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The dynamic balancing act

Enacting ambidextrous IT Governance within the
public sector

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Abstract

The fourth industrial revolution standing at societies' doorstep brings new technologies creates both threats and opportunities alike. Having a governance model able to cope with these changes are now as, if not more, important than ever. However, not everyone is ready, or able to seize these opportunities. The public sector in particular is known to lag in technology adoption and is often seen as change averse. With increased demands from the government and citizens alike on accelerated digitalization a significant challenge lies ahead for the public sector to keep up with the rapid pace of digitalization. Ambidexterity, a way to be more innovative while simultaneously being efficient at the same time, is thus more important than ever. This study investigates the enactment of an ambidextrous IT Governance through a qualitative case-study of the initial phase of an implementation of a digital agenda in a large Swedish municipality. The methodology used was triangulation of a content analysis of internal steering documents, and 19 semi-structured interviews with stakeholders from the municipal office. Our findings reveal that the IT Governance is moving from being predominantly exploitative to more explorative, with focus on a centralized digitalization hub and a change to a more innovative culture. Three paradoxes are identified in the governance set out by politicians and top management in the municipality. The result is used to further the work done by Zimmerman et al. (2018) by arguing for a broader view of the enactment of ambidexterity by including the middle-management's role in the enactment, rather than it being mainly the top-management or frontline-managers.

Keywords: IT-Governance, public sector, ambidexterity, dynamic balance

1 Introduction

Digitalization and the introduction of new, connected products, and new information technology (IT) services has become an increasingly integral part of our daily lives, business environments and public sectors alike (Bygstad, 2010; Porter & Heppelmann, 2014; Yoo, 2010). These technologies range from everyday objects such as smartphones with apps, to social media and to sophisticated data-mining algorithms used to track user-behaviours to tailor ads (Bygstad, 2010; Nwankpa & Datta, 2017; Porter & Heppelmann, 2014; Svahn, Mathiassen & Lindgren, 2017). As presented by Schwab (2017), this digitalization has led us into the fourth industrial revolution. Organizations trying to leverage the benefits of the new technologies are investing substantial amounts of resources into improving performance and seizing new revenue streams through their IT governance (Nwankpa & Datta, 2017; Sandberg, Mathiassen & Napier, 2014; Weill & Ross, 2004; Wu, Straub & Liang, 2015). According to Chae, Koh & Park, (2018) and Baker, Song and Jones, (2017), firms spent \$3.5 trillion during 2015 in IT-investments and Costello & Omale (2019) from Gartner expect that number to increase to \$3.8 trillion in 2019. Despite organizations' massive IT-spending however, not everyone is able to seize the benefits of digitalisation. The public sector in particular has been identified as slow to adapt and is lagging behind in digitalization compared to private firms (Bason, 2018; Campbell, McDonald & Sethibe, 2010; Choi & Chandler, 2015; Magnusson, Koutsikouri & Päiväranta, 2019). This becomes problematic since both politicians and citizens are increasingly asking for better digital services and easier access to governmental services through the web-based e-services (Bason, 2018; Campbell et al. 2010; Vries, Bekkers & Tummers, 2016). While public sectors do not pursue increased revenue or competitive advantage in the same manner as private firms do, they are expected to satisfy the needs of the inhabitants and companies while also maintaining governmental legitimacy (Dawson et al. 2016). As a response to this pressure, combined with other social, economic and political factors, governments are attempting a move towards becoming an increasingly digital government (Elmagarmid & McIver, 2001; Janowski, 2015; West, 2005). This is seen as a necessary move as innovations are instrumental for sustaining the relevance and legitimacy of the government (Dawson et al. 2016; Trong Tuan, 2017; World Government Forum & OECD).

One of the reasons behind the lag in digitalization in the public sector can be attributed the reliance on old, outdated economic models and rigid governance, which are poorly adapted to the rapid pace of innovation that is expected today (Boonstra et al. 2017; Kotter, 2012). The reason for this is that public organizations are poised in a different regulatory vice than private organizations. For example, they are required to be as efficient as possible with the tax money they use (Campbell et al. 2010; Magnusson et al. 2017; 2019; Rocheleau & Wu, 2002). Another challenge is existing structures within their IT Governance, which has traditionally been used to increase exploitation through efficiency, effectiveness and reducing risk (Dai & Wells, 2004; Morgan, & Finnegan, 2013). This has led to a clear unwillingness towards explorative commitments and innovation (Gregory et al. 2018; Thiry & Matthey, 2005; Weill

& Ross, 2004; 2005; Xue, Ray & Sambamurthy, 2012). In turn, this has resulted in innovative commitments becoming less prioritized, since they are associated with greater uncertainty and risk. This phenomenon has been defined as ‘efficiency creep’ by Magnusson et al. (2019). In order to effectively facilitate innovation within organizations organizations have to instead pursue an ambidextrous strategy (March, 1991; Mithas & Rust, 2016; Levinthal & March, 1993; Tushman & O’Reilly, 1996, 2013; Xue et al. 2012). Ambidexterity implies that organizations pursue exploration and exploitation simultaneously to maximize value creation, and has become an increasingly researched topic by, e.g. (Andriopoulos & Lewis, 2009; Gibson & Birkinshaw, 2004; Gregory, Keil & Muntermann, 2014; Lubatkin et al. 2006; Luger, Raisch & Schimmer, 2018; March, 1991; Tushman & O’Reilly, 1996, 2013; Mithas & Rust, 2016; Raisch et al. 2009; Xue et al. 2012). Currently, there are two conflicting views of ambidexterity. First as a static state which is “designed” by top management or second as a more dynamic, ever changing, process (Zimmermann, Raisch & Cardinal, 2018 p 762). Historically, the state perspective has been the generally accepted one within literature (Gibson & Birkinshaw, 2004; March, 1991; Raisch et al. 2009; Tushman & O’Reilly, 1996; 2013; Wang & Rafiq, 2014). However, more recent research argues that balancing exploration and exploitation is not a single, linear task which, when achieved, is completed permanently. Rather, ambidexterity requires continuous attention and dynamic balancing as internal and external prerequisites change and the optimal ambidextrous balance point changes as well (Luger et al. 2018; Zimmermann et al. 2018). Despite an increase of literature examining ambidexterity in recent years, from 10 published articles in 2005 to 190 in 2018 on Science Direct, there is still a lack of research regarding the enactment of ambidextrous IT Governance within the public sector (Magnusson et al. 2019). One of few examples being Magnusson et al. (2017), where the authors examine the implementation of an ambidextrous strategy within the Swedish Tax Authority (the IRS). For other examples, see e.g (Choi & Chandler, 2015; Janssen & Van Der Hoort, 2016; Trong Tuan, 2017) Consequently, this thesis aims to expand upon the rather limited theoretical foundation regarding the practical application of ambidexterity within the public sector through answering the research question:

How is ambidexterity enacted in the implementation of a digitalization project in the public sector?

The term ‘enactment’ is used to preserve the central point that when people act, they bring events and structures into existence and set them in motion (Weick, 1988). Enactment has also been investigated in a more specific IT context by (Wiener et al. 2016) in which the authors investigate how control is allocated among actors within IS/IS projects. With this study we are examining the problem by conducting a case study at a large municipality in Sweden which is in the initiation phase of implementing a digitalization project which they have defined as the “digital agenda”. To maintain consistency, the authors will therefore also use said definition when referring to the digitalization project. The municipality in question has recently made the decision to go through with the agenda and are currently designing how they are going to practically initiate and realize it. By conducting a case study within the public sector, the desired outcome of this thesis is to provide practitioners and scholars alike

with new insights regarding how organizations within the public sector enact an ambidextrous digital agenda. This is important due to the notable shortage of research concerning IT Governance within the public sector (Borins, 2002; Campbell et al. 2010; Fishenden & Thompson, 2013; Vries, Bekkers & Tummars, 2016), even more so in relation to how an ambidextrous governance can facilitate their innovativeness (Magnusson et al. 2017; 2019). In addition to previous, there is a significant gap in research regarding how a balance can be actively maintained. Birkinshaw, Zimmermann and Raisch (2016) provide a holistic overview on how private firms have implemented an ambidextrous strategy, with top managers being the main actors. However, more recent research contradicts their findings, explaining that front-line managers also play a predominant role (Zimmermann et al. 2018). Furthermore, Zimmermann et al. (2018) stress that additional research is needed on the implementation phase of ambidexterity, which this paper investigates within the digital agenda of the examined municipality.

The remainder of this thesis is organised to begin with an account of Precursory findings on this topic and the chosen theoretical framing used for this study (§2). The Methodology (§3) used during this study is then presented. Next is the Results (§4) from the data collection, succeeded by a Discussion (§5) regarding said results. Finally, Practical (§6) and Theoretical Implications (§7), implications for future research (§8) are presented together with a Conclusion (§9).

2 Precursory findings and theoretical framing

The area of interest for this paper is the enactment of ambidexterity. To understand this topic, it is important to understand the environment in which it exists. IT governance consists of the rules, regulations and guidelines within an organization for what the goal for their IT usage is and how to achieve said goal (Gregory et al. 2018; De Haes & van Grembergen, 2009; Weill & Ross, 2004; 2005). It is usually divided into the high-level strategy and the everyday management of the IT (Campbell et al. 2010). Following this, we dive deeper into what ambidexterity is, what value it entails and why it is difficult to achieve. There have been several previous studies performed on how ambidexterity can be implemented within an organization (Birkinshaw et al. 2016; Lubatkin et al. 2006; Mithas & Rust, 2016; Raisch et al. 2009; Tushman & O'Reilly, 2013). In these studies, however, the subject of research has almost exclusively been private companies, leaving a gap in the research on the implementation within a public organization. This is an important distinction because, as can be seen in the studies performed by Magnusson et al. (2019) and Magnusson et al. (2017), the private and public organizations vary in how they are expected and required to function but are both great need of innovation nonetheless (Campbell et al. 2010; Fishenden & Thompson, 2013; Rocheleau & Wu, 2002; Vries et al. 2016). Other important works for this study are studies explaining the strengths of ambidexterity, its paradoxes and how to execute and maintain an ambidextrous governance using different strategies (Birkinshaw et al. 2016; Gibson & Birkinshaw, 2004; Luger et al. 2018; Mithas & Rust, 2016; Smith & Lewis, 2011; Wang & Rafiq, 2014). Finally, how the academic view upon ambidexterity has changed from a rather static, top managerial perspective to a more dynamic one in which it is rather dynamically enacted and balanced by frontline-management rather than senior-management, according to recent research by Zimmermann et al. (2018).

A important theoretical framing for our study is that we subscribe to the idea that ambidexterity is continuously, and dynamically, balanced (Luger et al. 2018; Zimmermann et al. 2018), as opposed to it being achieved and maintained through a more static structure being defined by top management (Birkinshaw et al. 2016; Lubatkin et al. 2006; Raisch et al. 2009; Tushman & O'Reilly, 1996; 2013; Wang & Rafiq, 2014).

2.1 IT Governance

IT has become an increasingly critical part of organization's value creation due to rise of web-technologies, digitalization, and smart connected products and services generating data and creating new opportunities for value creation (Campbell et al. 2010; Van Grembergen & De Haes, 2018; Porter & Heppelmann, 2014; Sambamurthy & Zmud, 1999; Yoo, Henfridsson & Lyytinen, 2010) As IT investments have been shown to increase organizational performance and value creation (Chae et al. 2018; Mithas & Rust, 2016; Nwankpa & Datta, 2017; Yeow, Soh & Hansen, 2018) the usage of IT within organizations has consequently

increased continuously from the 1990's until today (Gregory et al. 2018). As the amounts of money invested in IT increase so did the demand for IT governance within organizations to ensure that the IT is properly aligned and actively supports the organizational goals (Campbell et al. 2010; De Haes & Van Grembergen, 2009; El-telbany & Elragal, 2014; Gregory et al. 2018; Sambamurthy & Zmud, 1999; Weill & Ross, 2004; 2005). According to Weill & Ross (2004), IT governance can also be seen as a means of deciding whom within an organization should have the authority to take certain decisions, and have accountability for said decisions (Gregory et al. 2018; Leclercq-Vandelannoitte & Betin, 2018). Another purpose of IT Governance is to determine which projects are to be funded, cancelled or excluded, and to ensure that the value of the projects in question are aligned with the organization's business goals (De Haes & Van Grembergen, 2009; El-telbany & Elragal, 2014; Weill & Ross, 2004; 2005). Campbell et al. (2010) and Dawson et al. (2016), on the other hand, defines IT Governance as the overarching, internal and external, strategy path that an organization is going to take. The authors further stress the importance of not confusing governance with management, and vice versa. Where the overarching strategy, and in extension the governance, is often decided by a board of directors and/or executives, management is enacted by middle managers and individual employees (Campbell et al. 2010; Gregory et al. 2018; Wang & Rafiq, 2014; Weill & Ross, 2004; 2005). Project management is a means for the executives and stakeholders within the IT Governance to maintain communication and transparency with managers responsible for the respective project within the organization; To ensure their progress, efficiency, and to identify and minimize risk (Dai & Wells, 2004; De Haes & Van Grembergen, 2009; Drake & Byrd, 2006; Thirey & Matthey, 2005). To also assure alignment with the organizational goals top managers often decide what type of value projects should focus on delivering, often called *output control* (Cardinal, 2001; Zimmermann et al. 2018).

