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## **Digital Transformation in Management Accounting: Shaping Corporate Strategies**

*A case study Based on Swedish Service-related firms*

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## Abstract

The primary goal of the study is to comprehend how digital transformation in management accounting contributes to strategic development and competitive advantage. Using a qualitative multiple case study method with semi-structured interviews and relevant documents and a theoretical framework based on the Resource-Based View (RBV), the research looks at three Swedish enterprises that are involved in the aviation and IT industries. The findings of this study were analyzed using the inductive coding method first to apply the Resource-Based View theoretical framework.

The results show important managerial insights from Company A, Company B, and Company C's experiences. Despite supplier constraints and industry standards, Company A's adoption of Fortnox (ERP system) demonstrates the strategic use of digital technologies within resource boundaries. It emphasizes the automation of repetitive operations and resource reallocation to improve strategic decision-making. Through cloud-based deployments, Company B's strategic alignment of digital activities with business goals emphasizes the improvement of decision-making, process optimization, and organizational agility, generating a competitive advantage. In the meantime, Company C's implementation of a Resource Management System (RMS) highlights how crucial digital transformation is for streamlining processes, maximizing the use of available resources in order to capture value, and promoting data-driven decision-making in a variety of operational settings.

This study contributes to the management accounting area by providing significant insights into the significance of digital transformation of management accounting that can potentially assist the firm to gain possible a competitive advantage and eventually probable changes in the firms' strategy. Another contribution is the implication of theory (RBV) considering the digital transformation of management accounting and the relation to competitive advantage and the likelihood of agreement among digital solutions and VRIN/VRIO (Valuable, Rare, Inimitable, Non-substitutable/Organization) framework's criteria. The findings of this study demonstrate how businesses use digital technologies to improve productivity, decision-making, and strategic processes. Examples of these technologies include ERP systems, cloud-based reporting tools, AI integration, and automation of MA chores. These digital changes include a variety of activities, such as automated tasks, real-time data access, and a strategic connection with corporate goals. Companies in this study have been able to enhance their management accounting procedures, maximize resource allocation, and promote innovation by strategically utilizing these digital technologies. While it might not be costly to replicate certain parts of these digital transformations, how businesses innovate, integrate, and adapt these technologies to produce distinctive value propositions that support their strategic goals is what matters most. By improving productivity, adaptability, and creativity through strategic alignment and the efficient use of digital tools, these businesses gain a competitive advantage in the ever-changing business environment.

*Keywords: Digital Transformation, Management Accounting, Strategic Development, Competitive Advantage, Digital Solutions, Resource Allocation*

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### **List of Abbreviations**

<b>MA</b>	Managemnet Accounting
<b>MA</b> s	Management accountants
<b>RBV</b>	Resource based view
<b>SCA</b>	Sustained Competitive advantage
<b>CA</b>	Competitive advantage
<b>VRIN</b>	Value Rare Inimitable Non-substitutable
<b>VRIO</b>	Value Rare Inimitable Organization
<b>DT</b>	Digital Transformation
<b>DS</b>	Digital solutions
<b>ERP</b>	Enterprise Resource Planning
<b>AI</b>	Artificial Intelligence
<b>IoT</b>	Internet of Things
<b>MAS</b>	Management Accounting System
<b>MCS</b>	Management Control System
<b>SMA</b>	Strategic Management Accounting

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# 1. Introduction

*This chapter includes sub sections as background of the study to explain how digital transformation (DT) gives more possibilities to management accounting (MA) to help managers in decision making and get involved in the firm's strategy. Digital transformation (DT) of Management accounting (MA) is intended as implementation of ERP (Enterprise Resource Planning) system in the firms (three service-related firms in Sweden) with consideration to the usage of in-demand technologies of cloud-based solutions, artificial intelligence, machine learning, big data, and data analytics capabilities. Research gap and problem statement as second part, brings the issue of scarce theoretical and empirical research about the DT of MA, relation to competitive advantage (CA), and effects on the firm's strategy with related concerns. The purpose and research question section describes why it is important to fill such a research gap, aims of the study and constructing a research question.*

## 1.1 Background of the Study

Management accounting can be described as the process of identification, measurement, accumulation, analysis, preparation, interpretation, and communication of information used by management to plan, evaluate, and control within an entity and to assure appropriate use of accountability for its resources (CIMA, 2005). According to Wolf et al. (2020), the field of management accounting is constantly evolving due to many factors, including the advancement of globalization, the expansion of international business networking, innovations in information technology, the growing power of professional organizations, the academization of the profession, and most importantly, the extensive application of management accounting (MA) in business practice to be considered as a bright side of drivers to DT of MA. On the other hand, reminding the concern of data quality, complexity of interaction, lack of contextual, overreliance on technology, mismatched expectation, and change management are the obstructive factors related to DT of MA. These issues are important to be considered if DT of MA is supposed to have effects on the firm's overall strategy. For instance, based on Wolf et al. (2020), the concerning effects on organization's financial condition (e.g. the issue related to financial strategy of firm and financing the DT), the conflicting results about "IT systems," the change driver, and the unknowns around is factors to be considered in firms strategy and how digitization will alter the functions of management accountant (MA) in its contribution in decision making or inclusion in firm's strategy.

Contemporary digital technologies under focus in this study of three Swedish firms are usage of enterprise resource planning (ERP), automation of accounting tasks, data analytics, big data, predictive analytics, artificial intelligence (AI), business intelligence and cloud-based solutions, which each firm has employed based on their own specific needs in their MA. DT of MA is not only considered merely improvement in physical capital of a firm as hinted above. It considers also the human capital improvements focusing on MAs profession and skills, their overall IT knowledge for their organizational capabilities, that can be handy in MA and eventually let them take significant part in shaping the strategy of a firm. Moreover, taking into account of organizational capital, the mentioned types of digital technologies that change a business model, and can provide new revenue and value-providing opportunities which is the process of moving to a digital business (Gartner, 2020). According to a study by Möller, Schäfer & Verbeeten (2020), digitalization makes it possible for businesses, suppliers, customers, and employees to work together in new ways, which results in the creation of new offerings for goods and services. This is the basic reasoning that the firm's strategy can be potentially influenced due to DT of MA, permitting to take into consideration insider and outsider actors in value creation process.

According to Daft (2016), the strategy of a firm can be defined as a plan for interacting with the competitive environment to achieve organizational goals. Connecting this statement to our study focus from resource based view (RBV) guides to the argument by Jugdev (2005), where he states that the strategic assets which are mostly knowledge based and intangible are “*the ones that are more likely to serve as sources for competitive advantage*” helping the firm to interact stronger with the competitive environment. Jugdev (2005) for instance names, superior managerial skills and technological capability as strategic assets. He indicates the relation of such resources to the VRIO framework from a resource-based view (RBV). The VRIO framework concept here is valuable, rare, and inimitable attributes of digital resources and organizational skills of management accountants which indicates a well-equipped MA leading firm to CA and active participation in firm’s strategy. Holtkemper (2020) states that the DT of MA through the organized use of AI, ERP systems, and the automation of MA tasks, has aided firms in budgeting and the planning process by enhancing visualization, short- and long-term forecasting, as well as providing further agility and flexibility which are essential factors in supporting the firm to deal with the competitive environment. Besides that, MA can be defined as a helpful mechanism to implement the firm’s strategy (Chenhall & Langfield-Smith, 1998; Lachmann, Knauer, & Trapp, 2013; Nyamori, Perera, & Lawrence, 2001). Thus, the way in which MA facilitates the execution of the company’s strategy which simultaneously may change as a result of its digitization in the same sense as “strategic assets” concept of Jugdev (2005). Fähndrich (2022) also identifies a connection between the digitalization of MA and the overall strategy of the firm, where changes in MA, including digitalization, might relate to changes in the overall strategy of the firm (e.g. overall resource reallocation).

## **1.2 Research gap and problem statement**

Many articles have been published about DT of MA since then, writers like Moll and Yigitbasioglu (2019) and Rikhardsson and Yigitbasioglu (2018) have offered literature overviews and the result taken from that shows that the focus on the link between MA and digital solutions is mostly from the theoretical perspective and there is a scarce of empirical studies. It is the same for the relation between DT of MA and firm strategy. To name, the study of Appelbaum et.al, (2017) focus only on abstract ideas and theories about the effects of digitalized MA on the strategy of firms. DT of MA and its effects on the business strategies of incumbent firms to explore new business opportunities is also discussed with the same manner in the study of Möller *et al.* (2020). In this artical the researcher suggeste that controllers as driving party in MA of firms should play an active role. MA should address digital opportunities and corresponding changes in business models and organizational strategies in order to gain competitive advantage (CA) as factor for firm business strategy. In contrast to this, a few empirical research projects such as the study by Holtkemper (2020) include a case study about DT effects of MA on corporate strategy, in order to understand why and how DT of MA have impact on the firms’ strategy. He also states that there is a gap between what is being addressed in academic articles and what is really happening in practice when forming his research questions about the drivers and barriers of DT of MA and the related impact on firms’ strategy.

It is crucial to commence a complementary study through a case study in the field of MA to address the related concerns, find out potential influence of digitalized MA on the strategies of service-related firms and its possible donation to CA. Holtkemper (2020) has done a similar study about large size manufacturing firms in Europe with empirical findings and important implication in the MA field. He suggests more investigation into different sizes of companies in different locations from a geographical perspective. As general fact the digitalization of MA is more prevalent in a developed country because of better and advanced infrastructure than not developed or developing countries which allows us to indicate the edges of such development in a pragmatic way that is relevant and important to the field. A case study considering Swedish service-based firms in Sweden as a first ranked developed country

located in the edge of many aspects is vital to address the issue and investigating this will reveal a lot of important sights in the field of MA, the usage of contemporary digital technologies in MA, and the overall consequential impact on firms' strategies. Holtkemper (2020, p. 7) in his research investigates digitization of the MA function through a case study analysis on manufacturing companies and claims it to be as first in-depth empirical studies on the intersection of MA and digitization. As his fourth research question, he states “*How is management accounting impacted by digitization and how does the impact relate to the overall strategy of the firm?*”. His findings indicate, “*in management accounting functions, employees are not being prepared sufficiently with the right skills and knowledge*” which means there is a lack of competence to utilize digital technology as it should be used. This underlines the organization attribute related to digital resources as an important factor to be performed by MA in a firm. It is in the same sense as Jugdev (2005) has distinguished in the VRIO framework about the contribution of valuable, rare and inimitable resources which need to be organized by the MA for the purpose of CA and then according to our research focus it can contribute to possible competitive advantage (CA) and eventually potential strategy changes.

One might say why the result should be different and why to conduct such a study. The response is that Holtkemper (2020) study is about large size firms most related to manufacturing companies located in a different geographical area than Sweden with demographic differences so the validity of his results or difference of this study results are worthy in both situations. Furthermore, this study is analyzes the issue from resource based view (RBV) in the way as Barney (1991) suggests and as common knowledge the participation of human resources in a service-related activity is larger than manufacturing activity in today's business environment which makes the results of this research valuable considering the significant effects of human resources mixed with digital technologies in service activity (e.g. financial service firm) that can be important to competitive advantage in the firm. Most importantly to get more knowledge about skilled human resources in MA and huge presence of digital solution related to MA tasks. Both together can possibly help the firms located in Sweden to gain CA which might entail strategy changes for the service-based companies. From the geographical perspective, in Sweden there is some concerns about how management accountants (MAs) would address the utilization and organization process of digital solutions. This is evident from the survey conducted on year 2018 by SSE Executive Education where managers in Swedish firms were asked how they see the competence of the person they report to. The respondents consider their bosses to have poor skills in many strategically important areas such as leading, managing, organizing the business effectively, driving change and leading and running projects ( Sifo, 2018).

In light of the above-mentioned issues, the research gap and problem statement become clear. The integration of digitization presents both opportunities and problems for MA, which might play a crucial role in influencing strategic development and decision-making. The problems and the research gap can be addressed by figuring out how digitalization affects MA and how that affects business strategy through gaining competitive advantage. The precise consequences for MA procedures are yet unknown as companies pursue digital transformation (DT) to navigate unpredictable shifts and maintain their competitiveness. There are questions about how digital tools are changing financial processes, how management accountants are adjusting to these changes, and most importantly, how these changes are affecting the development and implementation of business strategy.



### **1.3 Purpose and Research Question**

The purpose of this study is to understand how DT of MA might contribute to strategic development and bring competitive advantage for the service-related firms located in Sweden. DT of MA can result growth, efficiency, and innovation opportunities on one hand and challenges (risk) on the other hand as important factors that influence firms' strategy and in the firm ability to gain possible CA. This might be prevalent by leveraging DT of MA through improved processes, customer engagement, data analytics, and new business models. We also want to contribute to the MA field by conducting this study to examine strategic development and CA for the service-related firms through a case study to fill the knowledge gap by addressing the lack of empirical studies in this issue with consideration to the resource based view (RBV) theory in the same sense as Barney (1991) discussed.

This might also have important educational consequences since students of MA must realize how important MA role is to the strategic development of firm in relation to DT of MA and CA. As Wolf, Feldbauer-Durstmüller, and Mitter (2020) have pointed out that students studying management accounting should be encouraged to explore identity, self-view, traits, and values instead of concentrating only on what their future employer expects. The emphasis on introspection and personal growth can open doors for MAs and establish them as valuable contributors with strong connections to strategic management. They become influential partners who shape the broader strategies of the companies they work for. This emphasizes the necessity of more investigation and study to fully comprehend and utilize the changing responsibilities of MAs in organizational strategy with more involvement and usage of digital technologies as DT of MA that would also take part to lead the firm toward competitive advantage. Considering the above objectives, we can form the research question as below.

***“How can digital transformation in management accounting contribute to strategic development and competitive advantage?”***

## **2. Previous Literature and Theoretical Framework**

For a deep and better understanding of all concerned factors to the research question it is essential to inspect and open up some previous literature about MA, digital transformation, and firm strategy. After the inspection of some specific and relevant literature to our study we can proceed to form the theoretical framework that finally in the last part of this chapter get a full version of how the firms can gain CA through DT of MA and the eventual impacts on firm strategy. Hence, it is worthwhile to mention here that MA of the firms focused in this study consider its current digital transformation as getting able to improve its capability for the purpose of efficiency and productivity, cost reduction, innovation, customer experience, agility and flexibility, data-driven insights, and skill development by providing management with access to relevant and real-time managerial and operational data in the support for decision making, for instance Rikhardsson and Yigitbasioglu (2018) in their article about business intelligence and analytics (BI&A) status in MA support such idea and view the implementation of BI&A as improvement of organizational performance in several dimensions and its overall effects on the firm and its decision makings.

The theoretical framework for this study is the resource based view (RBV) as the view of (Barney, 1991) which through such lens the findings should be analyzed and the research question is going to be responded. DT as a known fact needs resources to have a practical effect and according to Holtkemper (2020), it is treated as a beneficial supporter of strategic and operative decision-making in a company growth phase which need to be in line with firm overall strategy. It should not be presumed as a source of competitive advantage for the firms but instead a strategic move by the MA of firms to enhance its activity for efficiency and productivity of all in hand resources of the firm and it acts like a catalyst for optimal results which in this case is Competitive advantage for a firm through better monitoring and analysis of the data related to the resources. Such a notion can be the base for the reasoning of that DT is one of the potentials to let MA take part in decision-makings as well as participate in the process strategic development as a consequential result from DT of MA. Such a process gives us the understanding that DT ultimately can have potential impact on the strategy of companies through probable enhancement in the capabilities of MA for finer utilization of the resources in a way that the VRIN/VRIO framework criteria should be met for the CA purpose.

