FROM ASKING WHAT-IS TO ANSWERING WHAT-IF…?

A MUTLI-CASE STUDY ON HOW ORGANIZATIONS MAKE SENSE IN TIMES OF UNCERTAINTY

WAN-TING HSU

JACOB WESTLUND

Master Thesis

Stockholm School of Economics

2021

From Asking What-is to Answering What-if…? - A Multi-Case Study on How Organizations Make Sense in Times of Uncertainty

Abstract:

This thesis examines how accounting tools and information are employed by actors within organizations to make sense of uncertainty. By drawing upon sensemaking theory and a modified version of Kaplan and Orlikowski's (2013) temporal work model, we provide a more comprehensive view of how accounting tools and information are used to make and give sense under uncertainty. Through conducting a qualitative multi-case study of two organizations in the Nordic real estate sector during the COIVD-19 pandemic, we identify scenario analysis as an important accounting tool for both organizations to provide sense to the pandemic. We illustrate how scenario analysis enables actors to make and give sense through three primary mechanisms: envisioning, structuring and reflecting. By highlighting how these three mechanisms work to create a more dynamic understanding of uncertainty we find that scenario analysis enables actors to form plausible and coherent paths to the future already from the onset of the pandemic.

Keywords:

COVID-19, Sensemaking, Scenario Analysis, Temporality

Authors:

Wan-Ting Hsu (41582)
Jacob Westlund (23325)

Tutor:

Lukas Goretzki, Associate Professor, Department of Accounting

Examiner:

Department of Accounting

Master Thesis
Master Program in Accounting, Valuation and Financial Management
Stockholm School of Economics

Acknowledgements

We would like to express our heartfelt thanks towards our interviewees for their time and willingness to participate in this study. Without you this thesis would not have been possible.

Our warmest gratitude goes to our tutor Lukas Goretzki, Associate Professor at the Department of Accounting at Stockholm School of Economics. We would like to thank you for your support, valuable feedback and guidance throughout the writing process.

Last but not least, we dedicate this paper to our friends and family around the world, to everyone who is living with uncertainty during the COVID-19 pandemic.

Stockholm, May 2021
Wan-Ting Hsu & Jacob Westlund

Contents

1. Introduction

In modern times there have existed ages of disruption brought up by global events. The 2008 financial crisis and the ongoing public health crisis of the COVID-19 pandemic are two examples where organizations and individuals around the world witness sudden and severe uncertainties in the future of economic activity and humanity. In studying accounting and crisis, several scholars have devoted efforts to investigating the accounting tools and information used by actors in response to the changing environment. (e.g. Asel et al., 2011; Becker et al., 2016; Bourmistrov & Kaarbøe, 2017) From the extant research it can be deduced that during the early stages of previous crises, budgetary controls are often tightened and cost-cutting measures are regarded as dominant. (Becker et al., 2016; Bedford et al., 2020; Christensen et al., 2018) As a crisis unfolds, more pressure may be put on the organizations to become more flexible and replace the outdated accounting tools with those that take into consideration qualitative Key Performance Indicators (KPIs) and other suitable accounting information. (Becker, 2014; Bourismow & Kaarbøe, 2017; Collins et al., 1997; Fink et al., 1971) During this upgrading process researchers have noticed an increase in interaction between organizations, stakeholders and the perceived environment. Whether the exchange of accounting information may move towards being more centralized or interactive varies from company to company (Kenno & Free, 2018), yet studies show that the intensified internal and external information flow in general contribute to enhanced coordination, crisis perceptions and organizational learning. (Asel et al., 2010; Hopwood, 2009; Janke et al., 2014; Rad, 2017)

