EMOTIONAL TRADITIONS MEET BINARY PRACTICES

A STUDY OF THE ROLE OF PERFORMANCE MEASUREMENTS AND INFORMATION SYSTEMS IN A SWEDISH NGO

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Emotional traditions meet binary practices

Abstract:

This thesis explores how the role of performance management systems, in institutionally complex environments, is affected by the role of Information Systems. To pursue this, we draw on a single case study of an NGO undergoing a digital transformation. To analyse the case data, we employ a synthesized framework, consisting of Barrett et al. (2020) and performance management systems. We find that the affordances ascribed to the information systems influenced and incapacitated the compromising role of performance management systems. However, such incapacitation was largely dependent on the level of performance of the digital fundraising. We contribute to the overall literature on accounting in institutionally complex environments by showcasing that Information Systems may incapacitate the compromising role of accounting. Furthermore, we demonstrate that due to the affordances, the compromising role of performance management systems between logics can be dependent on the performance of activities not attached to the conflicting institutional logics.

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1. Introduction

"We saw two years of digital transformation in two months"

Satya Nadella, CEO, Microsoft Corporation

The outbreak of Covid-19 has impacted people's lives in subtler ways than social distancing, mask-wearing and lockdowns. Digitalisation, a process that has started long before the pandemic, has gained momentum and continues at an unprecedented speed. While digitalisation has impacted all the sectors in society, Non-Governmental Organisations (NGOs) have fallen behind organisations in the private and public sectors (Accenture, 2017). With this in mind, the tools that are implemented during a digital transformation are largely influenced and shaped by business practices. In the NGO setting, where practice variation is common, how can an organisation ensure that it sticks to its mission and remains legitimate to its stakeholders' expectations and at the same time to raise sufficient funds? As accounting shapes the relative strengths of institutions, especially in institutionally complex environments, it is prominent to pursue accounting research in such contexts (Lounsbury, 2008).

In the accounting literature, the role of accounting in institutionally complex environments has been studied in a wide range of organisational contexts, including sports clubs, educational institutions and NGOs (e.g. Carlsson-Wall et al. 2016; Kaufman & Covalevski, 2019; Järvinen, 2006).

Many scholars argue that accounting systems, such as budgeting, increase institutional complexity (e.g. Ezzamel et al, 2012) or even introduce institutional complexity (Conrath-Hargreaves & Wüstemann, 2019). Other prominent accounting scholars find that the balancing act of institutional demands is fostered through accounting systems. Amans et al. (2015) have found that budgeting can cater to multiple institutional demands simultaneously and in Chenhall et al. (2013) accounting systems facilitated discussion between logics as well as a compromise between logics. Dai et al. (2017) uncover that the balance of logics can be disrupted by outside events occurring outside the organisation. Further, accounting systems have been found to have different roles across time. Using a single case study, Kaufman & Covalevski (2019) provide evidence that accounting systems at a point in time can strike a balance between institutional logics and disrupt the same balance at a later point in time. This illustrates and implies that the role of accounting is multifaceted and in constant formation, especially in the digital world today where digitalisation continuously accumulates momentum.

Historically, accounting at the intersection of technology has been studied from an implementation perspective and management control perspective, i.e. how nodes of control are facilitated through technology in contemporary corporate entities (Quattrone & Hopper, 2005; Dechow & Mouritsen, 2005). However, more recent work has started to incorporate a more institutional perspective, specifically concerning the concept of "accounting logics" (e.g. Heinzelmann, 2017; Wagner & Moll, 2011).

However, despite the role of accounting having been extensively researched throughout the years, the impact of information systems (IS), has largely been neglected as influencing the role of accounting. Although we acknowledge advances having been made (e.g. Heinzelmann, 2017; Wagner & Moll, 2011), we argue that a recognition of the broader institutional scene has been neglected. This is noteworthy as IS has become more and more prevalent in today's world and carries a close link to performance indicators (OECD, 2019; Dechow & Mouritsen, 2005). To address this gap in the literature, the following research question is posed:

How is the role of performance management systems affected by affordances and constraints of information systems, in institutionally complex environments?

To analyse the data, we draw upon the concept of Affordances and Constraints in IS (Leonardi, 2011) and utilise the framework of Barrett et al. (2020). The framework outlines how affordances and constraints are built, constructed and erased in the name of institutions. To analyse the affected role of accounting in institutionally complex environments by IS, the framework of Barret et al. (2020) has been adopted to account for this. This study aims to contribute to the overall literature on accounting in institutionally complex environments by addressing the gap of the role of software in such interplay. More specifically, this thesis aims to describe how the role of accounting is impacted by the role of software.

The rest of this paper is structured as follows. First, the current literature on the role of accounting in institutionally complex environments is reviewed and concluded with an identified gap in the current literature. Thereafter, the concepts of affordances and constraints of IS are introduced, followed by a presentation of the framework from Barrett et al. (2020) which has guided the analysis of this paper. In the following chapter, the research methodology is outlined along with a motivation for our case selection, data analysis and a discussion around data quality. Afterwards, we present the empirical analysis of the case study, which is followed by a discussion of the findings and concluding remarks.

2. Theoretical development

The initial section review and problematises the current literature covering the NGO context, the role of accounting in institutionally complex environments and information systems (IS) as a disruptor of institutional logics. The section is concluded with an identified gap in the current accounting literature.

The section thereafter presents the perspective that has been used as a theoretical lens throughout this thesis. More specifically, it outlines the concept of sociomateriality, affordances and constraints. Lastly, the theoretical framework is outlined, which integrates the role of performance management systems with the method theory and describes how it will be used to analyse the empirical data in more detail.

2.1.   Role of accounting in the institutionally complex environment

The question of what role accounting plays to shape the institutional logics in organizations has been rather extensively studied in the accounting literature. Various organizations have been studied in sports clubs (e.g. Carlsson-Wall et al. 2016), social enterprises (Battilana & Dorado, 2010), educational institutions (e.g. Gerdin 2020; Kaufaman & Covalevski 2019; Lepori & Montauti, 2019), cultural organisations (e.g. Amans et al., 2015) and NGOs (e.g. Järvinen 2016; Chenhall et al. 2013).

One of the most common perspectives is a relatively plain situation, which argues that accounting practices play a role to disrupt, maintain or reduce the level of conflict between competing institutional logics in organisations. Conrath-Hargreaves & Wüstemann (2019) illustrates how accounting processes disrupt the tension by introducing a new logic into the organization. Though actors tended to disregard the accounting system attached to the new logic, the logic was maintained in the organisation through the new accounting process. Busco et al., (2017) demonstrated business plans and agile-based control systems engaged different stakeholders continuously in dialogues about their purposes, which demonstrated the flexibility of accounting practices to be adapted to the different actors in the encounters of multiple logics. Järvinen (2006) found that cost allocation between logics was a useful tool to address conflicting institutional demands when NPOs incorporate business-like functions, thus inducing institutional complexity.

Interestingly, given the different dynamics within organisations, the same accounting practice can result in different roles to the tensions. Lepori & Montauti (2019) found the allocative nature of the budgeting process generated tensions within a higher educational

institution; while budgeting was also used to both pursue different objectives and connect the multiple institutions, which can be considered as a solution that organizations take to respond to institutional complexity (Amans et al., 2015). Outcome measurements (OM) was found to decrease the tension between competing demands in a church-based charity (Yang & Northcott, 2018); while in another charity the introduction of OM tools by the managers further enhanced the tension between two competing demands, which was the result of prioritisation of the mission rather than funders requirements. Gerdin (2020) argues that a management control system, despite underpinning conflicting logics, has the potential to enhance and complement the strengths and weaknesses of each logic. The compromising act of accounting systems that are underpinned by different logics described by Chenhall (2013) is determined by the heterogeneity of logics (e.g. Ezzamel et al. 2012) and the degree of complementarity incorporated in the same control system (e.g. Gerdin, 2020). It is thus of importance to consider the compromising nature of accounting when examining balancing of the logics

Thus, a more complex perspective of the role of accounting played in the institutional complexity has been discussed, where scholars find that the role of the same accounting practice within an organization may change and be subject to time constraints. Kaufman & Covalevski (2019) studied budget reforms in an educational institution and found that management control systems initially fostered a balance between prevalent logics. However, the balance of the institutional logics was later disrupted by the same control systems, causing change requirements in the budgeting process. In Yang & Northcott (2018) new OMs were introduced to avoid mission drift and enhance the charity's legitimacy and success. However, the staff maintained their daily work and didn't institutionalise the OMs into their practices. Such balance, made by detaching practices from the OMs, was temporary and could have negative consequences for the trust between the agent and funders (Sargeant and Lee, 2002; Yang & Northcott, 2018).