### **2.1 Previous Relevant Literature**

Some of studies have been focused on a set of these factors (MA, DT, & strategy) for instance, Moll and Yigitbasioglu (2019) state how innovations on the internet and the related information technologies (IT) are transforming the MA function and everyday work of accountants to understand how related technologies are transforming MA practices, and the role of accountants. IT is also explained that digitalization as the process of using digital technology and data to generate revenue, improve operations, replace or change business processes, and create a digital business environment. This more connected to the organization attribute of VRIO framework concept discussed by Jugdev (2005), where the usage of rare and inimitable digital resources beside other necessary resources must be guided in a way to capture value so then the process can lead to possible competitive advantage. On the other hand, this can entail how digitalization process is changing on businesses and the way it is done which is an indication of focus effects on the strategy of firms and DT of MA is as apart digitalization process. For instance, a survey by Chartered Global Management Accountant (CGMA, 2013) from more than 2,000 chief financial officers and finance executives, shows that 87% of them view big data as part of technological solution used in MA is likely to transform the way business is done in the next ten years (Businesswire, 2024). The mentioned logics are the theoretical indications about possible strategic development and CA in the firms due to DT of MA.

### **2.1.1 Management Accounting**

MA as an important factor in this study is worth to be well-defined with consideration to its playing role that it has in the firm decision makings and organization of resources as Jugdev (2005) marks out. MA is characterized as being concerned with the “generation, communication and use of financial and non-financial information for managerial decision making and control activities” (Ojra, Opute, & Alsolmi, 2021). For instance, Garrison, Noreen, and Brewer (2012) explained that the purpose of MA is to supply managers with information for internal use. According to them, MA helps managers carry out the three essential functions of an organization, decision-making, controlling, and planning. According to Bhimani et al. (2012), MA examines costs and business processes in order to provide internal financial reports, maintain records, and assist managers in making decisions that would help the company reach its objectives.

Holtkemper (2020) convey from Bhimani and Bromwich (2009) “*that due to the new digital economy, strategy formulation and actions are strongly intertwined*” and MAs must pro-actively take part in management and address the issue of digitalization and globalization forces. According to Wolf et al. (2020), the field of MA is constantly evolving due to many factors, including the advancement of globalization, the expansion of international business networking, innovations in information technology (IT), the growing power of professional organizations, the academization of the profession, and most importantly, the extensive application of MA in business practice.

### **2.1.2 Digitalization of Management Accounting**

Understanding the nature of digitalization in MA and the beneficial usage of it for the purpose of CA and strategic development is essential for understanding the issues and to respond the RQ. According to White (2012), firms need to embrace digital processes and collaboration technologies in order to prosper in competitive situations. This idea underpins the requirement for efficient integration in all areas of the firm including MA. This necessity goes beyond technological changes, as highlighted by Bouncken et al. (2021), and emphasizes the crucial role that DT plays in changing current business paradigms. Hess et al. (2016) say that because digital transformation is diverse and covers several aspects of company operations, organizations must concurrently research and utilize its offerings to attain organizational agility. Digitalization is also transforming MAs work environments and their organizational skills for MA processes (Bhimani, 2020). This advancement has potentially revolutionized various aspects of business operations and MA. According to Ritter and Pedersen (2020), in recent years there has been a potential growth in use of digital technology all across the globe. Metin (2020) states that industry 4.0 has revolutionized traditional business models and firms' strategy in order to gain more market share. This has been characterized in her study by the integration of Big data, data analytics, AI, and IoT in the business models of multinational enterprises.

Hendriarto (2021), have highlighted digital technology has permitted every facet of business function. Especially these technologies have changed the ways companies have been operating. Digitalization or DT require a dramatic change in organizational structure, strategy, and business practices brought by Industry 4.0, to mention technologies such as the internet of things (IoT), big data, data analytics, and robotics (Martinčević & Kozina, 2021). The intersection of digitalization and MA has helped organizations to align financial strategies with broader business objectives. Holtkemper (2020) states about the case companies that DT of MA and its usage in the form of AI, ERP systems, automation, and big data has helped them in terms of budgeting, planning process through better visualization as well as short- and long-term forecasting. According to Knudsen (2020), digitalization of MA will not change the component of MA but has mainly focused on adoption of advanced tools and technology which will influence accounting practice. The ERP system has a significant role in this aspect which integrated financial data with other organizational functions. cloud based accounting solutions help with data accessibility and real-time collaboration in order to develop quicker and more informed decisions. Advanced analytics tools assist MA to evaluate valuable insights from large data sets. Major advanced analytic tools can be regarded as business intelligence platforms and data visualization technologies. Korhonen *et al.* (2021), stresses that dependence on data analytics and AI has increased in MA in the last few years. These tools have also been beneficial in risk assessment and trend identification. AI

driven algorithms have helped in automatic routine tasks. Therefore, algorithms-based tools have helped MA to focus on more strategic and value-added activities.

### **2.1.3 Firm Strategy**

Daft (2016) is a describing strategy as a “*plan for interacting with the competitive environment to achieve organizational goals.*”. The involvement of MA in the strategy of a firm brings the important topic of strategic management accounting. For instance, Cuganesana, Dunfordb, and Palmer (2012) studied the role of MA in organizational practices through which strategy is enacted. They also investigate how MA takes part in strategizing through organizational practices of planning and direction setting, resource allocation, as well as monitoring and control. This can be the base to understand if strategy is affected through the DT of MA as assisting factor helping MA to perform aforementioned organizational practices most importantly planning, resource allocation, and monitoring effective process in MA that is important for our study. As noted by Moloj and Marwala (2020), Strategy unfolds in three stages which are diagnosis, formulation, and implementation, Strategy formulation encompasses three key aspects: corporate-level strategy, competitive strategy (also known as business strategy), and parenting strategy. In our study we only consider the potential influence of digitalized MA on corporate-level strategy and competitive strategy aspects.

To think strategically empowers MAs to support the decision-making process both from strategic and operational angles (Järvenpää, 2007). We are speaking cautiously about Strategic management accounting (SMA) only to draw attention toward the importance of MA inclusion in firm's strategy formulation as well as implementation and potential assisting factor of DT in this process. We do not intend to mix or find compatibility between SMA and RBV. However, Braney (1991) states from (Porter, 1985) that understanding the source of sustained competitive advantage (which is a significant topic in RBV framework) is a significant area of research in SMA. Reminding that SMA prioritizes data concerning external factors, alongside non-financial and internally sourced information within an organization (CIMA, 2005). Strategic management accounting (SMA) typically underscores external factors in organizational descriptions (Bromwich and Bhimani, 1994). Simmonds (1981) characterizes SMA as the supply and examination of MA information for strategic business development and monitoring business strategy.

The connection of strategy to CA considering DT of MA is supported with the reasoning of Sukaatmadja (2021), where he states from Setini et al. (2020) that innovation in products is an alternative marketing strategy that support company performance, differentiate the firm from the competitors, and potentially increase market demand. Aligned with gaining a competitive edge, Coad (1996) recommends focusing on competitors' comparative levels and trends in key areas like costs, prices, market share, cash flow, and financial structure. He argues that SMA necessitates a combination of smart and hard work. Here in this study, “*smart work*” can be referred to adoption of digital solution (e.g. employing digitalized MA) through adjusting them intelligently and resourcefully as needed. Meanwhile, hard work entails the dedication of MA to task performance and resources organization (e.g. efforts of MAs).

## **2.2 Theoretical Framework**

### **2.2.1 Introduction to Resource-based view**

In the current business environment characterized by fast changes in customers, technologies, and competition, organizations need to continuously renew themselves to survive and prosper (Danneels, 2002). Such notion is demonstration of how firms must organize themselves and their resources that would be in accordance with the continues growth strategy (survive) and better competitive position of firms (prosper) in their business environment. We explained in the related pervious literature how MA has its part in the firm, how its DT can affect the firm strategic development and MA performance for

the purpose of CA. This was aimed for forming a comprehensive structuring of theoretical framework (RBV). Over the past 15 years, the resource-based view (RBV) of the firm on the origins of competitive advantage has become a very influential framework and one of the standard theories in the field of strategy (Barney, Wright & Ketchen, 2001; Hoopes, Madsen, & Walker, 2003 as cited by (Henri, 2005)). The RBV is based on the principle that competitiveness is a function of distinctive and valuable resources and capabilities controlled by a firm (Henri, 2005). Everything discussed about MA, DT of MA and strategy is related to the resources that firm utilizes for their business activities which includes all assets, capabilities, organizational processes, firm attributes, information and knowledge as Barney (1991) quotes from Daft (1983). According to Wernerfelt (1984) resources are all tangible and intangible assets which are tied semi-permanently to a firm in a given time, it can be technological knowledge, trade contract, and machinery.

Barney (1991) on the other hand suggests that resources in firms can be in three categories. The first category is physical capital in the form of property, plant equipment and the location or business environment of the firm. The second category is human capital which considers staff and their ability, experience, IT knowledge, intelligence and overall dedication to the firm which they work for. The third category is organizational capital that includes the management accounting and control system, coordination order, formal and informal relationships in the firm. Taking in count these concepts about firm resources, Barney (1991) assumes that the firm might have a competitive advantage when the firm is implementing a value creating strategy.

Based on this argument there is potentials that MA of an entity considers DT of MA as capability that let the firm to gain possible competitive advantage than its rivals in a specific environment. This might entail and require adjustment in the strategy of the firm accordingly and the firm must observe how competitive advantage is interconnected with the resources and its VRIN/VRIO attributes of resources (as described of Barney, 1991 and Jugdev, 2005). The RBV conceptualizes firms as bundles of resources heterogeneously distributed across firms, and that resources differences persist over time (Amit & Schoemaker, 1993). Considering RBV, previous studies have emphasized the significance of firm-controlled resources in generating SCA, assuming them to be heterogeneous as unavailable to competitors and immobile as non-transferable (Barney, 1991). The DT of MA on the other hand according to the results of the study by Holtkemper (2020) is as a strategic move by management or operational need of a firm to boost MA capabilities for finer organization of the resources in order to drive growth, reduce cost, and improve operations for well competitive strategy and CA. Both logics are in support for such theoretical lens to examine how the firms see DT of MA and how it can potentially affect the firms' overall strategy.

### **2.2.2 Firm Resources and Sustained Competitive Advantage**

As cited by Lockett et. al, (2009), the sustainable competitive advantage approach to the RBV is exemplified by the work of Barney (1986, 1991), Peteraf (1993), and Rumelt (1984). Employing the resource as the unit of analysis, the theory seeks to explain the extent to which a firm may be able to sustain a position of competitive advantage (ibid). Barney (1991) explained that a firm is said to have a competitive advantage when it is implementing a value-creating strategy not simultaneously being implemented by any current or potential competitors and/or when other competitors are unable to duplicate the benefits of this strategy. RBV depends on heterogeneity and immobility which describe that the other firms do not have the same resources and those cannot be transferred (ibid). In order to achieve SCA according to Barney (1991), the firm resources must have four attributes (VRIN); (a) it must be valuable, in the sense that it exploits opportunities and/or neutralizes threats in a firm's environment, (b) it must be rare among a firm's current and potential competition, (c) it must be inimitable, and (d) there cannot be a strategically equivalent substitute for this resource that are valuable

but neither rare or imperfectly imitable. A similar framework (VRIO) is discussed by Jugdev (2005), which indicates value, rare, inimitable, and organization attributes of the firm resources.

When discussing the sustained competitive advantage (SCA), it is necessary to understand that it is the high level of CA. There are also other scenarios about different level of CA that firms can accomplish. Unexploited CA is when the innovative firm is not the only firm that is able to organize specific rare inimitable and valuable resources. Temporary CA is when the resources for innovative firm is only rare and valuable but other firm easily can imitate and organize for themselves too. Competitive parity is when a resource is only valuable that innovative firm owns but not rare and easy for other firms to acquire. Lastly competitive disadvantage as the lowest and undesired situation is when a firm's resources does not have VRIO attributes at all. Resources that meet the VRIO (value, rarity, inimitability, organization) criteria are crucial for an organization's competitive advantage. While companies possess numerous resources, only a few are strategic, often being intangible and knowledge based. Tangible resources facilitate business operations, but intangible ones like quality, reputation, managerial skills, brand recognition, patents, culture, technological capability, customer focus, and superior managerial skills provide a competitive edge. These strategic assets are hard to purchase or imitate, making them vital for surpassing competitive convergence. The key to innovation lies in leveraging tacit knowledge, as explicit knowledge alone is insufficient for creating innovative products or services (Jugdev 2005).

Nason & Wiklund (2015) quotes from (Barney, 1991; Wernerfelt, 1984) that the valuableness and rarity of resources let firms to create new economic value. The inimitability and non-substitutability of resources bring the isolating mechanisms which lock in rents associated with those resources quoted by Nason & Wiklund (2015) from (Barney, 1991; Peteraf, 1993; Rumelt, 1984). For a part of resources, some attributes, like "their social complexity, the causal ambiguity surrounding how they work, or the unique historical conditions under which they were accumulated make it difficult for competitors to obtain the same, or substitute, resources" cited by Crook et al., (2008) from (Dierickx and Cool, 1989; Lippman and Rumelt, 1982). One better concept in practice that Crook et al., (2008) convey from Hoopes et al., (2003) is about the value and inimitability of firm resources matter most for competitive advantage due to the logic of when resources are difficult to imitate are rare by definition. We can extend this reasoning and say that the rareness of such a resource also led to valuableness of these resources as common sense. In the context of RBV, the DT of MA according to the above logics and concept about tangible and intangible resources can potentially result different level of competitive advantage which is possible to be examined through VRIO/VRIN framework.

### **2.2.3 Digital Transformation in MA and Competitive Advantage**

Modern companies are growing more complex as a result of their intensely competitive and constantly changing environment. Globalization, economic liberalization, technological advancements and interconnectivity have made the existence of organizations tougher than ever before (Huyett & Viguerie, 2005). According to the explanation by Dahal (2019), businesses are under growing pressure to react quickly, and creatively as global marketplaces become more integrated and sensitive to consumer expectations and consumers now demand a wider selection of products, higher-quality products, and outstanding customer service that includes prompt delivery. It ought to be for value creation and developing and sustaining competitive advantages (Sushil & Sagar, 2013). As cited by Shehadeh et. al, (2023), Martínez-Caro et al. (2020) emphasized the importance of technology in gaining a competitive advantage and came to the conclusion that for businesses to gain a sustainable competitive advantage, they should concentrate on digital technologies such as computing, information combination, and connectivity.

