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Accounting for digital promises: restoring and transforming promissory narratives

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Abstract

Purpose – The paper investigates the relationship between accounting and promises in the context of digital change.

Design/methodology/approach – Relying on emergent literature on accounting and promises, a qualitative field study has been conducted covering 57 interviews with municipal directors, digitalization strategists, administration managers and CFOs in a Swedish region consisting of 13 municipalities.

Findings – The paper provides insights into how municipalities draw on accounting in attempts to reconstruct promissory narratives of the digital. By highlighting two contrasting cases, we show how this can involve practices of either restoration or transformation. Likewise, we find that attempts to restore promises can sometimes have unanticipated effects, in our case a transformation of the promise instead.

Originality/value – We introduce a "promise" lens to the literature on accounting and digital change and empirically describe how accounting is implicated in shaping promises in the context of public sector digital change.

Keywords Accounting, Digitalization, Digital change, Promises, Promissory narratives

Paper type Research paper

1. Introduction

In recent years, research on digital change has become a growing field within accounting (Agostino *et al.*, 2022; Knudsen, 2020). Scholars have discussed how digital technologies can disrupt the accounting function (Bhimani, 2021; Moll and Yigitbasioglu, 2019), how big data and social media can affect decision-making (Arnaboldi *et al.*, 2017b; Quattrone, 2016) and how digital platform organizations such as Uber and Airbnb build on new forms of control

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(Kornberger *et al.*, 2017; Scott and Orlikowski, 2012). However, despite these advancements, important areas remain underexplored. In this paper, we explicitly address one such area: the relationship between accounting and promises associated with digital change (hereafter referred to as digital promises).

Studying this is important for several reasons. Regardless of whether it concerns the accounting profession, big data and social media, or digital platform organizations, digital change takes time and requires large investments from different actors. Promises of a better future constitute a critical part in engaging actors for this cause (Brown and Michael, 2003; Mager and Katzenbach, 2021; Mouritsen and Kreiner, 2016). Yet, despite their importance for mobilizing resources (Sarasvathy, 2001), digital promises have only been hinted at in current literature. For example, while Moll and Yigitbasioglu (2019) urge accounting researchers to study the potential of cloud technologies and artificial intelligence, there is no explicit theorization of how accounting calculations enable or constrain such promises. In a similar way, while the concept of "evaluative infrastructures" provides a novel way to conceptualize platform controls, there is limited discussion in Kornberger *et al.* (2017) on how Uber and Airbnb relate their actions to field-level promissory narratives. A focus on accounting and promises helps to understand both how digital change relies on promissory narratives, and how accounting can be part of shaping these narratives.

Theoretically, we build on the "decision as promise" argument put forward by Mouritsen and Kreiner (2016) and more recently elaborated on by Nappert and Plante (2023). Doing this highlights that accounting can be implicated in shaping digital promises in two different ways. First, in situations where doubts arise with regards to digital investments, accounting can be drawn upon to *restore* such digital promises. For example, if a manager argues that investments in digital ways of working yield increased efficiencies, and stakeholders doubt such a promissory narration, accounting can be drawn upon to substantiate or solidify the argument. On the other hand, if a digital promise does turn out to be unfeasible, accounting can also be drawn upon to *transform* it. In this scenario, accounting can be used to problematize and question future expectations of the digital, simultaneously allowing forgiveness and forgetfulness with regards to the initial promise (Mouritsen and Kreiner, 2016). Acknowledging these two ways in which accounting can be implicated in shaping promises leads us pose the following research question:

How is accounting implicated in restoring or transforming digital promises?

We investigate this question by drawing on a qualitative field study (Ahrens and Chapman, 2006) of a Swedish region consisting of 13 municipalities. This provides a relevant setting because in the Swedish public sector, the digital has promised a resolution to large budgetary shortages. Fundamentally, future municipal operations have been deemed insufficient unless digital change is achieved (SALAR, 2017, 2023). At the same time, studies of Swedish municipalities have described mixed results (Mankevich *et al.*, 2023; Magnusson *et al.*, 2023). While there have been promising pilot projects, there have also been costly failures. During our field engagement, both politicians and municipal officials also asked themselves: "what the hell do we get for the money?". From a theoretical point of view, this means that we have an empirical setting where there are good opportunities to study how accounting is implicated in both restoring and transforming the digital promise of cost savings in the Swedish public sector.

Our paper contributes to two different literature streams. First, we advance research in the domain of accounting and digital change. Theoretically we introduce a new "promise" lens (Mouritsen and Kreiner, 2016; Nappert and Plante, 2023) which complements current ways of theorizing accounting and digital change. While previous literature has focused on the transformative capabilities of digital technologies in changing the accounting profession

(e.g. Moll and Yigitbasioglu, 2019), how big data can affect decision-making (e.g. Arnaboldi *et al.*, 2017b; Quattrone, 2016) and how new controls emerge (e.g. Kornberger *et al.*, 2017), a promise lens highlights how these large digital shifts rely on promises of the future to uphold continuous investments to carry on. Our study also provides an empirical contribution. As shown by a recent literature review (Agostino *et al.*, 2022), few articles on accounting and digital change focus on the public sector. By studying Swedish municipalities, we add important empirical knowledge about the struggles and problems civil servants face when trying to account for digital promises in the public sector.

Second, the paper also develops the emergent literature on accounting and promises. Since Mouritsen's and Kreiner's (2016) conceptual article, little empirical research has been carried out (see Nappert and Plante, 2023 for an exception). Our findings empirically detail how the relation between accounting and promises can function in practice, and how attempts to restore or transform promises can sometimes have unanticipated effects. Additionally, we make two theoretical contributions. First, we show the importance of a multi-level perspective when studying the relation between accounting and promises (cf., Mouritsen and Kreiner, 2016; Nappert and Plante, 2023). Specifically, our study illuminates important interrelations between broader promissory narratives and how promises are restored and transformed at an organizational level. Drawing on theories of effectuation, Mouritsen and Kreiner (2016) primarily focused on concrete promises between individuals and organizations. In our study, we demonstrate that more abstract meta-promises (what we refer to as promissory narratives) are important anchors for concrete promises to be enabled between individuals and organizations. In stressing promises on two different levels, we further highlight problems that can arise when promises are ambiguous. In both Mouritsen and Kreiner (2016) and Nappert and Plante (2023) there is an implicit assumption that all parties understand the underlying promise. Our findings demonstrate that this is not always the case and that such ambiguities can impact how accounting is implicated in their restoration and transformation.

The paper is structured as follows. The theoretical section describes digital promises as an important yet underdeveloped area within the literature on accounting and digital change. We then present our theoretical framework that details how accounting can be implicated in restoring and transforming digital promises. In the method section, we highlight how Swedish municipalities provide a fertile ground for studying this, and how the accounting practice of "benefit calculation" provides an important empirical base. In the findings, we start by describing the digital promise in the Swedish public sector, and how benefit calculations emerged as an accounting practice intended to provide a bridge between future expectations and present realities. We then move on to detail two contrasting cases of benefit calculations, one focused on restoring the digital promise of cost savings, and one where a benefit calculation was implicated in transforming it to include both cost savings and quality improvements. Finally, we discuss the implications of this for how we can better understand how accounting can be implicated in shaping digital promises.

2. Theoretical development

2.1 Accounting and digital change: the need for an explicit "promise" lens

Regardless of which terms are used to label processes of digital change [1], promissory narratives are omnipresent in the conversation. For example, practitioner-oriented literature urges organizations to invest in digital technologies to stay at the forefront of institutional innovation and create competitive advantage (Hinings *et al.*, 2018; Porter and Heppelmann, 2015). Tech companies draw on future expectations of different technologies to frame the value of their specific tools and systems (Pollock and Williams, 2010). And finally, academic literature reiterates its expectations of the revolutionary implications of the digital (e.g. Agostino *et al.*, 2022; Arnaboldi *et al.*, 2017b; Knudsen, 2020; Moll and Yigitbasioglu, 2019; Quattrone, 2016).

Reading literature on accounting and digital change from a "decision as promises" lens (Mouritsen and Kreiner, 2016; Nappert and Plante, 2023) highlights that digital promises have primarily been discussed from the perspective of what recent technological developments promise (or threaten) accounting (see Knudsen, 2020; Payne, 2014; Quattrone, 2016). To exemplify, a central question has been how digital technologies can revolutionize the accounting profession (Agostino *et al.*, 2022; Arnaboldi *et al.*, 2017b; Knudsen, 2020). Moll and Yigitbasioglu (2019) emphasized that internet-related technologies could "have the potential to dramatically change and disrupt the work of accountants and accounting researchers in the near future" (p.1). Similarly, Bhimani and Willcocks (2014) argued that technological advancements could allow for information to be used by accountants in "developing deeper and wider levels of analysis much faster, identifying key new trends from which prescriptions can be extracted" (p. 486).

The importance of digital promises has also been hinted at in the sub-stream focusing on accounting and big data (Arnaboldi *et al.*, 2017a, b; Brivot *et al.*, 2017; Knudsen, 2020; Payne, 2014; Quattrone, 2016). For example, Arnaboldi *et al.* (2017b) wrote that, "Social media and big data are likely to have wide-reaching organizational effects, not only in the way in which decisions are made, but in terms of processes and competences, as well as the relative power of actors both within and outside enterprise boundaries." (p.763). Drawing on both practitioner reports and early academic articles, the authors described how big data and social media can result in both new performance indicators and new ways of visualizing performance.

Finally, accounting researchers have discussed digital promises of new forms of platform controls (e.g. Kornberger *et al.*, 2017; Scott and Orlikowski, 2012). With the potential of creating trust between millions of buyers and sellers, the promissory narrative of digital platform companies is immense. As Kornberger *et al.* (2017, p. 81) provocatively wrote highlighting the many promises of digital platform organizations:

> The world's largest taxi firm, Uber, owns no cars. The world's most popular media company, Facebook, creates no content. The world's most valuable retailer, Alibaba, carries no stock. And the world's largest accommodation provider, Airbnb, owns no property. Something interesting is happening.