Since the OM practices currently functioning well may cause severe consequences in the long run (Yang & Northcott, 2018), in our study a long-term view should be kept in mind when we explore the role of accounting practices played in the institutional complexity within the organization. Chenhall et al. (2016) indicate that management control systems, underpinned by business logic, can stir up conflicts between institutional logics, especially when the logics are heterogeneous. Further, it's suggested that a compartmentalization strategy according to Pratt & Forman's (2000) framework can be successful for a period but it doesn't function in a context where conflicts become more pronounced over time.

Inspired by the long-term horizon, we adhere to a more dynamic perspective that the role of accounting may change over time since the dynamic in the organization has been

affected by internal or external contextual changes. Dai et al. (2017) emphasize that the balance of logics, which have been fostered by the accounting systems, can be disrupted through changes in the external environment as time goes. Hence, far from being static, management control systems need to be viewed in a continuous flux, responding to how logics are shaped by the external environment (DiMaggio & Powell, 1983; Dai et al. 2017; Kaufman & Covalevski 2019). The balance between institutional demands is fragile due to changes in time that influence the logics within the organisation (Kaufman & Covalevski, 2019; Dai et al. 2017). Further, the very control system in itself (e.g. Gerdin, 2020; Chenhall, 2013) is important to account for when finding a balance between logics. Therefore, it becomes prominent to investigate the accounting and management control systems of an NGO that adapts to changes in the external environment.

As the role of accounting practices may change over time and adapt to the changes in the external environment in a long-term view, the technology advancements and the transition into the digital era is inevitable to take into consideration. Thus, the software is an important factor to consider in the balance between logics, especially as the tempo of digitalization has increased over the last years (OECD, 2019; DiMaggio & Powell, 1983). However, many NGOs have yet to complete a digital transformation to the same extent as corporations (Accenture, 2017). Digitalization itself can be viewed with an institutional logic and due to the productivity, efficiency and growth it yields (OECD, 2019), many or at least some of the "*off-the-rack*" software applications have been developed with a "capitalist" or "business" logic in mind. Hence, how NGOs tailor these information systems to fit their non-commercial organisation purpose, is of key importance (DiMaggio & Powell, 1983; Accenture, 2017).

Accounting systems intersecting with IS has been studied mainly from an implementation perspective (e.g. Quattrone & Hopper, 2005; Dechow & Mouritsen, 2005). Quattrone & Hopper (2005) find that how ERP software is used as a tool for management control differs across culturally different regions. The cultural factors, if one will become elevated within the technological tools. In addition, Dechow & Mouritsen (2005) find that in the context of management control, ERP software and human actors, together, enable and restrict certain functionalities of the tool. As such, what technology means for the accounting process is likely to be influenced by the human actors themselves and the respective institutions they abide by (Quattrone & Hopper, 2005; Dechow & Mouritsen, 2005).

Wagner & Moll (2011) illustrates how accounting logics are built into ERP systems that highlight and hesitate certain nodes of accounting enforced control. This echoes the findings of Heinzelmann (2017), that the implementation of SAP's ERP system came

with and carried a Germanic accounting logic. Conclusively, IS has an implication for accounting logics, and what nodes of management control can be and are enforced (Wagner & Moll, 2011; Henizelmann, 2017).

Drawing on the literature on accounting practices in institutionally complex environments (e.g. Ezzamel et al., 2012, Dai et al., 2017, Conrath-Hargreaves & Wüstemann, 2019), we find that multiple logics generate tensions, creating implications for the design and role of management control systems. Further, even though the tensions and conflicts at hand can be fairly similar, the role of accounting and its ability to compromise differs amongst them (cf. Chenhall et al., 2013; Lepori & Montauti, 2019; Ezzamel et al., 2012). Thus, more scenarios need to be further tested and explored regarding what situations may affect the role of accounting in these pluralistic organisational contexts, especially as these are shaped over time (Dai et al., 2017).

Simultaneously, the studies on accounting and IS have not addressed a broader institutional scene in the organization - i.e. going beyond the subject of accounting logics. This is puzzling, as accounting systems become more and more shaped by IS (Dechow & Mouristen. 2005; Quattrone & Hopper, 2005; Heinzelmann, 2017; Wagner & Moll, 2011). The work of Heinzelmann (2017) and Wagner & Moll (2011) has contributed to the literature on IS and accounting, by emphasising the role of IS in creating accounting logics. Accounting, however, shapes much more than just itself - it shapes the institutions - as illustrated in the accounting and institutional complexity literature (e.g. Amans et al. 2015; Ezzamel et al. 2012; Conrath-Hargreaves & Wüstemann, 2019).

By placing a pronounced emphasis on IS, we aim to provide insights into how the role of accounting is affected. More specifically, we aim to contribute to the literature on accounting and institutional complexity, by providing insight into how the role of accounting, in an institutionally complex environment, is affected by IS.

2.2.   The role of software in institutionally complex environments

Technology at work has been studied in various forms and has placed researchers in three ontologically different camps in terms of assigning technology and human actors. According to Crone & Orlikowski (2008), one end of the spectrum treats humans and technological objects as something discrete and detached from each other. In other words, humans interact with technology to create a certain phenomenon for the benefit of an organisation and do so stably and predictably (Orlikowski, 2007; Mumford, 2006). The second extreme views technology as something that is given meaning, by human actors, which varies depending on their social and cultural values. While technology is not

disregarded, the power of formation and adaptation is largely attributed to human actors (Orlikowski, 2007).

In between these two, inspired by Actor-Network-Theory (ANT), exists the constitutively entangled view where the human and technological mixes, creating sociomaterial assemblages, which implies that nothing exists or acts on its own, but does so in tandem with neither of them having the dominant agency (Orlikowski, 2007; Orlikowski & Scott, 2008; Cassell et al., 2019). Although not exactly as the science fiction movies, the concept of a digital entangled life is indeed here today, which is raised by Czech-Kecmanovic et al. (2014) *"We tend to associate cyborgs with science fiction movies, rather than as a useful metaphor that helps us in thinking about the sociomaterial reality of our everyday practice" (p. 820).*

Using a relational ontological viewpoint, which refers to when technological objects integrate with the human, the entanglement of IT and human actors create new practices and shapes the micro-processes of organising (Cecez-Kecmanovic et al. 2014). The microprocesses arising from sociomaterial entanglements produce spillover effects, which affects the macro-processes (e.g. Hultin & Mähring, 2014; Mazmanian et al. 2006). While other scholars have argued for viewing sociomaterial aspects as "imbrication" (Leonardi, 2011) or "assemblages" (Suchman, 2007), we argue that the differences are mainly semantic and do not materially affect the nodes for analysis and are used interchangeably throughout this paper.

In Mazmanian et al. (2006), the introduction of BlackBerry phones facilitated communication at work in between employees. Previously, colleagues couldn't reach each other when they were out of the office as efficiently. The employees were one thing from the start, but with the blackberries entangled in human practice, new microprocesses were formed and brought forth new expectations. Thus, sociomaterial entanglements shape micro-processes (efficient communication) that ultimately guide macro-processes (increased expectation of availability) (Mazmanian et al. 2006). Hultin & Mähring (2014) uncovered similar ways of how microprocessors are altered through the use of technology, as it guided action and facilitated the introduction of new work processes according to different institutional logics.

Using relational ontology, this paper asserts the perspective of "sociomaterial entanglement", where objects and humans are not viewed as distinct objects but continuously interacting and shaping micro-processes that in turn shapes the macro-processes (Orlikowski, 2010).

Stemming from the field of Psychology, affordances and constraints denote what humans can do and can not do with artefacts and objects (Norman, 1988). In its simplest form,

Norman (1988) exemplifies this with the holes of a pair of scissors. The holes of different sizes afford the usage of one finger in each hole but it constrains the usage of multiple fingers in each hole. Further, the size of people's fingers varies, which makes the affordances and constraints different between people (Norman, 1988). Simply put, artefacts afford certain functionalities and constrain others, dependent on the artefact and human agent (Norman, 1988; Leonardi, 2011).

Affordances and constraints are created from the "entanglement" or "imbrication" of technologies as well as the human actors (Czech-Kazmanovic et al. 2014; Leonardi, 2011; Orlikowski, 2007). While the complexity of affordances differs across artefacts the concept is the same, even for IS, as outlined by Leonardi (2011):

> "Because affordances are relational - existing between people and an artefact's materiality - artefacts can be used in myriad ways and have multiple effects on the organization of work." (p. 153).

When actors engage with technology and become a material part of its function and agency, the affordances and constraints of technology do indeed change over time (Orlikowski, 2010; Leonardi, 2011).