Above reasonings are basis for why digital transformation of MA is one of the essential tasks for the companies that want to stay in the market and grow further in terms of market share, increasing connections channels, contact to new potential customers, and decreasing cost of products and services with an innovative way in the same concept of Crook et al. (2008) where he stresses how new innovative processes and services can lead the firm to gain at least temporary competitive advantage. Innovation from a firm is considered to have significant part competitive advantage, and it should be the prior task in each segment of a firm, most importantly in MA. The grounds for this are the argument is by (Sukaatmadja et., al, 2021) where they emphasize that product innovation has a positive and significant influence on competitive advantage. The product innovation concept here is related to the DT of MA and its outcome.

The outcomes of DT of MA according to Odonkor et al., (2024) quoting from (Dombrowska, 2023) is characterized by the adoption of digital tools and automated processes, that has enabled enterprises to adapt to competitive environments more effectively and technologies such as cloud computing, AI, data analytics, and blockchain are instrumental in this transformation and have facilitated the automation of routine tasks, improved data accuracy, and enabled real-time financial reporting and analysis. Considering this argument firm can forecast better with the help of digital solution used in the MA (e.g. data analytics, ) so then it can be used like a strategic asset or intangible resource that assist the firm to act in an innovative manner in the same concept as Jugdev (2005) states about strategic asset, its agreement to VRIO framework and innovations.

It is important for the identification of potential valuable resources and future trends that can influence what/how new products and services must be created. Such kinds of enhancement are not a base for an argument that aforementioned solutions in the form of DT of MA bring SCA directly, instead as it is concluded in Metin (2020), the DT of MA is only enhancing and leveraging the core competencies that the result can lead to SCA for a firm. This would mean that DT let MA to better accomplish the task of finding elegant resources then employ them in best manner in relation to the organizational procedure that can lead to innovative and customer desired products in account to the complimentary attribute of digital resources employed in MA. Fot instance, better internal communication, unique structure of MA with the help of ERP system, finer planning based on data analytics, handy accounting programs and automation process for cost and revenue, usefulness of BI and AI to attract new customers and the trend about their desired products and services. This process is essential to maintain as the logic of Jugdev (2005) where he emphasizes that for SCA, firm must maintain the value, rarity and inimitability of resources which in this case is the above-mentioned digital solution as knowledge base and strategic resources that will help the firm to exploit opportunities related to technological change.

The rapid changes in technology can bring opportunities and threats. Creative utilization of digital solutions as opportunity with VRIO/VRIN attributes can result in a privilege to primary users that the followers will not have the time and chance to do so and get SCA. This is in the same sense as opportunities exploitation of Jugdev (2005) as we stated before and to name some examples of valuable resources related to MA are market knowledge and insights, strong interorganizational relationships, customer service excellence, high skilled and talented workforce. In other word, these valuable resources at primary stage help to the recognition of a specific method or technological solution and transferring the MA of the firm accordingly and can give the firm a potential instrumental lens to identify quickly VRIN/VRIO framework attributes of other resources which then can be used by the firm as a constant innovative process in agreement to Schumpeterian growth theory in the sense that anyone first recognize and employ resources can get first the results (Aghion, Akcigit, and Howitt, 2014). VRIO framework attributes discused by Jugdev (2005) are explained in the next paragraph.

**Value** as first requirement for DT of MA, whether the firm is able to exploit an opportunity or neutralize an external threat with the digital resource/capability in MA. In other words, if digital solutions (e.g. big data, or data analytics) can add value to the service and operations of the firm which will increase revenues and decrease costs or both to for SCA. Moreover, do the firms see DT as technological change opportunity and do they expect that it will mitigate the risk related to the threat from supplier, entry, rivalry, and substitute. The examples of valuable resources are patented technology or intellectual property, trademark reputation, and innovative R&D capability (Jugdev, 2005 & Barney, 1991).

**Rarity** is if the control of digital resources/capabilities related to MA is in the hands of the firm that is unique among a set of current and potential competitors and are not commonly possessed or easily acquired by competing firms. If digital resources and capabilities are rare it can potentially provide competitive advantage and if they are short in supply and persist over time than it can be source of SCA otherwise in absence of short supply and resistance over time attribute, firm cannot gain competitive advantage. Examples of rare resources are specialized expertise or knowledge, and unique technology or know-how, and exclusive access to rare raw materials and natural resources (Jugdev, 2005 & Barney, 1991).

**Inimitability** is the difficulty to imitate and significant cost disadvantages to the competing firms that try to obtain, develop or duplicate those specific digital solutions and capabilities that the firm under focus has. Inimitable digital resources are those that are difficult for competitors to replicate or imitate. This could be due to factors like unique historical conditions, complex organizational processes, or proprietary technologies which can provide sustained competitive advantage to the owning firm as first-mover advantages in the market. The inimitability of digital resources is very important beside the volubleness and rarity attributes for SCA. The competing firms will try to imitate in two ways, either by duplicating the same digital resources as the innovative firm or finding the substitute. If the cost of duplication is high the innovative firm can gain SCA otherwise it will be temporary. Examples of inimitable resources are complex organizational process and routines, culture of innovation and employee empowerment, proprietary technology and unique business models (Jugdev, 2005 & Barney, 1991).

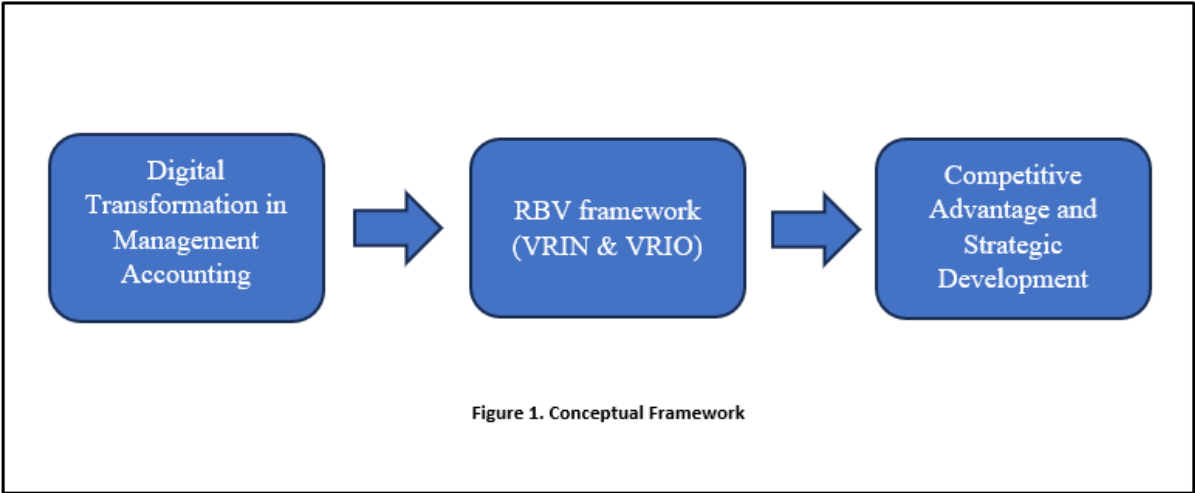
**Organization** is when firm is organized, ready and able to exploit digital resources and capabilities or to capture value. Once the analyst has realized the value, rarity and inimitability of digital resources and capabilities in MA then next step is to organize the firm and MA to exploit these resources. This mean that only the digital resources with VRI attributes are not sufficient for SCA but also the appropriate organizational structure, process, and system to leverage digital resources effectively. Well organized digital resources are those that are aligned with firm's strategic objectives that can be utilized efficiently so that the firm can gain a period of SCA. The component of organization are as complementary capabilities that alone by itself does not provide much value, however in combination with firm digital and other resources and capabilities result in SCA. Without organization the firm's valuable, rare and costly to imitate resources and capabilities can end up with disadvantage. Examples of organized resources are strong management capabilities, agile decision makings processes, effective and clear communications channels, and robust knowledge management (Jugdev, 2005 & Barney, 1991).

In consideration to above paragraphs, a well-equipped MA system with digital technologies and capabilities which is aligned with the VRIO criteria is acting as a complementary and enhancing factor to core competencies and resources can bring SCA or lower level of CA as mentioned in pervious paragraph. Considering from a RBV in a VRIO framework as discussed by Jugdev (2005), MA with its combining task (organization) and managing efforts can lead the process so that digital solutions with the attributes of valuableness, rareness, inimitability and non-substitutability can result in at most the



highest level which is SCA. Another issue is the specific property and unlimited facets of digital solutions in MA (e.g. Big data, automation, Cloud, BI, and AI) , where it gives the MA the possibility to suit each specific technology and digital solution for the firm's specific demands and related to each unique business environment which means that MA might perform the Organization part of VRIO attributes in better ways.

Rareness attribute of digital resources might come next when these solutions are suited to the firm's special needs and own way of business by MA, or possibly changes in the business models and process which must be in agreement to the requirement that new technology possess in an innovative way or due to the outside or inside pressures. In the third stage the organizing force of MA together with the unique and rareness attribute of the digital resources and capabilities might entail inimitability that other competing firms are not able to do as this innovative firm has done based on VRIO framework. Such way of action together with the changing and multi facial nature of digital technologies that is used in MA makes the competitive environment so sophisticated and difficult that other firms cannot copy the same system, process or strategy, and the rapid and sharp edge of digital solutions is that fast that rival firms will not have the fortune to follow the same method (imitate) or find quickly a substitute to gain competitive advantage at least in short term as the innovative firm.



### **3. Research Methodology**

*This chapter begins with an explanation of the chosen method for this research, followed by study selection, method of data collection and sampling, data analysis, and questionnaire design. In keeping with the overall goal of comprehending how digital transformation in management accounting contribute to strategic development and competitive advantage, this chapter presents a thorough overview of the methodological details that support the study.*

#### **3.1 Qualitative Research Method**

A qualitative research technique is essential for examining how digital transformation in management accounting contributes to strategic development and competitive advantage. With this method, we may investigate and comprehend in great detail the real organizational and technological changes brought about by digital transformation. Qualitative research is especially appropriate for our study because it is intended to offer rich, contextualized insights into complex phenomena, in contrast to quantitative methods, which frequently concentrate on measuring variables and testing hypotheses through statistical means (Bryman & Bell, 2011). The qualitative research approach sheds light on the advancements in management accounting brought about by digitization since it offers "data about real-life people and situations" (De Vaus, 2014). Bryman & Bell (2011) stated that 'Two particularly distinctive aspects of the sequence of steps in qualitative research are the highly related issues of the link between theory and concepts with research data.'

The necessity to investigate the real-world effects of digital transformation beyond only perceptions and experiences further justifies the employment of qualitative approaches. Our goal is to comprehend the real transformations and practical adaptations that take place inside companies, and qualitative research gives us the means to accomplish this successfully. According to earlier research (Silverman, 2016), qualitative methods are excellent at capturing the lived realities of organizational change because they provide a rich and thorough picture of how digital transformations are implemented and experienced in particular contexts. A procedure of describing, categorizing, and connecting phenomena with the researcher's views should be followed while using a qualitative approach. When analyzing qualitative data, interpretations are considered by the researcher rather than just numerical values. A variety of sources, including observation, unstructured interviews, group interviews, the gathering of documentary materials, and more, can be used to perform qualitative research (Henderson, 2016). So, among these various types of sources, we have used semi-structured interviews and documents for this study as data collection sources.

#### **3.2 Multiple Case study**

As cited in a study by Noor (2008), Yin (1989), offers several definitions for the term 'case', including 'an event', 'an entity', 'an individual', or even 'a unit of analysis.' Case studies address the how and why of events, enabling the examination of contextual realities and discrepancies between predicted and actual events (Anderson, 1993). A case study is not meant to be an analysis of the whole company. Instead, it aims to concentrate on a specific problem, characteristic, or analytical unit. A case study, according to Yin (2018), entails a thorough examination of a particular event in its actual setting.

When selecting a case study methodology, the first step is to identify whether it is a single case or a group of similar cases that can be incorporated into multiple case studies (Heale & Twycross, 2017). Since this study is based on three Swedish service companies, the multiple case study approach was selected in order to comprehend and investigate the digital transformation in management accounting in businesses by focusing on corporate strategies. According to Heale & Twycross (2017), by comparing the similarities and differences of the individual cases nested inside the quintain, a multiple-

case research study facilitates a deeper knowledge of the cases as a whole. Evidence arising from multiple-case studies is often stronger and more reliable than from single-case research (ibid).

In case study research, semi-structured interviews are frequently employed to obtain comprehensive and in-depth insights from key informants or participants (Merriam, 2009). Furthermore, we gathered information about businesses' operating sectors, growth patterns, and general approaches to innovation and technology adoption from publicly accessible sources, such as annual reports, information and articles provided by the companies on their web pages, investor relations reports that are publicly available and some external documents provided by participants. Coates & McDermott, (2002) indicated that a thorough interviewing process backed by information from other related documents is the main method of data collection used in the case study phase. This method, which was supported by Coates & McDermotte (2002), allowed us to integrate findings from documents and semi-structured interviews in order to investigate our study area. In-depth interviews with important stakeholders were conducted as part of our data collection process, which also included the review of pertinent documents. Using this method allowed us to produce deeper insights into how strategic decision-making in a variety of businesses interacts with digital transformation in management accounting.

Three different Swedish companies that operate in the service industry have been selected to gather data for this study. The study's methodology adheres to accepted case study research guidelines, utilizing semi-structured interviews and publicly accessible documents which include the information about digital transformation for a multiple case study on Swedish service organizations.

### **3.3 Selection of case companies**

This study specifically focuses on two IT service providers and one company that is operating in the aviation sector. These businesses have been chosen based on the fact that they are inherently dependent on digital environments to carry out their businesses efficiently. For confidentiality purposes, we use these company names as Company "A" & "B" for IT service-providing companies and "C" for aviation sector company.

According to its annual reports and website, with a focus on offering excellent services and solutions in software development, continuous integration, and continuous deployment, **Company "A"** is a multinational and multicultural organization. Due to its distinct combination of qualities that closely match the study's objectives, Company "A" stands out as a compelling choice for inclusion. The modest culture of the business reflects an organizational philosophy based on transparency, flexibility, and a readiness to accept change—a vital quality in managing the challenges of digital transformation in management accounting. This cultural characteristic creates an atmosphere that is favorable to experimentation and creativity, which are essential for investigating new ways of management accounting in the digital era. A group of innovative software engineers created Company "A" in the beginning of 2017, and it is an example of an innovative and collaborative culture. Company "A" began operations with 22 employees, according to statistics from Capital IQ, and has since grown to employ over 60 people. As to the 2024 OECD definitions, an entity is considered a medium-sized firm if it has between 50 and 249 employees and an annual revenue of less than 50 million EUR (OECD, 2024). Company "A" is classified as a medium-sized firm because it has more than 60 workers and, according to its website and annual report, has a turnover of approximately 27 million SEK. This classification emphasizes how Company "A" grew significantly and changed into a medium-sized participant in its industry. This company, which specializes in software development and high-end CI solutions, has carefully expanded its operations, drawing in people who are ambitious and have a strong desire to complete tasks. The company's guiding principle is that people, not technology, which mold cultures and habits; technology does not drive change on its own. It provides knowledge and assistance in

continuous integration, enabling its partners to improve the processes involved in creating products by automating and optimizing operations. Software Development, CI/CD Expert Consulting, and CI/CD Solutions serve as the company's three primary business pillars. They are committed to promoting organizational success via collaboration and steadfast support for their partners' digital transformation journeys.