Thus, regardless of whether it concerns the accounting profession, improved decision-making, or digital platforms, digital promises have been implicitly discussed in several articles. However, what is missing is an explicit elaboration of how accounting can be implicated in also shaping these promises. We consequently contend that the conversation has missed important aspects with regards to how digital change is not only a force that can transform accounting, but also how accounting can be actively involved in shaping the promissory narratives that underpin efforts of digital change. To fill this gap, we find inspiration in the emerging literature that elaborates precisely on how accounting can play a central part in shaping promises (Mouritsen and Kreiner, 2016; Nappert and Plante, 2023).

2.2 Accounting, promises, and the promissory narratives of the digital

Up until Mouritsen and Kreiner's (2016) seminal article, the relation between accounting and promises had only received implicit attention in accounting literature. One example is Power (2015) who argued that accounting itself constitutes a promise. Studying the development of impact reporting in UK universities, Power (2015) wrote:

> Accounting often begins with a combination of disappointment and the *promise* of improvement in terms of a conceptual or abstract 'performance object' as the solution (p. 48, *emphasis* added).

Thus, through its "apparent rationality" (Quattrone, 2015, p. 414), accounting can promise things on its own; it is capable of promising solutions to perceived problems. Although

traditionally well-established, the role of accounting as a problem-solving machine has over the years been challenged in various ways. For instance, Burchell *et al.* (1980) argued that accounting has numerous roles to play besides providing truthful answers to perceived problems. They expressed that, beyond the answering machine, accounting can also act as a learning, ammunition, or rationalization machine.

Mouritsen's and Kreiner's (2016) discussion provides an intriguing extension which puts particular emphasis on the promise part. Stemming from the sociology of expectations (Brown, 2005; Brown and Michael, 2003) and effectuation (Sarasvathy, 2001; Sarasvathy and Dew, 2005), their work built on the conclusion that decisions can just as well be reconceptualized as promises: "decisions are endings which stop a process of decision making . . . [but] they are also promises which crate new beginnings" (Mouritsen and Kreiner, 2016, p. 21). Taking this perspective, they reflected on, for example, the need for forgiveness and forgetfulness when accounting for promises, and how promissory environments hinge on the making of promises. Building on their conceptualizations, Nappert and Plante (2023) further discussed the promises of baseball players in minor league baseball and how players preferred to be seen as assets because it signalled that the club saw them as promising future stars.

To make theoretical use of "promise" in this paper, we start by clarifying what we mean by "promise" and particularly "digital promise". As a start, the most common view on a promise, also emphasized by Mouritsen and Kreiner (2016), is that it is declaration or assurance given to one or several that certain actions will be undertaken or refrained from in the future (see Cambridge Dictionary, 2024, *verb* B1). In this view, to promise is to commit to do (or not do) something, simultaneously creating expectations of performance within those to whom a promise is made. However, a promise can also refer to something broader. Studying the assetization of baseball players, Nappert and Plante (2023) discussed promises not only as assurances from individuals to one another, but also as more abstract expectations of future performance (see also Cambridge Dictionary, 2024, *verb* B2). Baseball players in their paper did not only promise a certain level of performance themselves, but they were also "promising" from a broader point of view. Their value was enmeshed in a broader promissory narrative of minor league baseball at a field level.

In the case of digital promises, acknowledging this broader view appears more relevant than the instrumental. Take for example Goretzki *et al.*'s (2023) recent study of data scientists as "magicians, unicorns or data cleaners'. In their paper, they reflected on various identities that are attached to data scientists due to the promissory characteristics of data science. As they wrote, "data science applications promise new possibilities for control and decision-support" (p. 254; in reference to Al-Htaybat and von Alberti-Alhtaybat, 2017; Arnaboldi *et al.*, 2017b; Moll and Yigitbasioglu, 2019). It was not the data scientists that promised improvements; data science constituted a promise in itself; it was attached to a broader promissory narrative of technological prominence.

That the digital is embraced by broader promissory narratives has also been a key assumption of various streams of literature on technological innovation. "Sociology of expectations" (Brown, 2005; Brown and Michael, 2003), rooted in Science and Technology studies, is one example wherein future expectations are assumed to be key in shaping present innovations (Brown and Michael, 2003). Similar lines of argument can be found in studies discussing "sociotechnical imaginaries" (Jasanoff and Kim, 2009, 2015) or "imaginations of the future" (Mager and Katzenbach, 2021) wherein again the "promise" of technology is discussed not as an instrumental promise but rather as encompassing broader expectations of future performance: promissory narratives (see also Sexton *et al.*, 2019; Cusworth *et al.*, 2021). In light of these theoretical developments, this paper considers "digital promises" to not primarily be associated with assurances or commitments given by individuals to other individuals. Instead, "digital promises" are considered to be primarily those expectations of future performance that individuals or groups often refer to or think about when reflecting on the digital.

2.3 Accounting for digital promises: key theoretical concepts

Having concluded what digital promises are, we can further reflect on how accounting can be implicated in shaping them. First and foremostly, although the "decision as promise" argument primarily concerns what happens after decisions (Mouritsen and Kreiner, 2016), accounting can also be implicated in shaping promises at the point in time of making decisions. Namely, if decisions are promises, and if accounting can be integrated in a decision-making process, accounting can also become integral to a promise-making process. To exemplify, if decision-makers for proposed digital investments make references to expected cost savings, they draw on accounting to make digital promises. In other words, to draw on accounting in decision-making is to draw on accounting to make digital promises.

Next, after a promise has been made, accounting can come to play in at least two ways. The first involves how accounting can be drawn upon to *restore* (solidify or substantiate) promises. Attempts to restore promises are inherently results-oriented and retrospective (Mouritsen and Kreiner, 2016). In line with the assumption of accounting acting as an answering machine, accounting is then mobilized as a memory device used to evaluate the truth to a promise (Mouritsen and Kreiner, 2016). Accounting becomes a means of assessing whether promised results have been, or may eventually be, realized. To exemplify with digital promises, if investors start to doubt the anticipated realization of benefits from digital investments, accounting can be used to restore this promise by for instance producing calculations demonstrating clear return on investment.

A second role, contrastingly, involves how accounting can be drawn upon to *transform* promises. Being in line with Mouritsen's and Kreiner's (2016) discussion of how accounting can engage organizational memory for problematizing and questioning current states of the world (see also Busco and Quattrone, 2015, 2018; Miller and Power, 2013; Quattrone, 2015), practices of transformation are inherently action-oriented and prospective. They depend on the assumption that a promise can never be attached to expectations of results, but only to action (Mouritsen and Kreiner, 2016). What enables a transformative implication of accounting is its attention directing characteristics (e.g. "what problems should I look into?", Simon *et al.*, 1954, p. 3; see also Mouritsen and Kreiner, 2016). Accounts do not depict the world in its entirety. Accounting can therefore only draw attention to selected problems and potential solutions. It makes certain aspects of reality visible, while simultaneously making others invisible (Busco and Quattrone, 2015; Quattrone *et al.*, 2021). Through this, rather than producing answers to issues, accounting can enable action in uncertain situations by fostering debate and reflection (Quattrone, 2016).

To exemplify, again envision a scenario wherein doubts have arisen for the potential realization of a digital promise. Further assume that while the initial promise had insinuated cost savings to have been generated by digital investments, such can no longer be expected. Instead of restoring the promise, it needs to be transformed. This can be done through stakeholders directing attention to for instance the non-financial benefits of digital investments, or their positive effects on general business development. Retrospective accounts can naturally be given, but emphasis is placed on what can be done in the future, particularly on how the future may be reconceived in contrast to past expectations of what should have happened.

Transferring these arguments to the context of digital change further calls for some deeper reflection on the characteristics of digital promises, simultaneously allowing for a problematization of extant literature on accounting and promises. First, literature on accounting and promises emphasizes delineated decision-making situations wherein both decision makers and the decision itself can be easily identified (Mouritsen and Kreiner, 2016; Nappert and Plante, 2023). Digital change, however, is inherently complex in terms of involving a multitude of actors and by being spatially difficult to locate (Mergel *et al.*, 2019;

Haug *et al.*, 2023; Vial, 2019). This means that it can be difficult to know who takes digital change decisions, where they are taken, and how they are subsequently carried out.

Second, the literature on accounting and promises assumes a rather linear progression of time. A promise is made, a promise is questioned, and afterwards, accounting is drawn upon to either restore it or transform it. Digital change, however, is inherently uncertain and dynamic (Mergel *et al.*, 2019; Haug *et al.*, 2023). Digital change does not proceed through discretionary decision-making but unfolds continuously through time. Therefore, it can be difficult to locate also when in time digital promises have been made, and why they have been made in this specific way.

Third, and finally, with reference to the interpretive flexibility of accounting, accounting has often been argued to be incomplete (Busco and Quattrone, 2018; Jordan and Messner, 2012) and in need of substantive interpretive work (Boland, 1993; Mouritsen and Kreiner, 2016). Therefore, in novel interactions where collective sensemaking has not already undergone for the meaning of accounting, debate (and potentially frustration) can easily arise. Additionally, accounting that is mobilized at a distance tends to fail to convey the original meaning that its senders imbued (Jordan and Messner, 2012; Preston, 1986). This calls for careful consideration, not only of how organizational actors interpret digital promises as elaborated on above, but also the accounting that is mobilized in their restoration or transformation.

In conclusion, previous literature on the relation between accounting and promises provides a wide array of insights into how accounting can be implicated in shaping digital promises. Based on early discussions from this literature, we argue that actors can draw upon accounting to restore or transform digital promises. Yet, digital promises as complex and uncertain objects of study also provide important contrasts to previous studies of how promises are shaped at an organizational level. Hence, the question of how accounting can be implicated in restoring or transforming digital promises is relevant not only for accounting scholarship interested in the digital; but also allows for more elaborate understandings of how accounting, promises and promissory narratives are inherently interlinked in complex and uncertain contexts.