An interesting characteristic of IT governance is that, as explained by Weill & Ross (2004 p. 9) "*most of the IT governance mechanisms conspired to discourage innovation*". Yet it is also argued that IT governance ought to facilitate exploitation and exploration simultaneously (Xue et al. 2012). In practice, this would mean not using IT solely as a supplier of support services but also as an important innovation partner to the business side of the organization, exploring new ideas and opportunities (Magnusson et al. 2017; Xue et al. 2012). In theory however, efficiency and innovation contrast each other heavily and are often viewed as incompatible (Koryak et al. 2018; March, 1991; Smith & Lewis, 2011; Raisch et al. 2009). One reason that has driven this change towards a more innovative oriented view of IT is the increased usage of smart and connected products in everyday life (Gregory et al. 2018). Historically, organizations has attempted to restrict undesired IT usage, e.g. unsanctioned usage of devices and programs, which they viewed as posing a risk to the organizational IT security (Boonstra et al. 2017; Gregory et al. 2018; Leclercq-Vandelannoitte & Betin, 2018). However, attempts to standardize and control IT usage often led to the opposite result, where employees instead increased their usage of unauthorized technologies that better satisfied their needs than the official programs (Hanseth et al. 2006; Magnusson et al. 2019). Recent governance practices have therefore been aimed at a more general type of control, a platform governance (Gregory et al. 2018). By using a platform to create a catalogue of service

descriptions and standards, without specifying the underlying technologies, the IT governance allows for a greater freedom of IT applications employees can use while still maintaining the ability to cooperate and share data. In some cases, this also spread to the rest of the organization, leading to a transition from a centralized governance to a more decentralized platform-based governance (Gregory et al. 2018).

2.1.1 IT Governance within the public sector

Campbell et al. (2010) and Sethibe. Campbell and McDonald (2007) identified that there are some distinct differences between IT governance within the private and the public sector respectively. First and foremost, the public sector has a fundamentally different reason for creating value. Private firms tend to invest resources in projects and strategies to generate revenue and to ensure financial stability, growth or maintain a competitive advantage (Chae et al. 2018; Kotter, 2012; Porter & Heppelmann, 2014; Teece et al. 2016; Zhu & Furr, 2016). In contrast, the public sector is expected to deliver services which facilitate the well-being of citizens without making a profit in itself (Bason, 2018; Campbell et al. 2010; Janowski, 2015; Lee, Hwang & Choi, 2012; West, 2005). Campbell et al. (2010) and Vries et al. (2016) has also found a severe aversion to risk in public organizations when compared to private organizations. Specific types of risks identified were wasting with taxpayers money into potentially non-profitable projects, not meeting citizens expectations or giving the municipality bad publicity in media (Borins, 2002; Vries et al. 2016). Magnusson et al. (2019) performed a case-study on the Swedish National insurance agency and the Swedish tax administration, and investigated the main challenges the public institutions had encountered. Their results show that public institutions have different incentives and laws affecting them, leading to a heavy bias towards efficiency at the cost of innovativeness. A good illustration of this is one of the interviewees at the NIA stating that “*risk acceptance is equal to zero*” when speaking of which new projects are considered (Magnusson et al. 2019 p. 25). Some researchers argue that this is due to, in comparison to private firms, the public sector often having more strict budgetary constraints, political directives and cumbersome bureaucracy (Bason, 2018; Campbell et al. 2010; Magnusson et al. 2019; Rocheleau & Wu, 2002; Sethibe et al. 2007). However, despite the strong aversion towards innovation within the public sector there is still a significant need for it nonetheless, particularly in times of rapid digitalization (Bason, 2018; Campbell et al. 2010; Fishenden & Thompson, 2013; Janowski, 2015). To elaborate, as citizens as well as companies’ usage of IT in their everyday life and working environment increase, the public sector must adapt and increase their offer of digital services to accommodate actors’ needs and expectations (Sundsvall, 2018a; Bason, 2018; Fishenden & Thompson, 2013). An example being the case of the STA, which have put significant effort into developing digital taxation services for citizens to use through their browsers, eliminating the need for posting physical documents to declare their taxes (Magnusson et al. 2019).

With previous characteristics of IT governance being geared towards the pursuit of increased efficiency (Gregory et al. 2018; Van Grembergen, 2004; Weill & Ross, 2004; 2005; Wiener et al. 2016), how can IT governance facilitate innovation, seeing as how innovation is associated with risks?

2.2 AMBIDEXTERITY

Exploitation is the process of increasing efficiency of operations and increasing productivity through exploiting existing local opportunities. March (1991 p. 71) explains exploitation by highlighting key concepts such as “*refinement, choice, production and efficiency*”. Koryak et al. (2018 p. 418) adds to this definition with “*learning gained via local search, experiential refinement, and selection and reuse of existing routines.*” Exploitation is often regarded as making the best use of existing resources and assets to increase the performance of internal processes and procedures. Increased efficiency is often achieved by decreasing the amount of resources, time or financials required to complete a task or product (Andriopoulos & Lewis, 2009; Koryak et al. 2018; March, 1991; Porter, 1985). To facilitate efficiency common strategies are to centralize internal control, increase integration and standardisation, and increasing performance (Andriopoulos & Lewis, 2009; 2010; Gregory et al. 2015; Koryak et al. 2018; March, 1991). A great portion of integration and centralization have however been identified to increase organizational rigidity and reduce the ability to quickly respond to market changes (agility). The reason behind this is that the more tailored a process becomes towards a specific need, the more its potential versatility decreases, which increases the difficulties when trying to change to better match with future needs (Sambamurthy et al. 2003; Shapiro & Varian, 1998; Teece, 2007; Teece & Pisano, 1997; 2016). In addition to technological constraints this is further exacerbated by human unwillingness to change (Dent & Goldberg, 1999; Selander & Henfridsson, 2012). A pitfall many organizations fall victim to is developing a bias towards exploitation at the cost of exploration (Magnusson et al. 2019; March, 1991; Tushman & O’Reilly, 2013; Xue et al. 2012). However, this is merely a short-term solution as it does not grant a new revenue stream (Andriopoulos & Lewis, 2010; Koryak et al. 2018; March, 1991; Mithas & Rust, 2016; Levinthal & March, 1993). This could be likened to putting all your eggs in one basket. Any changes in the market demand and you risk losing all your competitive advantage. In order to facilitate long-term value creation and competitive advantage, one is required to sense opportunities and pursue new ideas outside the organizational boundaries (Mithas & Rust, 2016; Roberts, Campbell & Vijayasarathy, 2016; Teece & Pisano 1997; Teece et al. 2016), also known as *exploration* (March, 1991 p. 71).

March (1991) highlights the central characteristics of exploration through the words: *searching, risk taking, discovery, play, variation and flexibility*. Learning is also a central pillar of exploration, be it through “*experimentation, play or accidents*” (Koryak et al. 2018 p. 414). Exploration is contrasted to exploitation in that exploitation relies heavily on reducing risk and resources used while exploration is characterized as risk taking, experimentation and trial and error (March, 1991; Tushman & O’Reilly, 2013). Exploration requires leaving the safe-zone and exploring one’s surroundings, pursuing new technologies and identifying needs on the market (Koryak et al. 2018; Levinthal & March; 1993; March, 1991; Roberts et al. 2016; Utterback & Abernathy, 1975). It has been argued that exploration tends to occur more in a more autonomous and decentralized environment, in which the employees possess greater freedom to, based on their own expertise, solve challenges in the manner they deem best (Birkinshaw, 2018; Koryak et al. 2018; March, 1991; Rigby, Sutherland & Takeuchi, 2016;

Wang & Rafiq, 2014). The challenge lies in keeping internal costs down while simultaneously exploring new opportunities. Too much diversity might be counterproductive as it may increase time, costs of management, monitoring and integration required for exploitation (Ahuja & Lampert, 2001; Levinthal & March, 1993; March, 1991; Wang & Rafiq, 2014).

It has traditionally always been considered there being a need for a trade-off between exploitation and exploration within organizations (Koryak et al. 2018; Levinthal & March, 1993; March, 1991; Porter, 1985; Xue et al. 2012). That was until the concept of ambidexterity was created to consolidate the seemingly contradictory aspects of exploration and exploitation (Birkinshaw et al., 2016; Gibson & Birkinshaw, 2004; Gregory et al. 2009; Koryak et al. 2018; Luger et al. 2018; Mithas & Rust, 2016; Raisch & Zimmermann, 2017; Tushman & O'Reilly, 1996; 2013; Zimmermann et al. 2018). The main characteristic of ambidexterity is both exploiting existing resources and exploring new opportunities at the same time, and the balance between how much of each you need at any given time (Andriopoulos & Lewis, 2009; March, 1991; Mithas & Rust, 2016). The balance between exploitation and exploration was first established by Duncan (1976) and later elaborated upon by March (1991) where he stressed that organizations are required to 'increase their operational efficiency to minimize waste and reduce undesired costs while simultaneously exploring new, innovative revenue streams through differentiation'. March (1991) further posits that neither exploitation or exploration alone can ensure long term prosperity within organizations. The value from a properly balanced ambidextrous strategy is the ability to cut costs while simultaneously increasing revenues through additional income streams, offsetting and surpassing any costs accrued during the experimentation. It is seen as the way to maximize value-creation (Andriopoulos & Lewis, 2009; Mithas & Rust, 2016; Tushman & O'Reilly, 1996; 2013).

A number of strategies for achieving an ambidextrous strategy has been suggested by literature. The three main strategies are; Structural, Sequential and Contextual ambidexterity. In *structural ambidexterity*, Duncan (1976) suggests that firms need to shift their structures over time to align with their current needs, alternatively focusing on either exploitation or exploration (Duncan, 1976; Tushman & O'Reilly, 1996; 2013). *Sequential ambidexterity* posits that changes happen too quickly for an organization to change focus completely. Instead organizations should achieve exploitation and exploration simultaneously though structurally separated units or departments (Birkinshaw et al. 2016; Tushman & O'Reilly, 1996). *Contextual ambidexterity* is a more individually driven form of ambidexterity, and suggests that an organization should design its governance to allow individuals to decide for themselves how to allocate their time between exploitation and exploration (Gibson, Birkinshaw, 2004; Raisch & Birkinshaw, 2008; Raisch et al. 2009; Wang & Rafiq, 2014). While these theories might seem separated, studies show that most, if not all, organizations are ambidextrous to some extent and use some combination of the three simultaneously (Goossen, Bazzazian & Phelps, 2012; Magnusson et al. 2019; Luger et al. 2018; Zimmermann et al. 2018). Subsequent studies then argue that ambidexterity is not an one-off activity that will continue to deliver value ad infinitum. Because of changes in the external environment and internally within the organization ambidexterity is something that needs continuous and

dynamic balancing to keep delivering value (Luger et al. 2018; Zimmermann et al. 2018). To elaborate, these authors stress that the current view of ambidexterity was too static. Balancing exploitation and exploration, and managing the paradoxical tensions their relationship, requires continuous attention as the internal and external prerequisites change (Luger et al. 2018; Zimmermann et al. 2018). (Luger et al. 2018; Smith & Lewis, 2011; Zimmermann et al. 2018). Luger et al. (2018 p. 466) goes on to redefine ambidexterity as the “*ability to dynamically balance exploration and exploitation*”. It has been argued that the two require fundamentally different structures, processes and strategies to function properly (Koryak et al. 2018). Balancing these paradoxes has been described as the greatest challenge of achieving ambidexterity (Raisch et al. 2009). These paradoxical tensions between exploitation and exploration has since been thoroughly studied by several researchers (Andriopoulos & Lewis, 2009; Gregory et al. 2009; Luger et al. 2018; March, 1991; Raisch et al. 2009; Raisch & Zimmermann, 2017; Smith & Lewis, 2011).