As a leader in enterprise software development, **Company "B"** serves businesses across the globe having their headquarters in Sweden that are involved in asset management, manufacturing, distribution, and service-oriented activities. The organization, which employs over 6,000 people, promotes a culture that is focused on adaptability, reliability, and teamwork. Company "B" guarantees flawless connectivity and incorporated digital innovation by utilizing a single platform connected with supplies tailored to the industry. This allows its customers to flourish at the Moment of Service. This strategy approach is in line with the Resource-Based View (RBV) principles, which state that Company "B" should make use of its excellent resources, which include its solid data model, industry knowledge, and dedication to customer-centricity. The company's resources add to its competitive advantage, which is reinforced by its steady double-digit revenue growth, which reached EUR 1062 million in net revenue in FY2023. Because of its critical role in promoting digital transformation across a range of industries, including manufacturing, distribution, asset management, and service operations, Company "B" can be chosen for this study. Offering industry-specific products integrated inside a single platform, backed by a uniform data model and incorporated digital advances, Company "B" focuses on designing and delivering enterprise software. Making strategic decisions and streamlining accounting procedures are made easier with this method. It is standing as the industry leader and top-recommended supplier in its field attests to its knowledge, dedication to delivering value, and cooperative environment. Furthermore, Company "B".ai (AI developed by this company) is a prime example of the integration of unique and uncommon capabilities, further strengthening the company's strategic alignment, with its emphasis on simulation, optimization, and anomaly detection. Reiterating its standing as a recognized leader and the most preferred supplier in its industry, Company "B" continues to produce market-leading and industry-specific solutions driven by constant innovation and client obsession under the direction of its CEO.

Since its founding in December 2010 and its takeover of several aviation businesses, **Company "C"** has become a major player in the ground handling industry in the Nordic region. Company "C" takes pride in being the most prominent independent ground handling firm in the Nordic region, offering a wide range of aviation services over 15 airports. Through a well-thought-out merger of businesses, Company "C" now has decades of experience and a strong infrastructure to provide a broad range of services, from cargo logistics and aircraft washing solutions to passenger and baggage handling. With more than 2,200 employees, Company "C" has generated a revenue of over €150 million in 2019 by utilizing its wide network and dedication to quality. With a broad range of services including passenger handling, baggage management, cargo handling, de-icing, and airport security, Company "C," the largest independent ground handling company in the Nordic region, is essential to the aviation sector. Strong management accounting procedures are required for these businesses since they entail complex financial transactions. In order to simplify its financial management procedures, Company "C" uses digital solutions, especially given the industry's rapid digital revolution. The adoption of computerized expense monitoring, digital invoicing, and real-time financial reporting tools is necessary for this. These digital initiatives not only improve operational effectiveness but also offer insightful data that helps with strategic decision-making. Within the framework of the Resource-Based View (RBV), Company "C" leverages significant resources including its broad network, operational knowledge, and strategic alliances to establish itself as a major participant in the digital transformation of the aviation sector.

### **3.4 Data Collection and Sampling**

Three service providers in the Swedish service industry are carefully chosen for this study using purposive sampling. Their inclusion allows for a focused examination of the digital transformation of management accounting shaping corporate strategies within a specific industry context. The choice of these service companies enhances the relevance and depth of insights. Their operations in the service sector will provide a unique perspective on the challenges and opportunities associated with digital transformation in strategic decision-making. Purposive sampling helps this study with the internal selection of cases.

It has been agreed that in a qualitative study, as in research methods in general, rigorous data collection procedures are the main factors that influence quality and trustworthiness (Kitto, Chesters, & Grbich, 2008). This study uses, as the initial data collection method, documents and semi-structured interviews with key stakeholders who have experience and background in the management accounting field. Since interviews may provide rich and nuanced insights into the perspectives and experiences of digital transformation in management accounting, that is the principal data-gathering method employed in this study. The complexity and scope of the research question, which focuses on comprehending how digital transformation in management accounting can contribute to strategic development and competitive advantage, led to the decision to use a semi-structured interview questionnaire in the study. For this research question, a semi-structured interview questionnaire was considered appropriate since it permits a flexible and thorough investigation of the subject. With this method, we explored a broad range of subtopics, went into particulars, and got participants' detailed opinions.

Studies including the whole population are not always feasible. As a result, research will be done on a limited yet representative group of identical individuals. This particular group is known as the study's sample (Chawla & Sodhi, 2011). To provide a representative and diverse set of participants, the sample selection process is crucial. Before conducting the main interviews, some pilot discussions needed to be conducted to check their experience on the digital transformation journey before selecting the companies for this case study. Further, publicly accessible sources, such as annual reports, information and articles provided by the companies on their web pages, investor relation reports that are publicly available and external documents provided by participants, have been used as secondary data collection sources. These resources provide a thorough knowledge base that sheds light on the financial performance, technology investments, strategic priorities, and organizational culture of businesses. This study obtains a comprehensive view of businesses' beliefs toward digitization in management accounting by triangulating data from several secondary sources, allowing for a more in-depth examination of its strategic aspects.

### **3.5 Questionnaire, Semi-structured Interviews and relevant Documents**

This study's questionnaire, which is in line with the Resource-Based View (RBV) framework, was created to collect in-depth information from selected service company stakeholders about how they are using digital solutions and the strategic consequences of management accounting procedures. Participants were guaranteed privacy and informed consent, and the information gathered was used only for study purposes.

Each question has been carefully developed to explore particular facets of the digital revolution and its influence on corporate strategies. First, in order to set the stage for the interviewee's views on digital transformation, Question 1 seeks to ascertain the interviewee's position within the organization and their related experience in strategic decision-making. Questions 2 and 3 focus on the particular digital tools used for management accounting activities and the reasoning behind their choice for different managerial duties such as organizing, planning, and making decisions. These inquiries aid in

determining the extent and appropriateness of the integration of digital technologies into management accounting practices. In order to determine which facets of digital transformation in management accounting are most relevant to the corporate strategy, 4th question examines the relationship between digital tasks and the company's overall corporate goals.

The study's 5th question examines how resources might be imitated in digital transformation initiatives. This question indirectly addresses the VRIN framework's inimitability requirement by examining the strategic use of digital tools and the difficulties in implementing them. Particularly in the context of technological developments, resources that are hard to replicate because of proprietary technologies, specialization in skills, or unique organizational procedures are critical to building a long-term competitive advantage. Further, question number 6 highlights the value and rarity of the VRIN framework while exploring how businesses overcome execution problems with digital solutions. This question highlights the uniqueness of these resources by emphasizing that not all firms have the bundles of digital skills needed for strategic advantage. Additionally, it looks at how these digital technologies improve management accounting's efficacy and efficiency, highlighting their importance in raising organizational performance. Further, the variables affecting the adoption of digital solutions such as the efficient use of resources and dealing with associated challenges, are the main area for Questions 7 and 8. They also look into how technology infrastructure and human capital are strategically allocated and used within management accounting procedures, with a focus on managing cost strategy concerns. The purpose of the 9th and 10th questions is to discover strategic methods and resource-related benefits that come from digital integration. These include adjustments to risk management procedures and resource allocation techniques.

And, the 11th question in the questionnaire, which reflects the organizational focus element of the VRIO paradigm, looks into how cybersecurity considerations are affected by digital transformation. This topic highlights the significance of organizational readiness and the capacity to properly utilize digital capabilities by looking at how businesses enhance their cybersecurity policies in the face of digital advances. In addition to protecting important data, addressing cybersecurity helps the company restructure its resource base and highlights how competitive advantage is changing in the modern era. Insights on how businesses handle the risks connected to digital information and the strategic effects of cybersecurity procedures on their management accounting plans can be gained from the answers to the 12th question. Finally, Questions 13, 14 and 15 explore investment preferences, the factors that influence decision-making when implementing digital solutions, and how digital technologies will influence future business strategy. In order to provide qualitative information on competitiveness and technology adoption, this study attempts to collect comprehensive data regarding the connection between strategic management accounting and technological advancement. Each question is intended to illustrate the impact of digital transformation on management accounting procedures on competitive advantage and business strategies while adhering to the RBV framework.

In order to find appropriate organizations to include in the study, 11 telephone pilot interviews lasting roughly 15 minutes each were done as part of the project's initial phase. Potential participants were given clear explanations of the study's background and goal during these interviews in order to set expectations for their involvement. Six firms consented to take part in the interviews after expressing interest during pilot interviews. Relevant data about the size of each company, its main business operations, its technical orientation, and its use of digital technologies like Enterprise Resource Planning (ERP) systems were acquired through these pilot interviews. It was possible to identify appropriate participant organizations that support the goals of the study during this initial data-gathering step. The results of these initial interviews helped determine the flow of the research, making sure that

the firms chosen in the end are representative of the industry landscape that is being studied and allow for a thorough examination of the research issues.

After conducting preliminary meetings through phone calls, we have chosen three organizations among six companies whose activities are closely related to those of the digital world to be involved in our study. Our goal in making these choices was to collect a range of different points of view and observations from businesses that are actively utilizing digital technology to enhance their management accounting procedures. We conducted two main interviews with the same persons who are in top-level management in each of the chosen organizations throughout the empirical part of our study in order to obtain significant information relevant to our study. We conducted two interviews with same person since we believed that we could gather more information and clarify things in a clearly manner during the second round. Those in top-level management (Eg: Director finance BI, Co-founder of the organization and Head of group accounting) with significant management accounting experience were the focus of these interviews. These employees have special perspectives on in-depth details regarding the strategic use of digital tools, the difficulties encountered, and the positive outcomes realized—all of which are essential for determining competitive advantages. Furthermore, top-level employees were the ones available and willing to engage within the boundaries of this study, guaranteeing an effective and efficient conduct of the study. We were able to collect the required data within the allotted time and resources because of its accessibility. With each session lasting between 40-60 minutes through MS Teams, the conversations were organized around our pre-prepared questionnaire, which allowed us to explore a range of topics related to the digital transformation of management accounting and how it affects business goals.

Furthermore, we promoted an open discussion that allowed for the examination of emerging themes and the chance to ask follow-up questions as needed. It could be argued that doing two in-depth interviews with each company is insufficient to get a comprehensive picture of the organization. The responders were able to provide a fair representation of the appropriate information required because the case companies are all service organizations with a digital background and the two discussions from each company contain significant information about the company. The selected respondents supplied valuable information to complete the study since they play significant roles and have a lot of impact. But on the other hand, restricted viewpoints are provided by this method, which argely represents the opinions of senior executives while possibly ignoring operational difficulties and perspectives from middle management or frontline staff. To ensure proper transcript and secure handling of the discussions, express consent was requested prior to every conversation for recording purposes. We successfully performed six interviews over a month, covering the three participating firms. This allowed us to add a varied range of viewpoints and insights from important stakeholders who are deeply involved in the digital world of management accounting to our dataset.

In addition to semi-structured interviews, we supplemented our research using publicly available materials from companies. These documents have been helpful in giving background information about each company, including its size, industry emphasis, potential developments, and stakeholder relationships. Through these documents, we have gained a better understanding of these businesses' operating sectors, growth patterns, and general approaches to innovation and technology adoption.

### **3.6 Data Analysis**

Making sense and offering a coherent interpretation of the typically disparate sources of data (whether qualitative alone or together with quantitative) is far from straightforward (Crowe, et al., 2011). The process of analysis involves going over and organizing the vast and detailed data several times. According to Crowe et al., (2011), before establishing comparisons between cases in multiple case

studies, it is useful to analyze data from each individual component case. Using a step-by-step process, this analytical method has examined each instance in detail before comparing and synthesizing the results across cases. Attention needs to be paid to variations within each case and, where relevant, the relationship between different causes, effects and outcomes (Miles & Huberman, 1994).

In order to facilitate the retrieval of crucial issues—both from the literature and the dataset—at a later time, data must be arranged and coded (Crowe, et al., 2011). First, in order to fully comprehend the context of each case, data familiarization has been carried out by immersing oneself in the information gathered from annual reports, information and articles provided by the companies on their web pages, and investor relation reports that are publicly available and interview transcripts. Then, using inductive coding to capture distinctive features and details, preliminary coding approaches were utilized to pinpoint important themes, concepts, and patterns inside every case.

As per the findings first we identified key categories as utilization of digital solutions in management accounting, impact of digital transformation on company strategies, resource-based view (RBV) analysis, challenges and opportunities in digital transformation, strategic alignment with digital initiatives, automation of management accounting tasks, strategic leveraging of digital solutions, organizational adaptation to digital changes. Further, there can be seen enhancing efficiency through digital tools, supporting strategic decision-making, resource integration and optimization, competitive advantage through technology, facilitating and enabling innovation, obstacles to adoption and implementation, matching organizational capabilities with technology, and ongoing improvement and refinement as themes according to the study findings. Lastly we identified some patterns such as businesses using digital solutions to increase management accounting activities' efficiency, the strategic application of digital tools to improve planning and decision-making processes, utilizing technology to enhance organizational performance and maximize resources, a focus on gaining a competitive edge via distinct digital capabilities and strategic coordination, difficulties like resource commitments for digital transformation, skill limitations, and opposition to change, give special attention to creativity, adaptability, and ongoing business environment modification, strategically utilizing digital tools to customize management accounting procedures to meet particular requirements, for a sustained competitive advantage, it is critical to match organizational strengths and strategic objectives with technological investments. We planned to apply an inductive coding technique to the analysis of the data from the documents and interviews in order to methodically identify themes, patterns, and categories that arise from the dataset without imposing assumptions or biases. A bottom-up approach is made possible by inductive coding, which begins with the raw data and works its way up to reveal connections, commonalities, and insights that lead to a deeper comprehension of the subject. Using this approach allowed us to methodically and structuredly extract relevant information about the digital transformation of management accounting and its effects on strategies from the findings from interviews and documents. Using this method allowed us to pinpoint important categories, themes, and patterns that provide insightful information on how businesses go through the digital transformation process and decide how best to employ technology for management accounting. A thorough and objective review of the data was made possible by the inductive coding method, which produced a detailed understanding of the complicated nature and impacts of digital transformation in today's corporate settings.

Using the coded data, narrative designing will make it easier to create a clear and captivating representation of each case by describing its background, main events, and results. Next, in order to answer our study question on how digital transformation in management accounting contributes to strategic development and competitive advantage, we employed the Resource-Based View (RBV) approach employing VRIN/VRIO criteria. This allowed us to emphasize the dynamic interactions between digital tools, organizational practices, and competitive positioning.



### **3.7 Reliability and Research Ethics**

Reliability and validity are concepts used to evaluate the quality of research (Middleton, 2023). Reliability is about the consistency of a measure, and validity is about the accuracy of a measure (ibid). Increasing reliability and validity of qualitative studies are two ways that researcher can ensure the quality of qualitative study (Berg, 2004; Hammersley, 1992 cited in (Franklin, Cody, & Ballan, 2010)).