In line with Leonardi (2011) this paper views the notions of affordances and constraints as something that is primarily relational, i.e. existing in between artefacts and humans. While we do not argue against other scholars that acknowledge affordances as dispositional or relational and dispositional (cf. Fayard & Weeks, 2014), we mainly limit ourselves - due to the purpose of this study - to view affordances as something relational and formed by the human actor emphasized by Leonardi (2011):

> "For this reason, the argument is that as people attempt to reconcile their own goals with the materiality of a technology, they actively construct perceptual affordances and constraints. Depending on whether they perceive that a technology affords or constrains their goals, they make choices about how they will imbricate human and material agencies." (p. 154).

In a framework development by Barrett et al. (2020), the concept of institutional logics is integrated into the creation of affordances and constraints. More specifically, the authors stress that actors draw on institutional logics when they construct relational affordances within sociomaterial entanglements, which is exemplified by the following quote: *"As individuals and organizations draw from accessible logics in their interactions with IT-in-use, they focus their attention on specific IT affordances."* (Barrett et al. 2020, p. 1364).

Whilst the framework of Barret et al. (2020) was developed with a broader societal focus in mind, more particularly how IT affordances gain scale and shape institutional logics as

well as the logics of IT. The scope of this paper is limited in comparison as it focuses on the microprocesses of organising and hence the concept of societal scaling of logics is left out. Rather, the affordances and constraints, being crafted and rooted in logics, have a role in institutionally complex settings and the balance of the logics.

Drawing upon Leonardi (2011) and Barrett et al. (2020) the goals of human actors seemingly guide the affordances and constraints imbricated and entangled in IS. Influencing such goals is the performance management systems, which are designed to create a certain set of actions by actors (Simons, 1995). Thus, the management accounting systems have a role in creating the affordances and constraints embedded within technological tools by guiding institutional logics (Barrett et al. 2020; Leonardi, 2011). With the framework from Barrett et al. (2020) as a basis, we explore how affordances and constraints of IS are created by and shape the institutional logics in organisations (Figure 1).
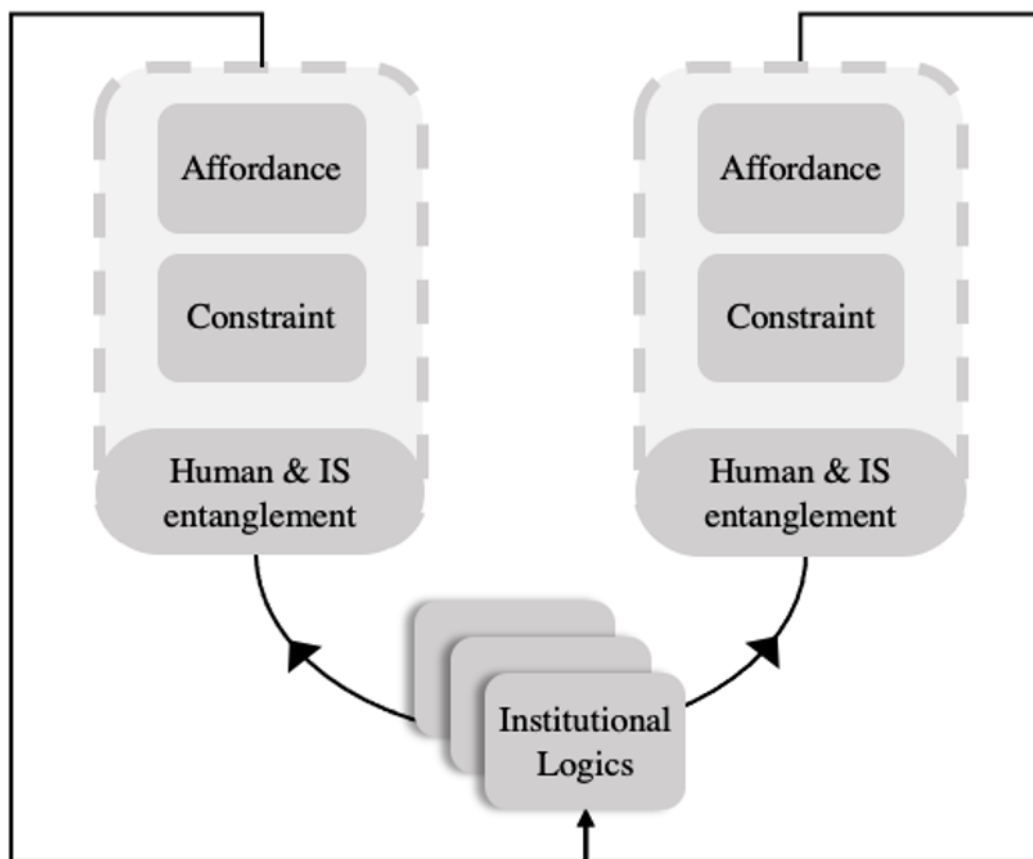
Figure 1. Framework adopted from Barrett et al. 2020

2.3. Theoretical framework: Accounting as a mediator or amplifier of institutional complexity

To analyse the empirics, we assume a sociomaterial perspective according to Orlikowski (2007) and draw upon a version of the framework developed by Barrett et al. (2020). The baseline framework has been adapted for our purpose of studying institutional logics on an organisational rather than a societal level. Therefore, we leave out the concepts of sense giving, translating and decoupling as these concepts are used to analyse the scaling of IT affordances onto the societal level (Barrett et al., 2020; Orlikowski, 2007; Mazmanian et al. 2005). Microprocesses will be used as the basis to analyse the salience of conflicts between logics on a macro level of organising.

The adapted framework (Figure 1) has been integrated with the role of accounting in institutional complex environments as a mediator of balance (e.g Kaufman & Covalevski, 2019; Carlsson-Wall et al. 2016) or amplifier of conflict (e.g. Ezzamel et al. 2012; Conrath-Hargreaves & Wüstemann, 2019) to create a synthesized framework (Figure 2). The framework will be used to analyse and address the gap in the literature on the role of accounting in institutional complex environments, given the neglect of the role of technology (e.g. Heinzelmann, 2017; Hultin & Mähring, 2014).

The framework provides a powerful tool for the analysis of microprocesses with regards to *how* actors and technology entanglement shapes and is shaped by institutional logics on a macro level. Whilst the framework developed by Barrett et al. (2020) itself does not incorporate the role of management accounting systems per se, we argue that incorporating it within it is feasible as the goals of human actors are closely interlinked to these systems. More specifically, we focus on the performance management systems (PMS) of management accounting systems since in terms of goal enactment PMS has a more important impact on how human actors perceive their goals and hence how technology affords or constrains their goals (Barrett et al. 2020; Simons, 1995). It is in line with what Barrett et al. (2020) and Leonardi (2011) acknowledge that the goals of human actors actively shape the affordances and constraints embedded within technology.

In the accounting literature, the sociomaterial perspective has been used by Wagner & Moll (2011) to explore different accounting logics and how they are shaped by ERP software. Dechow & Mouritsen (2005), Hinzelmann (2017) and Quattrone & Hopper (2005) draw upon closely related ANT to uncover the implications for accounting practices. Dechow & Mouritsen (2005) found that software comes with techno-logics that constrain and afford certain actions (Leonardi, 2011). While Dechow & Mouritsen (2005) and Heinzelmann (2017) have investigated software shaping accounting as a practice and

how software carries inscribed "accounting logics", little attention has been paid to the role of accounting in institutionally complex environments and the interplay with software.

To embark on this, we place the role of accounting, more specifically, the PMS in the adapted framework of Barrett et al. (2020) (cf. figure 1 and 2) to answer the research question:

> *How is the role of performance management systems affected by affordances and constraints of information systems, in institutionally complex environments?*
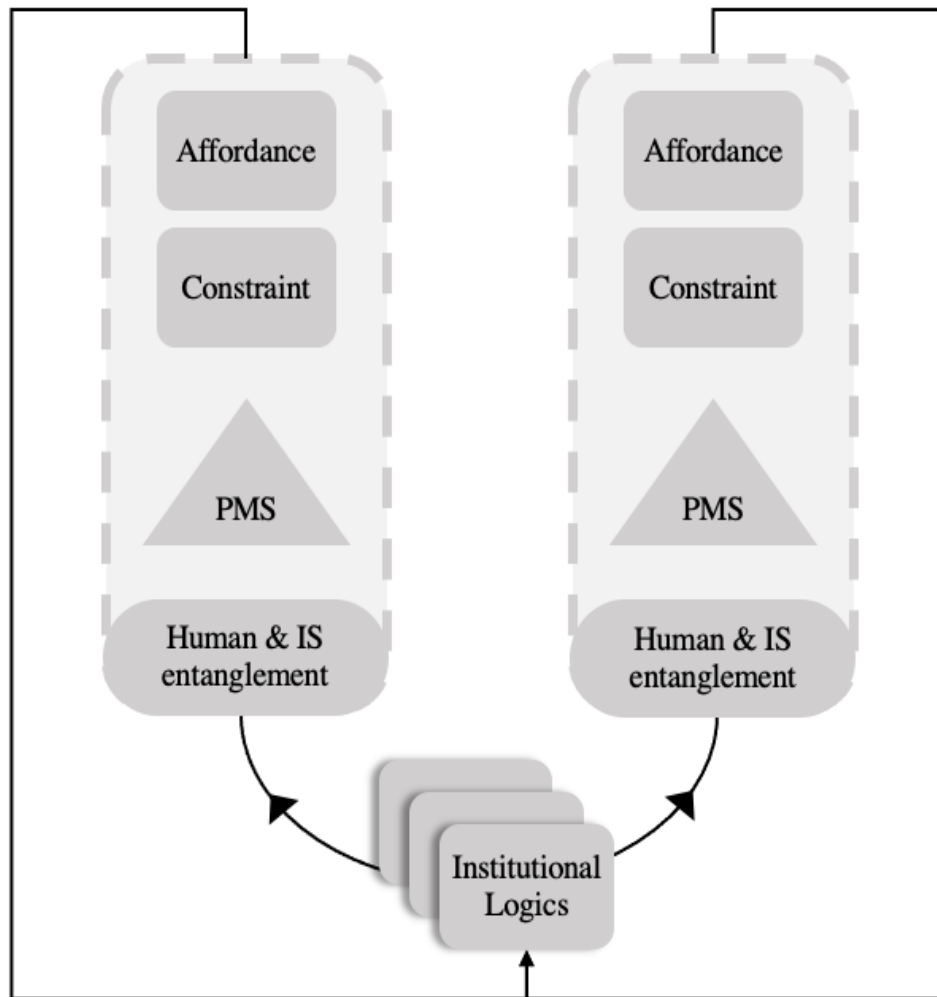
Figure 2. Synthesized framework adopted from Barrett et al. 2020

3. Method

The following section explains the reasoning and rationale for the research design and setting chosen for this study. Next, the data collection process is described and motivated. Finally, the method chosen for data analysis is described in more detail followed by a discussion around data quality.

3.1.   Research setting and design

Our study was situated within the NGO sector, as NGOs not only are important institutions in society in terms of economic size, scale and contribution to solving social problems but also operate in atypical and sometimes extreme contexts when managing conflicting stakeholder demands (O'Dwyer & Hall, 2017; Battilana & Lee, 2014). The stems of demand can be seen from an institutional logic perspective with balancing between on the one hand a "business/capitalist/expansion logic" and another "fundraiser/donor logic" (DiMaggio & Powell, 1983; Friedland & Alford, 1991).

We focus specifically on the digitization journeys within NGOs since many NGOs tend to involve more digital methods that have been developed for businesses to raise funds for their mission (Accenture, 2017), which further complicates the institutional logics interplayed with accounting. This setting constitutes the situation demonstrated by Paxton et al (2020), that NGOs connect and appeal to their donors to induce actions and donations, similar to the accountability mechanisms (Yang & Northcott, 2019). Too many appeals for donations are one of the largest reasons for unwillingness to donate (Sargeant & Lee, 2002). Whilst, at the same time, NGOs have to stay relevant through exposure in digital channels. Hence, tensions are likely to arise when business-like IS are implemented (Accenture, 2017) which provides a salient context suitable for our research questions.

Since Lounsbury's (2008) call for further research, the accounting literature on accounting and institutional complexity has become a fairly well-researched area. However, studies have yet to take the role of software into account, making a qualitative approach more preferable to a quantitative approach to improve the methodological fit as a result of the nascency of the area (Edmondson & McManus, 2007). Moreover, our research design has been developed with regards to the scope and formulation of the research question to improve the methodological fit of the study (Edmondson & McManus, 2007). However, to further improve the methodological fit of our nascent research area, an inductive method is followed in our research throughout the process, implying that there are constant interactions and revision of sections throughout the

process (Edmondson & McManus, 2007). Further, we draw upon the thoughts of Ahrens & Dent (1998, p.22-23) "*...theorize from the data in an emergent process.*" to guide theory development.

Our research is designed from a case study approach, since this study aims to explain *how,* rather than *what* or *if,* the role of performance management systems is affected by IS implementation. Additionally, it draws on contemporary phenomena rather than historical events, making a case study suitable to address the research question (Yin, 2009). A single case study method is used due to the benefits from a richness perspective, as the knowledge hidden in organisations is buried deeply. Choosing either a multiple or a single case study method revolves around a trade-off between on the one hand the generalizability of the findings and on the other the depth of the knowledge (Eisenhardt, 1989; Dyer & Wilkins, 1991). We argue that due to the nature of the research question, the nascency of our research question and time constraints built into the process, generalisability is not preferred at the expense of loss in depth (Eisenhardt, 1989; Dyer & Wilkins 1991; Siggelkow, 2007). Thus, an NGO organization undergoing a digital transformation studied as our single case seems to provide us with a good opportunity to study our research question.

Given an inductive research design, our research takes an individual level of analysis allowing us to focus on the daily activities of the individuals with the organization, which again suits the in-depth single case format but also provides us with a sound basis regarding microprocesses to analyze our research question (Cecez-Kecmanovic et al. 2014). By iterating between analysis of our case and connections to the literature, we developed a synthesized framework. The framework of Barrett et al. (2020) builds on Leonardi (2011) and combines a sociomaterial lens with institutional logics However, this framework does not incorporate the role of accounting in such a complex context. Consisting with inductive research approaches, we further elaborate the framework (Barrett et al., 2020) into the literature on accounting and institutional complexity (e.g. Ezzamel et al. 2012; Carlsson-Wall et al. 2016) to help us make sense of the empirical material to answer our research question.

With the benefit of hindsight, it would have been interesting to do a longitudinal study. Seeing as the digital transformation was quite new in the case organisation, the empirical material could have provided a more holistic picture. However, seeing as the process of the thesis had time constraints built into it, a longitudinal study was deemed to be hard to set up. Further, we argue that the empirical material has not suffered that much in this regard as the lion share of our interview process was carried out for a period of 2-3 months.

3.2. Data collection

Data were collected during a period of four months from the case organisation CureOrg. It primarily consisted of semi-structured to unstructured interviews and some formal documents, e.g. budget plan, formal documents of control systems and dashboard overviews (See appendix 1 for further information). The semi-structured interview allows for flexibility through follow-up questions according to Bryman & Bell (2013) and was chosen to uncover enriching discussions about their own beliefs, perception of logics and usage of IS. Our ambition was to examine how actors behaved individually in their daily practice with the implementation of software. In line with the inductive research method (Edmondson & McManus, 2007), the semi-structured interview guide was refined throughout the process to better align with changes in the literature review and empirics analysis.

16 interviews were conducted with 13 employees across functions and hierarchies from January 2021-May 2021. The interviewees all worked directly or indirectly with the fundraising process in CureOrg. Due to the ongoing Covid-19 pandemic, all interviews were held via Microsoft Teams, meaning that no physical meeting took place.

Typically, during an interview, one of the interviewers asked a majority of the questions while the other wrote detailed notes of interesting topics covered during an interview. All interviews were suggested to be held in English, with the option of taking it in Swedish. However, all interviewees were urged to explain concepts in Swedish in cases when they felt it was more comfortable to avoid anything being lost in translation. All of the interviews were tape-recorded, audio as well as video, and later transcribed to facilitate detailed analysis at a later stage as recommended by Bryman & Bell (2013).

Sampling was made based on the discussions with representatives of the organisation and the theoretical scope of the thesis. Thus, it resembled a mix of a theoretical- and a convenience sampling (Bryman & Bell, 2013).

In the initial phase of the data collection process, we scheduled a set of introductory interviews. After these were held, we sharpened the semi-structured questionnaire, guided by the tensions as well as the refinement of the literature review and theoretical lens. Later on, after a thorough iteration between our empirical material and literature, we scheduled confirmatory interviews with subjects according to our sampling scope, in accordance with our research design (Edmondson & McManus, 2007).

3.3. Data analysis

In our research, the *systematic combining* method was used as an abductive approach to our data analysis (Dubois & Gadde, 2002). Instead of using empirical data and developing theory in a linear process, we used an intertwined research process enabled by case research, where the activities of data collection, the search for theory and data analysis were constantly gone back and forth by researchers (Dubois & Gadde, 2002). We began to analyse data during our fieldwork period while after some interviews were done with potential theories outlined. The abductive approach helped us to develop the theory through the analysis and interpretation of empirical phenomena, meanwhile, the evolving method also helps to direct the collection of empirical data.