The term ‘enactment’ has been defined by Weick (1988 p. 306) as “People who act in organizations often produce structures, constraints, and opportunities that were not there before they took action.” The term ‘enactment’ is used to convey the point that it is the people’s actions that create events and brings structures into existence that would not have happened otherwise. Meaning the term enactment being a social process and used to highlight the perspective of people being in the center of changes. In this study this implies that concerned stakeholders within the implementation of a municipal digitalization project are involved with, and affect, the ambidexterity through the structures, constraints and opportunities they create when fulfilling their tasks, as defined by (Weick, 1988). Wiener et al. (2016), which have examined the enactment within IS/IT projects where they aim their focal point upon control modes and mechanisms within organizations. In their work, they found that there are different control modes, such as the formal; *input, behaviour* and *output* control, which are characterized by, e.g. recruitment and the selection of managers and other staff, training programs, setting and defining project milestones, among other control mechanisms set by upper-management. The more informal modes; *clan* and *self-control* are characterized by more individual freedom within the organization where control is more decentralized and put in the hands of the employees. Examples are, *social sanctioning, work autonomy* and *self-management* Wiener et al (2016). As further defined by Wiener et al. (2016) control enactment would, in this case be the interaction between the formal and informal control modes.

2.3 Conceptual framework

To aid in analyzing how ambidexterity is enacted the configurational initiatives framework (Zimmermann et al. 2018) was used. The authors explain that an ambidextrous balance within organizations is, to a large extent enacted and maintained by frontline-managers (Ibid). This stands in contrast to prior literature which suggested that this task is conducted primarily by top-management (Birkinshaw et al. 2016; Raisch et al. 2009; Tushman & O’Reilly, 1996). Zimmermann et al. (2018) argue that frontline-managers, at times possess a certain deal of autonomy and are more involved in resolving emerging tensions from a more tactical, day to

day, level rather than a strategic level. Zimmermann et al. (2018), among others (Magnusson et al. 2019), found that in the implementation of an ambidextrous governance model, frontline-managers can temporarily reallocate assets or rebalance structures, sometimes even contrary to top-management's' directives, to better fit the overarching goal at any particular point in time.

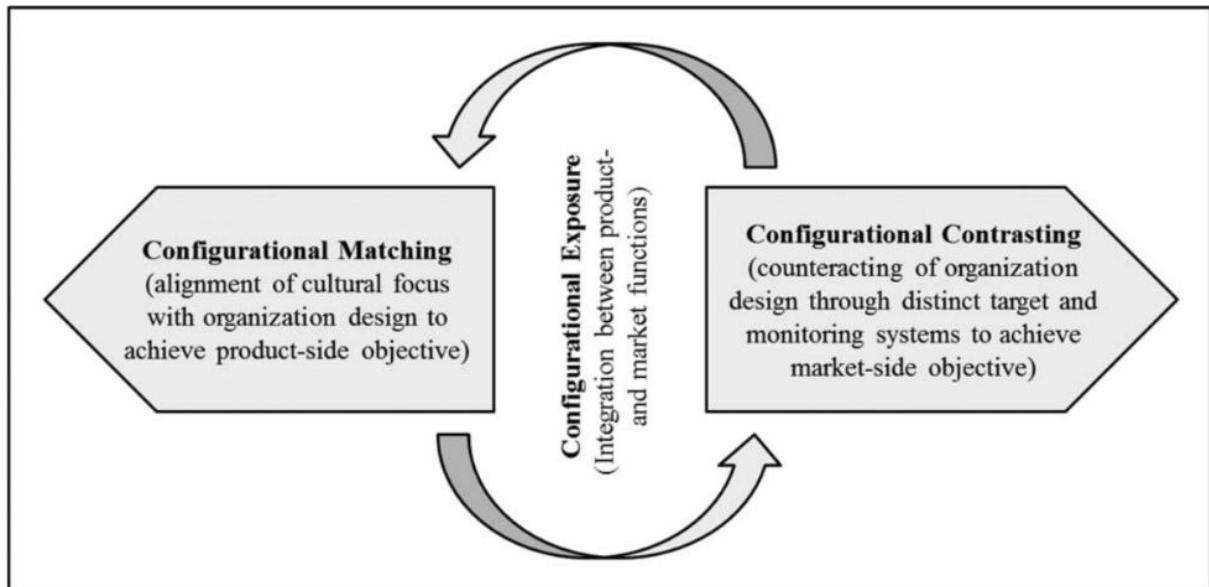


Figure 1. Zimmermann et al.'s (2018) configurational initiatives.

The picture shown above visualizes how the configurational initiatives are related to each other, they are not completely separated but rather affected by and affect each other. It is in the balance between *matching* and *contrasting* that ambidexterity is achieved (Zimmerman et al. 2018). The configurational practices in the framework are explained as “activities to adapt and align their initiatives’ organizational contexts”, meaning frontline managers’ actions in the pursuit of ambidexterity (Zimmermann et al. 2018, p. 741). These activities, aimed to adapt and align initiatives, make use of the informal culture, organizational structures and additional supervision etc. to better achieve the organizational goal. These configurational practices are closely related to ‘enactment’, as defined by Weick (1988), and are thus considered to represent the enactment of ambidexterity in this study.

Zimmermann et al. (2018) identified that frontline managers enacted the balance in three particular ways. The first is *configurational matching*, in which frontline managers attempt to adapt the unofficial culture to the official structure of the firm. Moreover, it entails a strong emphasis upon increasing the communication within the organization in order to make everyone within the organization “*speak a common language*” to reach the organization’s goals (Zimmermann et al. 2018 p. 750). Thus, there is a strong focus upon enhancing the internal culture and making the overall communication within divisions a much easier task, with fewer instances of linguistic confusion, called *internal cultural focus* by (Cameron & Quinn, 2011). However, the *configurational matching* also takes an external culture focus into account by, for example, increasing the collaboration with other business firms and

universities to widen and expand the internal competence with new insights, called *external cultural focus* by (Cameron & Quinn, 2011). The second initiative is the opposite, called *Configurational contrasting*, where frontline managers disregard the official structure in favour of another structure that is, in their opinion, is better fit to achieve the organizational goals at the time being. This is further explained by McGrath (1999) as *supervision autonomy* when top-management implicitly agree with the autonomy. *Configurational exposure*, is different, it works as an enabling infrastructure to the first two. It enables pursuit of ambidexterity by breaking information silos between divisions and by standardizing software and communicative solutions, to align decision guidelines (Van den Bosch, Volberda & de Boer, 1999). This allows for cross-functional collaboration between divisions, explained as *socialization practices* by Van den Bosch et al. (1999). The reason behind this is to facilitate an increased, shared, understanding between employees within the organization to better understand their shared goals, and with greater ease work together and solve problems in new ways, called *internal knowledge management* by Van den Bosch et al. (1999). A practical example highlighted was increasing the collaboration between the marketing division and product development within a firm in order to increase their technical knowledge and thus be able to participate closer to the development of end-user products (Zimmermann et al. 2018). Lastly, Zimmermann et al. (2018) stress that their research can only claim to be valid in during the implementation phase of an ambidextrous governance, and thus call for additional research on this topic during other phases. Accordingly, their framework is used in this study as a lens to study whether it is top management, frontline-management, a combination of both, or perhaps something entirely different that enacts the ambidextrous balance during the initiation phase of the digital agenda in the public sector.

3 METHOD

To investigate and answer the research question, a qualitative, single case-study was conducted, as elaborated upon by (Yin, 2009; 2011), which lasted from January to May 2019 in collaboration with the Swedish centre for digital innovation, henceforth (SCDI) and the municipality of Sundsvall. Case-studies are explained by Eisenhardt (1989 p. 534) as “understanding the dynamics present within single setting”. Yin (2011) further highlights that the purpose of a case-study is to establish a deeper understanding complex phenomena or real events, such as projects related to organizational change. As for this study, the setting investigated was the public sector organization Sundsvall municipality which is implementing a new digital agenda with the purpose of increasing digitalization and innovativeness. The primary reason behind selecting a case-study was that it came to our knowledge that the municipality of Sundsvall was initiating a project in which they wanted to rearrange their existing, change averse IT Governance to better facilitate digital innovation while simultaneously maintaining efficiency. Second, by conducting a case-study, we had the opportunity to examine how innovation is balanced with efficiency in pursuance of an ambidextrous IT Governance in practice, which requires more theoretical and practical attention, as suggested by Luger et al. (2018) and Zimmermann et al. (2018). Thirdly, given the size and complexity of this project, we deemed that solely relying upon the data-collection from a few days’ interviews would not give us a complete understanding of how the current IT Governance functioned, its strengths and weaknesses and why it was deemed insufficient towards exploration. Hence, by following a case-study, it provided a deeper understanding of the project by taking part various data sources rather than one sole, as argued by (Eisenhardt, 1989; Yin, 2009; 2011). In our case, these supplementary data sources comprised of internal steering documents, consultant reports, action plans and other documents to establish a deeper perspective of how their IT Governance was structured through a content analysis as explained by (Elo & Kyngäs, 2008; Krippendorff, 1980; Saldaña, 2015). The case-study further comprised of in-depth, semi-structured interviews with involved, internal actors. As suggested by Hennink, Hutter & Bailey, (2011) and Wengraf (2001), semi-structured interviews is a feasible method of data-collection when one wants to, as in our case, ask the interviewees to elaborate upon their own stories, opinions and perception of events concerning the organization’s portfolio management. Thus, by conducting in-depth interviews with involved actors, who provided their own thoughts on the matter. This allowed us to provide suggestions for how improvements to the governance could be made from the interviewees’ perspective, which would have been difficult to capture with quantitative data from e.g. surveys (Hennink et al. 2011; Yin, 2009; 2011).

Based on previous, the methodology chosen was deemed suitable to our research question, whereas a quantitative study, on the contrary would not have given us the same depth, nor insight behind the involved actors’ opinions regarding how the current IT Governance could be altered to better facilitate exploration (Hennink et al. 2011; Yin, 2011). As mentioned previously, given the size of the project and the amount of data needed to establish a full

understanding of challenges and possibilities, interviews alone would presumably not have been fully adequate. As such, since the case-study comprised a content analysis as well as interviews, a triangulation approach was achieved, as explained by (Altrichter, Posch & Somekh, 2008; Flick, 2004; Golafshani, 2003). Triangulation is presented by Flick (2004) and Golafshani (2003) as a means to, not only increase validity of the study but also to increase the understanding of the context one examines. Flick (2018) further posits that triangulation allows the researcher to examine a problem in a context using more than one angle of incidence. More specifically to this study, data concerning the current IT Governance from two angles, namely the steering documents from a strategic level and the involved stakeholders' own perspectives on a more tactical one, giving possibility to identify "complementary, converging, or even contradictory" results between the strategic/practical levels within the organization, as suggested by (Flick, 2018 p. 450).

3.1 Research setting

The public sector organization this study examines is Sundsvall municipality, located in Sweden with closer to 100,000 inhabitants, of which approximately 9,000 are municipal employees. Quite recently, the organization decided to implement a new digital agenda which is intended to better capture and reap benefits from digitalization and innovation, a project which is to be implemented between 2019 and 2022. Prior to this project, they have entered a collaboration with the SCDI which has assisted the organization to measure their digital maturity and provided them with insights regarding how they can put stronger emphasis upon exploration. This project was active during six months from August 2018 to February 2019. During this project, however, they did not take any balance between exploitation and exploration into account in their digital maturity model. Accordingly, they have identified the need of a rebalance of their activities to better facilitate innovation and saturate needs from firms and citizens alike (Sundsvall, 2018c), from which we specifically aimed our focal point. More specifically upon their planned IT Governance structure to analyse how they are planning to leverage it to enact an ambidextrous balance between exploitation and exploration. To our aid, we used the digital maturity model they had previously used and were presumably somewhat familiar with and have partly translated into strategic principles. In comparison, introducing them to a completely new framework to measure their balance would be a more difficult task. Accordingly, we acquired their existing steering documents to establish an understanding of their current, strategic governance structures. Consequently, supplemented with the involved stakeholders' own perspective from a tactical as well as strategic standpoint. This will be further elaborated upon within the data collection section.