Reliability was improved in this study by using a consistent approach when selecting firms, using interviewing techniques, and creating an interview guide. At the end of each interview, we involved the respondents in an interactive approach to make sure some insights obtained in the interviews truly reflected their experiences, ideas, and opinions. We tried to verify the accuracy and reliability of the interview results by giving respondents the opportunity to engage in our reflections and by confirming or modifying any interpretations. This methodology guaranteed that the responses obtained from the interviews accurately reflected the viewpoints and experiences that the participants had to offer. The reliability of data has been associated with dependability and consistency in the research process.

Flick (2009) emphasizes how important it is to respect and protect study participants' interests, which calls for a strict commitment to an ethical framework. The groundwork of our research is the voluntary and informed disclosure of data, opinions, and viewpoints. All participants received a thorough explanation of the goals and parameters of the study prior to the interviews. All of the study participants stressed how important it was to remain completely anonymous, and we complied with their request at every stage of the investigation. Consequently, we took care to guarantee that neither the participants' names nor the identities of the companies were revealed while presenting empirical evidence derived from interview data. In order to safeguard potentially sensitive information given during the interviews, this strategy was important.

## 4. Empirical Evidence

*The primary outcomes drawn from the document analysis and semi-structured interviews carried out for each case study are presented in this chapter. Due to the complexity of research question and input differences from each company, the researchers have not control over the flow of information to structure a unified form of empirical evidence. Instead VRIO framework is considered to lead each segment of inputs. The chapter is set up to review the various ways that Swedish service organizations use and navigate DT of MA in order to gain different level of CA in consideration to VRIO framework. Eventually, the process will be a factor for possible changes and development in corporate strategies.*

### 4.1 Company A (Case 01)

Fortnox as the ERP system for company: According to the firm's MA team members the financial model of Fortnox digital solution is utilized in areas such as bookkeeping, invoicing, payroll, and gathering of financial records and transactions. The application is evolving and getting better since the firm has been using it for about four years according to the accessible documents of the company related to historical culture of digital solutions. At the current time, one of the main issues with Fortnox is that Company A through this time only utilize the financial model of this application. This mean that rival firms are also able to utilize such a value creating but not rare digital solution through imitation and organization attributes. It puts Company A in competitive parity situation which is better than competitive disadvantage ( in case the firm escape to use at least the financial model) according to the respondents. Company A understand Fortnox's full potential and the opportunities that might guided the firm toward higher level of CA in case the firm utilize an integrated version that might assist the firm in other managing and operational areas. Company A states that Fortnox's full version utilization can turn MA into a more strategic asset and provide a long-term and higher level of competitive edge. By such an act, Company A plans to grow and become like large size firms by planning to acquire integrated system of Fortnox in all areas to differentiate itself from the same size and rival firms that are located in the same set and category for the purpose of gaining temporary CA as higher level than before. With this strategic move, Company A act like an inovative firm against and other compeating companies and want to organize and utilize Fortnox digital solution considering the rareness attribute that would let the firm to enjoy temporary CA until other firms do so.

Roles and tasks of digital solution: Fortnox as a digitalized resource has a set of applications which together is helpful for financial reports and documentation. A structured dashboard with different tools and functions for different firms that are in business with Company A is unique enough to enable Company A to have a smooth follow-up of financial activities with outside. The interviewee emphasizes how Fortnox has a significant role in simplifying some MA tasks such live and accurate data from different accounts related to all partner firms, integrated relation of different accounts to the tax agency, and all type of transactions among insiders and outsiders related parties to MA are connected directly to a better financial flow (e.g. payroll related to employes work hours compensation). Fortnox creates substantial value by streamlining and automating intricate financial procedures. It increases efficiency and minimizes errors by integrating multiple accounts with the tax agency and providing reliable, real-time data. Such digitalized MA has helped the firm through generating accounting reports, visuals and graphs about financial states of the company to have an overlook about ups and downs “*which is helpful for the planning and decision-making process*”. As per VRIO framework, the DT of MA here is met mostly with value creating and organization attributes since the MA of the firm has organized the process in a value creating manner to gain CA.

Automation in MA: Concerning the current business world the firms has utilized Fortnox to the level that a big part of intra-organizational transactions and partnering firms (both customers and suppliers) that use the same digital platform are automatically registering transactions and on the other hand if there is some invoices or transaction to be handled manually then MAs only need to scan it with their

mobile and rest is the automated bookkeeping processes. *“You just scan it will count and will take old numbers and do the bookkeeping”*. Thus, one main factor is *“not relying 100% on the technology”* and MA team *“used to check them sometimes”* since it occasionally makes mistakes. Technology helps a lot and reduce the manpower usage, but it can not guarantee success mistakes need a good eye. Fortnox-based automation in MA provides substantial value by expediting internal business processes and relationships with subsidiary businesses. In bookkeeping, mobile scanning and automatic registration improve accuracy and efficiency while cutting labor expenses and overhead. It is rare for businesses, particularly those that might not fully utilize digital platforms like Fortnox, to integrate such automation. These firms are differentiated from rivals who could rely more and more on automation and save time by escaping manual task performance. By organization rare and inovative automation expertise Comapny A creat more value which guied the firm from competitive parity to temporary CA.

Strategically leveraged digital solution: MA could pay more attention to strategic goals of the company with the help of these digital solution and by reducing the hours spent on contractual tasks of accounting with software compared to other companies which do not use such technology. The respondent added that they would like to use some applications related to human resources to be integrated with Fortnox. For instance, he adds *“we want HR related application in the dashboard to have a team tailoring method and connection with team that might be a good communication solution and we could save a little more time there, but now for timely report you need to log in different accounts, and it is annoying and time consuming”*. To get more of digital solution from a strategic perspective and CA the firm wants from the provider to tailor the digital solution to its need which require time and higher budget. At the moment they don't have other solution and are forced to use Fortnox at least in finance aspect.

The respondent states that it is *“because our partner firms and suppliers use Fortnox. If you want to get paid, we can't select, and we don't have options”*. The reason of Fortnox usage by company A is also competitive parity purpose so that the firm might include itself in the same set to meantain such level of CA. Moreover the value of Fortnox is due to its effective and clear communications channels, letting the MA in Company A to perform finer organization as of VRIO framework. This make possible close relations to key suppliers and partner firms which is resulting valuableness of Fortnox through connecting the firm with less cost and creat more value. Fortnox offers a unique benefit since it may link the company with its suppliers and partners at less cost than other systems. While there are other digital solutions that can facilitate communication, Fortnox's integrated platform offers a unique advantage due to its specialized cost efficiencies that are shared by all parties involved. Fortnox's uniqueness is further highlighted by the respondent's comment regarding the possibility of more customization. Although the platform is presently geared toward financial transactions, the plan to incorporate applications for human resources and other technological resources shows a strategic vision that extends the use of Fortnox beyond its typical use. Its flexibility and readiness to spend money on customized solutions emphasize its special function even more.

Employees and resource reallocation: Company A has its own internal MA team and even outsources one controller as consultant from KPMG for more professional jobs. As the associated interviewee states, *“we have accountants which are responsible for taking care of our business, organizing resources and an external controller from KPMG and they are looking at us and what we are doing in our business”*. When it comes to DT as we mentioned in the pervious sections it obviously entails resources reallocation in human capital and physical capital which results in changes in organizational capital and even changes in the business model of a firm. Company A accessible related documents about human hours used for different MA tasks supports such an argument and it is evident from the numbers that employing Fortnox instead of BookYou helped the firm to *“save a lot of human work hours”* which results in less staff to perform simple accounting based tasks. The firm thus did not remove those employees instead they have been tasked with more value adding and sophisticated job to work for organizational objectives. It makes decision-making easier for the whole management team by escaping

repetitive financial functions that can be taken care of digital tools. This according to company A is value creation in long term from the organizational culture perspective by increasing knowledge and intellectual asset that help the firm in the future for strategic development.

Artificial Intelligence and risk management: Regarding risk management, he mentions that we need to keep employees and the company secrets inside the company since it is an IT-related business and tech solutions are as attraction to creative staff for strategic moves and innovation. *“So, then you need to think about the strategy of how we can keep the data safe and keep the employees..by giving a good salary, but it's not the salary always, I have seen people work for a company even though low salary they will work if they have a nice environment.”*. He is optimistic about AI utilization and says that their MA team have learned a lot with the help of AI, and it depends on how you look at it but *“the real challenge is to get the best value out of AI”*. According to him a lot of people are reluctant to use AI but then that would mean that those are going to be left behind. About the cyber security *“we are not bothering a lot about it when it comes to the risk management related to cyber security”* said by the interviewee related to artificial intelligence and to MA data safety since according to him the service provider of ERM system is responsible for security and for any disruption the service provider is liable to refund the loss which is as insurance to the value that Company A expects from Fortnox.

In conclusion, the findings related to Company A according to based view (RBV) and VRIO framework is gathered based on how each digital solution and related processes can be value creating. It is also discussed why Company A choose to use the aforementioned digital solution, and how are they rare in essence or organized by the firm in a rare and unique manner. Eventually, based on different settings and situations, Company A is trying to maintain temporary CA with consideration to the valubleness and rareness of digital resources and if the rareness attribute is not maintained then Company A lose temporary CA in the competitive environment.

#### **4.2 Company B (Case 02)**

The digitalized MA solutions: In both meetings the interviewee is finance business intelligence director at company B, responsible for the reporting tools and planning process. The digitalized MA solutions according to him as a part of the ERP system provide capabilities to consolidate accounts, manage contracts, plan future periods, and manage assets. All of the solutions are cloud-based implementations with focus on reporting and analytics which mainly performed in Microsoft Power BI in Company B. Tools are designed and implemented to support strategic processes such as planning and allowing data-driven decision making. Planners can enter their input data. Based on the input, certain automatic planning rules are triggered to calculate the output data. Company B emphasizes that most responsive MA tasks and roles to the firm's strategy often revolve around enhancing decision making, optimizing processes, and improving efficiency. Such as use of digital tools for planning and forecasting or focus on controlling and problem-solving through digital means, automated reporting and real-time analytics, that directly contribute to the firm's agility and ability to respond to market changes.

From the standpoint of the VRIO framework, Company A as inovative firm capture the value at first chance. It is because of Company B's innovative applications and digitalized MA solutions that might let the firm to gain more potential customers. Moreover, Company B use its own-created ERP as the first user to creat and capture value for itslef. As the first actor that react to shifts in the market this firm as inovative firm can make it to SCA if such a process continue otherwise it can at end up in unexploited CA if another rival firm make it happen in the same sense. For instance, usage of Microsoft Power BI and its own-created ERP system allow for data-driven, real-time decision-making. Companies need to include such strong MA tools in their plans, making such expertise rare. The mix of digital tools with physical and financial assets makes this combination unique and hard for competitors to imitate. By

improving decision-making and agility, this integration maintains higher levels of competitive edge as SCA and other competing firms in unexploited CA.

Utilization of specific self-made ERP system, AI, BI by the firm has strategically leveraged digital solutions to enhance their distinctive capabilities in management accounting. According to the interviewee after the DT of MA and by tailoring an integrated ERP system to their own specific needs considering the availability of resources, then adopting these specific and useful resources for their progress toward optimization according to VRIN framework. He adds on that implementation of such process through usage of Big data, data analytics at first stage is the detection of resources and the related demands and then analyzing them to be useful for adoption, take the example of potential new customers and the data about their needs that can be responded in an innovative way (new applications or solutions for customers based on the related data about their needs).

Secondly, AI and BI provide assistance to the MA team to do predictive analysis for maintenance of these solutions and even optimization to the need of customers as after sales services. The related costs are also going to be mirrored in such a process which are useful for the MA team to forecast the cost accounting and then compare that to the related revenue from the customers so that they can understand the worthiness of such innovative way of business and taking care of customers in a proactive manner. Thirdly, the finer flow of data and communication efficiency for the internal actors and the functional bridge to the outsiders through ERP system is empowering the MA in the company to focus on each issue in a specific manner, get feedback directly in each specialized division and to react in a proactive way. This is one of the main reasons that Company B has benefited from such a fitting organizational behavior and adaptive MA system that can manage resources in agreement to VRIN/VRIO framework with the assisting role of digitalized MA to gain higher levels of CA.

Results from the above paragraph gives an understanding that the MA in Company B has utilized digital solutions due to its supporting and complimentary features. This improves the employment of resources for effective results which in their case of gaining competitive advantage. Such behavior is a fitting response in a changing environment that requires agile process, creative solution and proactive manner for effective employment of resources. According to Company B constantly maintain such organizational culture for flexible short and long-term planning which in essence pointing toward firm strategy. The interviewee added also that “*the adoption of our chosen digital solution has significantly influenced the strategic allocation and utilization of human capital, technological infrastructure and knowledge assets in our management accounting process*”. This influence can be indication of impacts from a digital transformed MA on Company B overall strategy about the usage of resources and the related processes.

Strategic decision-making of MA: When we asked about the posture, cause and effects of the above-mentioned influence, he said that integration of digital solution in MA has affected various managerial tasks which enhances their efficiency and decision-making capabilities. For instance, data analytics capabilities allow them to process and analyze large volumes of data, providing insights that are not only valuable but also rare in the industry. This capability enables the firm to forecast and plan more effectively, aligning closely with the strategic objectives and getting a competitive edge. The integration of ERP systems and cloud-based platforms has streamlined data replication and synchronization across different sites as a unique and perfect communication channel. This has allowed for a more strategic allocation of human capital, where employees can focus on higher-value tasks rather than manual data entry or synchronization tasks. The strategic utilization of knowledge assets by better knowledge management and sharing across the organization as increasing intellectual asset. This has been facilitated by the use of collaborative tools and platforms that allow for the easy sharing and updating of information, ensuring that all relevant stakeholders have access to the latest data and insights. Employees are now able to focus on higher-value tasks, such as data analysis and strategic decision-

making, rather than manual data entry with the help of higher computational power needed to process large datasets so then a horizontal participation is made in shaping firm's strategy.

Standardization a process across multiple countries: Ensuring consistency and compliance with global financial regulations is another indication of Digital transformed MA that can influence Company B overall strategy based on the emphasize that the respondent had for the related firm. He mentioned and refer to the files that we had access related to the unification of procedure about integrated digital solution across all countries since Company B is providing services to other countries than Sweden. The integration of such standardization another big step is to ensure that the digital solutions are fully integrated with existing systems to provide a seamless user experience and to facilitate real-time data access and analytics. It is considered to affect the firm's strategy both in the short and the long run to all geographical sites which Company B sales its services to. Moreover, providing comprehensive training and enablement programs ensures that the employees are well-equipped to use the new digital tools effectively. This is for the purpose of increasing human resource skills and quality too.

Best practices related to resources according to Company B are the strategic alignment of digital initiatives with business goals and objectives to create value and competitive advantage. Another factor is resource optimization and automating routine tasks to free up human resources for more strategic activities, utilizing cloud infrastructure for scalability and flexibility, and implementing knowledge management systems for better information sharing and decision-making toward continues learning and improvements. Balancing investments in people and tools/equipment is considering both the human and technological aspects when making investment decisions, ensuring that there is a harmonious integration of skilled personnel with advanced digital tools to drive innovation and efficiency accompanied by effective change management where the transition to digital solutions includes addressing the cultural and behavioral changes required, adequate training & support, and engaging all stakeholders in the process to ensure a smooth and successful digital transformation.