3. Research method

3.1 Research design

To investigate how accounting is implicated in restoring or transforming digital promises, a qualitative field study (Ahrens and Chapman, 2006) of a Swedish administrative region consisting of 13 municipalities has been conducted. The study was initiated in 2017 when one of the researchers met with a digitalization strategist in one of the municipalities.

Through mutual interest in accounting and the digital, the research project formally started in 2018 after gaining approval by the regional digitalization board and among the region's municipal directors. To secure continuous data access, it was decided that the region's digitalization board would be the main contact. The digitalization board had been created in 2012 and consisted of digitalization strategists from all municipalities plus a chairman. As expressed by the chairman, the rationale behind the formation of the digitalization board was that the municipalities needed to do "more and more for less and less" and that digital change was key to achieving this. As such, the main function of the digitalization board was to form an arena through which collaborative beneficial digital change could be enabled within and across municipalities.

The study that followed was not initiated to investigate the relation between accounting and digital promises but started more broadly as a study of the relation between accounting and digital change. In the following, we describe how decisions taken over the course of the study led to a realization that an accounting and promises lens would be appropriate.

3.2 Data collection

To gather insights on accounting and digital change in the region, we began interviewing key informants in four out of the 13 municipalities (pseudonymized with Alpha, Beta, Gamma, Delta). The choice to delimit focus to four specific municipalities was based on the ambition to identify differences among municipalities while still reaching depth. The four municipalities were of different sizes, had different political majorities, and had different budgetary situations. To contribute to a broader understanding of digital change in the region, we also studied documents including some of the projects the digitalization board had initiated on a region-wide basis. As the study progressed, we further extended the study to involve interviewing key players at the regional level, considering the importance of the digitalization board in how digital change was progressing throughout the municipalities. This allowed for a more elaborate view on the relation between accounting and digital change throughout the whole region.

57 semi-structured interviews were collected with municipal directors, digitalization strategists, IT managers, school administration managers, social service administration managers, CFOs and other key players of digital change throughout the region. A full summary of interviews can be found in Table A1 in the appendix. Interviews averaged around one hour, and they were held in Swedish to allow for effortless discussions to emerge. During the first year of engagement, interviews were conducted physically on site. Once COVID-19 arrived, interviews were held online, primarily through Microsoft Teams or Zoom. This practice continued after COVID-19. The audio of the interviews was recorded but only after explicit and informed consent had been retrieved from the interviewees. If they asked not to be recorded, or for the recording to be paused for a while during the interviews, their wishes were followed. Pausing the recording was done a few times throughout our engagement, but other than this, all interviews were recorded in full.

To gather even more insights regarding the region's digital change, informal phone calls were held with actors from the field, and we participated in workshops that the digitalization board organized. Documents were also collected. At the municipal level, this included budgetary documents, digitalization plans and strategies, PowerPoint presentations, and other relevant documents. At the regional level, various strategies and budgets of the digitalization board were collected, and at the national level, reports and publications published by primarily the Swedish Association for Local Authorities (SALAR) and the Swedish Agency for Digital Government.

3.3 Data analysis

Our interviews provided many interesting conversations about the challenges of digital change in the public sector. We learnt about difficulties to find a common definition of digitalization (the word most commonly used in Sweden to refer to digital change), how responsibilities in digital change initiatives were unclear, and how people were concerned about finding best practices to achieve digital change. In addition, we gathered numerous comments regarding the underlying rationale for digital change, and how interviewees had noted an increasing number of voices expressing the need to account for anticipated digital benefits.

As Ahrens and Chapman (2006) wrote, "the field as a social reality can only be made sense of if it is defined with reference to theories that can illuminate its activities" (p. 827). After having acknowledged hopes and dreams of digital change in the Swedish public sector, stemming from our interviews and documents reiterating promissory ideals of the digital, we found that this could be enabled by engaging with the decision as promise argument (Mouritsen and Kreiner, 2016; Nappert and Plante, 2023). Thus, although the importance of promissory narratives in this context had been sensed throughout major parts of the study, it

took time until this was identified as a relevant theoretical lens for understanding the data. In other words, it was abductively integrated into the analysis through a series of iterations between literature and data (Dubois and Gadde, 2002; Sætre and Van de Ven, 2021; Lukka and Modell, 2010). Reading our interviews – and relevant theory – we eventually landed in that four aspects could contribute to our understanding of how accounting can be implicated in restoring and transforming digital promises.

The *first* referred to the longitudinal development of the promissory narrative of cost savings in the Swedish public sector. In documents published by SALAR and DIGG over the years, the digital seemed to have been increasingly narrated as promising for its potential of yielding increased efficiencies. This, we further found, was largely connected to projections of worsened resource scarcities in the Swedish public sector. Thus, references to the budget (an accounting technology), played a key part in specifying what should make the digital promising.

Second, although many seemed to agree that the digital should be capable of generating increased efficiencies, we also noted increased doubts and concerns among interviewees regarding the reality of this promise. Essentially, whereby many seemed to have historically considered digital change to be a "universal solution" to all their problems, the narrative surrounding the digital in the municipalities had increasingly become a question about "what the hell do we get for the money?". In addition to being linked to a deteriorating financial situation in the municipalities, this shift also coincided with emerging desires to deploy so called "benefit calculations". This was an accounting tool meant to allow municipal actors to account for the benefits of digital change initiatives. In light of our theoretical lens, we argue that this was a tool of accounting aimed to restore or transform the digital promise in response to emergent doubts and concerns.

Third and *fourth*, we found two contrasting cases of benefit calculation deployment that had significant implications for how the digital promise came to be looked upon in the municipalities. In one of the municipalities, Alpha, they calculated the benefits of a delineated and isolated digitalization project: e-archiving. Comparing this to our conceptual understanding of accounting and digital promises, we found this to be a case where actors largely succeeded in restoring the promissory narrative of the digital as generating cost savings. In a second municipality, Beta, they instead tried to calculate the benefits of all digital change initiatives throughout the organization. Interestingly, despite an original intent to restore the dominant promissory narrative of the digital (cost savings), administration managers took advantage of the interpretive flexibility of both "digital promise" and "benefit calculation" and instead pushed for its transformation. At the end of the process, benefit calculations had become stigmatized in the municipality, problematizing their future usage.

After having presented these four aspects below, we discuss their implications for our understanding of how accounting can be implicated in restoring and transforming digital promises, and what this means for accounting becoming implicated in digital change initiatives.

4. Empirical findings

4.1 A need for cost savings: specifying "the" digital promise

The importance of embracing digital change is something that has been discussed and debated in the Swedish public sector for many years. In early reports from SALAR, the benefits of digital change seemed many. Not understanding exactly how this "revolution" would unfold, SALAR wrote the following in 2009:

> In the public sector, technology creates new opportunities to meet the needs of citizens and businesses in a coordinated, efficient, and high-quality manner. It enables streamlining and collaboration to an extent that was previously unimaginable. (SALAR, 2009, p. 1).

However, in recent years, the digital promise has undergone a specification. Namely, digital change has become widely regarded as a solution to one of the most pressing issues of Swedish welfare: imminent resource scarcity. The starting reason for this this can be found in statements such as the following found in the concluding section of The Economy Report published by SALAR in 2017:

> . . . population growth has risen considerably in recent years, and this is expected to continue for a long time to come according to forecasts by Statistics Sweden. This increase corresponds to rising demographic pressure on costs of about 1.5 per cent per year, or tripling of the previous level. In contrast, the number of people of working age is expected to continue to rise by about 0.5 per cent per year. (SALAR, 2017, p. 20).

Although it is common for many Swedish municipalities to operate under a scarcity of resources, this is only expected to get worse. The budget will not be balanced in the future. Reports describe this problematic situation as a mismatch between growth in costs due to changes in the demographic landscape and growth in the number of people of working age paying taxes. Essentially, if Swedish municipalities are to be able to deliver on the welfare contract in the future, they need to save costs. As several interviewees remarked: "we need to do more and more for less and less". Furthermore, as also narrated by state actors in various outlets, digital change has been identified as a viable solution to this. Take for example the following written by SALAR in 2023:

> Welfare is facing major challenges related to financial position and competence supply. These challenges cannot be met with yesterday's solutions, but require a transition to digital workflows that enable efficiency and necessary operational development. (SALAR, 2023, p. 4).

Thus, in the Swedish public sector, digital promises have over time become a solution to one of the most pressing issues of Swedish welfare: resource scarcity. Listening to statements provided by our interviewees, we also see that this field-level narration of what makes the digital promising has gotten deeply ingrained at the municipal level. Take for example the following statement by one of our interviewees, providing a link between SALAR's statements and the municipal level:

> They [SALAR] talk about how society will change and how we need to deal with this and that we cannot wait anymore . . . Digitalization is said to solve the fact that we do not have enough people that can work: the labor shortage. It is also to increase the efficiencies of our organization. We are to make a lot of money on this.

Others corroborated this, some referring to the situation as more of a threat. Not only has digital change been perceived as generally promising, but it has also been looked upon as completely necessary. The following was for instance expressed by one of the IT managers:

> No one really understands what they are telling us to do, but there is just this threat about us needing to digitalize. It has become a mantra that we must digitalize more. And this threat comes from the state. . . . It has been this new buzzword to get forward. We need to digitalize. Everybody needs to digitalize. We need to digitalize because an inexperienced person is to do more work.

Although many expressed that not everyone throughout the municipalities had been fully onboard the promissory train of digital change (as is often the case with change), interviewees were clear that they have tended to have very aspirational attitudes towards the digital. As one person said, "we tend to view digitalization as a universal solution to all our problems" or "a system solves it all!". Similarly, as one of the municipal directors expressed, these views could sometimes even feel superstitious:

> We constantly have this discussion. We have a superstitious belief in that digitalization will solve all our problems.

However, within these expressions of the promissory characteristics of the digital also lies a complication. When interviewees referred to the promise of digital change, they often did not mean it as a reiteration of the digital "truly" being promising. Rather, they did it as a critique to overly aspirational attitudes to it. In essence, they called for the digital promise to be looked upon in a more collected manner.