3.2 Data collection

3.2.1 Steering documents

In order to establish a full understanding of how Sundsvall municipality's IT Governance was currently structured, we were given access to a total of 19 internal steering documents, analysis- and action plans. The documents are all of the documents pertaining to the digital

agenda and were provided by our contact person within the organization. These documents provided a thorough picture of how decisions are made within the organization and what the overarching goal of the digital agenda is. Furthermore, these documents provided insight regarding what the organization's view upon exploration and how they wish to reap benefit from and facilitate it in the future with a more suitable Governance model through a content analysis, as explained by (Elo & Kyngäs, 2008; Elo et al. 2014; Saldaña, 2015). Finally, the documents in question made the task of identifying participants of interest for the interviews easier, as they contained information about actors and their specific area of responsibility (See table 1 for the complete list of interviewees). The data collection was, as mentioned, initiated by examining provided documents concerning the digital agenda, ranging from steering documents, consultant reports, action plans, among others, this approach is referred to as a content analysis (Elo & Kyngäs, 2008; Elo et al. 2014; Krippendorff, 1980). As suggested by Elo et al. (2014), the data collection was initiated by firstly using the research question as a guidance to which data and information we were looking for within the documents which makes the process of identifying and sifting out data of relevance to the study easier. To clarify, when examining the provided documents, we critically analyzed them and asked whether the information presented would assist us in answering the research question and/or provide relevant insights to our results/discussion (Elo et al. 2014). To elaborate, we examined the documents in pursuance of finding information regarding the current goals and vision, governance and control practices on a strategic level, e.g. people responsible for which processes, decision making and the current view upon exploitation and exploration. For the content analysis we, as also done by Uotila et al. (2009) and Luger et al. (2018), used the words associated with exploitation and exploration according to March's (1991) work as search parameters:

Exploitation: Refinement, choice, production, efficiency, selection, implementation, execution.

Exploration: Search, variation, risk taking, experimentation, play, flexibility, discovery, innovation.

These words were translated into Swedish due to the steering documents being written in said language, subsequently counted by the number of occurrences and in which context they were most common (See table 2). To ensure accurate results, Swedish words similar to the immediate English translation were also used, for example 'choice' which led to both the word 'val' and 'urval' being used in the search. This analysis was done to examine if, and if so, to which extent, there was any indication on an existing ambidextrous balance between exploitation and exploration within the organization. The purpose behind this was to, with greater ease, find potential shortcomings of current practices, later to ask the interviewees elaborate further upon these and consequently reflect upon potential suggestions for improvement. In so doing, giving her own suggestions upon how the current digital agenda could be rebalanced to better facilitate ambidexterity in the future once the digital agenda had been implemented.

3.2.2 Interviews

In addition to the steering documents, we had help from a researcher at the SCDI who assisted us in getting contact with experienced and knowledgeable personnel from the organization to interview, explained as a snowball selection by (Hennink et al. 2011; Patel & Davidson, 2011). The interview questions were semi-structured and based on the list of strategic principles from the digital maturity framework and the dynamic balance of ambidexterity, as presented by (Luger et al. 2018; Zimmermann et al. 2018). The first section of the digital maturity framework was used as it was most relevant to an ambidextrous balance, whereas part two focused more on technical debt and digital heritage. The interviews were semi-structured since the interview guide was established with a number of key-questions we wanted answered, yet with space for the interviewees to answer with their own perspectives and with enough room to allow us to ask the interviewees about their practical work with the strategic principles from a more tactical perspective. Moreover, semi-structured interviews allowed us to ask the interviewee to elaborate further upon answers which caught our interest or needed clarification, as recommended by (Hennink et al. 2011; Patel & Davidson, 2011). Furthermore, if we noticed that an interviewee had difficulties of responding to, or understanding a question, it was iterated and clarified prior to the next interview. This in order not to repeat the same mistake twice and risking the interviewee misinterpreting the question, as stressed by (Hennink et al. 2011). All of the interviews were conducted at the town hall where the interviewees had their offices apart from two which were conducted via Skype. This implied that the interviewees were interviewed in their natural habitat, which is a favourable state according to Hennink et al. (2011), namely since it makes them feel more at ease in contrast to an, for them, unfamiliar environment. Moreover, face-to-face interviews not only allowed us to have a more open and natural conversation and allowed us to take notes of identified body language, gestures and other probes during the interview to enhance our understanding of the rationale and emotions behind their statement and elaborations, as suggested by (Hennink et al. 2011; Patel & Davidson, 2011). Hennink et al. (2011) and Wengraf (2001) argue that interviewers ought to establish rapport with the interviewees prior to and during the interviews to make them feel safe and comfortable answering to posed questions. In which the interviewers explain their role, the purpose of the study and what the interviewee might gain from the study. In addition to previous, we made full use of being physically at the organization's premises during four days while conducting the interviews, greeted and made the stakeholders comfortable with our presence prior to and between interviews. Due to Swedish being the native tongue of every interviewee and interviewers, the interviews were conducted in Swedish to avoid linguistic confusion and quotes used were translated to English subsequently. Each interview lasted approximately an hour and were recorded using two smartphones in case one of their recordings would fail or have insufficient sound quality, as recommended by (Hennink et al. 2011; Patel & Davidson, 2011). As further suggested by Hennink et al. (2011), the transcription of each interview was initiated shortly after the interview was conducted. The main reason behind this is to, with greater ease, remember and take a note of hand gestures, annoyed inhales or other body language the interviewee might have used to reinforce her arguments during the interview. This assists in

enhancing the interviewers' understanding of interviewees' statements, which are difficult to identify on a sound file alone (Hennink et al. 2011).

Table 1
Participating interviewees

Interviewee	Role	Area
1	Head of local government	Municipal office
2	Chairman of the municipal board	Municipal office
3	Municipal commissioner's Senior advisor	Municipal office
4	CEO	Core-business
5	CFO	Core-business
6	CIO	Core-business
7	Director of HR	Core business
8	Social director	Social services
9	Head of development - Social services	Social services
10	IT-Coordinator Social services	Social services
11	IT-strategist Education	Children and education
12	Director of IT	Digitalization and innovation
13	Head of the digitalization - action plan	Digitalization and innovation
14	IT-strategist	Digitalization and innovation
15	Process developer	Digitalization and innovation
16	Head of innovation	The idea hub
17	Innovation leader	The idea hub
18	IT-manager	IT Service centre
19	Head of development and project resources	IT Service centre

The process of data-collection was conducted until theoretical saturation was achieved, which implies that additional data were not perceived to provide new insights or would give any notable impact on the results, as suggested by (Bowen, 2008; Hennink et al. 2011). To specify, when it was deemed we had collected a sufficient amount of qualitative data from interviews and steering documents to have a deep understanding of the area of concern, we halted the data collection and initiated a preliminary analysis of the data we had gathered. As suggested by Hennink et al. (2011), ethical implications should always be considered when conducting studies with actors in order for them not to feel intimidated or uncomfortable during the study. In response to this, interview questions were developed in a manner with consideration to the small number of actors within the organization. Namely, we were very careful not phrase interview questions in a manner which forced the interviewee to openly question or criticize colleagues or superiors personally, which could lead to a tense working atmosphere in the future.

3.3 Data analysis

3.3.1 Steering documents

As suggested by Elo & Kyngäs (2008) and Elo et al. (2014), to analyse the collected data from the organization's documents, they were read through in several iterations on different occasions in order to establish a full understanding of the context of the case and phenomena, which in this case was the organization's current IT Governance. As further posited by Elo et al. (2014), this was done in a systematic and iterative manner where the data were organized based upon identified codes and sub-codes resulting in a complete codebook, which is a tool one uses when pursuing to identify recurring themes from the study to capture essence from words or sentences (Hennink et al. 2011; Saldaña, 2015). When seeking to identify codes, we used the research question as preliminary guideline, as suggested by Elo et al. (2014), since we argue that in order to fully answer how the ambidextrous governance can be enacted, we needed underlying codes which explained current, strategic governance, its goals and hence identify where and which limitations for innovation were present. In other words, we let our analytical cycle pursue essence appearing in the shape of single words or full sentences which described the overarching theme for our study (the strategic governance), as suggested by (Hennink et al. 2011; Saldaña, 2015). Once we had identified 3 codes and 14 sub-codes, we read through the documents once more to see whether we had missed anything of importance. When the last iteration had been completed, we deemed ourselves to have reached theoretical saturation, as suggested by Bowen, (2008) from the documents and had an adequate understanding of the organization strategic governance. Once the identification of codes was completed, they were analysed and translated into complete, descriptive sentences. This in order to make them more comprehensible by elaborating upon them within a context, as suggested by (Braun & Clarke, 2006; Saldaña, 2015).

To supplement the identified codes within the 19 documents, we conducted a final count analysis of the words March (1991) used to define and distinguish between exploitation and exploration respectively within each of the documents, as also done by Luger et al. (2018) and

Uotila et al. (2009). This in pursuance of identifying in which contexts these definitions are mentioned and how they are used within the organization, as suggested by (Flick, 2018; Mayring, 2000). The reason behind this was to reach a deeper understanding of their distinction between exploration and exploitation, if and how they work together to achieve desired, strategic balance within the current governance structure. The point of departure was the assumption that by examining the frequency of occurrences of each respective word within the documents, they might have given a hint of how current governance is balanced. For example, if the words related to exploitation was mentioned considerably more often than the ones associated with exploration within the documents, one could assume that current governance is more geared towards exploitation than exploration (See table 2 for the result of the word count). In order to, with greater certainty ensure accurate results from the word count from the documents, each document was reviewed two times per author. To keep track of the number of occurrences and in which contexts the words were mentioned, notes were taken in two separate excel documents. These were later compared to ensure corresponding results and were inserted into a new document (See table 2). The identified frequency of words related to exploitation and exploration respectively were later used as a guiding pillar when developing the interview questions. Based upon the differing frequencies between the two, we wanted to pose questions to interviewees on strategic as well as a tactical level to capture what their opinions and thoughts were on exploitation and exploration within the organization and if, in that case how, this might affect the balance between them. In order to interpret the collected data from the conducted interviews, a codebook was developed which served as foundation for analysing the interviewees' answers and were thence thematized in a more comprehensive manner, as suggested by (Flick, 2018; Hennink et al. 2011; Saldaña, 2015). As a primary guidance to our data-analysis we used the research question, as suggested by Flick (2018) and Hennink et al. (2011) to identify the interviewees' viewpoint on how they think an ambidextrous balance can be enacted and maintained within their IT Governance. In so doing, we identified themes which, not only elaborated upon how to reach balance but also which impediments for said balance they deemed of importance to overcome. Secondly, we made a complementary comparison with the identified themes from the content analysis in pursuance of finding conformations, supplementations or contradictions between the steering documents and the statements of the interviewees in order to provide a more elaborated understanding and discussion around the organization's IT governance (Flick, 2018).

3.3.2 Interviews

The interview analysis was conducted by systematically reading through each of the documents of transcribed interviews in a number of iterations, as suggested by (Hennink et al. 2011; Saldaña, 2015). This was done by following Hennink et al.'s (2011 p. 237) cyclical, analytical process comprising of developing codes from the gathered data, describing said codes, comparing them to identify patterns, categorizing the codes to find similar attributes, the codes were then conceptualized by visualizing and explaining quotes from the interviewees to provide an elaborated understanding and explanation behind their answers. As suggested by Hennink et al. (2011), this was done in an analytical spiral in which data and codes was continuously revisited and iterated in pursuance of identifying new insights, rather

than limiting each of the tasks to one occasion. To increase the certainty of relevance and consistency among the themes, the authors read through the transcripts individually and later compared the findings to find any overlaps or disagreements regarding the identified themes “to avoid inconsistencies and unclear code definitions”, as suggested by (Hennink et al. 2011, p. 229). As previously done with the content analysis, once a number of recurring themes had been identified, of 48 number of sub-codes with the aid of the software tool Nvivo as presented by (Bazeley & Jackson, 2013), covering the strategic level from top management’s perspective, as well as the tactical/practical level of the other division’s employees within the organization. Again, the analytical cycle of examining the transcribed interviews was conducted until saturation was reached, as suggested by (Bowen, 2008; Glaser & Strauss, 1967; Hennink et al. 2011). To specify towards the research question, where no additional codes or sub-codes were identified which would have enhanced our understanding of the existing governance, challenges or desired, ambidextrous governance within the organization. Finally, the thematized data were then analysed through the analytical lens of the framework by Zimmermann et al. (2018), being used during the analysis of the results to try to find similarities or differences from Zimmerman et al.’s (2018) own findings. The collected data were used to identify how, and by whom, ambidexterity was enacted within the organization, and how well Zimmerman et al.’s (2018) framework hold up in different contexts. Zimmerman et al.’s (2018) framework has only been applied once before, in the context of private firms, our context of a public organization differs in a number of ways and we expect to see some differences. As such our discussion will have an element of theory testing, as explained by (Modell, 2005). Using the configurational initiatives framework (Zimmermann et al. 2018), we approach the study with the assumption that the enactment of ambidexterity is conducted by managers closer to the proximity of the organization’s actual activities. To specify, that ambidexterity is not the sole task of top-management, in which the concerned decide upon organizational structures and the allocation of resources will be decided upon in detail to achieve said balance.