All of the points mentioned by the Interviewee are signs of how DT of MA is considered to be a part of the factors when Company B is bearing in mind the strategy. Strategy as guiding process toward the objectives of the firm has a relation to the resources of the company. The digitalized solutions are the catalyst and MA equipped with it, acting like a receptacle which together act as instrumental force for effective employment of the human, physical and organizational resources. Another attribute in this case is the changing and improving opportunities in digital era which enforces and facilitates new methods by letting the observer reevaluate and redefine all three categories of the resources for business activities. Considering this analogy Company B have expressed how DT affected the way they use their resources, how they appropriately adapt to the changing environment and demands in a proactive way that can get one step ahead of rivals and get competitive advantage which the whole process is always in certain way affect firm's strategy.

#### **4.3. Company C (Case 03)**

RMS (resource management system) as ERP system: Company C has made significant strides in implementing digital solutions in management accounting, such as adopting advanced software systems for streamlining financial processes and enhancing data analysis capabilities for strategic planning. The respondent for Company C states about the ERP system to be a complex of different digital solution including "Semine" to process Accounts Payable invoices, "ADRA" to reconcile monthly balance sheet accounts, "ACRS" to collect the info for Group reporting, "FAS" to prepare supporting documentation for invoicing. She also mentions about currently ongoing projects that are implementation of newssystem to handle expense reports (Power-BI). In the context of a RBV, and VRIO framework agreement Company C has strategically leveraged the mentioned digital solutions to enhance their distinctive capabilities in management accounting through organization of these digital solutions in a value creating process that is suited to the company specific way of business structure which cannot be imitated by rivals. According to the respondent, new digitalized solutions for MA has benefited in a

huge extent when it comes to cost reduction and revenue growth, time effectiveness, real time data and its accuracy, analytical approaches and decision making. That is why they gained competitive advantage and as result they got the handling of renowned and big airline recently both at Stockholm Arlanda (ARN) and Landvatter airport (GOT) compared to their rivals that had not that much flexibility in their sales and marketing strategy more over cost-effective processes.

By investing in technologies tailored to their needs in contrast to Company A which had not this privilege, they have improved efficiency, accuracy, and decision-making across whole organization. However, there's ongoing work to further integrate these solutions and optimize their performance within their organization and there is room for further alignment of these solutions within organizational resources and goals. Currently according to head of group accounting in company C, the problem is to unifying the management accounting system for all related branches (ARN, GOT, MMX) and partners of the firm. A decision has been made that will help them to follow the path of efficiency. *RMS* “(resource management system)” or otherwise ERP is needed, in order to understand “*Firm's labour costs, make up 70% of the cost base, (that is 3000 employees),*” to operate efficiently and be as able to compete with other companies in supplying aviation services with a huge involvement of human resource. This is a technique that the MA of Company C performs in order to increase the quality, effectiveness, awareness and engagement of the human resources for the purpose of better results with same or lower cost.

This is important due to the nature of such industry and the firm's environment. The human labour cost is typically high in Sweden and the company is providing services in aviation industry which is day by day changing and there are possibilities of substitution of human resources with machinery, and/or shifting toward higher quality of human labour in both case if the company is getting larger portion of market or stay in the same magnitude. By this analogy such digital solution let the MA in this firm to have relevant data on time and be able to act in a proactive way to the market changes beside that have a high quality of labour which is important if the MA want to get the resources in agreement to the VRIN framework so then they can hold sustained competitive advantage. Such process is a long run and constant behaviour which necessitates strategy adjustment that ultimately can be a potential reason for the impact on the firm's overall strategy.

RMS has helped in strategic planning (long-term & short-term), scheduling, allocation, and post-operational allocation analysis of ground staff. Thus, the current situation is not so perfect because of different systems which require a lot of manual work due to various reasons like different country, different languages, different systems used, different culture, etc. To overcome such issue, it necessitates a complex integration of all systems into one by: “*Correct choice of system; Data entry into the system by full involvement of employees; Analysis of data; Decisions made based on analyses; Implementation of decisions; Improvement and back to analysis*”. The reason to create a unified system is to standardize operations, processes and measure them in a standard way and then to improve daily activities and raise the efficiency of companies by making decisions based on numbers. Considering the VRIO framework attributes, the firm engage in some organizing actions that is related to the stratgy of the firm in order to create value from the usage of digital solution (RMS) and the relevant process. Company A's MA is aware of the required changes considering firm's strenghts, opportunities, weaknessess, and threats so the integrating process as described above is happening in a specific and unique manner that matches the firm's individual condition. This idiosyncratic procedure is the way of inimitable usage of digital solution and processes for the firm which other firms will not be able to copy or substitute. It is a response to the demand in the market in a specific manner and to deal with the competing environment accordingly.

Strategically leveraged digital solution: The company is currently developing and testing a unified management system for all stations and related partner (e.g. airlines and airport owners) to overcome the challenges that the company face in corporate-level strategy, competitive strategy (business strategy), and parenting strategy according to the accessible files about the usage of unified digital solutions for all stations. Creating the system leading to clear goals and integration with other systems,

as each country has many systems that need to be integrated with RMS, from airport schedules, HR internal systems, invoicing systems and the tracking system for ground support equipment (GSE), which would help to optimize the need for capital expenditure, as fewer GSE units repair costs would be required, and would help to use the employee resource more efficiently.

Furthermore, digital tools that Company C has strategically chosen include cloud-based accounting platforms, AI-driven analytics software, and automated reporting systems. While these tools have already enhanced their capabilities, ongoing evaluation and refinement are needed to ensure they fully align with their unique resources and capabilities according to the respondent. She clarifies those application as Semine processes Accounts Payable invoices, ACRS collects information for Group reporting, Adra reconciles monthly balance sheet accounts, and FAS prepares supporting documentation for invoicing. Additionally, an ongoing project involves implementing a new system to manage expense reports. All of this is for the purpose of making a value creating process that all relevant parts participate through an efficient and organized communication system. Besides that, due to the market conditions, and particular limited number of customers with specific need, the company C's digital capabilities get the rarity features that rivals are not able to copy are substitute.

The decision to adopt digital solutions: This decision was influenced by factors such as the availability of skilled personnel, compatibility with existing systems, and potential cost savings according to the respondent in Company C. She points out that *“despite progress, challenges remain in fully leveraging our existing resources during implementation, requiring ongoing investment in training and infrastructure...”*. The firm is not only emphasizing about competences rather indicating this as a cultural change, a mental transformation of the company. However, for this change the firm have to pay not only for the software (the system), but to direct the resources to install it, this is the implementation of all 6 steps as mentioned in pervious paragraph, and that already requires competence of MAs. She also asserts that Implementing an RMS system will affect the entire organization, so it is also about managing people's resistance. It is such *“a change that you either accept the system or you don't.”*. Continuing with the claim that since integration of digital tools, financial reporting has experienced notable enhancements in terms of accuracy, timeliness, and relevance. Nevertheless, resource-related challenges like data quality issues and skill gaps persist, requiring ongoing attention and investment. This extend the matter to the strategic influence on Company C after DT of MA, for instance we can name the reallocation of resources due to new investment and changes in human resources versus physical asset utilization more over the change management topic to be considered in firm's strategy.

Automation of MA tasks for high value capturing purpose: digitalization has significantly influenced the allocation and utilization of human capital, technological infrastructure, and knowledge assets in the management accounting processes according to associated in company C. She for instance says, *“While automation has freed up resources for higher-value tasks, further optimization is needed to fully capitalize on our organizational strengths.* This mean that the change has not fully happened yet in the organization but partially based on priorities, nature of accounting tasks and exposure.

Real-time data access and analytics: have transformed the decision-making processes by providing timely insights and enabling proactive resource allocation in Firm C. However, ongoing refinement appear necessary to ensure these capabilities continue to enhance the effectiveness in the financial domain. For instance, the accountant in company C claims that achieving efficiency can have a significant impact on all areas. Take *“1% efficiency of 3,000 employees has a huge impact”* as an example *“but don't forget that for this you also need to invest in the products and services, create an environment* (structure management) profitability and competition with other enterprises.

Efficiency, agility, and innovation as a bridge: The integration of digital solutions has been strategically aligned with entire strategy of Company C and enhanced the uniqueness of resources and capabilities by enabling greater efficiency, agility, and innovation that is the result of unique performance of MA and applied digital tools. However, ongoing strategic alignment and refinement are not necessarily the



reason to sustain competitive advantage in the market instead the high level of compatibility of MA team and adaptation to changing business environment. While progress has been made, ongoing adaptation is needed to address emerging challenges. Resource-specific challenges during the digitalization process included resistance to change, skill gaps among employees, and the need for substantial investment in technology infrastructure.

Best practices and relation to strategy from MA's experience: According to our associated in company C, it is when digital initiatives in the financial domain is the importance of aligning technology investments with strategic objectives and organizational capabilities. By focusing on technologies that complement their strengths and address specific pain points, they maximize the return on investment and drive sustainable competitive advantage which is a significant issue in firm's strategy. She insists that *"looking ahead, digital technologies will continue to play a pivotal role in shaping our corporate strategies by enabling greater efficiency, innovation, and customer-centricity."* By further aligning these technologies with their organizational resources and capabilities, they aim to unlock new opportunities for growth and differentiation in the market that will be a factor for sustained competitive advantage.

## 5. Analysis

*The analysis chapter is organized using a detailed structure that summarizes the main ideas covered in each case study using VRIN/VRIO framework. It includes a discussion under sub-topics of Resources and Capabilities, Resources and Capabilities for Competitive Advantages, and Digital Transformation in MA contributes to Competitive Advantage.*

### 5.1 Resources and Capabilities

The approach known as the Resource-Based View (RBV) places significant emphasis on the role that resources and capabilities play in determining a firm's performance and competitive edge. According to Barney (1991), resources are described under the RBV framework as a broad category of assets, managerial processes, expertise, and information that are under the control of the company and may be utilized to create and carry out successful plans. These resources can be material assets such as physical capital (technology and equipment), human capital (skills, training, and experience), and organizational capital (formal structures and processes) (Barney, 1991). Furthermore, resources can be divided into two categories: tangible and intangible. Intangible resources, such as technological expertise, brand names, and effective processes, are critical for creating a competitive advantage (Wernerfelt, 1984). Although every company has a wide range of resources and competencies, maintaining a competitive edge and achieving organizational success depend on the capacity to manage and utilize these resources well.

It is clear from the study's findings that the organizations under consideration have deliberately used organizational, human, and physical capital resources concerning one another to achieve digital transformation in their management accounting procedures. As an illustration of how physical capital resources (technology) can be used to improve decision-making and streamline financial operations, consider Company A's use of an ERP system. In addition to increasing productivity, the move to digital technologies like Fortnox has made it possible to reallocate human capital resources inside the company to more strategically important and high-value activities. The findings also emphasize how crucial organizational learning resources are to the digital transformation process. Businesses like Company B & C have improved their management accounting and strategic planning skills by investing in modern software systems and technologies that are suited to their unique requirements. These firms show a dedication to using organizational learning resources to generate innovation and competitiveness in the market by consistently modifying and improving their digital activities. The results also take into account the division of resources into tangible and intangible classifications. Physical capital (ERP systems, technology infrastructure) and other tangible resources are essential for facilitating digital transformation and enhancing operational effectiveness. On the other side, success in the implementation of digital tools and technology is attributed to intangible resources such as organizational expertise, strategic vision, and the capacity to adjust to evolving business environments.

The essential relevance of controlling and utilizing a range of resources and skills to successfully implement digital transformation in management accounting is highlighted by the RBV framework's assessment of the findings. Our research shows that by carefully combining their organizational, human, and physical capital resources with their company's goals, firms may improve their competitive advantage, streamline decision-making procedures, and promote innovation in the increasingly digitalized corporate environment. This alignment is critical to comprehending how digital transformation supports competitive advantage and strategic development since it emphasizes that resource integration is required to properly gain the benefits of technological advances in management accounting.

## 5.2 Resources and Capabilities for Competitive Advantages

As cited by Madhani (2010), Collis and Montgomery, 1995; Grant, 1991; Wernerfelt, 1984 stated that competitive advantages can be developed and maintained by organizations through the use of resources that are valuable, rare, inimitable, and non-substitutable (Barney, 1991) and these resources can also be used to achieve superior performance. Nason & Wiklund (2015) cited that according to RBV, firms that possess bundles of resources that are VRIN will enjoy sustained competitive advantages and, consequently, superior firm performance (Barney, 1991; Wernerfelt, 1984).

According to Barney (1991) if a resource offers an organization strategic value, then it is valuable and when resources assist businesses in taking advantage of market opportunities or reducing market risks they are valuable. According to his explanation owning a resource is useless if it doesn't increase or contribute value to the company. As per the findings of this study, all three businesses show how to effectively use digital tools to improve management accounting procedures. When Company A uses Fortnox as its main ERP system, it reduces human labor and increases efficiency by streamlining financial record gathering payroll, invoicing, and bookkeeping. Company B improves data-driven decision-making and strategic planning by utilizing a their own created ERP system and cloud-based solutions with tools like Microsoft Power BI. In aviation services where human resources are heavily involved, the implementation of an RMS (ERP system) by Company C improves accuracy as well as effectiveness through combining tools and systems to increase consistency and streamline operations.

Barney (1991) explained that the firm's resources should be unique or rare, making it difficult for rivals to obtain them, in order to provide it a competitive advantage and common resources do not give a company a competitive edge since they don't enable the development and application of a distinctive business strategy that distinguishes a company from its competitors. As per the findings from interviews, every selected firm illustrates distinct competencies in the integration of digital tools with particular business requirements and strategy alignment. The unique nature of Company A's approach is its customized use of Fortnox, which is exclusive to this business and gives it a competitive edge in terms of decision-making processes, efficiency, and accuracy in management accounting. Company A's capacity to stand out in the market and possibly gain a competitive edge is aided by this distinctive resource usage. A unique combination of advanced reporting and analytics capabilities is created by Company B's integration of digital solutions with firm requirements and AI-driven analytics are integrated with ERP systems and cloud-based platforms. In order to maximize human capital and operational efficiency, Company C's attempts to standardize management accounting systems across branches demonstrate a unique integration approach that is in line with corporate-level aims. Efficiency and decision-making are improved by Company C's innovative use of digital tools in management accounting, which includes standardizing systems across branches and using an RMS as an ERP system. Overcoming obstacles like opposition to change emphasizes how unique their approach is. In keeping with corporate goals, Company C prioritizes optimizing human resources and operational effectiveness to differentiate itself from rivals and strengthen its competitive edge in the digital transformation.

