates with what the business leaders mentioned regarding findings ways to measure the P&L metrics on a smaller scale, such as analyzing the value a specific product brings to Group X as a whole.

Business controllers together with business leaders need to evaluate how measuring value can be incorporated in their collaboration. This requires a change in mindset, a challenge further discussed in section 5.2.2 Mindset. Today, business controllers have their focus on IT spend. which is cost connected to IT deliveries, but in the future it may be relevant to adjust this focus. This to ensure the business is focusing on the correct tasks that actually generates value for the corporation as a whole. By measuring value of the output from the operations, this can be compared with the costs of operation to measure performance and return on investment in terms of value. Business controllers and business leaders agree on the fact that the Digital & IT organization is seen as a cost in Group X and that this will need to change. Previously, IT was only a back-end tool for automation, today it creates business value together with the business, therefore the true measure of IT's performance is the impact it has on the outcome of business processes (Pachory, 2019). IT cost is likely to rise when it is safe to assume that the Digital & IT organization will play a vital part in the digital transformation which is happening in both society and in Group X. When IT cost rises and the output and value created from the Digital & IT organization is not measured and presented, the main goal becomes to decrease the costs and it is difficult to motivate investments in the Digital & IT organization. Without investments in the foundational IT structure and capacity of Company X, Group X risks lagging behind in the digital transformation in society.

5.1.4 Capabilities

From the findings it can be found that both business leaders and business controller expect the capabilities in the company to change due to the digital transformation. Business control anticipate their digital competences to increase to fully utilize new tools the digital transformation is bringing as well as a being able to consolidate data

and know how to use the data provided. Business leaders is of similar view, that increased digital literacy among business control will likely be required to automate their own processes and transactions. They also predict an increased ability to understand and follow a product from end-to-end and be less specialized in a certain area of the process, but instead be specialized in certain products. Additionally, analytical ability, prescriptive ability and the knowledge in the business will increase when business control becomes more of an advisor to business leaders.
The business leaders capability to structure their costs and clearly account for used funds will likely increase, according to a business leader. There will be increased expectation to have control of an entire product and explain both its technology and its business value. There will be more pressure to present the value a digital solution will generate before and after the endeavor is started.

The role of business controllers is evolving, and with this their capabilities are expected to adapt and change to new ways of working. Degermark (2018) pushes for digital competence in order to allow change and follow the digital transformation. The process of digital transformation requires capability to extract data and transform it into useful information (Staka et al., 2022). An increased analytical capability is needed to understand and interpret the long-term financial potential and in identifying potential areas of development (Nilsson & Olve, 2013). This includes having the ability to interpret new information as well as utilizing modern technologies and applications, essentially enhancing their digital literacy.

Nilsson and Olve (2013) also emphasize the importance of interpersonal capability, specifically enhancing connections and collaboration with the organization. Business controllers need to engage with not only their respective business leaders but also with other business controllers as well as other experts in the organization. Nilsson and Olve (2013) finally argue for an increased formulation capability. It's important for business controllers to understand and interpret complex problems in order to support the organization. Essentially, business controllers need to understand and be involved in the work of the business leaders in order to properly be able to formulate suggestions and solutions related to financial aspects. In this regard, they can support business leaders when they face the increasing expectation to have a control of an entire product and be able to explain the business value.

It's evident that business controllers will evolve their capabilities in order to stay ahead. At the same time will business leaders require more knowledge in the financial aspects of products when they are starting to become responsible for one product and getting an end-to-end perspective. Which further shows the importance of having a close collaboration. Acquiring new capabilities is heavily tied to the challenge of upskilling. The ability to transform the capabilities of business controllers is vital in order to support to the new organization following the digital transformation. The challenge of upskilling and how it will be mitigated will be further elaborated in the section 5.2.3. Upskilling Challenge.

5.2 Challenges & Opportunities

Amidst the digital transformation within Company X, new ways of working are creating challenges and opportunities which require an approach to handle them. This is investigated through the second research question which is stated as follows: **What challenges and opportunities might come from these changes to the ways of working and how should Company X mitigate or enhance them?**

The challenges and opportunities stemming from the changed ways of working explored in previous section 5.1, are: Agile Paradox Challenge, Mindset Challenge, Upskilling Challenge and Efficiency Opportunity. These challenges and opportunities are further analyzed and discussed in this section.