4 RESULTS

Within this section, the findings of the conducted case-study will be presented and thence explained using the themes identified from the data analysis of the documents and interviews. In order to maintain consistency, the result section will be presented in the same order as the data analysis within the previous method chapter. Namely, by firstly presenting the findings from the content analysis, followed by the interviews and finally how the two correlates to each other and which impact they have upon the enactment of ambidextrous balance.

4.1 The steering documents

The analysis of the documents revealed that the organization's main goals behind the digital agenda on the strategic level are to:

- Improve the quality of municipal services: deliver efficient welfare services which are individually customized and easy to use.
- Increase public image of the reliability of the public municipal services: access to service 24 hours a day, seven days a week.
- Increase the efficiency of the municipal organization: reduce costs for administrative routines while simultaneously facilitating needs from the core business.
- Strengthen the democracy: increase the possibilities of dialogue between citizens and the municipality.
- Increase the participation and independence of Sundsvall's citizens: increasing [their] influence over the design of public services and with a better possibility of using the services wherever and whenever they are.

To realize these goals, the organization has implemented a "Digitalization and Innovation" department, which is responsible for the testing and implementation of projects. Its task is also to ensure that projects are aligned with the organization's goals (see above) and delivers an adequate amount of value with an 'acceptable' risk-profile on both a strategic and tactical level (Sundsvall, 2018b). Accordingly, to control which projects and initiatives are to be accepted into the portfolio an objective prioritization is meant to consider short- as well as a long-term perspective (Sundsvall 2018d). The prioritization starts from the projects's usefulness for the end users followed by a comprehensive view of the feasibility, cost and work needed. The goal is for the portfolio to be predictable and without room for any bias. The prioritization should also be accompanied by continuous dialogue with stakeholders to facilitate transparency (Sundsvall, 2018d). Overall, the principles of the portfolio are to ensure its balance between cost efficiency and developing new, useful services for the inhabitants, to increase citizen participation and independence. Another of the practical initiatives to increase innovativeness within the organization is an idea hub which is used as a facilitator for co-creation within the municipality. The hub should be a platform where employees can share their ideas for new products of services, as well as working as a facilitator for other

departments innovative efforts. The purpose of this idea hub is also argued to help create and facilitate a learning and change positive culture (Sundsvall, 2018a). The hope is that new ideas will be generated which can improve existing services and facilitate citizens' needs. Although, it is identified that stakeholders within public organizations can show tendencies of 'change fatigue' and show an unwillingness to changes, thus the culture is expected to take some ten years to be adopted. To mitigate this issue the organization intends to be clear and transparent with their intention and intended value of the change (Sundsvall, 2018b). The intention for this change is for innovation to be pursued from both a top-down and a bottom-up perspective simultaneously, with innovative ideas are generated and shared throughout the entire organization, not limited to specific groups.

4.1.1 Content analysis

Based upon the findings from the analysis of the steering documents investigating the occurrence of words related to exploitation and exploration respectively, presented within (Table 2), it becomes visible that words associated with exploitation of existing resources is overrepresented in comparison to the ones related to exploration. The descriptive words March (1991) used to define exploitation occurred 344 times within the steering documents and words associated with exploration only occur 96 times, of which the majority were not mentioned at all. This result might imply that current governance structure puts greater emphasis upon commitments related to ensure and maintain an efficient use of resources than investing in innovative commitments. Another interesting point to make regarding the table is that while "risk taking" was never mentioned in the context of exploration, it was mentioned at a total of 26 times in the context of reducing risk or maintaining an "acceptable risk profile" within the specific portfolio and organization as a whole (Sundsvall, 2018a; Sundsvall, 2018c).

Table 2
Word occurrence from the steering documents.

Exploitation		Exploration	
Execution	198	Innovation	89
Efficiency	131	Flexibility	7
Implementation	8	Search	0
Selection	5	Variation	0
Production	2	Risk taking	0
Choice	0	Experimentation	0
Refinement	0	Play	0
		Discovery	0

When examining the context in which innovation was mentioned closer, it was frequently occurring under conditions where it was stated that innovation was to be used as a means where increasing efficiency was a priority. An example being where RPA (Robot Process Automation) was said to be used to automate cumbersome, manual work for stakeholders who are required to, i.e. gather and extract data from several different, often older systems. Within one of the steering documents, innovation is referred to in the same manner as the definition given by the governmental council of innovation, which defines innovation as: “*The ability to successfully develop and implement new processes, services and methods which result in considerable improvements to quality, efficiency and expediency*” (Sundsvall, 2018b, p. 6). According to this, one might interpret the definition as being more aligned with the definition of exploitation rather than exploration. By not having this distinction, projects argued to be explorative can in fact be exploitative which will make true exploration within the organization even more scarce. However, the internal perception of the difference between exploitation and exploration will be examined and presented later within the chapter from the interviewees’ own perspective.

4.2 The interviews

Following this section, the findings from the interviews will be presented in order to give a supplementary view upon how various active stakeholders within the digital agenda perceive and work with the strategy on a tactic level and its association to the strategic governance (See table 1 for the full list of participants). In order to maintain consistency and give a supplementary perspective on the current governance as explained by the steering documents, the chapter will be structured as follows: Current governance, with the main aspects of risk aversion and misalignments, and finally the configurational initiatives framework (Zimmermann et al. 2018) (See table 3).

4.2.1 Current governance

During the interviews with the local politicians and top management, it became visible that there was, in general a very positive view upon the future in regard to the digital agenda and increased emphasis upon innovation. They stressed that a substantial amount of money, (67 million SEK) has been invested into the municipality by the government to accelerate the speed of digitalization. However, apart from the financial support and allocation of resources, it was argued that there is a strong level of initiative, independence and autonomy within respective function and activity within the municipality.

“They own decision-making mandate within their respective area, so the director of IT, [for example] owns full decision-right mandate in [digitalization and innovation]” - Head of local government

According to previous quote, each respective activity within the municipality possess a great level of freedom in their investments with provided budget as long as they meet the municipality’s overarching mission and goals. This implies that each respective manager from activities and functions are to use the budget in a way they see fit to increase value for their

end-users, be it care-recipient, teacher/pupil or customer. Moreover, it was stressed from politicians and top-management alike that this is a preferred governance structure since each manager from respective function has the highest competence in her field.

“In my role as CEO, I try to provide good prerequisites for my associates and give clear goals. Then it’s up to the subsidiaries to achieve said goals [...] they know their area best.” - CEO

The managers know their challenges and opportunities best since they are the closest to customers and other stakeholders. Meaning, it would not be practical, nor feasible for politicians, or top-management to poke and attempt to micromanage every decision or investment made by middle-management. Instead, if they notice that budgetary goals are not achieved or there are other struggles or hindrances in achieving the municipality’s goals, they step in.

“It has been slightly governed by the politics since we have allocated the resources [into digitalization] but we haven’t poked in every [activity’s] projects, I don’t think we should either” - Chairman of the municipal board.

In addition to previous statement, another strategy within the organization is the Digitalization and innovation department and the “Idea hub”. The purpose of the idea hub is to create an arena where employees can go if they have an idea or a solution to an identified problem they would like to see implemented. Digitalization and innovation acts is the next step by performing organization wide tests and evaluations of the ideas arriving from the Idea hub but also supports other departments with their knowledge about the available technology on the market that might help solve their problems.

“Here [in the idea hub], it is free, you can challenge any laws and rules you want to. [...] we create a sanctuary.” - Head of the idea hub.

Apart from the idea hub, digitalization and innovation want to work as an internal, helping hand to other activities and functions within the organization. One of their commitments being to actively help other stakeholders with the implementation of new technologies they, themselves might not have the right competence to do. However, it is stressed that they want to make this a learning activity so that they can become more independent in the future, rather than merely solving a task and then departure.

“[...] It’s not about doing things for them but to be a comfortable partner to lean onto, support them to get going so that they can fulfil future tasks more independently.” - IT-strategist.

In addition to the idea hub, there is also a collaboration between other departments and external actors, in this case, primarily other municipalities throughout the country. There is a continuous dialogue regarding which new technologies or ideas they are testing, the results are then shared to reduce the amount of redundant work being done. The hope is that a close

relationship could assist both parties to get more out of their experimentation and investments, and to learn from each other's experiences. Moreover, this collaboration with internal, as well as external actors facilitate experimenting with new ideas to counter the demographic challenges of an older population and shortage of employees within, primarily care. Accordingly, given that the demographic challenges will not be solved by cost-reductions alone, which might give enough resources to hire more employees, there has been a more positive attitude to experiment with new technologies to counter these challenges.

“That's one of the best things of working in a municipality, there's a big generosity with ideas. You give, you take and evaluate, so there's a lot of sharing [between municipalities].” -
Social director.

The findings from the analysis also resulted in a number of themes which points to a heavily efficiency-oriented organization. There has, traditionally, been a strong drift towards exploitation within the organization, mainly using existing and new IT components to increase efficiency.

“[...] if you look back in time and look upon organizations from a broader perspective, IT has been a means to increase efficiency, that's how it emerged.” - IT-strategist.

Furthermore, there is a significantly negative view upon innovation within some parts of the organization where innovation is not very favourable at all. It was argued that explorative commitments are only to be pursued when one can assure that it will significantly increase efficiency within the organization. It is stressed that new solutions and/or technologies brought into the organization should have a clearly visible, positive impact upon existing services. For example, by improving their quality or decreasing the time required to fulfill. Hence leading to most projects ending up being incrementally refining existing processes.

“The municipality should be more resource efficient for our stakeholders, innovative behaviour or whatever it is.. if it contributes [to efficiency] - fine, or else we don't need innovation.” - Municipal commissioner's senior advisor.

The reason behind why only innovations that increase efficiency are pursued was explained as budgetary constraints, which vastly limits the amount of resources available for exploratory commitments. Due to these budgetary constraints, projects leading to less resources being consumed, more cost-effective, become more and more prioritized. Contrary to this, the view on the digitalization project is also that the digitalization should be viewed as a catalyst for innovation while simultaneously providing the organization with a supporting infrastructure; Demonstrating the view of also requiring a balance between efficiency and innovation. It is argued that the strong preference towards exploitation within the organization is a considerable roadblock to have a desired balance between the two.

“[...] the challenge we have if we, for real, are going to be able to make a balance between efficiency and innovation” - Director of IT.

Apart from budgetary constraints acting as a hindrance for explorative commitments, the analysis of the data gathered from steering documents and interviews revealed that there was a strong aversion to risk within the current governance. Different types of risks identified by the interviewees are presented and elaborated upon below based on the general themes of Risk aversion and Misalignment.

Risk Aversion

Risk was mentioned 26 times within the steering-documents, yet only within the context of reducing risk rather than taking risk to facilitate exploration. This aversion to risk is deeply rooted within the organization, as seen in the previous chapter where both innovation and efficiency should be balanced, as long as both contribute to efficiency. The risk aversion appears in many forms throughout the organization. A prominent theme identified from the majority of the interviewees was that it is very difficult to get acceptance and financial support to explore new technologies from top-management within the organization. Furthermore, commitments related to the exploration of new ways of working, or other projects where value for the end-user is difficult to anticipate or measure are often difficult to initiate due to the perceived risk of losing the invested resources, or not gaining enough value from the projects. To combat this problem, they have regulated that all project has to have an business case made for it, with ROI calculation, to simplify the process of prioritizing what projects to focus on. When asking the director of IT how the risk acceptance is viewed upon within the organization, he stresses that:

“When we measure in house [risk taking], I wouldn’t say we are very brave and would give ourselves a low grade [...] there is a cautiousness and a fear of making mistakes.” - Director of IT.