4.2 The emergence of benefit calculations: doubting the digital promise

Despite widespread beliefs in the promise of digital change, interviewees expressed a developing desire to reflect more critically on the premises on which digital change initiatives had been undertaken. In essence, what had historically been approached as "universal solution" to their problems of welfare, had increasingly turned into a conversation about "what the hell do we get for the money?". Captured in statements such as "we need to be more careful about the money that we have", and "we are more concerned about making sure that digitalisation generates benefits", interviewees expressed that they increasingly wanted to ensure that digital investments generated those benefits that had been promised. This was said by a municipal director:

> It feels like we have ended up more in this discussion: what should we have it for and what does it give us and what does it give our inhabitants and so on.

On the question of why this was the case, the same municipal director followed up with that it was due to perceived budgetary shortages:

> The financial situation. We are more and more careful about the tax money that we have. I think that has been a driving force.

This sentiment, of a more constrained financial situation driving a desire to scrutinize the digital promise was reiterated by others. One CFO also said:

> I hear this from now on quite often actually in different contexts that politicians want us to be extra careful about demonstrating that there is actually a benefit or effect before continuing with our projects. . . . This is a consequence of our bad financial situation.

Thus, perceived budgetary shortages largely explains the increased desire for a scrutinizing the digital promise in these municipalities. Did the digital really yield the benefits that its broader promissory narrative had insinuated, or were investments in digital tools and systems nothing but a waste of resources that could instead contribute elsewhere? In times of perceived budgetary shortages, it becomes ever more important for municipalities to ensure that their activities yield desired outcomes. They become increasingly careful about how they spend their money, and if explorative investments in digital change are to be accepted, they need to have ways in which either their requirement or their contribution to the situation can be convincingly argued for.

This is where "benefit calculation" comes in, almost as a promise on its own (Power, 2015). Namely, the benefit calculation was to provide an answer to whether digital change initiatives were truly beneficial. In light of our theoretical lens, we regard benefit calculations as a tool aiming to either restore or transform the digital promise, simultaneously demonstrating the need for changes in future trajectories. However, despite their principal rationality, our data shows that implementing benefit calculations were not as easy as many seemed to expect. We noted particularly three complications.

A first was the definition of a benefit, essentially what the digital really promises. Interviewees explained that a benefit in the context of digital change can fundamentally be either necessities (such as security related investments), improvements in quality, or cost savings. As was noted by several interviewees, however, benefits often came to be defined as

the latter: cost savings (see also the excerpt from SALAR, 2023, p. 4 above). This was for instance by one of the CFOs in the following:

> Our politicians are quite suspicious. If we cannot show in crowns or reduced employments, if we start talking about increased quality, the politicians become more doubtful about whether this will really imply any benefit for us.

This was further corroborated by others. For example, one of the digitalization strategists argued that this happened because cost savings is mostly the language that "they" (politicians) understand (implying that, to get continued resources for digital change investments, showcasing increased efficiencies would be the most effective):

> [benefits] are about saving money . . . that is what usually hits best. That is the language that they understand.

A second complication concerned the "calculation" of benefits. Some interviewees referred to templates of benefit calculations provided by DIGG. These were however often considered "too complicated", involving quantification of not only financial benefits but also qualitative. Some expressed that they had tried to apply some templates but had not gotten very far. One of the CFOs expressed that assessing qualitative benefits was challenging, but how this must also be done for the calculation to be comprehensive:

> A benefit is not just a reduction in resources, but it's also an increase in quality in some way. When you do such a calculation, you have to be quite clear that, and that's the difficult part in, for example, a [specific standardised benefit calculation template] to estimate what the actual quality increase means. . . . what it is worth and how translates into benefits. It is not that simple.

A third complication involved how benefit calculations were not bound to specific temporal directions. Whereas some referred to them being used for rationalising past investments, others expressed that benefit calculations should be deployed for future investments. However, future-oriented applications tended to be scarce. One of the digitalization strategists expressed that future-oriented benefit calculations seemed perhaps even the most reasonable, but said that they had only done it for investments for which resources had already been allocated:

> To me, it is about describing what we have done in hindsight. . . . To describe the benefits that we have generated.

These complications speak of benefit calculations withholding high degrees of interpretive flexibility (Mouritsen and Kreiner, 2016). It can be concluded that it mattered who, where, and for what they were used. Despite their scarce usage throughout the municipalities, partly implying that interviewees tended to give them only scarce attention in our conversations, two cases stood out. They stood out both based on the attention given to them by interviewees, and in terms of their implications for the continued narration of digital promises in these case municipalities.

4.3 Benefit calculation in alpha: restoring the digital promise

The first case regards how a benefit calculation was applied for a relatively isolated digitalization project in municipality Alpha. Therein, they attempted to, and largely succeeded with, restoring the promissory narrative of the digital as yielding increased efficiencies and cost savings. The project in question was the implementation of e-archiving. The implementation of e-archiving was a project initiated by the digitalization board. It aimed to ensure broad implementation of e-archiving throughout the region, and relied on the procurement of a shared digital platform in which the data of all municipalities' e-archives could be managed. Due to the uncertainty of how e-archiving could play out in the region, the digitalization board initially wanted to learn how regionally enabled e-archiving could

function and be scaled. However, when it came to its full-scale operationalization, key players within the digitalization board had noted that not all municipal directors were on board. Despite consensus within the project group of the benefits of e-archiving, this had not reached everyone who needed to be convinced for the project to be realized. For instance, some municipal directors talked about e-archiving as "garbage", as explained by the municipal director of Alpha:

> A discussion surfaced where some colleagues in the region said that "e-archiving seems like some damn garbage".

To combat doubts of the promise of e-archiving, Alpha decided to calculate its benefits. The manager for business support, one of those responsible for implementing e-archiving in Alpha, explained that they did this to motivate the investment. Particularly, scaling of e-archiving needed to be justified within an environment that had already become increasingly tainted by statements such as "what the hell do we get for the money?". In this sense, the decision to calculate benefits of e-archiving can be seen as an attempt to restore the promise of e-archiving being indeed as promising as the digital had generally been narrated as. The manager for business support expressed this in the following way:

> This was done because e-archiving was something completely new and because it is costly. It was to motivate that cost.

The task that was carried out involved calculating the time that e-archiving would save compared to traditional, physical archiving of data. Before e-archiving, the archiving legislation required these documents to be printed and stored in a physical room. E-archiving could abolish the need for this. Thereby, the project group realized that the benefits of e-archiving could be simply calculated by measuring the time it took to print documents out, put them in a box, and store them. The task to perform this calculation was primarily given to the archiving staff. As expressed by the manager for business support this was a relatively simple calculation. As such, they had taken advantage of the fluidity of how benefit calculations could be defined, doing it in a way that they found manageable and that fit their own agenda. The manager said the following:

> What we did with e-archiving was no complicated calculation.

Once the time that e-archiving could save had been calculated, the project group put together a PowerPoint presentation. This presentation contained three parts. First, it explained the process of digital archiving in comparison to physical archiving (see Figure 1). Second, it showed pictures of one of their old archiving rooms having been turned into a coffee room (see Figure 2). Third, it contained a simplified Excel-file with calculations of the time saved through e-archiving as compared to physical archiving (see Figure 3). Figures of what was shown in the PowerPoint can be found below.

This triad of pictures, along with general information about the e-archiving project, were presented in different decision-making forums. They were used internally within the Alpha municipality to convince their own administrations about the benefits of e-archiving. They were used externally to convince the municipal directors of the region which had not yet "understood" the benefits of e-archiving. And finally, the digitalization strategist added that they had also "been travelling around the country" to talk about their e-archiving success. When asked about the responses they had received when presenting their findings, clearly indicating personal pride in the success of what they had done, the manager for business support explained that people had responded with "wow" and feelings of pride:

> It was both "wow" – surprise – and a little bit of pride. . . . It generated motivation moving forward.

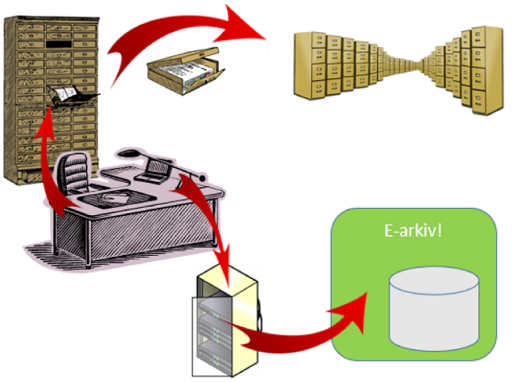

Figure 1.
Visualizing the process of moving from physical to a digital archive

Source(s): Courtesy of interviewee from municipality Alpha

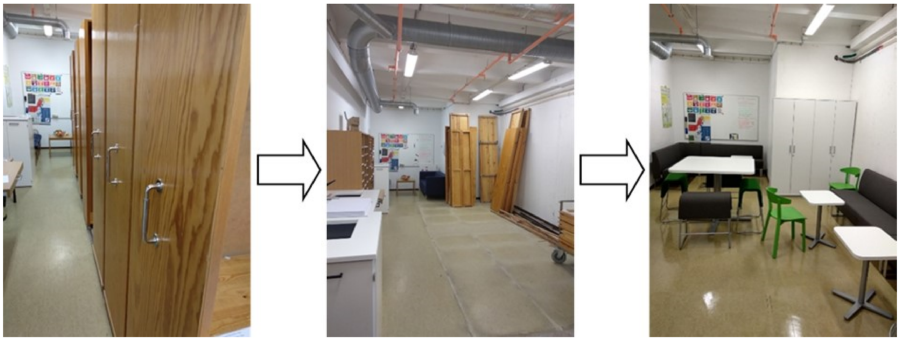

Figure 2.
Showing the result of e-archiving, transforming the old physical archive into a coffee room

Source(s): Courtesy of interviewee from municipality Alpha

It was an "aha-experience" for those they presented it for, the manager continued. The digitalization strategist further said that people reacted with "oh". Moreover, both the manager for business support and the digitalization strategist emphasized that pictures of how the old archiving room had been turned into a coffee room contributed to this. At one of their internal presentations, the business support manager further explained that their presentation had even generated comments of amusement:

> I can also tell you that, when we presented this for all our co-workers and our archivers and our e-archivers, we received an amusing reflection. There was someone who told [X], our archiver: but what should you do now? "No but I have a different role now", she said. 'My role now is to ensure that these flows of information are functional'.