It is not difficult to see that valuable and rare organizational resources may be a source of competitive advantage (Barney, 1991). However, valuable and rare organizational resources can only be sources of sustained competitive advantage if firms that do not possess these resources cannot obtain them (ibid). Madhani (2010), stated that imperfect imitability indicates that it will not be possible to imitate or mimic the resources and imperfect imitability can be hampered by a variety of factors, such as resource complexity, uncertain relationships between competence and competitive advantage, and challenges in obtaining resources. According to these explanations, two company's way of utilizing digital technologies in this study demonstrates distinct strategies that are hard to imitate. Fortnox presents difficulties for Company A, especially with regard to its exclusive use of the application's financial model. This suggests that even if the ERP system of this company gives a rarity by customizing its functions, it does not provide complex features that implies rivals can not imitate or that can not be replaced by other options. So the Company A only fulfill valuable and rarity criterias according to the

VRIN/VRIO framework. Company B uses their own created ERP system and emphasis on balancing highly qualified staff with innovative digital tools highlights a special approach that calls for both specialized knowledge and organizational coherence which indicate that this company fulfill the inimitability criteria. Company C has demonstrated a unique way of managing cultural change and improving resource allocation through the intricate integration of its systems such as RMS and tools across multiple locations. This method is tailored to solve specific difficulties that demand organizational commitment and resources.

The last requirement for a firm resource to be a source of sustained competitive advantage is that there must be no strategically equivalent valuable resources that are themselves either not rare or imitable (Barney, 1991). Two valuable firm resources (or two bundles of firm resources) are strategically equivalent when they each can be exploited separately to implement the same strategy (ibid). Non-substitutable resources implies that resources can't be substituted by another alternative resources and here competitor can not achieve same performance by replacing resources with other alternative resources (Madhani, 2010). The fact that two companies selected for this study are still investing in infrastructure, training, and change management emphasizes how irreplaceable their digital transformation efforts are. Due to Company B's emphasis on striking a balance between investments in people and technology, skills and tools are harmoniously integrated, fostering efficiency and creativity. The continuous investments made by Company C in infrastructure and training demonstrate its non-substitutability in utilizing digital tools to acquire an advantage and increase productivity.

According to Barney (1986), a company's most important resources are those that enable it to generate significant revenue, reduce expenses, boost profit margins, or improve the business's overall financial performance. Furthermore, he highlights that resources are considered important when they help a company create and implement strategies that increase productivity and effectiveness. RBV assists managers in understanding why competencies are regarded as a company's most valuable asset while also appreciating how those assets may be leveraged to boost business performance (Madhani, 2010). All things considered, B & C companies' strategy for managing accounting's digital transformation emphasizes unique, rare, valuable, and non-replaceable aspects that support its operational effectiveness and competitive edge, but not for Company A since it cannot achieve the inimitability criteria because of the limitations that they don't provide unique features or skills that rivals can't imitate or that can't be replaced by other substitutes, as previously explained. Although they all use digital technologies to improve decision-making and increase efficiency and accuracy, their distinct approaches to resource optimization, integration, and alignment set them apart in their respective fields. The significance of utilizing technology for long-term growth and differentiation is highlighted by the strategic alignment of digital technologies with corporate objectives. Continuous assessment and improvement are essential to guaranteeing that these abilities maintain their capacity to augment organizational efficacy and creativity throughout all three firms.

### **5.3 Digital Transformation in MA contributes to Competitive Advantage**

In today's fast-paced corporate environment, DT of MA has emerged as a key factor in chosen firms a competitive advantage as per findings chapter. Those companies guiding themselves for long-term success and growth by utilizing digital solutions to increase operational efficiency, decision-making processes, efficient use of resources, and innovation. From the findings we get that MA is essential in order to provide useful information for internal decision-making, performance assessment, and strategy planning simplified due to the each firms specific utilized digital solutions. In the current dynamic corporate landscape of these companies, where digital transformation is altering industries, these firms can gain a competitive advantage through the appropriate application of management accounting approaches in different level and type. A company's competitive position in the market can be greatly enhanced by management accounting through the integration of digital solutions considering VRIO/VRIN attributes, optimization of resource allocation, improvement of data-driven decision-making, driving operational efficiency, and promotion of innovation. Based on the results from the

scenarios of Company A, Company B, and Company C, this analysis will explore how MA might be an aspect of competitive advantage in different levels of competitive implication.

<b>Case Company/VRIO criteria</b>	<b>Valuable</b>	<b>Rare</b>	<b>Costly to imitate</b>	<b>Exploited by the organization</b>	<b>Competitive implication</b>
<b>Company A</b>	Yes	Yes	No		Temporary competitive advantage
<b>Company B</b>	Yes	Yes	Yes	Yes	Sustained competitive advantage
<b>Company C</b>	Yes	Yes	Yes	Yes	Sustained competitive advantage

**Table 1. VRIO criteria and competitive advantage implications**

Simplifying procedures and automating repetitive work to improve productivity and efficiency is one of the main advantages of digital transformation in management accounting. Organizations can reduce human errors and improve the accuracy of financial reporting by streamlining operations like bookkeeping, invoicing, and payroll through the integration of the ERP system, as demonstrated by Company A. The idea that automation in accounting procedures can have a major positive impact, such as cost savings, improved data accuracy, and higher operational efficiency, is supported by earlier research (Smith, A., & Jones, B., 2018). Organizations can gain a competitive advantage in their industry by automating repetitive work using digital solutions, freeing up valuable human resources to concentrate on more strategic duties like data analysis and decision-making. Organizations that have undergone digital transformation are more equipped to use data analytics technologies to assist with strategic planning and decision-making.

According to the VRIO model, Company A's use of the Fortnox ERP system is an example of aspects that provide a temporary competitive edge. By streamlining decision-making procedures, automating management accounting work, and boosting overall operational efficiency, Fortnox's digital capabilities bring significant value to Company A. These advantages help the business remain competitive in the market, despite some restrictions on their rarity and inimitability. Value-wise, the automation of MA duties using Fortnox eliminates a substantial amount of manual work, freeing up the MA team to concentrate on strategic operations. The system's capacity to produce comprehensive accounting reports and offer insightful information for decision-making improves the business's operational effectiveness and adaptability to changes in the market. These features highlight how beneficial Fortnox is to Company A's management accounting procedures. In terms of rarity, while Company A's customized application of Fortnox distinguishes it from rivals, some aspects might not be completely unique. Particularly when considering advanced analytics and the application of AI, the deliberate focus on resource reallocation and the particular customization show a degree of rarity. Long-term exclusivity maintenance is difficult, nevertheless, due to competing systems' accessibility and underlying technologies. Some of the reasons that limit the inimitability of Company A's digital solutions are the technology's accessibility, the possibility of replicating the implementation strategies, and the reliance on outside variables like supplier selection. While the company's effective processes and strategic resource reallocation highlight organizational skills, the long-term stability of competitive advantage is still threatened by the possibility of rivals imitating identical systems.

The systematic strategy used by "Company A" to utilize Fortnox is apparent in the reallocation of resources, the streamlining of procedures, and the strategic alignment of goals with the objectives of the organization. The company's competitive position in the market is strengthened by these organizational characteristics, which allow it to successfully grasp the value offered by digital solutions. Company A should prioritize ongoing innovation, creating proprietary processes, investing in the full

integration of digital technologies, and strengthening cybersecurity measures in order to maintain and possibly even strengthen its temporary competitive edge. Company A can enhance its competitive edge and propel sustained success in the dynamic digital domain by means of innovation, developing exclusive procedures, developing digital integration, and guaranteeing the confidentiality of information.

Although Company A presently has a temporary competitive edge due to its digital solutions, proactive and strategic activities will be necessary to sustain and grow this competitive advantage in the face of expanding market competitiveness and technological improvements.

Firms such as Company B utilize their own created ERP system and cloud-based solution, to facilitate data-driven decision-making procedures. According to previous studies, data analytics can offer insightful information about market trends, customer behavior, and financial performance, empowering businesses to take proactive actions that give them a competitive advantage (Johnson, C., & Brown, D., 2019). Organizations can improve their competitive position in the market by utilizing data analytics capabilities to acquire a greater understanding of their business operations, discover growth possibilities, and react quickly to changes in the market.

By implementing their own created ERP system that are specifically designed to meet the needs of the management accounting industry, Company B has positioned itself to attain a sustainable competitive advantage. These solutions improve the overall efficacy and efficiency of the organization's financial processes by offering useful reporting, planning, and decision-making capabilities. Company B has gained a competitive advantage in the market by using these modern technologies to optimize its accounting processes, enhance data accuracy, and support well-informed decision-making. Company B stands apart in the sector due to its deliberate use of digital technologies and emphasis on making decisions based on data. While many businesses may use digital technologies, Company B's distinctive strategy of customizing its ERP system to meet particular requirements and placing a strong emphasis on data-driven decision-making techniques is considered to be rare. Company B has an advantage over its rivals due to its unique strategic integration of technology with business objectives and the emphasis on using data to support decisions. With the use of AI and BI tools, the company can efficiently estimate related costs, meet client requirements by optimizing services, and predict after-sale service needs with accuracy. In addition to increasing operational effectiveness, this customer-centric strategy positions the business as a pioneer in providing value-added services, giving it a stable competitive edge in the marketplace. Furthermore, through the process of projecting cost accounting and contrasting it with client revenue, the MA team may evaluate the profitability and feasibility of their unique business strategies.

Moreover, rivals attempting to emulate Company B's achievements face an immense challenge due to the costly-to-imitate structure of its digital solutions and strategic competencies. It is difficult for rivals to simply copy Company B's strategic approach since it takes significant resources and experience to invest in data-driven decision-making processes and customize an ERP system to meet individual objectives. Taking into account Company B's standing as the industry leader in the IT field, it is clear that large investments in its customized solutions and own-created ERP system have contributed to its success. By putting up barriers in the way of prospective rivals, these investments maintain Company B's leadership position in the market and this company promotes the optimal use of the organization's digital resources and data-driven decision-making abilities. Company B optimizes the advantages of its digital transformation projects by harnessing data analytics for strategic insights, streamlining reporting procedures, and fully exploiting cloud-based tool capabilities. Through the efficient use of resources and technologies, Company B is able to maintain its competitive advantage and promote ongoing advancements in management accounting procedures. All things considered, Company B's digital solutions and strategic capabilities are valuable, rare, difficult to replicate, and easily exploited, which puts the company in a strong position to maintain its competitive edge. Over time, Company B may sustain its competitive advantage by continuously improving its digital strategy, staying ahead of

technical developments, and coordinating its digital endeavours with its corporate goals. In the ever-changing business environment, Company B will be able to maintain its leadership position and propel further success with its sustained dedication to innovation, efficiency, and data-driven decision-making.

Organizations can maximize resource efficiency and match technology investments with strategic objectives by implementing digital transformation in management accounting. Company C use digital technologies, such the Resource Management System (RMS), in a strategic way to improve decision-making, accuracy, and efficiency. Prior research highlights how crucial it is to connect investments in technology with corporate goals in order to generate value and promote innovation (Davis, R., & Thomas, E., 2015). Firms may increase competitiveness, increase operational efficiency, and achieve long-term market growth by strategically combining digital solutions with organizational resources and expertise. Better knowledge management and cooperation inside companies are made possible by digital transformation, which also makes information exchange and decision-making easier. Employees can communicate and update information with ease by using collaborative tools and platforms, assuring that stakeholders are aware of the most recent information and insights. Researches reveal that competitiveness, innovation, and organizational agility can be increased through efficient knowledge management and collaboration (Brown, M., & Smith, K., 2016). Organizations may promote continuous development, foster creativity, and respond to changing market dynamics by fostering a culture of information sharing and cooperation through digital solutions. This will provide them with a competitive advantage in the business.

Company C's planned implementation of digital technologies in management accounting has allowed it to create a sustained competitive edge. We can examine how Company C's digitalized MA solutions display aspects that support their competitive advantage by applying the VRIO framework.

The digital solutions provided by Company C provide substantial value in the form of lower costs, better decision-making, time efficiency, and strategic planning flexibility. These solutions help the organization save money, run more efficiently, and make better decisions by automating financial procedures, cutting down on human labor, and offering real-time insights. The findings emphasize how Company C's use of an integrated digital system has given it a competitive edge by allowing it to efficiently leverage its resources in an economical way and produce significant revenue. Through the smooth integration of digital technologies like the RMS (Resource Management System), Company C has been able to increase productivity, improve customer satisfaction, and acquire contracts with major airlines at Landvetter and Arlanda Airports. This ongoing competitive advantage has molded the company's future business model in addition to its approach to allocating resources. Through effective resource management, digital transformation to maximize revenue, and acquisition of significant contracts, Company C has become a leader in the ground handling sector. This principle is especially important in a dynamic business like aviation, where competitiveness can be greatly impacted by prompt and well-informed decisions. Company C's digitalized MA solutions are unique because of their tailored integration and strategic fit with the organization's goals. Company C stands apart from its rivals due to its customized integration of many digital tools and attention to tackling the high expenses associated with human labor in the aviation sector. This distinctiveness improves the business's capacity to efficiently use its resources and set itself apart in the marketplace. The comprehensive integration of many tools, the corporate culture that fosters digital transformation, and the strategic resource management techniques are what make Company C's digital solutions inimitable. It would be difficult for rivals to duplicate Company C's sophisticated structure, cultural transformation, and strategic alignment. The interaction of elements produces a competitive edge that is hard to imitate. Company C's systematic approach to system improvement and allocation of resources shows how well-organized it is in terms of extracting value from its digital solutions. The company's organized framework is demonstrated by the continuous development of an integrated management system, effective resource allocation, and proactive adaptability to changing surroundings. Due to its organizational effectiveness,

Company C is able to optimize the advantages of its digital technologies and maintain a sustained competitive advantage.

Company C has successfully utilized its digitalized MA solutions to gain a sustained competitive edge. Value, rarity, inimitability, and organizational design all work together to establish Company C as a leader in the aviation sector. The competitive position of the organization is further reinforced by its capacity to innovate consistently, improve competency, cultivate a proactive culture, and optimize resource management. Company C should prioritize ongoing innovation, competency establishment, proactive culture promotion, and efficient use of resources in order to preserve and strengthen its competitive advantage. Company C can maintain its competitive advantage, adjust to changes in the market, and prosper in the rapidly changing digital landscape by giving priority to these areas. Company C's smart use of digital solutions has benefited them immediately and established a solid base for future growth in the aviation sector.



## 6. Conclusions

Interesting insights can be gained from examining three cases about how digital transformation of management accounting in these firms affect their competitive positioning and strategic choices. According to the RBV framework, the study's findings demonstrate how Company A, B, and C strategically integrate digital technologies into their management accounting procedures to achieve different levels of competitive advantage through the use of valuable, rare, inimitable, and non-substitutable resources. Another significant attribute from the VRIO framework is organization of aforementioned resources to manifest the importance of MA performance for the purpose of competitive advantage. The Using Fortnox as an ERP system, for instance, demonstrates a rare and valuable resource that improves decision-making efficiency and streamlines financial operations. This illustrates the RBV principle of utilizing rare and valuable resources to gain a temporary competitive edge. Similar to RBV's emphasis on valuable, rare, inimitability, and non-substitutability/organization resources, Company B's emphasis on the strategic integration of digital initiatives and managing investments in employees and technology shows exclusive capabilities with their own-created ERP, combining skilled personnel with modern digital tools to achieve SCA. Moreover, Company C's customized application of digital technologies such as RMS to fulfill particular demands and strategic goals emphasizes valuable, rare, inimitable, and non-substitutable/organizational sources which give SCA and improve productivity, accuracy, and decision-making. The performance of digitalized MA of all three companies in order to achieve CA is connected to the long term and short term planning and strategy makings about financial and non-financial resources which entail strategic changes and development. The results show an important connection between theory and practice in the field of MA and offer empirical evidence in support of the objectives of the RBV framework by highlighting the efficient applications of RBV principles by these companies in their DT strategies.