The adjustments organizations make in the accounting tools and controls amid a crisis have been well discussed in the literature; nevertheless, the relationship between the reshaping of accounting practice and the environmental perceptions actors made over different stages of a crisis has received far less attention. In spite of a few studies putting the reciprocal relationship in spotlight (Bourismow & Kaarbøe, 2017; Janke et al., 2014), very little exploration is made towards how the relationship is leveraged by actors within organizations to form a common understanding of the unstable situation. Indeed, as the changes an organization makes in response to a turbulent event may further affect the actors' perceptions of the event, it is important to understand the mechanisms behind the development of awareness in times of uncertainty to facilitate organizational action and activities. In this regard, the sensemaking theory serves as a suitable lens to study how organizational actors pinpoint what is certain and what is not as the situation worsens or improves. (Weick, 1993; Weick, 1995; Weick et al., 2005) The Weick-ian sensemaking series points out that very often people only come to realize what has happened upon taking an action, appropriate or not. Indeed, the awareness of a crisis can be further developed every time an actor is able to better understand the circumstance through the actions made. Extended from the idea of sensemaking, the giving and breaking of sense has been studied by several researchers in terms of how individuals may influence the thinking of others or restructure the sense they made that turns out to go against reality. (Almqvist et al., 2011; Gioia & Chittipeddi, 1991; Gioia & Thomas, 1996; Giuliani, 2016; Pratt, 2000)

The sensemaking, sensegiving and sensebreaking theories as a whole enables researchers to focus on the mechanism behind human cognition and action forming in the crisis literature, yet the conversations required to solve the different visions actors build is rarely brought up explicitly. To facilitate the discussion, a few papers introduced the concept of temporality to support the rationale behind how the diverse perceptions of a crisis between the management can be converged. (Kaplan & Orlikowski, 2013) As illustrated in the "Temporal work in strategy making" model by Kaplan and Orlikowski (2013), rounds of negotiations among views of "what has happened in the past", "what is currently at stake", and "what might happen in the future" may assist actors with reaching a provisional agreement even if a breakdown occurs in the previous sense made. The integration of interpreting the past, present and future into the overall sensemaking process may bring the actors forward in deciding on a plausible strategy by revising the various possible roads towards the future. (Kaplan & Orlikowski, 2013)

From the perspective of sensemaking and temporality in crisis, Kaplan and Orlikowski's (2013) temporal work model allows the researchers to paint a better picture of how meaning is given to the arising uncertainties by actors to reshape the controls and accounting tools used for business survival amid the ongoing COVID-19 pandemic. To redirect the strategy making focus to the field of accounting in crisis, however, a few modifications are made in the original model to emphasize on the accounting tools and information flows that form the plausible, coherent and acceptable mapping of scenarios for further actions. In the accounting and crisis literature, researchers tend to embrace a subjective view on time where the possibility of actors relating the crisis to different points of time is neglected. While some studies show the interrelation of accounting tools and time (Becker & Messner, 2013), in this study we aim to address this empirical gap by illuminating how accounting tools are implicated in the understanding of crisis organizational actors create in relation to different time periods. Correspondingly, the research question we aim to address is the following:

How are accounting tools and information employed by actors within organizations to make sense in times of uncertainty?

Leveraging the modified temporal work model (Kaplan & Orlikowski, 2013), this paper draws on the empirical data collected from a multiple-case study within the Nordic real estate sector. The real estate sector was chosen based in part on the fact that it requires a great deal of foresight from companies to for instance make realistic cash flow assumptions for capital budgeting or investment appraisals purposes. Furthermore, the sector is heavily segmented by location and property type, facilitating a comparison between different segments which are likely to be affected to different degrees under the influence of the pandemic. The multiple-case study on ResidentialCo and CommercialCo sheds light on the dynamics created by a particular accounting tool favored during the COVID-19 pandemic, namely the scenario analysis. The focus on both sensemaking and temporality concepts in crisis is placed among the interpretation actors made of the past experiences, the present position of the organizations and the reimagined future of the real estate industry.

With the research question this paper contributes to the existing accounting in crisis literature in primarily two aspects. To begin with, this paper enriches the understanding of how accounting tools, in particular scenario analysis, and information are used by organizations to make and give sense under uncertainty. (Bedford et al., 2020; Bourmistrov & Kaarbøe, 2017; Janke et al., 2014) In a changing landscape amid the pandemic we unveil how management and actors in organizations leverage scenario analysis to assess the seriousness of present concerns and map out the alternative futures. Furthermore, this paper contributes to the overlooked area of temporality in the accounting and crisis literature. Elaborating on the interrelation between the accounting tool and the fusion of the bygones, issues at present and the roads ahead, the paper illustrates how the building of perception may commence at the onset of an uncertain period. In sum, the contributions made would allow organizations to capture the abstract concepts of sensemaking, temporality and accounting tools during a crisis in a concrete matter. The understanding of how actors could find linkages between the cognitions of the world before, during and beyond a crisis may enable more effective communications within organizations and with external stakeholders. Combined with a proper use of management controls and accounting tools, the management in the industry may be able to master the art of what-ifs and visualize the plausible paths into the unknown future.