The feedback that the project group received indicate that the presentation, including the calculation, was met with feelings of satisfaction. That e-archiving was beneficial – in terms of increased efficiencies in terms of time saved and trivially in terms of a coffee room having been created – had been established. In essence, the application of a benefit calculation for e-archiving substantiated the promissory narrative of digital change as generating savings, and the promise of e-archiving was solidified. The digital promise was restored.

System:	Example of System				
Time period from:	2015-01-01				
To:	2017-03-01		*Regarding document type 1*	900	
Analogogous archiving					
			Time consumption (min)		
Printing:	20	min			
Mailing:	0	min			
Archiving (Sorting/Boxing/Classifying):	7	min			
Other:	2	min	*per document type 1*	29	
Time consumption hours	435				
(e-archiving february/march 2017)					
Time consumption			*(e-archiving february/march 2017)*		
Hours:	60		(development, running, monitoring and meeting)		
			(runtime on archiving server approx. 100 hours)		
Time saved 2017					
Time saving hours:	**375**		(Corresponds to rougly 9 working weeks)		

Source(s): Authors' own creation

Figure 3.
Translated benefit calculation (format and numbers) for e-archiving

4.4 Refusing to calculate benefits in beta: transforming the digital promise

The case of Beta starts in the municipal budget of 2018 wherein the politicians had decided on formalizing a cost savings requirement. The politicians in Beta wanted the administrations to show that their investments in digital change had yielded increased efficiencies. In the budget, the following was written:

> In the budget, there are major and extensive investments in digitalization. The committees are given the task of, over a 3-year period, reducing the operating costs with 3% since these investments shall lead to business development and increased efficiencies.

As explained by the municipal director, this was a way for the politicians to force the administrations to retrospectively describe the benefits of their digital investments and hold them accountable:

> This was a way for the politicians to force the administrations to describe the financial benefits of, most pressingly, IT investments. 'Now that you have gotten money for this investment in your investment budget – because you have gotten money for it – now we really want you to describe the benefit of it'.

The municipal director expressed that getting funds for digital investments had not been very difficult in the past; Beta's financial situation had been quite stable:

> [Beta] is a municipality that has had a good amount of money to invest. It has been pretty easy to get funding. You have not needed to put in so much effort to get these digitalization or IT investments to happen.

What was written in the budget can thereby be seen as an attempt from politicians to ensure that investments in digital technologies had generated or would generate cost savings. The calculations that managers were asked to perform intended to restore what the politicians had perceived as decisions taken for digital change meant to save costs. However, a restoration of this digital promise was far from the outcome of the process. The digitalization strategist in Beta explained that the process that followed was initially uncoordinated.

"Apparently", as the digitalization strategist phrased it, the municipality had expected the digitalization strategist to design the benefit calculation and guide their work. However, this was not made evident until close to a management group meeting when the savings requirement would be discussed. The digitalization strategist described the upcoming meeting as follows:

> All of a sudden, I got to hear that the management team was waiting; 'we do not have a model for this; it was your responsibility to come up with one and come back to us'.

As a response, the digitalization strategist "just came up with a model" that only required the administration managers to write some words about what they had done and which cost savings they believed this had generated. The digitalization strategist continued:

> I just told them, do like this: write what you have done, what you call it, what you did, and why you did it; what was the benefit of it, what was the cost, and what do you think you have saved? Because that is what the politicians want.

As implied in the wording "I just told them", the digitalization strategist had no specific ambition to take control over the interpretive work surrounding neither the savings requirement nor the benefit calculation. The digitalization strategist entered the meeting with the intent to propose how cost savings could be calculated, assuming that the administration managers were already onboard with what needed to be done. However, when this was done, "everyone lashed out" as expressed by the digitalization strategist:

> When I showed this to the management team and said, this is how you do it . . . everyone lashed out and went on about how they need to close pre-schools and blablabla.

The meeting cause frustration, fear and confusion. The deputy municipal director who also attended the meeting said that people got "close to terrified":

> There was a presentation to the management group at some point in time, and I saw, because I was sitting there observing the administration managers on how they reacted on this, and I both saw and heard that they became close to terrified over how complicated it was.

The municipal director, also there, called what unfolded "violent protests":

> There were quite violent protests from the administrations.

The school administration manager, also at the meeting and directly vested in the process, confirmed the above. During the meeting, the school administration manager had called the process of calculating how much they had saved from their digitalization investments "completely stupid":

> There was some presentation where we were supposed to identify our savings and I called this completely stupid.

Analyzing the unfolding of this process, we identified several reasons for why the savings requirement caused such distress. First, the savings requirement infringed on the administration managers' decision-making autonomy. Swedish municipalities are run by a strong expectation that the professionals running schools, elderly care and other administrations know how to carry out their operations. The politicians decide "what" the municipality should do, and the administrations decide "how", as one of the CFOs explained. When politicians demanded evidence that investments had generated cost reductions, they infringed on the professional boundaries of the administration managers.

Second, the administration managers got uncomfortable about benefit calculation being "too complicated". This was expressed by both the deputy municipal director in the quote above, and the municipal director in the following:

> They felt that it was really difficult to describe what financial benefits for example a new document and case management system could yield.

This was also confirmed by the school administration manager who further said that being concerned with "hypotheses" was nothing that should be spent time on:

> How am I supposed to know how much money we have saved because we have implemented a digital accounting system? It becomes nothing but hypotheses. There are no facts there. Such discussions are completely uninteresting. 'I cannot spend my time on these issues', I said.

The CFO, not directly involved in the meeting, but playing a key role when it came to compiling the upcoming budget, reiterated this perception. The CFO said that it was because some "powerful administration managers" had viewed it as "so difficult" that the attempt to impose benefit calculations failed:

> I think we experienced this as complex and difficult. I think they experience that it is so difficult that there is not even a point in starting. ... Even I think these issues are complex: the benefit of digitalization and to calculate it.

This can further be enlightened by the digitalization strategist expressing: "it feels like people are fumbling for the truth", and as expressed by the school administration manager, "hypothetical" calculations were nothing that mattered.

Third, and perhaps most importantly, the administration managers did not agree with digital change being "supposed to lead to cost reductions", as here explained by the school administration manager:

> They believe this to lead to some sort of cost reductions. There are no cost reductions in this. This is not about cost reductions. ... It does not reduce our costs, it increases them.

This sentiment was corroborated by the digitalization strategists who gave more depth to the divergent views about what a "benefit" of digital change was really supposed to be. Being responsible for resource allocation, politicians had looked upon the promise of digital change in terms of its cost reduction potential. However, administration managers, responsible for delivering high quality services had approached the promise of digital change as either being about increases in quality or something that simply "must be done". As expressed in the following by this digitalization strategist, this misalignment of views on the digital promise had not been visible before the savings requirement had been imposed. Rather, administration managers had been "a bit quiet" about why digital investments had been needed:

> The administrations have, in my words, been a bit quiet about why they need to do this [digitalization], and then the politicians have just assumed that they are doing it to increase their efficiencies. That is what they have expected. But in reality, they have done it to increase their quality.

Moreover, as the digitalization strategist also expressed, the extent of this divergence in perceptions about the digital promise can further be explained by how strongly people had believed in the promissory narrative. As here expressed by the digitalization strategist, politicians had believed so strongly in the digital promise that they had "just pumped money" into the municipality, an approach that could potentially have contributed to a clouding of the different perspectives:

> We have not been short of funds, if you get what I mean. They have just pumped money into the organization. ... The politicians have said yes to almost everything that has to do with these things because they have not wanted to be a brake pad for the development.

After some time had passed since the initial meeting, the management team met again over the issue of the cost savings requirement. As a response to the first interaction, the

digitalization strategist had made some alterations to the model. Instead of only needing to quantify the financial savings of digital change, they would also be allowed to report "perceived increases in quality" or things that had just needed to be done (for instance for security reasons). As the digitalization strategist said, if it could be "qualitatively evaluated that an investment in a new system had increased quality corresponding to 0.5% of their budget frames", the politicians would be satisfied. All they needed to do was to write some paragraphs about whether investments had been worth it. Moreover, if digital investments had been required, for instance for reasons of data security, that would be fine too. The digitalization strategist framed it as if they were effectively given "a completely blank sheet". However, this was also refused by the administration managers. The digitalization strategist recalled the situation:

> So basically, I gave them a completely blank sheet. You can write whatever, as long as you can defend what you have done and explain to your politicians that it was worth it, and you have solved it. 'No way in hell', they said. 'It is completely unreasonable. No way that we do this'.

Once it was time to report on the benefit calculations, the CFO described that only one of the administrations had completed the work:

> When we produced the annual report for 2019, only the [X] administration had provided this benefit calculation. I guess the others experienced it as too difficult to calculate the effects of digitalization. . . . We have not managed to get all the administrations to calculate on this thing called benefits: benefit calculations.

As further explained by the CFO, they still included a section in the annual report where each administration had been asked to write a section about digitalization. However, they were not required to write about the benefits their digital investments had yielded. Most administrations simply wrote about the digital change projects that they had undertaken. In later years' budgets, the savings that were supposed to be communicated (0.5% in the first year, 1% in the second, and 1.5% in the third) were nowhere to be seen. Moreover, in the following, the CFO explained how most administrations had approached the communication of benefits by writing some words only about what they had done in terms of digital change:

> All committees have been ordered to write about this. It is more verbal about what they have been working on during the year when it comes to digitalization and how it looks moving forward.

On the point of why the requirement had not been withheld by the neither the politicians nor the organization itself, the CFO again expressed that this was likely due to the power held by the administration managers:

> I think there were some powerful administration managers who experienced that this is so complicated so 'this is simply something that we will not do' and then I suppose that they just accepted this, both from the professional perspective and the political perspective.