5.2.1 Agile Paradox Challenge

The agile paradox is one of the factors which creates the need to align the financial model with the digital transformation. Business leaders have identified the paradox between agile and traditional financial control as a challenge in their work which will grow with the implementation of stable teams. This is also supported by literature which emphasizes the misalignment between traditional finance management and agile.

The negative aspects of a budget and reasons for leaving it behind have been outlined in section 5.1.1, Financial Model. However, it is important to note that implementing changes to the financial model, new mindsets and new tools, for example rolling forecasts, can coexist with a budget. The drawbacks of budget-thinking can still be mitigated and become more agile. It is the old budget-mentality that needs to be adjusted first and foremost, where continuous improvements are not promoted and

the only goal seems to be to not diverge from the budget. Instead of focusing on a budget as a goal, rolling forecasts for example, can be used to measure output and changes in KPIs to ensure that the company is on trajectory of achieving long term goals (Corbey & Cornelissen, 2021). By measuring and creating rolling forecasts for the output and value created by the operations and stable teams, it can be compared to the targets and the costs of the operations. Then, as discussed in section 5.1.3 Measurements, the return on investment can be used as a measurement of performance.

A less detailed budget where the allocations are made on a strategic level to value streams rather than departments is also a way to align the financial model to the agile way of working (Corbey & Cornelissen, 2021). This is a needed adjustment to the budget or resource allocation because of the transferred responsibility and decision-power to the agile and stable teams, which are cross-functional and self-organizing. By allocating resources on a higher level, per product area for example, the product area and the self-organizing stable teams can prioritize and execute the work in the most efficient way within the given budget.

To implement the changes to the financial model is, as business leaders also expresses, not an easy task and requires careful consideration. There are legal and country specific requirements that put pressure on the financial model to be functioning at all times. A change to the business model have to be implemented in a way that ensures that the vital figures and processes remains. However, there cannot be hesitation for too long as one business leader's experience from another company illustrates. If the finance function does not utilize the momentum of change, it might be lost and the finance function ends up in a state of in between where it becomes more complex when both ways of working is coexisting too long. In the end it might become too tempting to regress into the old ways of working if the implementation is never followed trough. This connects to the mindset challenges which will be explored further in the next section.

To mitigate this challenge, Company X need to evaluate the current function of the budget and consider a transformation of the financial model. They should consider both connecting it more closely to the rhythm of the operations of the business and moving away from the budget mindset by measuring outcome and value generated, setting targets and forecasts to align the company with the targets. The finance department at Company X need to use the momentum and lean into the change of the financial model and the alignment with the digital transformation.

5.2.2 Mindset Challenge

To change the relationships and what to measure, which have been identified as areas of change due to the digital transformation, also requires significant changes to the mindset in the organization. Changing the mindset is a significant challenge in the organization, as identified by both business controllers and business leaders. Another aspect in relation to mindset is the idea of falling back into old ways of working. There are individuals that abide by old rules and roles and show no interest in new approaches. This is tied to the strong culture and requires change management as expressed by several business leaders.

In order for business controllers to increasingly act as an advisor to business leaders rather than simply financial controllers, both parts of the collaboration need to change the mindset regarding their setup and how they interact and view each other. With a change to the financial model, a change in mindset is also required regarding the level of financial control. For example how detailed a budget should be or if a budget should be used at all. Creating a more flexible and less detailed budget requires an acceptance of loss of control in the financial planning. Which might feel daunting and risky.

This need to change mindset regarding roles and rules also expands outside of Company X to the interaction between Company X and its customer organizations in Group X. IT have previously only been viewed as a cost, which is a common occurrence where IT is only seen as a line in the budget (Yamazaki, 2017). Now when the importance of IT is being realized in the group and Company X have been tasked to improve the common platforms and IT infrastructure, as well as create reusable modularization, the view needs to change. If the importance of IT is not mirrored in the mindset of the entirety of Group X, Company X will encounter resistance in the collaboration with customer organizations when the IT cost increases in the process of making the improvements.