2. Theoretical development

This chapter presents the paper's theoretical development. Section 2.1 outlines the review of accounting and crisis literature, focusing on both the changes in controls and information exchange. We then problematize the existing research and present the gaps that this thesis aims to fill. Section 2.2 introduces sensemaking and temporality as the theoretical lens, whereas section 2.3 introduces the theoretical framework that will guide the empirical analysis.

2.1. Accounting and crisis

2.1.1. The change in management controls amid crisis

At the very same time a crisis poses considerable threat to an organization, pressure is put on the functioning of its management control systems (MCS) for a swift response to survive. Crises, characterized by high degree of uncertainty, can in large be divided into the categories of idiosyncratic and non-idiosyncratic based on whether they are linked to organization specific or system wide risks. (Becker et al., 2016) Whilst idiosyncratic crises result from either internal issues or external accidents with negative impacts on the company itself, non-idiosyncratic crises emerge from external issues that affect entire industries or even economies. The 2008 financial crisis, for instance, saw reductions in demand and reduced availability of capital that were deemed to be hostile for companies worldwide. How the externally induced economic crisis can lead to information intensification within corporations draws attention from Hopwood (2009), who subsequently discovers a domain regarding the relationship between information flows and shifts in strategy and corporate actions under crisis settings.

In response to the call for more research on management control implications in crises, two tightly intertwined and complementary paradigms have been developed among an increasing number of studies. (e.g. Asel et al., 2011; Becker et al., 2016; Christensen et al., 2018; Collins et al., 1997; Pavlatos & Kostakis, 2018) The first paradigm deals with how management control practices are shaped by a crisis. Here, research shows that organizations adopt new management control practices (Becker, 2014; Christensen et al., 2018; Pavlatos & Kostakis, 2018) but also adapt existing management controls in terms of how and for what purpose they are applied (Asel et al., 2011; Becker, 2016; Collins et al., 1997). The second paradigm, emerging yet increasingly important, directs the attention to how management controls affect actions and behaviors of individuals in organizations and shape their perceptions of the crisis environment. A general note from the literature suggests that the actions of individuals and their perceptions of the crisis environment are connected not only to the controls imposed on them, but also to controls regarded to be important and the way controls are implemented. (Bedford et al., 2020; Bourmistrov & Kaarbøe, 2017; Carlsson-Wall et al., 2020)

2.1.2. Tightening controls at the onset of crisis

Previous research has detailed that a common intuitive response from organizations when facing a crisis is that they tend to “tighten their strings”. Organizations focus more on liquidity and cost-cutting measures and tighten their use of financial outcome controls such as budgets to avoid unnecessary spending of resources and point towards clearer goals, which can be showcased through the empirics in the literature. (Bedford et al., 2020; Bourmistrov & Kaarbøe, 2017; Collins et al., 1997) In a survey-based study on companies in Latin America, Collins et al. (1997) finds that organizations in a crisis environment following “prospector strategy”, a certain resource intensive strategy, increased their use of budgets. A similar linkage between crisis and budgets is echoed by Becker (2014), where he illustrates a bank that chose to reintroduce budgeting as the management could not imagine steering the organization without fixed targets. In situations of which the management discern a lack of control, the findings suggest that they seek to centralize decision making to create more coherent actions and understanding and in turn decrease the perceived risks. Further evidence of autonomy restrictions in organizations in connection to crises are found by Christensen et al. (2018) who compares Icelandic and Danish banks following the 2008 financial crisis. From the paper it is evident that those Icelandic banks that survived their bankruptcies had made radical changes to their administrative controls, implementing policies for documenting “everything” and building significantly larger risk management functions.