One year after the unfolding of this complicated process, the municipal director explained that the process which was initiated by the savings requirement had almost fallen out of their memories:

> I must say that, well, perhaps we have not forgotten about it, but the requirement was never made to see these benefit calculations.

Two years later, when asking the IT manager who was also involved in the backstage of this process, it was expressed that Beta had tended to avoid talking about benefit calculations. Thus, after having stirred up a lot of frustration and emotions, formalized approaches to benefit calculations were abandoned in Beta, and the word "benefit calculations" even seemed to have become stigmatized. The digital promise of cost savings was not restored as

intended by the politicians. Rather, the digital promise been transformed and broadened to include multiple benefits, most importantly both cost savings and quality improvements.

5. Discussion: a new direction for accounting and digital change research

In the theoretical section, we explained how and why digital promises play a critical role in mobilizing resources. Finding inspiration in the literature on accounting and promises (Mouritsen and Kreiner, 2016; Nappert and Plante, 2023), our study has explored how accounting is part of restoring and transforming digital promises in the Swedish public sector.

As a starting point, our findings show how accounting played a central role in formulating what made digital change promising. Even though early reports from the Swedish Association for Local Authorities (SALAR) and the Swedish Agency for Digital Government (DIGG) had discussed the potential of e-governance, anticipated budgetary shortages in the Swedish municipality sector emerged as the problem digital change would solve. To elaborate on the link between budgetary shortages, benefit calculations and digital promises, we presented two contrasting cases. In one municipality, Alpha, a simple benefit calculation was applied for a delineated and isolated digitalization project: e-archiving. The calculation was performed by a smaller group of professionals for a selected issue of digital change. Key players explained that this was no complicated calculation; they had taken advantage of its interpretive flexibility and applied their own version of how benefit could be calculated (Mouritsen and Kreiner, 2016). When presenting their calculations, they embedded the quantitative benefit calculation within a broader narrative of how e-archiving would be beneficial. Central to this was the display of pictures showing empty archiving rooms, adding a visual account to their overall storytelling (Busco and Quattrone, 2015). Through a controlled calculation and presentation of benefits, the narrative of e-archiving being beneficial was substantiated (Mouritsen and Kreiner, 2016), and the promissory narrative of digital change as generating increased efficiencies was restored.

In the Beta case, contrastingly, benefit calculations met stark critique. The process began with a formalized demand from politicians aiming to restore the dominant promissory narrative of the digital: cost savings. This requirement was distributed "at a distance" (Jordan and Messner, 2012; Preston, 1986), leaving the municipal director, the digitalization strategist, and the administration managers with high degrees of interpretive freedom. As expressed by the digitalization strategist, the process that unfolded was uncontrolled, allowing alternative views of what made the digital promising to emerge (Mouritsen and Kreiner, 2016). The interpretive flexibility of both "benefits" and "calculation" opened for administration managers to challenge the politicians' views and argue for a transformation of the promissory narrative that the politicians tried to restore. In essence, by proposing a narrow scope of how the digital promise should be interpreted (cost reductions), an underlying conflict between different perceptions on what made digital change promising was unveiled. Essentially, managers reacted on what the savings requirement made visible in terms of what it simultaneously made invisible (Busco and Quattrone, 2015; Quattrone *et al.*, 2021) and questioned how it depicted a wrongful (according to them) promissory narrative of digital change, in the process vouching for a transformation of the digital promise.

In contrast to Mouritsen and Kreiner (2016), our findings raise interesting questions regarding what a promise is in the context of digital change. Promissory environments hinge on the making of promises. For example, a software vendor promises an organization that their system will be beneficial if procured, a CEO promises shareholders that investments in digital technologies will improve their value creation, and a manager promises its organization that a certain digital system is necessary for efficient operations. However, the

promise of digital change is not solely a promise made by individuals to one another. The regime of hope (Brown, 2005) of digital change is also one that at the face of it no one has promised. The digital also constitutes a promise in itself; it is enmeshed within a broader promissory narrative at a field level (compare with Nappert and Plante, 2023). Thereby, when reflecting on how accounting is implicated in shaping digital promises, we may want to look beyond instrumental interactions between various actors and towards how accounting is implicated in making or not making issues such as digital change promising endeavours (cf., Mouritsen and Kreiner, 2016). In Nappert and Plante (2023), we see glimpses of this broader notion of what constitutes a promise. More specifically, not only can a baseball club promise a player that they will invest development resources into the player, the broader field of baseball can also be seen as a workplace where employees can be seen as "promising" and become assets. Furthermore, we see that discussing the relation between accounting and the promise of digital change can extend our understanding of the role that accountants can play in driving digital change initiatives in organizations. As Moll and Yigitbasioglu (2019) reflected on, there may be a broader role for accountants to play in managing data in the digital era. Likewise, as Arnaboldi *et al.* (2017b) discussed, there may be more questions to ask with regards to how the digital (in their case big data and social media), could be conceived of as a target of accounting practice. Our findings highlight that there is an even more fundamental role that accounting can play within processes of digital change. It can become intricately implicated in also shaping the digital promises that enable digital change initiatives in the first place.

Comparing our two contrasting cases, furthermore, we find reason to be concerned about how accounting can be implicated in digital change initiatives. Throughout both Alpha and Beta, an assumption prevailed that benefit calculations were to produce evidence of whether digital change was promising or not. Accounting was conceived of as an answering machine: accounting promised a solution to issues with regards to not knowing whether investments in digital systems would be beneficial. Moreover, accounting only seemed to yield desired results when a simple model of accounting was applied (Alpha). When the issue became more complex – when the administration managers in Beta were asked to account for the benefits of all their past investments in digital change – it resulted in resistance. Eventually, benefit calculations became stigmatized and were abandoned in Beta. This implies that, when accounting is applied in a simple manner, for an easily defined and delineated digital change project (e-archiving), accounting produces results that are seen as productive and supporting. It does the job and people become happy. However, when accounting is applied in more complex contexts that are harder to define and delineate, accounting is met with resistance and suspicion.

As argued in several recent papers on the complexities and uncertainties of broader digital change initiatives (Mergel *et al.*, 2019; Haug *et al.*, 2023; Vial, 2019), there is nothing simple about digital change. It can be *made* simple through defined and delineated digitalization projects, but to truly transform, it cannot (e.g. Megel *et al.*, 2019; Haug *et al.*, 2023). Consequently, if accounting makes digital change appear simpler than it is, it can direct attention away from the activities that really need to be undertaken for digital change to occur effectively. As an example, e-archiving is without a doubt important in the public sector. It is, as many of our interviewees reflected on, one of the fundamental processes that needs to be in place for broad digital change to be enabled. However, e-archiving does not in itself enable this. There is much more that needs to be done. If accounting can enable only simpler digitalization projects, while constraining the more complex broader digital transformation projects, it can damage the effective realization of digital change.

The contrasting processes and outcomes of benefit calculations in Alpha and Beta raise even more interesting questions to the accounting and digital change literature. To start with, in relation to calls for new skills in the accounting profession (Moll and Yigitbasioglu,

2019), an important finding of our study is that, although accounting was present, accountants were largely absent. In Alpha, a cross-functional team of non-accountants designed the benefit calculation and in Beta, the digitalization strategist was tasked with designing a benefit calculation without any support. In fact, the CFO of Beta merely described how the benefit calculation was met with resistance, but he/she neither stepped in to help the digitalization strategist with the design of the benefit calculation nor with its anchoring in the management group of Beta. As such, our study is surprising because accountants did not even volunteer to engage in designing accounting tools for digital change. There were no turf-wars between professions (Carlsson-Wall *et al.*, 2021; Goretzki *et al.*, 2023) since accountants did not see that digital change was in their domain. Interestingly, the digitalization strategist in Beta did not desire the complexity of designing and introducing the benefit calculation either. He/she purposefully avoided to take responsibility and instead instructed administration managers to "write what they wanted". This raises an important question for future research, how can organizations establish proper governance systems when professions (accounting and non-accounting) want to avoid the complexity of governing digital change projects? In previous research about digital technologies (Moll and Yigitbasioglu, 2019) and ERP systems (Carlsson-Wall *et al.*, 2021; Newman and Westrup, 2005; Quattrone and Hopper, 2005), it has been assumed that various professions want to control the digital space. In Beta, the perceived complexity was too high. All professions (accountants and non-accountants) avoided engagement with accounting. The benefit calculation was seen as a risk and a burden and after stirring up fear and confusion, it was stigmatized and not spoken of.

If digital change complexity results in fear of engaging with accounting, this also raises new questions in relation to decision-making and new forms of control. More specifically, how do organizations create accountants (and non-accountants) that are willing to govern these important, yet very complex and uncertain, digital change projects? If the use of artificial intelligence can result in reduced decision-making quality (Quattrone, 2016), how do organizations breed a new generation of digital accountants that dare to venture into the unknown? The role accountants play in governing digital change and constructing digital promises seems to be open for exciting research in the years to come.

6. Conclusions and future research

In this paper, we argue that digital promises constitute an underexplored phenomenon in the literature of accounting and digital change. While the current literature has studied the implications of digital promises for the accounting profession (Moll and Yigitbasioglu, 2019), big data and decision-making (Arnaboldi *et al.*, 2017b; Quattrone, 2016) and the emergence of new controls in digital platform organizations (Kornberger *et al.*, 2017), how accounting can be implicated in shaping digital promises has not been explicitly studied. Theoretically, by developing recent literature on accounting and promises (Mouritsen and Kreiner, 2016; Nappert and Plante, 2023), and conducting a qualitative field study of a region with 13 municipalities in Sweden, this paper makes the following contributions.