There has been an evident loss in the mindset and motivation of business controllers as they have been separated from the business and are no longer a self-evident member of management teams at different levels in the organization. The relationship needs to be reevaluated in order to motivate the organization at a new level. Within measuring value, new ways of doing this needs to be found in order to explore new ways of working. Sravasvati (n.d.) discusses the budget and it's detrimental effects on motivation. Continuously comparing figures to a budget that is constantly off is not motivating in any way. This connects to the necessity of establishing new ways of working but significantly establishing new ways of measuring value. Ensuring a positive mindset is vital for the business operations and collaboration within the group.

Many large companies suffer from change fatigue after waves of reorganizations and change initiatives which are implemented back to back (Bogsnes, 2016). Company X is not an exception to this. More changes can impact the mindset of the affected employees negatively and it is important to consider the importance of mindset in an organization. In order to mitigate the mindset challenge in both the collaboration between business controllers and business leaders and in the group as a whole, there needs to be a strategic focus on the relationships and collaboration as well as ways of measuring value to show the value of the Digital & IT organization. The collaboration need to be evolved and defined at a higher level, and business controllers and business leaders work together to find the right fit in each case. Another action to mitigate the mindset challenge and help the business controllers find sources of motivation is through upskilling. By giving the right competences to business controllers and business leaders they can easier adopt new ways of working. This is further elaborated in the next section.

Lastly, a positive and curious mindset regarding the future is also vital for improvement of the business controller function. To foster this outlook on the future, time and resources need to be given to explore and search for new and better ways of working. Therefor, an additional way to mitigate the mindset challenge is to create a group of interested and passionate individuals to strategically work full time with improvement work of the business controller function at Company X.

5.2.3 Upskilling Challenge

Amidst the digital transformation, the work of business control is shifting and new demands on analytical, interpersonal and formulation capabilities are becoming evident (Nilsson & Olve, 2013). In order to grasp the new capabilities, upskilling becomes increasingly important. Degermark (2018) highlights that some competences may be difficult to find both in the workplace as well in today's market. This further strengthens the arguments for working with upskilling in the workplace.

It is necessary to analyze and determine which capabilities and to what extent the employees must possess digital competencies to successfully go through the digital transformation (Staka et al., 2022). Staka et al. (2022) have identified three levels of digital literacy: the first level is digital competence which is the basic digital knowledge needed, the second level is digital usage which is the ability to use the digital competence in the professional context and the third level is digital transformation which is when the digital usage is innovative and creative. The goal for the finance department at Company X should be to reach the third level of digital literacy to be able to find opportunity to automate or improve in their daily work and create the automation or improvement themselves. By having a high digital literacy, new digital tools will be easier implemented and adopted. In addition, the digital transformation will become more enjoyable and less daunting if the right capabilities and knowledge is in place.

Nilsson & Olve (2013) emphasize the need of upskilling in order to achieve new capabilities for the business controllers. A plan for upskilling is vital in order essentially create change. Fahlén (2016) recognizes six components necessary in permitting change. This is tied to the upskilling challenge as a way to trigger change by evolving the capabilities of business controllers. Vision, competence, rewards, resources, and an action plan make up the foundation for creating change. Each is needed for a successful outcome, lacking one creates detrimental effects on the attempted change and will prevent any upskilling. No vision will generate confusion, lack of competence will lead to anxiety, insufficient rewards will bring resistance, not enough resources causes frustration and finally a missing action plan will lead to lack of momentum (Fahlén, 2016). These six factors further emphasize the importance of upskilling.

To go through the digital transformation, Company X needs to ensure the business leaders and business controllers have all the necessary capabilities. An increased analytical competence, as well as interpersonal competence and formulation ability are three capabilities that should serve as the aim in an upskilling initiative. On top of this, digital competence is necessary and can be considered vital for business survival. Other competences to focus on are communication and efficiency, specifically in handling meetings. In order to mitigate this upskilling challenges, the expertise in the human resources department can be utilized. By creating a vision, individual plans and incentives together with business controllers, the finance department at Company X can develop the capabilities they require. If they give the right resources in the form of time and education.