The empirical data was approached by qualitative content analysis, where researchers use a coding frame, generate category definitions and segment the empirics into coding units (Schreier, 2013). A systemic and flexible way was used to describe data through coding so that the coding frame is a valid description of and is always matched to the empirical material, which is also an iterative procedure. Our coding frame initially consisted of 3 main categories and 9 subcategories. Then, a trial coding was carried out with available interviews to evaluate and modify the preliminary coding frame in terms of consistency and validity, where we found pronounced evidence for the competing two institutional logics and the impacts from software implementation within the organization.

The analysis process was iterative and involved another round of coding with frequent visits to our literature as more themes emerged. As our theoretical framework developed over time, our main analysis coded all empirical materials with an updated coding framework, where more categories were introduced. Also, more interpretations were facilitated by this round of coding and the results were prepared to be suitably used for answering our research question.

3.4. Research quality

In the qualitative research field, there are five main issues to consider the feasibility of a qualitative study even though given the personal and interpretive nature of any qualitative studies: objectivity, reliability, credibility, external validity, and utilization (Miles et al., 2014).

Objectivity refers to having relative neutrality and reasonable explicitness about the researcher biases that inevitably exist in the study; reliability means the process of the study has been constantly carried reasonably stable over time with reasonable care from the researchers (Miles et al., 2014). To address these two aspects, some actions were

taken. For example, the study has been formatted in a way that the reader can follow the sequence of how data were managed to draw our conclusions and as Lincoln and Guba (1985) suggest having a detailed record of the study's methods and procedures. Also, the self-awareness of possible biases has been kept in mind and considered throughout the study.

Credibility or authenticity focus on the findings of the study should make sense and be credible with an authentic portrait (Miles et al., 2014). As authenticity derives from the richness of the descriptions (Lincoln & Guba, 2000), Geertz (1973)'s suggestion to have context-rich, meaningful, and "thick" descriptions was followed. Further, to have clear, coherent and systematic findings (Charmaz, 2006) was also considered in the study. The efforts of providing multiple perspectives to diminish the partial view of research also were made by following Lukka and Modell (2010) to actively consider the inconsistencies, negative evidence and paradoxes in the research.

External validity measures the transferability of the findings of a study to other contexts; utilization is building on the fact that the study is valid and transferable and regarding what the study does for its participants and consumers (Miles et al., 2014). To ensure this, limitations have been specified along with an extensive description of the findings of this thesis, so that transferability and generalisability can be assessed for each respective setting.

4. Empirical analysis

The following section covers the empirical material of this study. First, an introduction to the case organisation and its PMS is presented. Thereafter, the empirical material is presented and has been structured according to the theoretical framework in section 2.3.

4.1. Case context and CureOrg's performance measurement system

CureOrg is one of the largest NGOs in Sweden. It raises funds to serve the main purpose of funding research projects for a serious disease. It is considered as a large NGO within the country, with a little under 100 full-time employees and raises more than SEK 500m per annum. The organization is structured in five departments and the CEO leads the day-to-day administration. The structure of the organization is shown in Figure 3.

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                        ┌─────────┐
                        │   CEO   │
                        └─────────┘
             ┌──────────────┐  ┌──────────────────┐
             │ CEO Assistant│──│ Human Resources  │
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   │ Finance │  │ Operations│  │ Marketing &  │  │ Fundraising │
   │         │  │           │  │Communications│  │             │
   └─────────┘  └───────────┘  └──────────────┘  └─────────────┘
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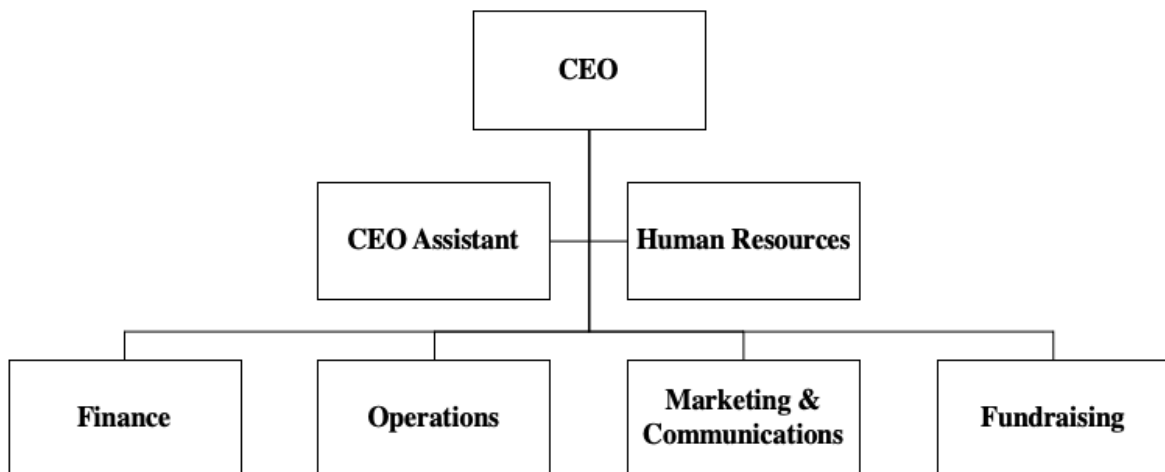
Figure 3. Orgnaizational chart

Having the vision to defeat a serious disease, CureOrg carries out three main activities. First and foremost is to finance research projects, which the organisation carefully evaluates beforehand via an in-house research board. Furthermore, spreading knowledge about the disease to the public and engaging in advocacy work are also important

activities. Examples of these include the provision of health advice and support via telephone and email. CureOrg aims not only to treat disease and increase the survival rate for its patients, but also to prevent it.

As an NGO, CureOrg raises its funds from two main sources with no government funding. Most of the funds stem from donations from individuals, corporations, and grant-making organizations, such as foundations; it also operates income-generating activities, for example, selling products through campaigns. Although analogue methods of fundraising, such as direct mail and TV campaigns, remain as main sources, following the trend of digitalization, it has become more and more important to deploy digital fundraising methods in recent years. CureOrg has implemented an ongoing digital transformation program together with data-driven practices.

One of the most important management control practices in CureOrg is the performance management system. It contains a single goal that is tied to the overarching mission of CureOrg. The overall goal of CureOrg is then broken down into departmental goals, which then is broken down further into individual goals. In terms of the fundraising activities, the KPIs comprise funds raised, value per donor and number of donors. These KPIs apply to the Fundraising department as well as the Marketing & Communication department. While the Fundraising department has had these KPIs for several years, the Marketing and Communication department just recently received these KPIs as formal targets. Within the fundraising and marketing departments, the KPIs measured on a departmental level were mainly conversion, return on advertising costs and churn rate.

The performance is followed up monthly, but the performance measurement was by all interviewees considered to be "soft". However, many employees acknowledged that the goals and reaching them were important to them.

4.2.   The institutional scene at CureOrg

Taking place in the bottom part of the framework outlined in Section 2.3, the key institutional logics prevalent in CureOrg analysed were two distinct logics that were deemed to influence the organisation, namely a *business*- and a *fundraising logic* (Barrett et al. 2020; DiMaggio & Powell, 1983). The logics were not deemed to be person-specific and the employees in CureOrg were continuously influenced by them throughout in tandem. However, with that said, most of the employees were relatively more committed to one of the logics. From the interviews, 5 conceptually different underpinning conceptions around *time frame*, *donations*, *appealing, trust* and *emotional commitment* were identified.

The time frame separated the logics on how long the employees considered investments and strategies. The business logic was apparent through the way employees considered digital transformation. Some employees argued the transformation as being a long-term learning process that takes time:

> "So you need to have major respect for that and that is something we have as a strategy for as well, doing an investment needs to be long term and should not be just like six months ahead, more like a three, four, five maybe ten years horizon."

Other employees argued that the choice should be ROI-driven and based on hard-cold facts from data:

> "Look! if we spend one krona trying to increase the penetration within people who are sixty years or so, we get that result, when we try in another target, a younger target, we get these results, what should we do? where should we put our money?"

From this discussion, the business logic was made apparent through the shorter-term horizon, focusing on short term profitability. Conversely, the fundraising logic had a long term perspective in mind with regards to strategy and investments.

Donations were also an area of difference, where the business logic considered donations to be a product and something that should be "productified", similar to a business. This was exemplified by the development of making the donations feel like a product:

> "The way to do it is to create a virtual product and that helps create that user experience, where you say for that amount of money that represents, as an example, I don't know what we have today, but it could be one hour of research. It's a way to not just say thank you that you put your money into a big bag not knowing what happens to it."

Other employees were however more conservative in this regard and see donations as a highly emotional practice:

> "We put a lot of work and effort into copy and text work and also like video production and stuff like that, so you want to create emotions and feelings. I mean feeling touched, feeling represented, feeling…. you know, when you look at us and see yourself"

The appealing process was also provided with different viewpoints. Some employees voiced how there were ongoing discussions around how active CureOrg should be when it comes to appeals:

"...the discussion has been historical, at least more between different points of view regarding existing or new customers, regarding how much we should ask our donors for money, how careful or how active we should be."