First, we contribute to the literature on accounting and digital change. While earlier articles have talked about digital technologies as a potential revolution (Moll and Yigitbasioglu, 2019) or a hype with limited effects (Arnaboldi *et al.*, 2017b; Payne, 2014), an explicit theoretical focus on accounting and promises can explore these issues in more depth. As our findings demonstrated, accounting's role in restoring and/or transforming digital promises can both terminate a project or make it live on (as shown with e-archiving). Empirically, our paper contributes novel insights in two ways. First, we add to the scarce knowledge about accounting and digital change in the public sector. As a literature review by Agostino *et al.* (2022) described, previous studies have primarily focused on the private

sector. Even though the private and public sector share many characteristics, there are also important differences. For example, our study highlighted how strong professional norms among administration managers made it difficult for politicians to restore the promise of digital change as narrowly being about cost efficiency. Secondly, it is also worth pointing out that while previous studies have empirically focused on the effects of digital technologies on the accounting profession, decision-making or new forms of control, our empirics highlight how accounting can also be part of broader digital change initiatives by playing a key role in shaping the promissory narratives that underpin these.

The paper also contributes to the emerging literature on accounting and promises (Mouritsen and Kreiner, 2016; Nappert and Plante, 2023). Empirically we show how accounting relates to restoring and transforming the promise of digital change. We first showed how budget scarcity was part in specifying the overall promissory narrative of digital change, and then how the specific accounting practice of benefit calculation was used to restore and transform organization level promises in relation to e-archiving and demands for cost savings. In doing so, we also make two theoretical contributions. First, we highlight the importance of taking a multi-level perspective when studying the relationship between accounting and promises. In our case, we had digital change as a promissory narrative, but we also found how there were specific promises between individuals in the respective organizations. While Mouritsen and Kreiner (2016) and Nappert and Plante (2023) partly discuss these issues, they do not distinguish between promissory narratives and promises. Secondly, we highlight problems when promises are ambiguous. In both Mouritsen and Kreiner (2016) and Nappert and Plante (2023) there are implicit assumptions that all parties understand the underlying promise. Our findings demonstrate that this is not always the case and that ambiguities related to promises can impact how accounting is enacted in relation to their restoration and transformation.

In terms of future research, we see two potential avenues. First, we suggest that the literature on accounting and digital change could be re-directed. Theoretically, the relationship between accounting and promises is only at its infancy and we believe that the focus on broader digital change processes has a lot to offer. Given the costs but also the risks of digitally changing an entire organization, we believe it is time for accounting researchers to move away from a single focus on the accounting function and instead study how accounting relates to broader digital change processes within or perhaps even between organizations. Secondly, given similar complexities between digital change and other grand challenges such as reducing climate change and society inequalities, the link between accounting and promises can be studied beyond digital change. Most likely, we will see that promises occur on multiple levels and that ambiguities regarding promises also exist in these settings.

Notes

1. Recent literature has argued for the need to separate between "digitalization" and "digital transformation" (Mergel *et al.*, 2019; Knudsen, 2020; Vial, 2019). Whereby digitalization refers to making analogous processes digital, digital transformation involves more fundamental digital changes of organizations. Yet, both refer to processes of digital change, and both are largely embedded within broader promissory narratives of the digital. Therefore, instead of adopting either of these, we discuss this under the broader term "digital change" or simply "the digital", except for where the distinction between "digitalization" and "digital transformation" is particularly called for.

References

Agostino, D., Saliterer, I. and Steccolini, I. (2022), "Digitalization, accounting and accountability: a literature review and reflections on future research in public services", *Financial Accountability and Management*, Vol. 38 No. 2, pp. 152-176, doi: 10.1111/faam.12301.

Ahrens, T. and Chapman, C.S. (2006), "Doing qualitative field research in management accounting: positioning data to contribute to theory", *Accounting, Organizations and Society*, Vol. 31 No. 8, pp. 819-841, doi: 10.1016/j.aos.2006.03.007.

Al-Htaybat, K. and von Alberti-Alhtaybat, L. (2017), "Big data and corporate reporting: impacts and paradoxes", *Accounting, Auditing & Accountability Journal*, Vol. 30 No. 4, pp. 850-873, doi: 10.1108/AAAJ-07-2015-2139.

Arnaboldi, M., Azzone, G. and Sidorova, Y. (2017a), "Governing social media: the emergence of hybridised boundary objects", *Accounting, Auditing and Accountability Journal*, Vol. 30 No. 4, pp. 821-849, doi: 10.1108/aaaj-07-2015-2132.

Arnaboldi, M., Busco, C. and Cuganesan, S. (2017b), "Accounting, accountability, social media and big data: revolution or hype?", *Accounting, Auditing and Accountability Journal*, Vol. 30 No. 4, pp. 762-776, doi: 10.1108/aaaj-03-2017-2880.

Bhimani, A. (2021), *Accounting Disrupted: How Digitalization Is Changing Finance*, John Wiley & Sons, Hoboken, NJ.

Bhimani, A. and Willcocks, L. (2014), "Digitisation, 'big data' and the transformation of accounting information", *Accounting and Business Research*, Vol. 44 No. 4, pp. 469-490, doi: 10.1080/00014788.2014.910051.

Boland, R.J. (1993), "Accounting and the interpretive act", *Accounting, Organizations and Society*, Vol. 18 No. 2, pp. 125-146, doi: 10.1016/0361-3682(93)90030-A.

Brivot, M., Gendron, Y. and Guénin, H. (2017), "Reinventing organizational control: meaning contest surrounding reputational risk controllability in the social media arena", *Accounting, Auditing & Accountability Journal*, Vol. 30 No. 4, pp. 796-820, doi: 10.1108/AAAJ-06-2015-2111.

Brown, N. (2005), "Shifting tenses: reconnecting regimes of truth and hope", *Configurations*, Vol. 13 No. 3, pp. 331-355, doi: 10.1353/con.2007.0019.

Brown, N. and Michael, M. (2003), "A sociology of expectations: retrospecting prospects and prospecting retrospects", *Technology Analysis and Strategic Management*, Vol. 15 No. 1, pp. 3-18, doi: 10.1080/0953732032000046024.

Burchell, S., Clubb, C., Hopwood, A., Hughes, J. and Nahapiet, J. (1980), "The roles of accounting in organizations and society", *Accounting, Organizations and Society*, Vol. 5 No. 1, pp. 5-27, doi: 10.1016/0361-3682(80)90017-3.

Busco, C. and Quattrone, P. (2015), "Exploring how the balanced scorecard engages and unfolds: articulating the visual power of accounting inscriptions", *Contemporary Accounting Research*, Vol. 32 No. 3, pp. 1236-1262, doi: 10.1111/1911-3846.12105.

Busco, C. and Quattrone, P. (2018), "In search of the 'perfect one': how accounting as a maieutic machine sustains inventions through generative 'in-tensions'", *Management Accounting Research*, Vol. 39, pp. 1-16, doi: 10.1016/j.mar.2017.02.002.

Cambridge Dictionary (2024), "Promise", available at: https://dictionary.cambridge.org/dictionary/learner-english/promise (accessed 17 April 2024).

Carlsson-Wall, M., Goretzki, L., Hofstedt, J., Kraus, K. and Nilsson, C.-J. (2021), "Exploring the implications of cloud-based enterprise resource planning systems for public sector management accountants", *Financial Accountability and Management*, Vol. 38 No. 2, pp. 177-201, doi: 10.1111/faam.12300.

Cusworth, G., Garnett, T. and Lorimer, J. (2021), "Legume dreams: the contested futures of sustainable plant-based food systems in Europe", *Global Environmental Change*, Vol. 69, 102321, doi: 10.1016/j.gloenvcha.2021.102321.

Dubois, A. and Gadde, L.-E. (2002), "Systematic combining: an abductive approach to case research", *Journal of Business Research*, Vol. 55 No. 7, pp. 553-560, doi: 10.1016/S0148-2963(00)00195-8.

Goretzki, L., Messner, M. and Wurm, M. (2023), "Magicians, unicorns or data cleaners? Exploring the identity narratives and work experiences of data scientists", *Accounting, Auditing & Accountability Journal*, Vol. 36 No. 9, pp. 253-280, doi: 10.1108/AAAJ-01-2022-5621.

Haug, N., Dan, S. and Mergel, I. (2023), "Digitally-induced change in the public sector: a systematic review and research agenda", *Public Management Review*, Vol. 26 No. 7, pp. 1963-1987, doi: 10.1080/14719037.2023.2234917.

Hinings, B., Gegenhuber, T. and Greenwood, R. (2018), "Digital innovation and transformation: an institutional perspective", *Information and Organization*, Vol. 28 No. 1, pp. 52-61, doi: 10.1016/j.infoandorg.2018.02.004.

Jasanoff, S. and Kim, S.H. (2009), "Containing the atom: sociotechnical imaginaries and nuclear power in the United States and South Korea", *Minerva*, Vol. 47 No. 2, pp. 119-146, doi: 10.1007/s11024-009-9124-4.

Jasanoff, S. and Kim, S.H. (2015), *Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power*, University of Chicago Press, Chicago, IL.

Jordan, S. and Messner, M. (2012), "Enabling control and the problem of incomplete performance indicators", *Accounting, Organizations and Society*, Vol. 37 No. 8, pp. 544-564, doi: 10.1016/j.aos.2012.08.002.

Knudsen, D.-R. (2020), "Elusive boundaries, power relations, and knowledge production: a systematic review of the literature on digitalization in accounting", *International Journal of Accounting Information Systems*, Vol. 36, pp. 1-22, doi: 10.1016/j.accinf.2019.100441.

Kornberger, M., Pflueger, D. and Mouritsen, J. (2017), "Evaluative infrastructures: accounting for platform organization", *Accounting, Organizations and Society*, Vol. 60, pp. 79-95, doi: 10.1016/j.aos.2017.05.002.

Lukka, K. and Modell, S. (2010), "Validation in interpretive management accounting research", *Accounting, Organizations and Society*, Vol. 35 No. 4, pp. 462-477, doi: 10.1016/j.aos.2009.10.004.

Mager, A. and Katzenbach, C. (2021), "Future imaginaries in the making and governing of digital technology: multiple, contested, commodified", *New Media and Society*, Vol. 23 No. 2, pp. 223-236, doi: 10.1177/1461444820929321.