5.2.4 Efficiency Opportunity

Efficiency in the workplace is a setting stone for continuous development of the organization, and essential for the value creation in the company. Efficiency in this thesis project concerns utilizing resources for maximized output. Resources consists of delivered hours by employees as well as the strictly monetary aspect. Efficiency can be improved through focus on the right tasks, enabled by automation of manual tasks as well as a general increased simplicity in the organization.

Several business leaders emphasized that the digital transformation will bring on a large scale effect of efficiency, which in return may have effects on business control. They highlight that the business control function needs to ensure that they draw benefits from the digital transformation and optimize their own ways of working in relation to the business operations. This can be tied to the idea of prioritization and focusing the work of business control on the right tasks, which both business controllers and business leaders mention is important. Rather than continuously working on consolidating reports and such, efforts are needed to automate a larger portion of this. This will enable business controllers to focus on analyzing the reports rather than creating them, essentially acting as business advisors to the business leaders. Shifting the focus from traditional duties to higher efficiency in the work of business controllers is a great opportunity. This further allows business controllers to create value together with business leaders, enhancing value creation throughout the company as well as in Group X as a whole, according to the findings from interviews.

Nilsson and Olve (2013) describe the strive towards efficiency as an effect of employees engaging in the right activities and leaders in the organization need to ensure a management that supports and aids the employees in their strive. In order for employees to work in this direction of efficiency, it is vital that the organization not only focuses on costs all the time (Nilsson & Olve, 2013). The authors also emphasize a focus on value creation and specifically how value is created for both customers and the organization. Improving the efficiency, essentially switching the focus to new tasks, will allow business controllers to engage in new valuable settings. As tasks are automated, business controllers will, together with business leaders, be able to engage in value creating activities. Business controllers today focus on costs after consolidating reports, but if the reports are automated, focus can shift to analyzing the figures in other perspectives. Understanding the value a certain cost brings Company X on a larger scale can be deemed more important, even so for Group X. Exploring ways to measure value other than looking at monetary value is an exciting opportunity.

The efficiency opportunity is important to explore and enhance in order reap the most benefits from it. Business controllers today spend a large amount of time on the consolidation of reports that in theory can be automated. Several business controllers even work in parallel, creating the same reports or dashboards without collaboration, even though they are utilizing highly similar ways of presenting financial data. A way to enhance the efficiency opportunity would be to work on acquiring the right competences needed to automate the work through upskilling. An additional enhancement would be to bring IT competence and an improvement mindset closer to business control by allowing a small group of people with finance and IT competence to work with improvement of the way of working for business controllers and finance full time. They can keep the focus on the future and improvements and support business control in automating reports and dashboards that today are manual. The reports need to be adjustable in order to be applicable to different business controllers and business leaders requirements and it is therefore essential that the business controller, and in extension the business leaders are involved in the creation. Worth to note is that the data source needs to be secured in order to avoid the garbage-in garbage-out dilemma.

6

Implications

In this chapter the managerial implications for Company X are discussed and the limitations of the thesis project are explored in a critical reflection.

6.1 Managerial Implications

In this section, the managerial implications for Company X are discussed and presented by answering the two research questions of the thesis project.

How will the work of business control, and their collaboration with business leaders, change amidst Company X's digital transformation process?

From the analysis of the findings and literature review conclusions can be drawn about how the work of business control and their collaboration with business leaders will likely change. Four areas of change are identified: financial model, relationships, measurements and finally capabilities.

The financial model revolves around how business controllers and business leaders work with planning, budgeting, forecasting and reporting, which has identified as an area of change both by the interviews as well as in the literature. The financial model will be updated towards the product-centric ways of of working, requiring more agility and less focus on static tasks such as budgeting.

The relationship between business controllers and business leaders will change in order to permit new areas of collaboration to evolve. Business controllers have felt disconnection from the business recently while business leaders are requesting business controllers with an end-to-end perspective, essentially one business controller per product area. The relationship will change as business controllers will act as business advisors to the business leaders and shift to working more proactively rather than simply following up on figures retroactively.