A more nuanced picture of how organizations use controls in a crisis, specifically the control of budgets, is provided by Becker et al. (2016). The authors set out three distinct roles of budgeting: planning, resource allocation and performance evaluation, of which they investigate the importance organizations put on each during the 2008 financial crisis. It can be observed that the performance evaluation parts of budgeting demonstrate a decreasing importance as the previously set goals quickly become outdated. On the other hand, attention is redirected to both the planning and resource allocation aspects. Enhanced frequency of assumptions reassessment and stricter rationalization of resource management are described as some of the ways for the management to mobilize financial discipline upon recognizing their limited understanding of the uncertain crisis. The transformations in the overall budgeting processes, a core component of an organization’s accounting control system, can thus be seen as a mediating force between the externalities of crises and the organizational functioning. (Collins et al. 1997) Indeed, the adaptation to the threats and opportunities by tightening controls amid a crisis naturally bears the intention of gathering managerial focus towards the common goals (Bourmistrov & Kaarbøe, 2017, Chenhall, 2003; Czarniawska-Joerges, 1988)

Despite the attempt to cope with the financial strains, however, merely relying on tight outcome controls throughout a crisis has been proved to be problematic. In general, overly tightened controls “may jeopardize agility, flexibility and dynamics” (Bourmistrov & Kaarbøe, 2017, along similar lines, Bhimani & Langfield-Smith, 2007) which simultaneously invalidates the responsiveness of organizations to the unpredictability of crises. Beyond the surface of businesses hides another layer of potential negative impacts of tight controls, where the perceived uncertainty in role responsibilities ("role ambiguity") and inconsistency in role expectations ("role conflict") together push the managers even harder at work to not disappoint and reciprocate the trust given by their supervisors. (Bedford et al., 2020) As Bedford et al. (2020) point out, to mitigate the role ambiguity and emotional exhaustion effect there exists a need to adjust the tightened controls in an enabling way.

2.1.3. Balancing tight and flexible controls at later stages of crisis

Notwithstanding the downsides of tightening controls as the direct response to a crisis, it is often not until a later stage that decision making becomes more collaborative where problems are finally explored. (Fink et al., 1971). This time lagged effect is brought to light by Janke et al. (2014), where the role of interactively used MCS in understanding the effects of the 2008 financial crisis was analyzed at different points of time. The inception of problem exploration, a crucial characteristic of interactive MCS, can thus be a remedy to the tightened controls and centralized decision making. (Janke et al., 2014) As addressed by Bourmistrov and Kaarbøe (2017), through balancing tight controls with more flexible controls one can better understand what actions and behaviors may be more appropriate as a crisis unfolds.

From the literature, it can be deduced that tension between what the management on different levels should prioritize arises after tight controls dominate the corporate actions. Initially implemented under pressure from certain stakeholders to improve the short-term profitability, the cost-cutting measures directed by top management are challenged by the line managers who instead favor non-financial KPIs to form a well-rounded perception of the crisis. (Becker, 2014; Bourmistrov & Kaarbøe, 2017; Collins et al., 1997) To resolve the managerial disagreement, compromise must be made between the use of budgeting to constantly track monetary resources and the use of non-financial KPIs that highlight the qualitative value of maintaining customer loyalty and service quality. This is especially true for the performance evaluation aspect of budgeting under a non-idiosyncratic crisis, as stressed by Becker et al. (2016), the economic shock paralyzes economic prospects in setting realistic targets and thereby enhancing the alternative of adopting qualitative figures. Becker at al. (2016) also demonstrate how the planning aspect of budgeting can become more flexible as organizations develop scenarios to model different states of the future to be able to react more quickly if planning assumptions prove untrue.

Furthermore, Becker et al. (2016) report that to reach optimal resource allocation discussions are made twice, both during the preliminary budgeting process and when the actual expenses incur. The intragroup communication in search of proper crisis understanding is supported by Asel et al. (2011) as well, where they state that no immanent contradiction can be found between short-term cost-cutting and a more sustainable long-term strategy as long as firms are able to balance the two. In brief, the high unpredictability a crisis brings over time creates an impetus for continuous adaptation in the existing controls so that organizations may respond to the changing environment with a higher degree of agility than when tightened controls are in place.