In relation to previous section, which highlights risk, primarily in relation to financial uncertainty in investments, another identified risk was argued to be endangering the very health and well-being of stakeholders, primarily within the elder-, and other, care activities within the municipality. Taking too great of a risk when exploring new opportunities in ways of working, might imply a risk that quality will drop which might endanger the involved stakeholders’ well-being. Accordingly, there is a strong fear of making mistakes which might negatively impact concerned stakeholders. The consequences of risk taking are not always serious as the death of a person within the elderly care, but taking a risk and wasting money for no value will lead to less money and care goes to those who need it the most. This has leads to a reduced willingness to take risks, even in hopes the hope of improving in the future. Continuous reductions to costs and just keeping the lights on is the most pressing matter for some divisions within the organization.

“Personally, I haven’t looked much into innovation. My task as an IT manager is to keep the lights on.” - IT-manager.

Because the stakes are so high, and a lot of people will be affected by any mistake, and it being a public organization, meaning that all activities are open to the public, the media is likely to write about any mistakes or failures in the news, giving the municipality negative publicity.

“It is a matter of life and death, it’s humans’ wellbeing. If you do any wrong you will be hung out dry in media or such. [...] we rather back off a few steps to the opportunities we’ve got rather than challenging the destiny. - Head of the idea hub.

Another risk as described above is a considerable lack of competence and knowledge, regarding digitalization and innovation within the organization. This has led to further aversion of risk from both managers and employees alike. This aversion to risk goes all the way up to the managers in the form of a fear of losing control. Managers, partially due to a lack of knowledge, are not a hundred percent sure of what to do, or what the correct choices are. They are afraid of making mistakes with taxpayers’ money and are not confident enough to let go of some of the control to allow their employees to make their own decisions about what to work on, one interviewee explains:

“The obstacles one can encounter is that you can face managers which do not dare to let these idea carriers do their thing, it would mean that they are not in control anymore...” - Director of IT.

Misalignments

During the analysis of the interviews it became evident that there was a certain degree of misalignment between some of the departments and their involved actors. Several managers had different goals and aspirations for the organization in the future. Some were very hopeful for the future and hope that the organization can become a modern, innovative, agile organization. Others, however, do not wish for any major changes, just small incremental improvements to efficiency and “keeping the lights on”. This problem is further exacerbated by departments being further ahead in their digitalization process than others. Top-managers do not want to loosen their control over the organization, as mentioned above, and want all departments to work together on the same thing at the same time. This has led to some friction where one department has to wait and “twiddle their thumbs” while the other departments catch up or start working on other, new, projects by themselves.

“Say that about half have adopted this [BI system], those who already have adopted it then start to work on further projects. So, what we have to do is create a common organization, so we can make use of what the others have already done.” - CIO.

While some divisions embrace and implement technologies at a faster pace than others, rather than facilitating that everyone could connect themselves at the same time, the gap between more and less digitally mature divisions increase. Consequently, it becomes more difficult for less mature divisions to reap benefit from systems and technologies since the more mature ones might want to keep on accelerating forward rather than helping them establish a full understanding of said system, leading to misalignment. A lot of focus, from some managers, is being put on an effort to standardize requirements and the data across all departments, in the hopes of being able to reuse systems and work being done in other departments. One manager suggested a common data platform where the data is standardized across all departments but the individual systems the departments use is up to them.

“Up here you use Rain Dance but they transfer the data to a database. If you oversee these [data] so they are the same, that you compare apples with apples, then everyone can have different systems, as long as it still is apples with apples. As long as you use this [standardization] you know it is going to work.” - CIO.

At times, it could also be unclear who has the responsibility to pay for certain expenses during collaborations between departments. With the huge pressure from top management to cut costs and save every penny, these issues are difficult to handle. Even if the matter concerns a system everybody could benefit from and would imply a minimum shared cost, it is difficult to get stakeholders on board. Even small things such as installing wi-fi within an elder care home could pose challenges.

“We wanted to do an experiment but realized that there was no internet in the [elder care] home, so we tried to fix that. We wanted to equip the house with wi-fi but weren’t allowed to do it... I can't quite put my finger on why. There are many variants and answers to that question. Everything from procurement, to whose budget, who should be responsible for operating it, how to set it up, you name it. It was a bunch of questions. It was like... its more important to do something right than doing the right thing.” - Head of innovation - the idea hub

In order to spread the word about the digital agenda and make it clear to all of the approximately 8000 internal stakeholders, what it entails and how it will affect them and their respective working tasks. A great deal of effort has been put into communication from the municipal office to make the digital agenda a graspable concept to everyone:

“We talk about developing Sundsvall municipality [...], we refer to it as carrying innovation, organizational development with digital signatures” - Head of local government.

Another interviewee stated that in order to increase the internal understanding of Digitalization and innovation’s role in the implementation of the digital agenda, they often refer to it as organizational development rather than a digitalization project. The reason behind this is that there has been instances of misconceptions of what digitalization means,

i.e. that it leads to automated processes which in turn might make people lose their jobs. Consequently, this fear has led to employees sometimes lack initiative for new projects and ideas due to lack of understanding regarding how new technologies will affect them. Hence, organizational development is a definition easier for them to grasp.

“We have worked a lot to erase this IT-label, this is organizational development that will require IT” - Process developer.

In addition to previous quote there has been a strong focus upon being very transparent regarding how digitalization and innovation can benefit employees and citizens alike within the municipality to reduce fear and change aversion. However, in some cases this has led to exploration (innovation) has incorrectly been explained as a means to increase efficiency, i.e. exploiting existing resources to reduce time and cost required to fulfil existing tasks.

“It [innovation] is there to foster efficiency. Humans are lazy and come up with things in a more efficient manner. The one part is made for the other - innovation brings life to efficiency” - CIO.

A quite different perspective upon the alignment and communication of goals and vision within the organization was posed by one of the interviewees:

“It feels like there is a lot of information flowing, both vertically and horizontally. [...] The solutions is not to just communicate more, maybe we need to communicate a bit less with each other but increase the quality of how we communicate.” - Head of development and project resources.

Accordingly, there is a risk of focusing too much upon communication between different divisions and stakeholders in a quantity over quality manner. He suggests that this poses a risk to the quality of the information one is receiving and that too much information from various channels will lead to misinterpretations and a lot of precious time will be taken up with just reading through unnecessary information. Thus, building vastly differing perceptions of projects and matters which will limit, rather than enhance the mutual understanding of challenges and solutions. This view is in contrast to many other interviewees who would like to see a lot more communication between departments in hope of this improving collaboration and coordination.

“You can't communicate too little [...] It is a constant repetition needed just to get people to put their mugs in the dishwasher, not to talk about changing their way of working or routines.” - Municipal commissioner's senior advisor.

Another misalignment noticed during the interviews was a lack of follow up posterior to projects are completed. The organization's stakeholders aim to increase their capabilities, they want to become a learning organization, but they have a very limited follow-up of projects to

see in retrospective which aspects worked well and where there is room for improvements in the future. This implies that they do not learn from their past mistakes or successes to the same extent, or what parts of the projects that went well or not.

“I think it has been one of our challenges. [...] When the project was launched we thought “Ok, now we close the project”. [...] It is quite usual to think “Now we are done.” - Director of IT.

From another perspective, the CFO argues that when one initiates a budget, it would be beneficial to in a more frequent manner follow up on projects and their cost to ensure progress while active. In contrast to only looking at it once the year is over. Thus, one could more swiftly adapt the remaining budget as prerequisites change during the year and hence decrease the risk of rampant costs.

“Once the year is over, you can’t do very much about the economy of the previous year. If you get earlier indications when something is about to go wrong you can approach these challenges much earlier on.” - CFO.

Safety and information security is also an area where opinions differ a lot of how to handle the situation. On the one hand we have who sees the dangers of having lacking security.

“We are very closed off in the frame of all IT-security. We deliver IT to 8000 employees and can’t experiment with innovative solutions just because it is a cool gadget. It can have an enormous effect on other departments. We have to work slowly and methodical not to break anything or create interruptions” - Head of development and process project resources.

Having elaborated upon the current IT Governance structures within the organization, which proved to be predominantly geared towards increasing efficiency and reducing risk, this section will present the interviewees’ perspective upon how one could increase internal innovativeness. By doing so, better facilitate a balance between exploitation and exploration within the digital agenda.

4.2.2 The configurational initiatives framework

Following this section, the findings from the results will be presented using the configurational initiatives framework (Zimmermann et al. 2018) comprising of configurational initiatives to achieve and manage ambidexterity.

Table 3

Configurational initiatives (Zimmermann et al. 2018).

Configurational Matching	Internal Culture Focus	A researcher made it very clear that efficiency and innovation are in fact antipoles to each other, I don't think everyone is aware of this. Something we have do more is to describe how efficiency relates to innovation. (Director of IT)
		You can't communicate too little. It is a constant repetition needed just to get people to put their mugs in the dishwasher, not to talk about changing their way of working or routines. (Municipal commissioner's senior advisor)
		If you fall we are there to catch you. We want to push them closer to the edge [to dare to experiment]. (Head of the digitalization - action plan)
		Create a level of safety, that you're included in the development process [...] one has to feel and try out in order to see it [technological change] is nothing scary. That's how we win one person at a time, it creates confidence. (Head of innovation - the idea hub)
		I think top-management are required to have this enthusiasm and dare to test and potentially fail [when trying new things]. (Head of social services)
	External Culture Focus	One thing I think has contributed in later years is that we have an agreement with a nearby university, we share experiences [...] we need a continued collaboration with academia. (Head of the digitalization - action plan)
		We want to be at the very end of the capillaries, in the far end of the home care staff and those who work with the elderly, because that's where things [of value] happen for the citizens. (Head of the digitalization - action plan)
		That's one of the best things of working in a municipality, there's a big generosity with ideas. You give, you take and evaluate, so there's a lot of sharing [between municipalities]. (Social director)
		We could integrate [our systems] with customers and suppliers to create a more efficient chain. (CIO)
	Matching Structural Integration	We have good support from the Digitalization and innovation division. They are very knowledgeable and support us a lot. (IT-strategist Education)
Configurational Contrasting	Goal Autonomy	We have allocated the resources [into digitalization] but we haven't poked in every [activity's] projects, I don't think we should either. (Chairman of the municipal board)

		<p>The head of local government says that we need to become better at collaborate with the various functions, it's important. If you are active within the functions you steer towards, your goals lead to a result, it has to match [with municipal goals] (Director of IT)</p>	
		<p>We have an overarching goal, [...] we don't have the resources needed to, in micromanage every activity or function, neither do we wish to do so. (CEO)</p>	
		<p>Then you have a digitalization strategy with our goal. If me and my manager say that it's within our frame, we do it! (Social director)</p>	
	Output Control	<p>Then of course, we want a ROI on the SEK 67 million invested the politicians have given to us, it would be bad if we could only deliver a 50% effect. (Head of the digitalization - action plan)</p>	
	Supervision autonomy	<p>I hope they feel that I support them, I rarely create something by myself, so I really do hope they feel that I support them [employees] to a hundred percent. (Director of IT)</p>	
		<p>As CEO, I try to provide good prerequisites for my associates and give clear goals. Then it's up to the subsidiaries to achieve said goals [...] they know their area best. (CEO)</p>	
		<p>In top-management within the municipality is there as great understanding that this is something we have to invest in. [...] they have created the prerequisites to actually pull this one through. (IT-strategist)</p>	
		<p>They own the decision-making mandate within their respective area, so the director of IT, [for example] owns full decision-right mandate within [digitalization and innovation.] (Head of local government)</p>	
	Configurational Exposure	Socialization practices	<p>It [Communication] does not only concern managers but carriers throughout the organization as well, our operations planning builds upon every employee being involved. (Head of local government)</p>
			<p>I think it's brilliant that the name was erased, it isn't the IT-division or the strategists anymore, it's the associates from Digitalization and innovation. (Head of the digitalization - action plan)</p>
<p>It's not about doing things for them but to be a comfortable partner to lean onto, support them to get going so that they can fulfil future tasks more independently.</p>			