The measurements and specifically ways of measuring value will be adjusted to focus on value created for the business. Several business leaders request support from business controllers in establishing ways of measuring value, such as looking at other factors rather than just monetary value. This is supported by the literature that emphasizes how finance is moving from a strictly controlling function towards a strategic business partner. On the contrary, one business leader argues that it's the responsibility of business leaders to ensure their business creates value for both Company X and Group X. It's evident that business controllers and business leaders likely will collaborate and find new ways to measure value, moving away from simply looking at costs.

The capabilities of business controllers are changing in relation to the digital transformation. An increased digital literacy is expected by both business controllers and business leaders, and also backed by literature. Business controllers are expected to become more analytical and communicative in their ways of working and have a deeper knowledge in the business they are collaborating with.

What challenges and opportunities might come from these changes to the ways of working and how should Company X mitigate or enhance them?

Company X faces three challenges and one opportunity, the agile paradox challenge, the mindset challenge, the upskilling challenge and the efficiency opportunity. The agile paradox challenge is the challenge of aligning the philosophies of agile and traditional financial control and management, which are contradicting to each other. To mitigate this challenge, Company X should evaluate the current function of the budget and consider transforming the financial model. They should connect it more closely to the rhythm of operations in Company X, and consider adding rolling forecast to this rhythm.

The mindset challenge stems from being stuck in old rules and roles of working between business controllers and business leaders but also in the Group as a whole where the Digital & IT organization, Company X, now needs to play a larger role. Changed mindsets are needed for the changed ways of working, particularly the new changed relationships and ways to measure value. To mitigate this challenge, suggestions are to strategically work with the relationships and how to measure value, upskill to acquire the right competences and create a group which strategically work full time with improvement work of the business controller function.

The upskilling challenge is the challenge to obtain the right capabilities for business controllers and business leaders to both survive and thrive in the digital transformation. To mitigate this challenge, Company X is suggested to work together with the human resources department and with the individuals to create a capability vision, individual plans, and incentives. Also, the right resources in form of time, education and support is necessary. Support can be given by, as previously mentioned, creating a group working full time with improvement work.

The efficiency opportunity comes from the automation of business controllers manual tasks and increased simplicity in the organization. From this, more resources in the form of time and funds can be spent on other task such as closer and more proactive cooperation with business leaders, acting as an adviser. To enhance this opportunity, upskilling to acquire the competence to automate tasks and use new tools is a focus area. In combination with bringing IT competence and an improvement mindset closer to business control by allowing a small group of people with finance and IT competence to work with improvement of the way of working in finance full time. They can keep the focus on the future and improvements and support business control in automating and improving their work.

6.2 Critical Reflection

The limitations of the thesis project have continuously been reflected upon during the work to make improvements when potential negative effects where identified. However, despite proactive efforts, there are still limitations to reflect upon when evaluating the the thesis project and its implications for Company X and its contributions to theory.

The literature review was performed in the initial phase of the project and throughout the project to create the literature review and aid in the creation of the aim of the project as well as interview questions. Because of the vital role of the literature review in the project, this is an area where the success of the project could be limited. Both database searches with keywords and snowball sampling were used to broaden the search for literature to combat the risk of only limiting the search to a few keywords or only limit the search to sources relating to each other. Still, relevant literature which could contributed in a beneficial way to the analysis might have been missed.

Company X has characteristics that limits the application of the findings in the thesis project. It is a subsidiary company within a group, acting as a supplier organization to other revenue bringing customer organizations in the group. This particular setup makes both relevance of existing and used theory and the application of the findings to other companies questionable. However, as this particular area of theory is perceived to be limited and there are numerous companies in the same setup and situation as Company X, the contributions of the thesis project can be expected to be favorable. An improvement to consider for further research is to include bench-marking and case studies from other companies in the same situation as Company X, to compare and contrast different methods of dealing with the same issues.