A number of important themes about how digitalization affects organizational strategies become apparent when these cases are examined through the lens of the Resource-Based View (RBV). To conclude, the major findings of the study provide insight into how DT in MA contributes to strategic development and CA. Organizations can improve their decision-making procedures, resource allocation decisions, and operational efficiency by strategically utilizing digital tools and resources. In the setting of DT, the study emphasizes the significance of utilizing heterogeneous and immobile resources, as described in VRIN/VRIO framework. Businesses can gain a CA which lasts over time by implementing distinctive digital solutions that are customized to meet their requirements. Study results indicate that DT is a strategic requirement for businesses looking to succeed in the fast-paced business environment of today, rather than just a technology change. Enterprises can capitalize on unique possibilities for expansion, differentiation, and creativity by allocating resources toward digital solutions that enhance their areas of expertise and tackle specific problems. Moreover, a comprehensive strategy that takes organizational culture and technology capabilities into consideration is needed for the effective implementation of digital tools into MA operations.

The findings' overall implications imply that in order for enterprises to stay competitive and ahead of the curve, they must constantly engage in DT. In an increasingly digitally driven world, businesses may prepare themselves for long-term success by handling cultural change, harnessing unique talents, and matching technological investments with their corporate goals. In addition to improving operational effectiveness, the strategic use of digital tools encourages creativity and agility inside an organization, allowing it to adjust to changing market conditions and maintain CA.

By offering insights into the strategic consequences of DT on MA procedures within firms, the study provided fresh insights. It has emphasized the significance of using digital tools and resources to improve operational efficiency, decision-making processes, and resource allocation approaches by looking at real-world instances and empirical data in order to detect strategy changes in the case firms due to this process. The analysis has shown how companies can gain a CA in the setting of DT by

exploiting heterogeneous and immobile resources and strategically matching technological initiatives with corporate goals. These results are significant because they advance readers' knowledge of how digital change has shaped current corporate practices. In order to stay competitive and stimulate expansion, firms are under increasing pressure to implement modern technologies in the quickly changing digital landscape of today. The thesis emphasizes the significance of adopting digital transformation as a critical factor in organizational performance by highlighting the strategic advantages of digital technologies in management accounting. It also clarifies the importance of managing cultural change in the context of digital change. The results emphasize how important it is to match corporate culture with technology developments. They also show how important communication, training, and leadership are to the success of digital efforts. Organizations seeking to manage the challenges of DT and make sure their capabilities and resources are properly utilized for long-term competitive advantage.

In general, the thesis advances the field of study by offering useful insights and industry best practices for businesses looking to use the potential of DT in MA. The thesis's conclusions provide insightful advice for decision-makers, managers, and professionals handling the modern era by outlining a roadmap for strategic implementation and emphasizing the innovative effect of digital technologies on organizational performance. With an emphasis on higher-value tasks that improve organizational agility and responsiveness, there is a visible shift in resource allocation across all cases with digitalization. The overall results of these studies show how DT and its assisting attribute impacts strategy of firms through shifts in capabilities of MA inside companies, supporting the RBV principles by highlighting the function of internal resources and raised capabilities through fostering technological adoption that lead firms toward CA. Strategic alignment and resource optimization are critical for achieving sustained growth and innovation in MA and these instances provide insightful lessons for firms navigating the challenges of digitalization.

## **6.1 Managerial implications**

Especially when viewed through the Resource-Based View (RBV) lens, the conclusions drawn from the cases of Company A, Company B, and Company C have important practical implications for comprehending how various businesses view DT in MA and its effect on their strategies. To begin with, Company A's experience emphasizes how crucial it is to use digital technologies in MA strategically for CA which can entail MAs involvement in forming the strategy of firm moreover indicate the consequential impacts of DT of MA while adhering to resource limitations. Due to supplier dependencies and industry standards, Company A is unable to fully customize Fortnox to meet their demands; however, they strategically use this digital solution to expedite key MA procedures, such as payroll, invoicing, and bookkeeping. This suggests that businesses can strategically employ digital tools to automate repetitive processes and reallocate workers to more value-added duties, even in situations when resource availability is limited. This improves overall efficiency and strategic decision-making capabilities because of the accessibility that Company A has gained. Caglio and Ditillo (2008) conducted a study that demonstrates how companies can strategically implement digital technologies, such as ERP systems, to optimize MA procedures and enhance the effectiveness of decision-making.

Furthermore, Company A's use of Fortnox for financial reporting and documentation highlights how digital solutions can streamline a variety of manual accounting work, including automating transactions and integrating several accounts. By strategically utilizing its digital capabilities, the organization is able to produce detailed accounting reports and graphics that aid in improved planning and decision-making. Company A serves as an example of how resource limitations can be lessened through

technology in order to successfully accomplish strategic objectives by adopting digital transformation in MA.

Secondly, Company B prioritizes the strategic alignment of digital activities with company goals, emphasizing the use of their own ERP system and cloud-based implementations to improve efficiency, decision-making, and process optimization. The aforementioned scenario highlights the importance of utilizing digital capabilities to strengthen strategic procedures, such as planning and data-driven decision-making. This company is an excellent example of how DT can strengthen unique aspects within MA, closely matching with strategic objectives to build competitive advantage. This is achieved by customizing ERP systems to meet specific demands and integrating cloud-based platforms. The emphasis that Company B has placed on coordinating digital initiatives with its goals is consistent with ideas presented by Chenhall and Langfield-Smith (1998), who highlight the importance of strategic alignment between organizational strategy and management accounting procedures. Furthermore, Company B's dependence on cloud-based analytics and reporting tools emphasizes how digital solutions may foster organizational agility and creativity in MA as a factor aiming SCA. By using digital resources strategically, the firm is better equipped to adapt to changes in the market and reduce costs by making data-driven decisions. Company B serves as an example of how digital transformation may improve core competencies and ease strategy adaptation in dynamic business settings by incorporating digital tools into strategic management accounting.

Thirdly, the strategic necessity of DT in large-scale operations is highlighted by Company C's implementation of a Resource Management System (RMS). Company C seeks to optimize resource allocation across many nations and partner organizations, improve efficiency, and standardize operations through the integration of modern software products customized to meet their unique demands. Researchers such as Barney (1991) and Teece et al. (1997) contend that companies can gain a competitive edge by strategically utilizing internal resources, such as digital technologies, to cultivate unique competencies and improve operational effectiveness. The management implication from this is that comprehensive and well fitted digital solutions can have a big impact on decision-making, resource optimization, and strategic planning when they are properly adopted and in line with organizational goals. Additionally, the focus placed by Company C on integrating different systems into a single MA system illustrates the strategic use of digital resources to address operational difficulties and boost organizational effectiveness. By taking a strategic approach to DT, the organization is better equipped to improve daily operations and strategic decision-making by standardizing procedures, measuring performance regularly, and making data-driven decisions.

These managerial implications for the RBV framework imply that DT in MA involves more than just implementing new technologies; rather, it involves strategically utilizing them to improve organizational capabilities, to create value by choosing rare and inimitable digital capabilities and processes to gain CA in a sense that MA perceive DT as a necessity for core competencies and resources to give better results in the same business activity than their rivals. Every company's strategy demonstrates how, when skillfully incorporated into current organizational structures and procedures, digital tools may be a source of unique and valuable resources. The results highlight the strategic significance of resource efficiency, capability building, strategic alignment, and ongoing adaptation in exploiting DT in MA. First of all, as Case 02 makes clear, strategic alignment guarantees that digital activities are tightly related to larger business objectives and align with unique organizational competencies. As seen in Case 03, this alignment maximizes creating value by utilizing digital tools to streamline operations, allocate resources optimally, and facilitate more agile decision-making. Moreover, as Case 01 demonstrates, incorporating digital solutions into MA strengthens key capabilities and adds to CA. Lastly, the necessity of constant adaptation is underlined, recognizing that, as seen in

all three situations, DT is a journey that requires adaptability to changing market dynamics, technical breakthroughs, and organizational needs. With the help of this tactical approach, organizations can successfully leverage the potential of digital technology to promote productivity, creativity, and strategic success in the field of MA.

Overall, these managerial implications show how different firms view and use digital transformation in management accounting strategically, which shapes their organizational plans and helps them gain a competitive edge and long-term growth within their respective industries.

## **6.2 Contributions and Limitations**

Conducting such a study was essential from academic, professional, and sociological perspective. As we mentioned in the first chapter, there was a research gap about how do service based firms use DT in MA to nurture competitive advantage and eventually assist the firm in strategic development not only in theory but in practice also. So, this paper has contributed to adding empirical knowledge to the academic field of MA by filling such research gap in comprehensive way. Structuring an appropriate research question, gathering relevant literature for better understanding of the issue and affecting factors and well suitable theoretical framework (RBV) to analyze the results are considered for better quality. The empirical results stem from three actual services-based companies that are performing business activities in Sweden. The useful professional outcomes of this results are worthy for the practicing and relevant companies not only located in Sweden but also in the countries with similar, social, economic, political and environmental attributes. Since such research agenda or conducting empirical based studies in this field are in their primary stages and beside that Sweden is one of the most developed countries in terms of social, economic and even academic infrastructure, so understanding and observing the very edge of digital transformation in management accounting and its effects on the corporate strategy is easily detected which can be fruitful and guiding for future research.

Another contribution of this study is that it extended the boundaries and implication of theory (RBV) in the field of MA. It is indicated how does DT in MA incorporate as an assisting tool and factor to other resources in the firm for the purpose of CA. Analyzing the usage of digital solutions in MA through the lens of resource based view illustrates how is it important to equip MA with modern technologies and processes. It enhances MA performance and makes possible effective and strategic guidance of processes to utilize all sets of resources in accordance to VRIN/VRIO framework in order to gain at most sustained CA. Finally, the outcomes show that all intra organizational changes due to the reallocation of financial and non-financial resources are a part of the factors to be considered when answering why, how, and when the corporate strategy of a firm is affected considering the DT of MA for the purpose of gaining any kind of competitive advantage.

This case study exclusively focuses on three target companies within the defined case study population (Two IT related and one linked to aviation), without any consideration of those outside this group which are eventually associated to service industry. Furthermore, the study assumes key technologies related to digitalized MA are, ERP systems, utilization of big data, performing data analytics, internet of things (IoT), artificial intelligence (AI), and business intelligence (BI) which do not provide an exhaustive list of all MA related technologies, concepts, or terms. Beside that the fast-changing characteristic and nature of digital solutions in MA is another reason to such boundary that make it impossible to consider this study flawless. The technologies referenced in this paper are selected based on their significant importance and prevalence in the public domain, academic papers, and professionals which have their own limited views.

Additionally, this research methodology is based on the respondents views, experiences, and the secondary data through firms' Annual reports, different sites which can not be a holistic approach that could be established based on extensive amount of real-world data (e.g. more interviews with other MAs and controllers in the field, Audit data, customers experiences data, etc.). Another issue to be reminded is the resource based view (RBV) and VRIN/VRIO framework that on the one hand helped us to narrow down the study for better understanding but on the other hand, it could pose limitations and make ground for future research utilizing other qualitative methods and considering other frameworks (such as Porter's framework) to create a more better image of how digitalized MA can effect firms' overall strategy and contribute to strategic development.

### **6.3 Future research**

The identified limitations mentioned in above section point towards opportunities for further research on this topic. Given the qualitative nature of this study, generalizability is constrained. To enhance the transferability and generalizability of this research, expanding the number of cases within the multiple case study (i.e., including more companies from the case study population) could provide broader and deeper insights into the topic. Additionally, exploring a case study population in a context outside of Swedish service-based firms could offer a different perspective. For instance, we can mention a similar study about firms located in developing countries can have completely inconsistent results where the macro and micro infrastructure differ a lot with a country like Sweden that is ranked one of most developed countries in terms of economic and social advancement. Moreover, there is further research avenues about internal and external resource management by MA for more strategic moves in relevance to current digital environment while this research focuses on how the target firms addresses SCA in consideration to the digitalized MA (from employee and digital instruments perspectives) and their share of efforts to manage such resources in a VRIN/VRIO framework. Lastly, as mentioned before the theoretical framework and the methodology (preferably a quantitative research) changes can bring other valuable insights and nourish academic knowledge in the field.

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## Appendix

### Interview Questions

1. Can you introduce yourself and your role in the company? (Considering your experience and background related to the strategy of your company.)
2. Can you describe what digital solutions (e.g. ERP system, big data, data analytics, machine learning, cloud-based solutions) you use in your company when it comes to management accounting that would suit market conditions?
3. Can you specify which of the solutions mentioned above have you used for different managerial tasks (planning, organizing, controlling, problem-solving, decision-making) and why you chose them?
4. In your opinion, which tasks and roles of digital transformed management accounting are the most responsive about the firm's strategy?
5. From a resource-based view, considering a framework of **valuableness, rarity, inimitability and non-substitutability** of such resources, how has your company strategically leveraged digital solutions to enhance its distinctive capabilities in management accounting compared to your rivals?

FYI - (The Resource-Based View (RBV) is a theoretical framework in strategic management that focuses on understanding the **competitive advantage of firms by examining the unique bundle of resources and capabilities they possess**. It suggests that sustainable competitive advantage arises from the internal resources and capabilities of a firm rather than its external environment alone.)

6. How can the strategy of the firm be aligned with your organization's unique resources considering digital capabilities of management accounting? (If we take real-time financial insights and data analytics for strategic planning!)
7. What factors influenced the decision to adopt digital solutions, and how did your organization use its existing resources to overcome challenges during implementation? If one reason is cost efficiency and resource optimization how it could enhance performance measurement?
8. From a resources perspective, how has your chosen digital solution influenced strategic allocation and utilization of human capital, technological infrastructure, and knowledge assets in your management accounting processes? (Take strategic cost management in consideration to it!)

9. Can you share any notable resource-related **enhancements** experienced in MA and the related strategic approaches since the integration of digital tools? Did you notice any support for strategic decision makings?
10. Have there been changes in resource allocation strategies or risk management approaches as a result of adapting to the digital environment in management accounting? What about the risk assesement and mitigation?
11. Are there any resource-related best practices that emerged from your experience with digitalized management accounting, in optimizing your unique resources and capabilities toward an integration with business process?
12. A firm's resources need to be secure, what about securing the digital data of the firm as a valuable asset considering cyber security, how it affects firm when it comes to the financial and non-financial strategies?
13. According to your opinion, what do managers prefer right now: investing in people or investing in tools and equipment? How do they decide whether to stick with traditional methods or switch to digital solutions in today's changing business environment? What about new & skilled vs traditional & experienced colleagues?
14. How might your organization consider adapting its policies regarding the automation or non-automation of Management Accounting tasks during various periods or shifts in the business landscape?
15. What role do you foresee digital technologies playing in shaping future corporate strategies, with a particular emphasis on how these technologies will align with and enhance your organization's distinctive resources and capabilities? Does it facilitate strategic partnerships, compliance, and governance?