		(IT-strategist)
		Here [in the idea hub], it is free, you can challenge any laws and rules you want to. [...] we create a sanctuary. (Head of innovation - the idea hub)
		We at IT service centre want a more central role in the development of new services and become more included from the start [in projects initiated by other functions and activities within the organization]. (IT-manager IT service centre)
		[To foster innovation and understanding for digitalization], I think we need to have educational programs for managers. I think some of them are a bit lost in this. (Innovation leader - idea hub)
		There has to be conversations, we cannot send papers, we need to follow up, dare to test and believe in each other. (Head of the digitalization - action plan)
	Coordination practices	We [social services] have a close collaboration with digitalization and innovation which is very important to us. They have both supported us and can supplement with knowledge and competence. (IT coordinator social services)
		If we can automate three-four people turning papers, we could move them to cover more crucial tasks. However, we as an organization need to take the responsibility to competence exchange. (Chairman of the municipal board)
	System practices	It has been a huge success factor that we have had workshops with Digitalization and Innovation. [...] They present digital solutions that might be of help to us in our work. (IT-strategist Education)

The table above contains a selection of quotes visualizing which configurational initiatives from Zimmerman et al.'s (2018) framework has been identified in the municipality. Following the table, it becomes visible that many of the ambidextrous enactments are the results from the relatively high level of autonomy of middle-managers and a lack of direct interference from top-management and politicians in configurational matching. For example, while the politicians and top management set the overarching goals and vision for the municipality as a whole, it is up to each respective function within the municipality to ensure that the goals are fulfilled with their respective stakeholders' needs in centre. From the internal perspective, one can see both a configurational matching that, among other things, aims to encourage organizational learning, and a configurational contrasting by circumnavigating the official structure in order to better achieve their goals. For example, the

Digitalization and innovation department has changed its name from being the “IT-division” to more accurately mirror its new function and value; Namely working as a helping hand for the rest of the organization and working to increase the understanding of the changes the digital agenda will entail. Moreover, one can see that a lot of effort is also being put into pursuing exploration externally within the municipality with businesses, universities and citizens. For example, collaborations with other municipalities create exposure to new ideas and learning opportunities from each other. This has allowed the individual municipalities to avoid doing the same work another municipality has already tried out and allows them to learn from shared knowledge and experiences.

5 DISCUSSION

Within this section, the findings from our results will be presented. In their study, Zimmermann et al. (2018) found that the enactment of the ambidextrous balance in private organization, during the implementation phase of the governance structure, is done by both employees from the senior- and frontline management. Our discussion will use Zimmermann et al.'s (2018) work as the foundation for interpreting our results and answering our research question. We will divide the discussion chapter into two main sections, firstly, three paradoxical tensions found in the enactment of ambidexterity in our studied case, are discussed from the perspective of the Zimmerman's (2018) framework; Thenceforth, we present a more holistic discussion around the framework with what similarities or differences we found.

How is ambidexterity enacted in the implementation of a digitalization project in the public sector?

Our findings reveal that the municipality's ambidextrous governance is enacted very similarly to as explained by (Zimmermann et al. 2018). More specifically, the municipality enacts the balance within the digital agenda by having middle-management from various divisions following the overarching vision and goals set by top-management and the municipal politics, explained as supervision and goal autonomy (Van den Bosch et al. 1999) which are explained as a component of configurational contrasting by (Zimmermann et al. 2018). However, regarding the actual enactment of balance between exploitation and exploration, we found indications pointing to it being the middle-management as well as frontline managers that are the key actors in the day of day enactment of ambidexterity. This goes contrary to top-management being key actors within an ambidextrous governance model as argued by several researchers (Birkinshaw et al. 2016; Lubatkin et al. 2006; Raisch et al. 2009; Tushman & O'Reilly, 1996). Albeit, we do not exclude top-management role in the enactment. They set the overarching goal of the organization, and without some level acceptance or structural changes lower management level might not have the freedom to pursue ambidexterity. However, despite top management trying to increase innovation paradoxical tensions appeared in their governance, which has led to middle management contrasting the organizational structures. These paradoxical tensions will be elaborated upon below.

5.1 Control

As mentioned in previous section, politicians from the municipal office, and top management did not play a direct active role in attempting to balance exploitation and exploration within the organization. It was explained that this was the case because top management do not have the competence or resources to feasibly micromanage the divisions and functions, suggesting a certain level of autonomy where employees have a more personal responsibility in their tasks (Wiener et al. 2016). Hence, decisional power lies with middle management who have

greater insight in the department's daily activities and are more aware of its needs and problems, and can thus make better prioritizations. Given, of course, that their prioritizing and goals are aligned with the municipality's overarching goals and vision set by top management (Zimmermann et al. 2018). Based on this, there is still a certain degree of output control in the enactment where top-management want transparency, visible results and added value, as explained by (Wiener et al. 2016). For example, pursuing ambidexterity became a task for middle managers to create a stronger desire in their divisions to explore new technologies and opportunities to create value from a bottom-up perspective. In relation to this, a prominent paradoxical tension of autonomy and output control was identified. Despite providing a great deal of autonomy top-management, and the municipal office, still expects to see some an indication of expected value from initiated projects. More specifically, they expect to see projects contributing value by, most commonly, requiring a monetary ROI business case, which is one of the most common metrics used when estimating value (Nwankpa & Datta, 2017; Silvius, 2006). According to Luger et al. (2018) a reason behind this past 'drift' towards exploitation at the expense of exploration might be due to perceiving the environment in past decades being characterized by small incremental changes. However, as the smart society and the fourth industrial revolution arise new technology will pose faster impacts and radical changes to society. Existing governance structures, especially within the public sector prone to cumbersome bureaucracies (Bason, 2018), are inadequate and lack the ability to dynamically adapt to the emerging needs from the discontinuous changes occurring (Birkinshaw et al. 2016; Gregory et al. 2018; Luger et al. 2018; Schwab, 2017). As such, it is still deeply rooted within the organization to focus on cost decreasing projects, exploiting existing assets for incremental improvement. Where exploration and exploitation "always compete for scarce resources" (March, 1991 p. 71) this traditional mindset of efficiency focus might have created a bias towards cost reductions where top-management, despite allowing high-levels of autonomy and having the goal of increased innovation, still control which projects get implemented through an output control.

A reason for this control might be top managers having legislative requirements for wanting increased efficiency, and middle managers, being further away from the legislative level of the governance, do not feel this pressure from legislation as acutely. In any case, the situation has led to employees and managers only having two options for implementing explorative projects. The first option is to show the value of the project, this is most often done with numbers and expected return on investment (March, 1991; Silvius, 2006). The second option is to implement projects without the direct consent of top-management, also known as shadow innovation (Gregory et al. 2018; Magnusson et al. 2019). The same situation was also identified in their study conducted at the Swedish Tax Authority by Magnusson et al. (2019), whereas the organization's explorative capabilities was largely a combination of internal autonomy and shadow innovation.

The paradox of having both a centralized and decentralized governance has previously also been identified by previous research (Luger et al. 2018; March, 1991; Smith & Lewis, 2011). For example, the middle managers in our case works a lot with trying to increase the understanding of top managers, and other less innovative middle managers, towards

innovation and its related requirements. One interviewee brought up presenting success stories of exploratory initiatives as a way of highlighting the potential value of innovation, which is explained by Smith and Lewis (2011) as increasing the acceptance of innovation in the organization.

5.2 Risk

Another identified paradoxical tension is the attempt to balance an innovative culture, while simultaneously reducing risk-taking. As seen in the section above, a prominent challenge for innovation within the organization is the requirement of proving ROI of any new idea. Innovation inherently requires risk taking and uncertainty, both of which are negatively impact efficiency (Gregory et al. 2018; Thirey & Matthey, 2005; Weill & Ross, 2004; Xue et al. 2012). Hence, in a case where new ideas are required to have a positive expected ROI you would expect to see almost exclusively efficiency increasing projects (Silvius, 2006). Projects are often compared to previous projects when trying to guesstimate its ROI. Thus, in situations where most projects are exploitative in nature, one is consequently measuring new projects on its efficiency increase (Gregory et al. 2015; March, 1991; Silvius, 2006). This is also the case within the examined case. Thus, while top management want to increase the organization's innovativeness, it is simultaneously making it harder to get exploratory projects approved due to the bureaucracy. Any idea carrier that still feels passionately about their idea might simply prefer to implement the idea anyway, in the shadows, outside the official structure, hence bypassing the formal control modes and output control, as shown by (Wiener et al. 2016). Previous instance is an example of internal cultural focus (Cameron & Quinn, 2011) which is a component of configurational matching (Zimmermann et al. 2018). This risk aversion can partially be explained by the legally required transparency of budget, activities, and successes and failures of the municipality to the public. This has led to a fear of failing, and getting hung out in the media, which might lead to reduced support for the current political party, as has also been previously identified by Borins (2002) and Vries et al. (2016). This has created an additional challenge for public organization when trying to enable and encourage experimentation and testing, both of which often lead to failures, as seen in the name of trial and error (Campbell et al. 2010; Koryak et al. 2018; March, 1991). Consequently, this has leads to prioritizing short-term IT efficiency goals at the expense of long-term explorative commitments (Andriopoulos & Lewis, 2010; Gregory et al. 2015). As such, it becomes visible that, despite efforts to increase the level of exploration within the organization, traditional governance and the success trap of identifying more immediate value from exploitation, has at times, hampered the innovative capabilities through certain path-dependencies (Shapiro & Varian, 1998; Sydow, Schreyögg & Koch 2009; Teece, 2007). The paradoxical tension identified here is the attempt to actively reduce risk while simultaneously encouraging risk taking among employees in order to foster an innovative culture and long-term value creation (Gregory et al. 2015; March, 1991). The basis for the ambidextrous paradox, as previously seen in research by e.g. (Ahuja & Lampert, 2001; Gregory et al. 2015; March, 1991) is the pursuit of innovation and efficiency at the same time. This paradox can take many forms and in this case, it is in the form of contradictory goals set by management. This is also very similar to individual ambidexterity as explained by Good

and Michel (2013) in that the ambidextrous balance between the contradictory goals from management is decided upon by each person individually. This is more relevant for the middle managers who have some influence over other employees, and can influence the balance of a whole department. This would further mean that it would fall to frontline and middle managers to also sense, seize and respond, which Birkinshaw et al. (2016) explains as an activity mostly performed by top management in the enactment of ambidexterity.

5.3 Communication

The last paradoxical tension found is the disparity in language used throughout the organization when talking about the digital agenda. Top management set a joint vision that should be enacted through the steering documents, but managers talk about the change in a different way, leading to a clash. This could be explained as a simple misalignment, but the problems go deeper than that.

The first problem is that the digital agenda is, in the steering documents, explained as a project which is to be conducted from 2019 until 2022, meaning that it will be ‘completed’ in said years. However, when asking interviewees whether the digital agenda is something that should be ‘completed’ the predominant answer was that digitalization is not something that can ever really be completed. Instead, the digital agenda is seen more as a first step, an establishing of foundations, to later continue with the digitalization and use technologies to capture value in the future as new technologies emerge. As such, the steering documents give a different picture of the digital agenda than the way managers have interpreted it, leading to a paradoxical vision which creates tension between a long and short-term strategy, as explained by (Andriopoulos & Lewis, 2010). Consequently, this entails the risk of employees thinking the project and changes will be over once the project is done, leading to stagnation once the implementation is completed. This risk is highlighted by Kotter (1995) where failure to institutionalize the explorative culture will lead to it being soon forgotten and the organization consequently drifts back into old habits.