Sampling of interview subjects were performed with great support from the company supervisor and with the purpose of getting two perspectives on the issue, business controllers and business leaders. This limited the thesis project to data collection from the perception from the two perspectives and the interaction between them. However, the finance function and the work of business control is affecting and dependent on the entire organization. To interview and explore more stakeholders affected by the financial model would be an improvement and becomes a relevant addition to future research in the area. Product portfolio managers is an identified stakeholder which could be an interesting next step in further research.

The conducting of the interviews is another possible limitation to the data collection, which might have impacted the implications of the thesis project. The findings from the interviews are anonymously presented and is not linked to any particular individual or company. This method of presentation was chosen for the purpose of allowing interview subjects to speak freely and without being impacted by fear of repercussions. How well this method fulfilled the purpose should be considered when reading the findings. To complement the interviews with more perspectives could, as earlier stated, have improved the data collection further and also compensated for data left out in interviews where the participant withheld information or opinions.

7

Conclusions

This chapter aims to present concluding answers to the research questions as well as intentions, limitations and possible future research for this thesis project. The thesis is an effort to analyze how a Digital & IT organization, such as Company X, at a manufacturing corporation can navigate the business control function in the era of digital transformation.

In response to the first research question four distinct areas of changed ways of working were identified. The financial model will change and become more product-centric, more agile and with less focus on static tasks such as budgeting. The relationships will be closer between business leaders and business controllers, which will increasingly be a proactive advisor. New measurements will be introduced to measure output and both business leaders and business controllers will acquire new capabilities, for example increased digital literacy.

In response to the second research question three challenges and one opportunity with ties to the changed ways of working were identified. The agile paradox is the challenge of aligning the philosophies of agile and traditional financial control which can be mitigated by reevaluating the financial model, connecting it closer to the rhythm of operations and consider adding rolling forecasts. The mindset challenge stem from being stuck in old rules and roles and can be mitigated through strategical work with relationships, upskill and creating a group dedicated to improvements. Upskilling is a challenge of acquiring the needed competences to thrive which can be mitigated through collaboration with human resources and giving the necessary resources. The efficiency opportunity is an opportunity to increase value adding activity from the business controllers by automating and simplifying certain task. This can be enhanced by enabling automation and improvement of work through upskilling and by creating a group to work full time with improvements for the business control function.

The aim of this thesis project was to analyze how the Digital & IT organization at a manufacturing company can adapt the ways of working of the business control function when undergoing a digital transformation process. In doing this, it becomes an aid for Company X as they undergo a digital transformation. As the operative business is transforming, it's vital for support functions to be aligned. Business control is one support function that needs to be adapted in order to suit new ways of working following a digital transformation. This thesis provides an overview and suggested direction going forward within the finance function and the work of business control.

Company X is a subsidiary company of large manufacturing corporation called Group X, with a particular structure and organization. This limits the amount of existing research and literature on the specific situation and topic, as well as the possibility to make a relevant comparison with other companies. In addition to this, it limits the application of the findings to other companies. However, as the topic may not be widely explored as of yet, the contribution of this thesis project to the area of research is considerable.

The topic of this thesis project opens up a wide set of possibilities for future research, researching the evolving business control function while undergoing a digital transformation process. The area of research is relatively new as the effects of digital transformation, for example through implementation of agile, has slowly begun to impact the traditional finance functions in large companies. To build on this thesis, one future study could be to explore another stakeholder perspective on the financial model and the work of business control, to get a broader perspective. An example is portfolio managers, customer organizations and the parent company of a subsidiary company. An additional potential area of research could be to make an aggregated comparative study of several companies in a similar situations in the business control function of their Digital & IT organizations. This would provide an extensive insight into the differences between how companies handle the change, challenges and opportunities the digital transformation brings. The topic of business control and digital transformation is extensive and contains numerous challenges as well as opportunities, making it an engaging and interesting topic for further research.

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A

Appendix: Interview Questions Business Controllers

Business controllers were asked the following discussion questions during the interviews:

- How has your work changed amidst the digital transformation? How will it change?
- What new requirements are placed on you in your work?
- What new requirements do you see on Company X and Group X?
- What will be a positive consequence or outcome of the digital transformation? What challenges do you see?
- Anyone else you believe we should interview?