While other voiced how NGOs are generally conservative and there is room for increasing aggression but also the number of appeals:

"I think that this business is a little bit too conservative in general. Sometimes baby steps, but I think we can be more exploring and it's of course very important that the corporates we work with are okay. But I think we can expose ourselves to different channels. For example, if you park your car in your app, you might save e.g., 18 kr [by arriving early] which will go to CureOrg. This disease is relevant for everyone and we can be everywhere."

The fourth point of differentiating opinions was the trust between the donor and NGOs. Employees acknowledged that trust was important, but the way that the conception of trust and how it was viewed differed. One view was that the requirement for trust in the fundraising was not different from how commercial businesses value it:

"I do not see any contradiction between the two. Because trust is also a very important element in a commercial business. In our industry, the one of social good, we can be much more sales oriented. The path to beat cancer spells money"

However, others viewed trust as the main asset that should be carefully monitored:

"We measure trust toward our brands and have a lot of KPIs on this. If we find there is a movement where we act on it. Our PR department is also responsible for how the media sees us and our social media department track comments. We are very sensitive towards this. Trust is our main asset and so far, we have very strong numbers."

The last point of difference was emotional commitment. Some employees acknowledge that numbers play a role but do not tell the complete picture:

"So yeah, it is data-driven decision-making. Then I think you should always have a creative part because work should be fun and that is important. Creativity can also out rule data if you feel that you shouldn't have too long text on Instagram, but if you have a very good story, that out rule the data, and can create impact."

While other viewed decision making within fundraising as something strictly logical to which decisions could be made from solely based on data:

"All the time we have to let data decide for us what we have to do. Data is telling us what to do next. That is the only thing that guides in this. Its data where we can look at what gives us the most bang for the buck"

Drawing on the above five points, the institutional logics prevalent in CureOrg are summarised according to figure 4. In the next section, the digital transformation process is described more in detail.

Business logic	Fundraiser logic
Shorter term	Longer term
Donation as a product	Donation as an emotion
Fundraise through appeal	Fundraise through trust
Trust and emotions can be levered	Trust and emotions must be prevailed
Logical cause-effect	Engagement

Figure 4: Material institutional logics

4.3.   The constraints underpinning CureOrg's digital transformation

The goal and motivations of the digital transformation were for CureOrg to increase the efficiency of data processing, enhance capabilities in digital channels and minimise organisational silos. Based on the interviews with the employees, the previous legacy systems in place constrained these functionalities (Barrett et al. 2020; Leonardi, 2011).

The specific tools developed during the transformation mainly comprised the implementation of a marketing automation system, a data warehouse and various business intelligence software programs (e.g., PowerBI, Google Analytics and Facebook Ads). Employees within CureOrg voiced how the digital transformation was used to make the data for the underlying PMS more reliable, analysable and user friendly. This was expressed by an employee within the fundraising department:

"Three years ago, we had very few systems, we had little data outside excel and the legacy IT system. It was an old system where we could analyse transactions, but we could not analyse any other behaviour with the givers"

The efficiency of the data capturing process was also echoed by a subordinate to the previous employee:

> "When I started at CureOrg we didn't have a system… we had to go down to the basement and look through all the paper...The digital transformation for me is a lot of things. It's all about systems. Everything from, how we work to how we collect data about our givers"

The tool PowerBI was quoted as an important tool to collect the data and make sense of the same:

> "It makes my life a whole lot easier, as all the data is in one place, and can visualize the data in a very much easy thing to visualize by payment, men, women and all that stuff. It made my life a lot easier in collecting and analysing the data."

Whilst the tools are different in their purpose, they were all dependent on each other in the digital transformation. For instance, the efficiency of the data processing was dependent on the data warehouse for reliable data and on PowerBI to make sense of the same.

Another employee expressed how the employees within the organisation wanted to look more into data even more:

> "I think in general we are in a journey right now of doing a [digital] transformation. And I think internally more or less everyone wants to look into data even more"

The data warehouse was also a way of producing actionable insights as a tool for learning and continuously adapting to the performance indicators generated, but also a way of building digital capabilities such as Paid Social and Marketing Automation.

> "I think that is [implementing the Data warehouse] great so we can see what's working and what's not, and I think that's not only a part of going digital but going digital the right way. Learn and adapt to the insights that we get."

Despite the digital capabilities being in an early stage and requiring a lot of learning from performance indicators, they were seen as an important cornerstone in CureOrg's future fundraising.

> "In digital fundraising, it's more about getting contact details and then converting, which is all about learning more about that person (e.g., what that person prefers, likes and dislikes) and building the relationship. This comes along with digital fundraising. We foresee that we will work more this way."

However, as the disease that CureOrg looks into is generally affecting older people, the target group is not rather digitally mature, despite it having accelerated throughout the Covid-19 pandemic's course.

> "Of course, young people are more used to communicating in different ways. I think older people are not used to facing this communication. But the pandemic forces older people to be more digitally mature. In every sort of way, everything from payment options, to looking at a live stream event, the live shopping event, those kinds of things."

Lastly, the digital transformation was also an important tool to facilitate intra-departmental communication. *"Hopefully, the data warehouse will help with that by working less through silos. Still, insights are somewhat in silos."*

In the sociomaterial, the change underpinning the transformation was rooted in the Humanitarian agency of CureOrg. The actors within CureOrg wanted, even more, to rely upon digital fundraising practices and develop performance measurement practices. However, the legacy IS constrained such imperatives. As such, CureOrg:s digital transformation, consisting of PowerBI, Google Analytics, a data warehouse and CRM tools arose as a consequence of the constraints that CureOrg experienced with the data for performance indicators (Barrett et al. 2020; Leonardi, 2011).

In the following section, the affordances that arose from the IS implementation will be analysed in more detail and how they appeared differently compared to the logics.

4.4. Affordances created by institutional logics shaping the role of accounting

None of the interviewees was opposed to digital transformation as a whole. However, there existed different views of how to conduct fundraising activities and how to use the data. Furthermore, the differences were largely attached to the logics themself. Employees aligned towards the business logics saw the KPIs as an objective way of pointing the direction for the fundraising activities:

> "But it raises challenging questions, so for us as that work with fundraising, data is enough, is the weapon, if you would say. That's what we use because… an example that is to say the most challenging part may be specific to CureOrg, that we are not the target group"

The same employee quoted how there was a discrepancy between how people viewed the digital initiatives. One camp argued for having a more long-term view on fundraising

activities, where learning was a cornerstone of developing digital fundraising. Conversely, the people more aligned with the business logic saw the KPIs generated by data as a way guiding the fundraising:

> "I think there is a misunderstanding amongst people in the organization, where one thing is to work data-driven, the other thing is to communicate digitally, and these are two completely different things…. But for us, with seniors as a target, I must say that so far analogue has shown far better results than the digital. No email activity converts as well as the physical letter"

Some employees within the same department expressed that interpretation of performance indicators differed between departments:

> "It is also a challenge that when you have differences when some people are good at data, some people are not, and some are not very analytic… Translating data in different ways, that also is one of, I think, our challenge with other units is that we look at data, but they look at data differently."

> "You can have different perspectives on numbers... The first step is to establish data that you can trust. But it is also a big step to understand and act on it in a way that leads to better results."

With performance indicators, the advocators of business logics see that KPIs is used as a way of arguing for ROI-driven fundraising activities:

> "..what I hope is that when using data with KPIs, we can show it. "Look! if we spend one krona trying to increase the penetration within people who are sixty years or so, we get that result. When we try on another target group, a younger target group, we get these results, what should we do? Where should we put our money?"

Conclusively the business logic used the digital tools implemented as a way of guiding decision making in a strictly ROI-driven fashion. KPIs are in this case, used as a way of rounding discussion and compromise between the fundraising logic.

Within the second camp, the fundraising logic saw the newly implemented digital tools as primarily a learning tool that could build the digital capabilities in the long run:

> "We can see from the first month that we made a lot of progress and made our communication [Marketing automation] a lot more efficient. But I think that will be some part of it. The measurement we can take for KPIs is the churn and conversion rate. But I guess as, in any business, it takes time to see"

Also, the KPIs and the construction of them were guided through a learning process that took time for the employees. The issue was mostly around creating a comparable and reliable performance measurement, i.e. what did not work and what needed to be improved:

> "..these are the KPIs [e.g. Revenue, Return on ad spend, New donors] that we actually can measure. We are working to sort out the tracking and being able to measure correctly. One KPI we are working on setting up is cost per newly recruited donor - CPA"

Apart from constructing KPIs, the learning element also came as a way of testing and learning from the performance indicators of how fundraising could be improved in the future.