In addition to the previous problem, the organization often avoided talking openly about the digitalization project in terms of a digitalization project. The reasoning for this was, due to previous failed digitalization projects, the words digitalization and innovation are associated with uncertainty, stress and unwanted change in the minds of the employees. As a response to this, with behaviour explained as increasing acceptance as explained by Smith & Lewis (2011), top and middle-management explained the digital agenda as organizational development with elements of digitalization; Choosing rather to refer to it as “business-” or “organizational development”. While this might reduce the resistance to the changes from employees it also runs the risk of missing the goal of the digital agenda. As seen in the previous paradoxical tension, employees and middle managers are all part of the enactment of ambidexterity since their tasks since they “*produce structures, constraints and opportunities which were not there before*” as explained by Weick (1988). For example, the structure of digitalization and innovation department has facilitated in giving IT a more central and accepted role within the organization which assists surrounding departments with, e.g. implementing new technology. Another example is the constraint of the infrastructural part of IT not always being contacted in the start-up phase of projects. Rather, they are contacted

when the project is done and their help is needed to implement it. Consequently, this excludes the possibility of IT giving valuable input regarding potential shortcomings early on in the project and can provide feedback only when it is ready for deployment. Talking about the goal as business development instead of digitalization means that the target of the project is different for the employees than it is for the managers. The same risk is also explained by Spaho (2013), explaining it as over-compromising with terminology, where the final solution is often a compromise of the different views of the projects. What is precarious in this situation is that previous business development projects in the municipality have, for the last 50 years been mainly exploitative, efficiency increasing projects. Add to the fact that a several managers interviewed explained or referred to innovation as a means to increase efficiency, and a dangerous pattern is set. Consequently, this might entail the risk of the two being used as synonyms, where internal exploitation might incorrectly be regarded as exploration. Which would mean the organization is back to the efficiency creep as explained by Magnusson et al. (2019). Previous research also agrees that making a truly ambidextrous governance strategy becomes very difficult due to an inherited drift towards increasing efficiency within organizations' IT Governance (Gregory et al. 2018; Magnusson et al. 2017; 2019; Leclercq-Vandelannoitte & Betin, 2018; Weill & Ross, 2005; Xue et al. 2012). Consequently, this might imply the risk of organizations believing themselves to be very innovative based on their annual R&D spending or the number of projects initiated, whereas they in fact, spend the vast majority of these investments into incremental innovation (exploitation) to improve quality and efficiency rather than exploration (radical innovation).

The three paradoxical tensions shows some issues the managers at the municipality encounter when enacting Weick, (1988) ambidexterity, trying to match and contrast the structures in place to achieve an appropriate balance. We see opportunities being given to the departments to govern themselves in a limited fashion, to be able to adapt an ambidextrous balance appropriate for their specific balance. We also see examples of autonomous activities experimenting with new technologies while the existing structures and bureaucracy makes it more difficult. Finally, we see constraints being put on the language used when trying not to scare the employees.

5.4 The configurational initiatives framework

Having elaborated upon the most prominent paradoxes and contrasts within the enactment of the ambidextrous governance model, a more holistic discussion around the configurational initiatives framework (Zimmermann et al. 2018) will be presented below.

We found data supporting Zimmerman et al.'s (2018) claim of the importance of frontline-managers in the enactment of ambidexterity, as seen in this quote: "There is no better way to kill an idea than asking a stressed manager." But rather than it being solely frontline- and top managers, we found an interplay of top, middle and frontline-management, with associated employees within the organization, meaning the entire organization, playing a part in the enactment of ambidexterity. That being said, we cannot draw any conclusions regarding who in the organization plays the biggest role in the enactment of ambidexterity.

While our findings imply that middle-management plays a more active role in the enactment of ambidexterity within the organization than top-management, we still see that their support is an important factor for the success of the enactment. This finding is aligned with Weick (1988) who stresses that enactment is shaped by the actions of involved people, which, in this case are active throughout the organization and not limited to isolated groups. Without the politician's and top-management's initiative to allocate the resources specifically to invest in digitalization and innovation (67 million SEK), there would be significantly less, or no money in their budget to do anything other than incremental, exploitative improvements (Bason, 2018; Borins, 2002; Campbell et al. 2010; Vries et al. 2016). Top management and the politicians also decide upon the overarching goal and vision, to ensure everyone works towards the same goal, and encourage affected stakeholders' commitment to follow said strategy path to increase the well-being of the municipality's citizens and business firms, explained as setting a joint vision by Zimmermann et al. (2018 p. 752). However, ensuring that the joint vision is fully understood by everyone, and ensuring everyone is actively working towards the same goal, falls to middle- and frontline managers. It becomes an especially relevant problem when pursuing ambidexterity in a dynamic environment and continuous changes needs to be conducted to the balance. In our study, we found that some interviewees did not think that the same person ought to work with exploitative and explorative commitments simultaneously, these should rather be split between different people. In their work, Zimmerman et al. (2018) highlight the need to investigate the communication between frontline- and top management. As seen in previous chapter, paradoxical communications, our findings reveal that middle managers play a large part in the dissemination of information in the organization, which leads to some potential problems if one is not careful. It becomes a whispering game where top managers talk about their set goals and every line of managers change the wording so as not to frighten their employees regarding the changes being made. These changes might be due to a lack of knowledge in management that many interviewees pointed out. Zimmerman and colleagues also found that limited experience or knowledge about the situation make it difficult for managers to set relevant goals. "[...] limited experience with hardware sales and direct distribution made it very difficult for the group's market zone managers to effectively set goals and monitor activities." (Zimmermann et al. 2018, p. 758).

A finding regarding the difference between public and private organizations is that the public organization put a lot of emphasis on external collaborations with other external actors, namely other municipalities to extend their internal base of knowledge and competency. This is an opportunity that private organization might not have in the same way. Collaborations still happen, platform thinking, and open innovation is a strategy path private firms could take to benefit from each other in an ecosystem (Svahn et al. 2017; Zhu & Furr, 2016) but the public organizations have the common goal of improving the services they can provide their citizens. As such, they are continuously working towards establishing new structures within and towards other municipalities, which is a central part of enactment as explained by (Weick, 1988) Moreover, they lack the barrier of competing over profits that can become a hindrance for private organizations. This dynamic of collaboration might lead to interesting aspects of

the pursuit of ambidexterity for public organizations, that could be relevant to consider for Zimmerman et al.'s (2018) framework in the future.

6 Implications for practice

This study has paved way for how organizations within the public sector can enact an ambidextrous governance model, using the configurational initiatives framework (Zimmermann et al. 2018) as a lens. Our study has increased the knowledge regarding said framework with some paradoxes that appear in the governance of public organizations. By considering these paradoxes when designing IT governance, managers may become more aware of the effect of their governance. We also highlight some perhaps less obvious aspects of the enactment of ambidexterity, such as the importance of communication and the need to take risks when exploring the unknown. Policy-makers could also gain an increased understanding of what is required to achieve the desired ambidexterity.

Another important implication for practice is that neither top, middle or front-line managers hold complete responsible for the enactment of ambidexterity and the sensing of new opportunities. We suggest organizations encourage the sensing of new opportunities throughout the entire organization. This would also mean an increased importance of the innovative culture for the dynamic balancing of ambidexterity.

Finally, we suggest that organizations ought to consider the degree of autonomy afforded to managers, and if this autonomy is actually able to deliver value or if the official structure of control make it impossible.

7 Implications for theory

There are three main implications for theory stemming from our conducted study. First, is a theory testing of the configurational initiative framework by Zimmermann et al. (2018). It is our recommendation to consider adding middle managers' role in the enactment of ambidexterity to the framework, since we have found that there are additional stakeholders involved within the enactment of ambidexterity than solely top and frontline-managers as argued by (Birkinshaw et al. 2016; Zimmermann et al. 2018).

Secondly, we have results contradicting previous research of the enactment of ambidexterity. Our findings point toward that neither top, middle or front-line managers holding complete responsible for the enactment of ambidexterity. Increased emphasis should therefore be put on the importance of the innovative culture for the dynamic balancing of ambidexterity.

Thirdly, we have deepened the understanding of the governance within the public sector, which is an area of research solely in need of additional attention, as stressed by (Campbell et al. 2010; Magnusson et al. 2017; 2019).

8 Implications for future research

Our study has given rise to a multitude of questions and avenues of further research. Below we will present some chosen topics, and give some concrete references to consider the question from different perspectives.

First, as identified in our work, as well as in a considerable amount of previous research (Koryak et al. 2018; March, 1991; Zimmermann et al. 2018), autonomy of employees within organizations is an important facilitator for exploration. However, this opens up the question of what level of autonomy is required to allow for innovativeness? Autonomy exists on a scale from autonomous group becoming so liberated that their local goals are no longer aligned with the organization's goals and vision, to employees having no freedom for any individual initiatives only, doing their set daily tasks and nothing else. Hence, one could from a deeper perspective examine autonomous groups within organizations to find this balance between the centralized control from upper-management and the decentralized control with autonomous groups.

Second, Zimmerman et al. (2018) bring up in their study how their framework is only tested during the implementation phase of an ambidextrous governance model. We have identified some paradoxical conclusions in the literature regarding the maintenance of ambidexterity after it has been implemented. Firstly, Kotter (1995) writes how the institutionalization of the conducted changes is important to focus on because it is easy to slip back to the previous way of things. One could thus argue that this is important when implementing an ambidextrous balance as well. If one does not successfully maintain and reinforce the new culture it risks quickly being forgotten and the organization slips back into old structures and behaviours. Luger et al. (2018) on the other hand writes about ambidexterity's self-reinforcing effects. Once the ambidextrous balance is successful one manager has a tendency to try to protect that balance. This would work as a contradictory effect to Kotter's (1995) problem of losing the achieved balance, however it would also lessen the dynamic part of the balance. The usefulness of ambidexterity comes from the ability to dynamically adapt to the environment (Birkinshaw et al. 2016; Chen, 2017; Luger et al. 2018). The ambidexterity stagnating could lead to the same problems they faced during the first implementation of the ambidextrous governance of resistance and misalignments. Thus, we propose a study researching when and why the governance leads to negative reinforcing effects of the ambidexterity and when does it slip back to the old ways of before the implementation?

Third, Zimmerman et al. (2018) stress the need for further research regarding the communication between top and frontline-managers. One aspect of communication in our study is there being very differing perceptions among the interviewees regarding what the difference between innovation and efficiency is. One interviewee specifically stated that "innovation is there to facilitate efficiency". This would imply that explorative commitments were to be pursued merely to increase and facilitate internal exploitation, despite they being in

stark contrast to each other (Koryak et al. 2018; Magnusson et al. 2019; March, 1991; Xue et al. 2012). Implementing an ambidextrous governance will become a yet more complex task if there is no shared, clear-cut understanding of the difference between exploration and exploitation among its adopters and practitioners. As such, we suggest further research upon the internal perception between the two definitions exploitation and exploration within organizations. Specifically, how the perception might affect the ambidextrous strategy and how potential linguistic confusions could be resolved or avoided. Deeper studies could also consider other differentiating aspects of innovation, such as the contrast between incremental and radical innovation (Andriopoulos & Lewis, 2009; Dewar & Dutton, 1986; Ettl, Bridges & O’Keefe, 1984; Wang & Rafiq, 2014).

9 Limitations

Our study is not without limitations, it could have benefitted from conducting interviews with stakeholders further down into the organization in order to establish a deeper understanding of the difference between the enactment of frontline managers and middle managers. Currently we can only add the relevance of middle managers to the enactment of ambidexterity, not to what degree they differ. Another possible limitation is the size of the organization, the studied municipality comprising of ~10 000 employees and 100 000 inhabitants, which might reduce the relevance of the results for municipalities of other sizes. The study was also conducted on a single municipality, which might lessen the reliability of our results for other municipalities (Patel & Davidson, 2011). By the same coin municipalities are subject to an array of legislations, which differ between countries. By only studying a case in Sweden the reliability of the results for other countries might be lessened. Though we would point out that legislations play a rather minor role in the enactment of ambidexterity, meaning this aspect only plays a minor role in determining the reliability of the results.

10 Conclusion

This study has examined how an ambidextrous IT governance is enacted and balanced within a public organization. Our findings reveal that the IT governance is not enacted and maintained solely by frontline-managers but rather throughout collaboration among all stakeholders and departments within the entire organization. The studied organization had a lot of *supervision autonomy*, as explained by Zimmermann et al. (2018); Local politicians and top management rarely interfere with middle-managements’ activities as long as each respective department and function work with the municipality’s overarching vision and goals in mind (Zimmermann et al. 2018). There are several initiatives to increase the level of exploration within the organization, although not without emerging contrasts and paradoxes. The most prominent paradoxes identified is between the centralized and decentralized control, where *supervision autonomy* is counteracted by not having *goal autonomy*. Secondly, their attitude towards risk-taking is working against the effectiveness of the explorative culture. Thirdly, the communication about the digital agenda is reducing resistance to change but is

simultaneously undermining the level of exploration they could achieve. By oversimplifying communications, the meaning of the change becomes ambiguous and they risk misalignments. In summary the enactment of ambidexterity in public organization is challenged by several paradoxical tensions and directives, adding onto an already difficult task. We also discuss Zimmerman et al.'s (2018) configurational initiatives framework in relation to our results, and what differences we found therein.

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