Magnusson, J., Lindroth, T., Torell, J. and Crusoe, J. (2023), "Statusrapport digital mognad 2023", available at: https://www.digitalforvaltning.se/rapport/statusrapport-2023

Mankevich, V., Magnusson, J. and Svahn, F. (2023), "The great wave: the increasing demand for digital competence within the public sector", *Information Polity*, Vol. 28 No. 3, pp. 411-434, doi: 10.3233/IP-220012.

Mergel, I., Edelmann, N. and Haug, N. (2019), "Defining digital transformation: results from expert interviews", *Government Information Quarterly*, Vol. 36 No. 4, 101385, doi: 10.1016/j.giq.2019.06.002.

Miller, P. and Power, M. (2013), "Accounting, organizing and economizing: connecting accounting research and organization theory", *The Academy of Management Annals*, Vol. 7 No. 1, pp. 557-605, doi: 10.1080/19416520.2013.783668.

Moll, J. and Yigitbasioglu, O. (2019), "The role of internet-related technologies in shaping the work of accountants: new directions for accounting research", *The British Accounting Review*, Vol. 51 No. 6, pp. 1-20, doi: 10.1016/j.bar.2019.04.002.

Mouritsen, J. and Kreiner, K. (2016), "Accounting, decisions and promises", *Accounting, Organizations and Society*, Vol. 49, pp. 21-31, doi: 10.1016/j.aos.2016.02.002.

Nappert, P.-L. and Plante, M. (2023), "The assetization of baseball players: instrumentalizing promise with signing bonuses and human capital contracts", *Accounting, Organizations and Society*, Vol. 105, 101402, doi: 10.1016/j.aos.2022.101402.

Newman, M. and Westrup, C. (2005), "Making ERPs work: accountants and the introduction of ERP systems", *European Journal of Information Systems*, Vol. 14 No. 3, pp. 258-272, doi: 10.1057/palgrave.ejis.3000539.

Payne, R. (2014), "Discussion of 'digitisation, 'big data' and the transformation of accounting information' by Alnoor Bhimani and Leslie Willcocks (2014)", *Accounting and Business Research*, Vol. 44 No. 4, pp. 491-495, doi: 10.1080/00014788.2014.910053.

Pollock, N. and Williams, R. (2010), "The business of expectations: how promissory organizations shape technology and innovation", *Social Studies of Science*, Vol. 40 No. 4, pp. 525-548, doi: 10.1177/0306312710362275.

Porter, M.E. and Heppelmann, J.E. (2015), "How smart, connected products are transforming companies", *Harvard Business Review*, Vol. 93 No. 10, pp. 97-114.

Power, M. (2015), "How accounting begins: object formation and the accretion of infrastructure", *Accounting, Organizations and Society*, Vol. 47, pp. 43-55, doi: 10.1016/j.aos.2015.10.005.

Preston, A. (1986), "Interactions and arrangements in the process of informing", *Accounting, Organizations and Society*, Vol. 11 No. 6, pp. 521-540, doi: 10.1016/0361-3682(86)90034-6.

Quattrone, P. (2015), "Governing social orders, unfolding rationality, and Jesuit accounting practices: a procedural approach to institutional logics", *Administrative Science Quarterly*, Vol. 60 No. 3, pp. 411-445, doi: 10.1177/0001839215592174.

Quattrone, P. (2016), "Management accounting goes digital: will the move make it wiser?", *Management Accounting Research*, Vol. 31, pp. 118-122, doi: 10.1016/j.mar.2016.01.003.

Quattrone, P. and Hopper, T. (2005), "A 'time–space odyssey': management control systems in two multinational organisations", *Accounting, Organizations and Society*, Vol. 30 Nos 7-8, pp. 735-764, doi: 10.1016/j.aos.2003.10.006.

Quattrone, P., Ronzani, M., Jancsary, D. and Höller, M.A. (2021), "Beyond the visible, the material and the performative: shifting perspectives on the visual in organization studies", *Organization Studies*, Vol. 42 No. 8, pp. 1197-1218, doi: 10.1177/01708406211033678.

SALAR (2009), "E-förvaltningsutveckling i Sveriges kommuner 2006-2008, Delrapport *3*", available at: https://issuu.com/sverigeskommunerochlandsting/docs/7164-435-0/1

SALAR (2017), "The economy report, May 2017 – on Swedish municipal and county council finances", available at: https://skr.se/download/18.3556b1db17f446f105656009/1646833445655/7585-090-0.pdf

SALAR (2023), "Kommungemensamt handslag för välfärdsutveckling genom digitalisering", available at: https://skr.se/download/18.acac5cc18c6365545168b/1702481289391/SKR_Kommungemensamt%20handslag%20f%C3%B6r%20v%C3%A4lf%C3%A4rdens%20digitalisering.pdf

Sarasvathy, S.D. (2001), "Causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency", *Academy of Management Review*, Vol. 26 No. 2, pp. 243-263, doi: 10.2307/259121.

Sarasvathy, S.D. and Dew, N. (2005), "Entrepreneurial logics for a technology of foolishness", *Scandinavian Journal of Management*, Vol. 21 No. 4, pp. 385-406, doi: 10.1016/j.scaman.2005.09.009.

Sætre, A.S. and Van de Ven, A. (2021), "Generating theory by abduction", *Academy of Management Review*, Vol. 46 No. 4, pp. 684-701, doi: 10.5465/amr.2019.0233.

Scott, S.V. and Orlikowski, W.J. (2012), "Reconfiguring relations of accountability: materialization of social media in the travel sector", *Accounting, Organizations and Society*, Vol. 37 No. 1, pp. 26-40, doi: 10.1016/j.aos.2011.11.005.

Sexton, A.E., Garnett, T. and Lorimer, J. (2019), "Framing the future of food: the contested promises of alternative proteins", *ENE: Nature and Space*, Vol. 2 No. 1, pp. 47-72, doi: 10.1177/2514848619827009.

Simon, H., Guetzkow, G., Kozmetsky, G. and Tyndall, G. (1954), *Centralization vs Decentralization in Organizing the Controllers' Department*, Controllership Foundation, New York.

Vial, G. (2019), "Understanding digital transformation: a review and a research agenda", *The Journal of Strategic Information Systems*, Vol. 28 No. 2, pp. 118-144, doi: 10.1016/j.jsis.2019.01.003.

Appendix

Nr	Date	Org	Role	H:M
1	2019-05-02	DELTA	Digitalization strategist	01:21
2	2019-05-02	DELTA	School manager	01:04
3	2019-05-02	DELTA	Municipal director	01:27
4	2019-05-03	GAMMA	Digitalization strategist	01:26
5	2019-05-03	GAMMA	Municipal director	01:08
6	2019-05-03	GAMMA	School manager	01:05
7	2019-05-14	ALPHA	School manager	01:03
8	2019-05-14	ALPHA	Digitalization strategist	01:11
9	2019-05-14	BETA	Digitalization strategist	00:25
10	2019-05-14	BETA	Municipal director	01:06
11	2019-05-15	ALPHA	Manager for business support	01:15
12	2019-05-15	BETA	School manager	00:33
13	2019-05-15	BETA	Digitalization strategist	00:49
14	2019-05-17	ALPHA	Municipal director	01:00
15	2020-03-23	ALPHA	Digitalization strategist	01:10
16	2020-03-24	ALPHA	Communications manager	00:57
17	2020-04-15	GAMMA	Digitalization strategist	00:57
18	2020-04-16	ALPHA	Manager for business support	01:01
19	2020-04-24	BETA	Digitalization strategist	02:14
20	2020-04-27	BETA	Deputy Municipal director	00:47
21	2020-04-27	BETA	Municipal director	00:58
22	2020-04-28	BETA	CFO	00:50
23	2020-05-06	GAMMA	Municipal director	00:59
24	2020-05-06	GAMMA	Communications manager	00:58
25	2020-05-07	DELTA	CFO	01:01
26	2020-05-28	DELTA	Municipal director	00:54
27	2021-05-19	BETA	IT manager	02:05
28	2021-05-19	GAMMA	CFO	02:32
29	2021-05-20	DELTA	Digitalization strategist	01:24
30	2021-05-24	ALPHA	Digitalization strategist	00:54
31	2021-05-26	GAMMA	School IT strategist	01:00
32	2021-05-27	ALPHA	IT manager	01:16
33	2021-06-03	BETA	Social services manager	00:53
34	2021-06-14	DB	Main project leader, IoT	00:56
35	2021-06-15	GAMMA	Social services manager	00:55
36	2021-06-22	DB	Main project leader, IoT	00:43
37	2021-06-23	OTHER	Digitalization strategist	00:51
38	2021-06-29	DELTA	IT strategist	00:56
39	2021-06-30	OTHER	Digitalization strategist	00:56
40	2021-06-30	OTHER	IT architect	01:03
41	2021-07-01	DB	Project leader and chairman	00:57
42	2021-12-09	DB	Main project leader, IoT	00:54
43	2022-08-25	DB	Main project leader, IoT	01:07
44	2022-09-27	DB	Project leader and chairman	00:47
45	2022-09-30	ALPHA	Digitalization strategist	00:56
46	2022-10-03	BETA	GIS coordinator	00:56
47	2022-10-03	OTHER	IT architect	00:55
48	2022-10-04	DB	Project leader, IoT	00:56
49	2022-10-11	GAMMA	IT developer	00:57
50	2022-10-12	OTHER	Municipal director	00:56
51	2022-10-14	DELTA	Development manager	00:56

Table A1. Summary of interviews

(*continued*)

Nr	Date	Org	Role	H:M
52	2022-10-17	BETA	Development manager	00:56
53	2022-10-25	OTHER	Digitalization strategist	01:00
54	2023-06-05	REGION	Development leader	01:03
55	2023-06-12	REGION	Development leader	00:41
56	2023-07-20	GAMMA	Digitalization strategist	01:03
57	2023-10-17	DB	Main project leader, IoT	39:01
			Average	*01:03*

Source(s): Authors' own creation

Table A1.

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