B

Appendix: Interview Questions Business Leaders

Business controllers were asked the following discussion questions during the interviews:

- Briefly describe your role at Company X.
- How do you want to collaborate with Business Controllers to create value in the future? How will it differ from today? What new requirements will be placed on them and their work? What new requirement will they place on you?
- What new requirements will be placed on Company X and Group X in the future? How will they interact with each other? (Moving away from a demand and supply-set up.)
- What will be a positive consequence or outcome of the digital transformation? Within finance? What challenges do you see?
- Anyone else you believe we should interview?

C

Appendix: Manifesto for Agile Software Development

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value: (Beck et al., 2001)

Individuals and interactions *over processes and tools*
Working software *over comprehensive documentation*
Customer collaboration *over contract negotiation*
Responding to change *over following a plan*

That is, while there is value in the items on the right, we value the items on the left more (Beck et al., 2001).

Principles behind the Agile Manifesto

Beck et al. (2001) presents twelve agile principles:

We follow these principles:

- *Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.*
- *Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.*
- *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 behavior accordingly.*

D

Appendix: Similarities Between Agile & Beyond Budgeting

Similar principles no. 1-6		
Principle	Principles behind the Agile Manifesto	Beyond Budgeting-principles
1	**Customer Satisfaction** : Our highest priority is customer satisfaction through early and continuous delivery of valuable software.	**Customers** : Connect the work of all employees with customer needs; avoid conflicts of interest.
2	**Welcome change** : Welcome changing needs (requirements), even late in the development process. Agile processes leverage change to the customer's competitive advantage.	**Plans and forecasts** : Make processes, plans and forecasts Lean and objective without systematic errors; they are not rigid or political activities.
3	**Regular delivery** : Regularly deliver working software. Every few weeks or every few months. Preference should be given to short periods.	**Rhythm** : Dynamically organize management processes around business changes and events; not per calendar year or fixed moments.
4	**Collaborate :** Business people and developers need to work together daily throughout the project.	**Organization** : Create a culture of connection and togetherness around self-managing teams; avoid hierarchical controls and bureaucracy.
5	**Motivated team** : Build projects around motivated individuals. Give them the environment and support they need and trust them to get the job done.	**Organization :** Create a culture of connection and togetherness around self-managing teams ; avoid hierarchical controls and bureaucracy.
6	**Face to face/personal communication** : The most efficient and effective way to share information in and with a development team is to talk to each other.	**Transparency** : Open information to self-regulation, innovation, learning opportunities and scrutiny with as few restrictions as possible.

Table D.1: Similarities between agile principles and beyond budgeting principles no. 1-6 (Corbey & Cornelissen, 2021).

Similar principles no. 7-12		
Principle	Principles behind the Agile Manifesto	Beyond Budgeting-principles
7	**Working software** : Working software is the most important measure of progress.	**Customers** : Connect the work of all employees with customer needs; avoid conflicts of interest.
8	**Constant pace** : Agile processes promote constant development. The clients, developers and users must be able to maintain a constant pace forever.	**Rhythm** : Dynamically organize management processes around business changes and events; not per calendar year or fixed moments.
9	**Good design** : Constant attention to high technical quality and good design strengthen Agile working	**Resource allocation** : Foster a cost-conscious mindset and create a freedom to deploy resources where and when needed; avoid fixed, detailed, annual budget allocations.
10	**Simplicity** : Simplicity, the art of maximizing the work not done, is essential.	**Resource allocation** : Foster a cost-conscious mindset and create a freedom to deploy resources where and when needed; avoid fixed, detailed, annual budget allocations.
11	**Self-Organization** : The best architectures, requirements, and designs emerge from self-managing teams.	**Autonomy** : Rely on the decision-making power and authority of self-managing teams and managers; only use the hierarchical tool where necessary.
12	**Reflect and adapt** : The team regularly, at fixed times, examines how it can become more effective and then adjusts its behavior accordingly.	**Plans and forecasts** : Make processes, plans and forecasts Lean and objective without systematic errors; they are not rigid or political activities.

Table D.2: Similarities between agile principles and beyond budgeting principles no. 7-12 (Corbey & Cornelissen, 2021).

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