> "So, I would say we look at data from previous years and do a lot of testing because that's how we learn. And when I say test, it can be one display ad on Aftonbladet or one print ad and If that gives a lot of effects, we go hard on that next year. So that kind of relates to what I said previously with that we work long term and we do a test this year. So, a lot of testing."

The employees more associated with the business logic were also in disagreement between the business logic, in terms of how reliable the different channels were. While employees of the business logic perceived analogue fundraising to be reliable, the fundraising logic considered the analogue less reliable.

> "The more data-driven, the more we do digitally the more data we get. E.g. If we put 100 SEK here we get 400 SEK back. When you buy ad space in magazines etc. it's hard to see how the trend and the cause-effect relationship plays out. I prefer to track everything. And I'd say that's easier with the digital"

Additionally, the employees aligned to the fundraising logic were more connected with the digital tools and more prone to using and enthusiastically engaging with them. The PMS in such a stage was used to guide learning.

> "I love numbers, so looking at numbers is sort of like feeling the pulse of the advertising, sort of like putting my fingers on someone's pulse, like is it moving fastest or moving slower, is it moving exactly at the same pace as I wanted it to go. So when I look at the dashboard - I sort of see directly into the bloodstream of the fundraising"

Conclusively, the affordance that arose within the fundraising logic was that digital tools were seen as a way to learn and develop organisational capabilities, primarily in digital

fundraising activities (Barrett et al. 2020; Leonardi, 2011). The role of performance indicators was seen as something that confirmed the trajectory and whether testing activities were successful or not. Conflicts arose as performance indicators in digital channels were considerably worse than analogue ones. Conversely, when performance across the digital channels was great, decision-making based on PMS treaded forward without conflict. On a question on how much compromise had been put in, the following was answered:

> "Yeah, and I think that has got better since our performance [of digital fundraising] is quite good, and I think that people put out more faith in the agile lifestyle"

Essentially, from the case, two scenarios arise from in CureOrg. Scenario 1 is where the KPIs from digital fundraising is performing well. In such a scenario, institutional logics are in harmony and not in conflict. In this case, PMS is a way of reaching compromise and determining the most goal congruent action.

However, In scenario 2, where digital fundraising performs relatively worse than the analogue channels, the affordances built into the different logics puts them further away from reaching a compromise. The role of PMS in scenario 2 becomes, rather than a way to assess goal congruent action, and a tool to gain legitimacy in the name of a specific logic. In the following section, the findings and contribution stemming from the empirical analysis are described and discussed in more detail
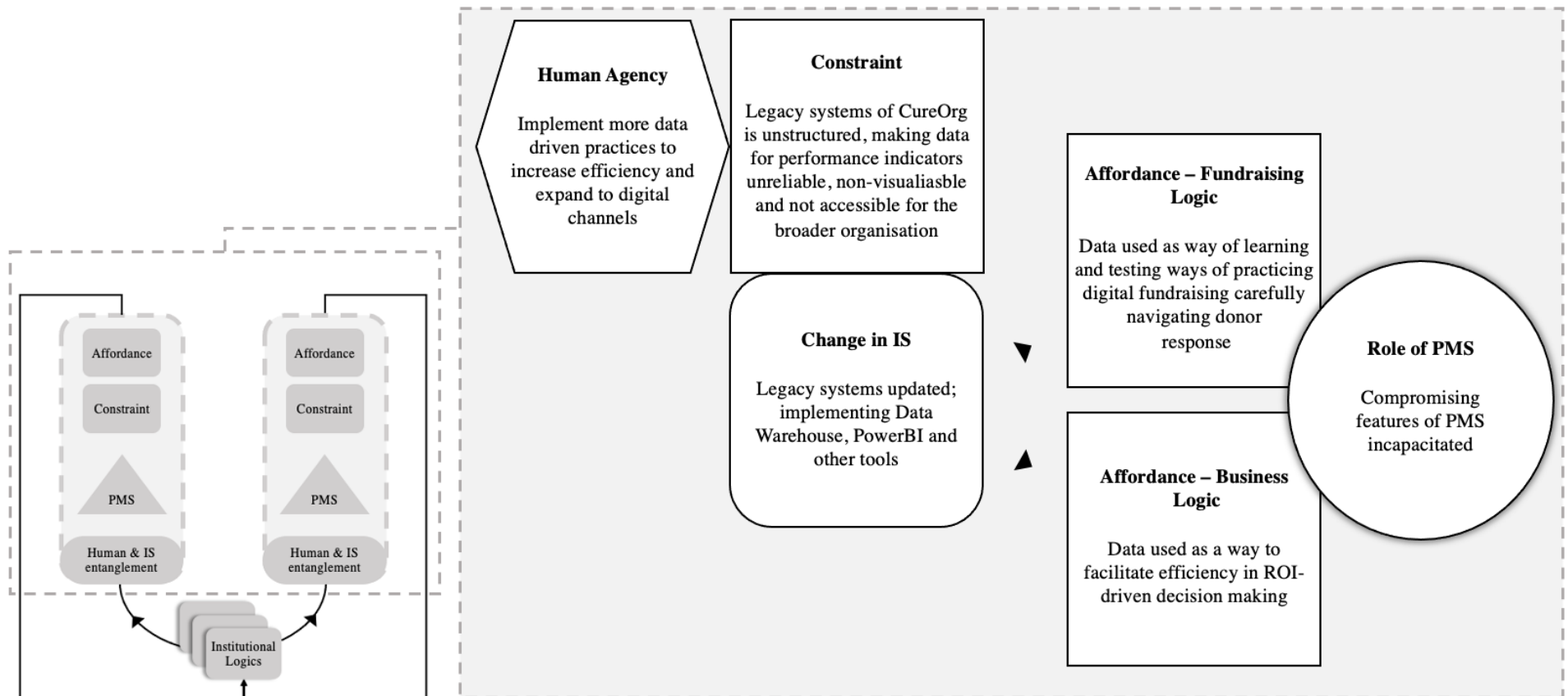
Figure 5. Illustration of the Role of PMS

5. Discussion

The variety of the role of accounting can be discussed through an analysis of institutional logics. We discuss two dimensions of our contribution by adding the role of software into play. First, the role of accounting in institutional complexity is juxtaposed with the role of software in such a way that affordances and constraints of software shape the role of accounting (here in the case of CureOrg the PMS's role is shaped. Second, we account for the role of accounting shaped by software based on a situational factor (here in the case of CureOrg: the performance of non-logic-based performance). This situational factor influences the way the role of accounting is shaped by software.

5.1.   The role of software juxtaposed with the role of accounting

Normative accounting literature has not fully considered the role of software in institutionally complex environments. Previous literature on the role of accounting has concluded that accounting in institutionally complex environments can either reduce (e.g. Amans et al. 2015; Kaufman & Covalevski, 2019) or increase conflict (e.g., Conrath-Hargreaves & Wüstemann, 2019; Ezzamel et al. 2012). Whilst the factors and contexts differ, the accounting literature has largely disregarded the role of software within such environments. The case of CureOrg depicts that institutional logics are not only prevalent in human agencies but also software systems. Applying the sociomaterial perspective, we demonstrated that the affordances shaped and filtered through these tools create implications for the role of accounting.

First, demonstrating these implications of information systems, we contribute to the overall literature on the role of accounting in institutionally complex environments (e.g., Ezzamel et al. 2012; Amans et al. 2015; Conrath-Hargreaves & Wüstemann, 2019; Kaufman & Covalevski, 2019). The case of CureOrg contributes to our understanding that software has a role in how PMS is interpreted as affordances are ascribed in the software. As Amans et al. (2015) highlighted one situational factor, which filters certain logic and resulted in different budgeting uses, we argue that in CureOrg these differences arise as logics filter the information systems and afford the functionalities that the logic itself is aligned with. The sociomaterial perspective helps us to understand how software interacts with human actors further influencing institutionally complex dynamics and resulted in different interpretation and usage of performance indicators in CureOrg.

Second, the different usages incapacitate the compromising features of PMS, i.e., efficiently facilitating a balance between the logics. This extends on the findings of Chenhall et al. (2013), with the compromising accounts. While our study confirms that the reason for a "non-compromising account" is different evaluative principles, our study also expands to this concept by showcasing how the different evaluative principles arise as a result of affordances and constraints in a sociomaterial agency. This finding also

builds and contributes to the literature on accounting and IS (e.g Dechow & Mouritsen, 2005; Quattrone & Hopper, 2005; Wagner & Moll, 2011; Heinzelmann, 2017). While previous studies have concluded that IS enacts different nodes of management control and alludes to different accounting logics, our findings suggest that the information systems enact more than just accounting logics. Heinzelmann (2017) for instance, illustrates how the SAP ERP system afforded a Germanic accounting logic, requiring the employees to work around such constraints. Conversely, the case of CureOrg illustrates that the affordances and constraints, in relation to accounting systems, are influenced by the institutional logics employees abide by. Thus, software and IS have further implications for organisations than simply accounting as a practice but also accounting as a process. The further effects of the affordances are that the PMS's cannot be utilised in the manner that they are designed to, hence the decision-making element of the accounting systems are rendered incapacitated.

Third, in the case of CureOrg, we find that PMS increased the level of conflict between logics through debates of how the figures could be interpreted, as are the different usage of newly implemented IS in between the logics. In Ezzamel et al. (2012) accounting systems, or more specifically the budget, increased conflict between logics as a result of budgetary decisions being associated with the business logic. Thereby the symbolic actions of management control systems increased the conflict between the logics. However, in CureOrg, the PMS was in a vacuum not a source of conflict between logics, but rather in tandem with the affordances. While this echoes the findings of Ezzamel et al. (2012), the case of CureOrg illustrates that such conflicts can be amplified through affordances in IS and not necessarily as symbolic action.

Conclusively, when the role of software is juxtaposed with the role of accounting, PMS seemingly increased the conflict between institutional logics. This arose as the affordances ascribed in IS in the name logics incapacitated the compromising features of PMS.

5.2. Non-logic based performance affecting the compromising role of accounting

Whilst the role of software was to incapacitate the compromising role of PMS, we also find that whether the PMS became incapacitated, was largely dependent on the performance of the digital fundraising. This rhymes with the findings of Carlsson-Wall et al. (2016), who finds that the salience of the conflict between the sport and business logic were dependent on the performance of the logics at hand.

In the case of CureOrg, we find that the salience of conflict between logics was dependent on the performance indicators in the digital fundraising activities. When the performance indicators, such as conversion rate, performed on par with or better than the analogue activities, the performance indicators generally seemed to be nurturing a balance between

the logics. The ROI-driven mindset of the business logic did not stand in conflict with the learning and testing mindset of the fundraising. We find that there was no distinct conflict prevalent between logics in such cases despite the affordances built into the IS in CureOrg. More importantly, PMS's were high-functional in the sense that they efficiently facilitated compromise between the logics (Chenhall et al. 2013). Conversely, when digital fundraising performed worse than analogue fundraising, the conflict between came more salient and the compromising role of PMS was incapacitated.

Therefore, on the back of the findings in CureOrg, we indeed confirm that the level of performance determines the salience of conflicts between logics (cf. Carlsson-Wall et al. 2016). However, instead of the performance being attached to any specific logic (i.e., Sports- and business logic), the case of CureOrg suggests that the performance does not have to be attached to any specific logic (Carlsson-Wall et al. 2016). Rather, it can be the performance of activities that is largely detached from the logics themselves, which in CureOrg was the performance of analogue and digital fundraising. We argue the reason for this is that when digital fundraising performed well, the affordances built into the IS by the business logic made them indifferent as to what channel to pursue when ROI was on par with analogue fundraising. Thus, we contribute to the literature on the role of accounting in institutionally complex environments by building on the findings of Carlsson-Wall et al. (2016), namely that salience of conflict between logics can be dependent on the performance of activities not clearly attached to the conflicting logics.

The contributions from section 5.1 and 5.2, are summarised and highlighted in figure 5. In the following section, the concluding remarks along with limitations are described and outlined.

Section	State of current research	Han & Nilsson (2020) contribution
5.1 The role of software juxtaposed with the role of accounting	Role of accounting in institutionally complex environments differs, is context dependent and fluid across time (Ezzamel et al. 2012; Dai et al. 2017; Chenhall et al. 2013) Accounting research on IS and institutional logics has predominately focused on the concept of accounting logics (Heinzelmann, 2017; Wagner & Moll, 2011)	Affordances built into IS are inscribed in the name of logics affects the role of performance measurement systems. The compromising role of PMS is found to be incapacitated in such cases
5.2 Non-logic based performance affecting the compromising role of accounting	Carlsson-Wall et al. (2016) shows that the level of performance was dependent on the relative performance of each logics	Non-logic based performance affected the compromising role of PMS in the case of cureorg CureOrg, as a result of both affordances being satisfied

Figure 6: Summary of contributions

6. Conclusion

This research aims to demonstrate how the role of accounting practices are shaped by software implemented in organizations with multiple logics coexisting in the institutional complexity.

Our single case study of a large NGO in the journey of digitization allows us to make two main contributions. Firstly, we highlight the juxtaposition of the role of software and the role of accounting within the organizations, illuminating the overlooked role of software in the existing literature on the role of accounting in institutional complexity. We show how the conflict between competing logics is further enhanced due to the affordance enabled by the IS that shapes the role of the PMS. Secondly, our research provides valuable insights on non-logic related performances in exploring the role of accounting in institutionally complex environments (Carlsson-Wall et al. 2016). In our case, the role of PMS mitigating competing logics is twisted by the performances between software-based and non-software based fundraising activities. More precisely, when performances are not comparable the role of PMS is hindered to rectify the conflicting logics.

CureOrg was chosen to study because our research question seemed salient in this organization. Indeed, the following question was aimed to be answered:

How is the role of performance management systems affected by the role of information systems in the institutional complex scene?

As demonstrated before, CureOrg is grounded within institutional complexity (O'Dwyer & Hall, 2017; Battilana & Lee, 2014), providing implications for the management control- and accounting systems (e.g. Ezzamel et al., 2012, Dai et al., 2017, Conrath-Hargreaves & Wüstemann, 2019), and underwent a digital transformation. Thus, the significance of our findings goes beyond the specific type of organization and thus applies to any organizations confronting multiple logics: our research enriches the literature on the role of accounting in institutional complexity and its interplay with IS.

Firstly, the role of the same accounting practices playing in the institutional scene can vary (Amans et al., 2015; Lepori & Montauti, 2019). In this sense, our contribution goes beyond the compromising act of accounting is shaped by the heterogeneity of logics (Chenhall, 2013; Ezzamel et al., 2012) to further it results in different affordances and constraints created by the software. Secondly, the case of CureOrg also highlights that the role of accounting practices can be very dynamic and be affected by the context changes (DiMaggio & Powell, 1983; Dai et al. 2017; Kaufman & Covalevski 2019). Moreover, our findings indicated that the role of PMS could be dynamically shaped by the level of performance of activities not clearly attached to the conflicting institutional logics. This is different from other findings in the accounting literature, such as the ones of Carlsson-Wall et al. (2016), where performance was attached to certain institutional

logics. More generally, our research emphasized that it is important to look at the role of technology interplayed with accounting and the usefulness of examining this institutional dynamic through the sociomaterial lens.

This study is subject to limitations. First, the format of a single case study with the certain organization selected limits the wider generalizability and the transferability of the findings. Some cautions that should be considered when extrapolating the findings could be the relatively large size of the case organization and the initial stage of applying the technologies with the organization. Second, the study has primarily relied on the data generated from interviews, thus some analytical or interpretative biases are possibly inherent. Efforts made to minimize these were made by following standard and consistent data collection and analysis processes. Also, this study has been carried in a relatively short period so the findings may not fully reflect the possible impacts of technology implementation within the organisation, or the changes of accounting design might happen over time.

Despite these limitations, an initial step is represented by this study in applying a Sociomateriality lens to explore the technology adaptation in conjunction with the role of accounting, and the conclusions enlighten various avenues for future research. As the single case study design restricts wide generalization, multiple case studies with the same topic could be carried out to see the findings across different cases. As illustrated in this study of an early-stage digital transformation, more could be explored in a mature stage of technology usage of an organization to see potentially different roles of accounting. This is likely to have accelerated in importance due to Covid-19 highlighting the importance of technology across all sectors. A potential avenue for further research would be to extend the research into for-profit organizations and see the transferability of the findings into such settings.

7. Appendices

7.1. Appendix 1 - Details of interviews

Interview no.	Department	Date	Time	Recorded?
1	Finance	2020-12-15	90 min	No
2	Finance	2021-01-19	70 min	No
3	Finance	2021-02-16	70 min	Yes
4	Fundraising	2021-02-22	50 min	Yes
5	HR	2021-03-05	60 min	Yes
6	Fundraising	2021-03-11	44 min	Yes
7	Marketing	2021-03-16	58 min	Yes
8	Fundraising	2021-03-19	62 min	Yes
9	Marketing	2021-03-22	48 min	Yes
10	Fundraising	2021-03-25	60 min	Yes
11	Marketing	2021-03-25	46 min	Yes
12	Marketing	2021-03-25	52 min	Yes
13	Marketing	2021-04-07	52 min	Yes
14	Fundraising	2021-04-07	48 min	Yes
15	Marketing	2021-04-21	30 min	Yes
16	Fundraising	2021-05-06	30 min	Yes

Appendix 1: Details of intervieewes

8. List of references

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