2.1.4. Information exchange for enhancement of management capacity

To deal with a crisis, organizations may improve their ability to make better decisions to survive by producing more and better-quality information. (Hopwood, 2009) However, the literature not only points towards the importance of producing more and better information but also how the produced information is used and exchanged. As crisis impact is amplified, organizations put ever more effort into not only managing the crisis itself but also maintaining sustainable relations with employees and external stakeholders. This stakeholder-relations approach is mostly independent of and concurrent with organizations' focus on taking necessary crisis response actions such as the liquidity and cost cutting measures detailed in the previous literature section. (Asel et al. 2011) In face of a swiftly changing crisis environment, the literature depicts how information sharing plays an important role in both managing relationships and the consequences of crises in that it enables the creation of understanding, learning and coordination both within and across organizational boundaries.

Within organizations, Asel et al. (2011) show that the interactive use of data increases with the perception of crisis. In addition to similar quantitative evidence as Asel et al. (2011), Janke et al (2014), in their survey-based study of a large group of Austrian, German, and Swiss companies during the 2008 financial crisis, provide additional qualitative evidence of how and which information is used interactively. The findings show that in the early phase of the crisis, initial decisions such as cost-cutting described in the previous literature sections were carried out alone by the top management with the mentality of "you need to extinguish the fire before rebuilding the house". This suggests that the initial decision-making process is characterized as mechanical, less communicative and more centralized. However, as the crisis went on control information was used more interactively and information flowed more vertically in the organization, suggesting that to "rebuild the house" organizations would need to create common understanding and coordinate among different actors and organizational levels. Thus, while discussions predominately centered around cash flow information, forecasts, and budgeting, recent developments of the KPIs also became important. The interactive use of a wide range of controls implies that organizations strive to create an understanding of where they are now in relation to the past when discussing deviations from the budget, but also where they are heading when discussing forecasts.

Similar to how organizations exchange information internally, organizations may also exchange information with outside stakeholders. Rad (2017), studying the Swedish interbank market during the 2008 financial crisis, finds extensive and ongoing information sharing among banks both before and during the crisis to maintain cooperation and mitigate the performance associated risks of the counterparts. The information sharing is characterized as highly interactive and personal in that it included reflections and discussions of ongoing events as well as other non-public information. The information exchange was not equal among all banks, however, as they considered some relationships more important than others. Overall, the study shows that through information sharing organizations are able to create an updated understanding of their counterparts in terms of who they are and how they would react to different situations. (Rad, 2017)

2.1.5. Information exchange for shaping perceptions

Despite the overall description in the literature where the interactive use of information serves as an important tool for learning and coordinating in crisis situations, information exchange under crisis can also be characterized as more targeted, opaque and manipulative as the crisis progresses. Research by Kenno and Free (2018), studying labor-management negotiations in the Canadian automotive industry crisis 2008-2009, extends on the notion of unequal information exchange in Rad (2017) and helps to paint a more extensive picture of how organizations prioritize which and with whom information is shared. As negotiations started, they involved many stakeholders that formed different working groups and subcommittees. A broad range of financial and non-financial information was shared and discussed openly in a highly interactive manner and there was a strong sense to build consensus. Over time as the crisis intensified, negotiations became even more cost-orientated with communication only being performed through a single channel at the top level. As the involved stakeholders chose to communicate on a one-way basis, communication could no longer be characterized as interactive and the use of accounting information became more selective. Kenno and Free's (2018) findings of information being used less interactively as the crisis progressed contrast the ones of Janke et al. (2014) where information was instead used more interactively over time. Moreover, Kenno and Free (2018) suggest that information exchange between actors is not always a transparent process but can be opaque with the aim of creating confusion rather than understanding, which resonates with Rad's (2017) finding of the banks being selective in the parties they exchange information with. Overall, it can be suggested that the nature of information sharing among stakeholders is dependent on the context of stakeholder relations and whether stakeholders deem it to be in their best interest to create common ground and coordination as a crisis develops.

In a similar vein, communication between organizations and outside stakeholders is context dependent to what degree it is a transparent extension of organizational sensemaking, or conversely, impression management. On the one hand, organizations portray an overall accurate but favorable picture that is both consistent towards different stakeholders and views held internally by the organization. (Merkl-Davies et al. 2011) On the other hand organizations may be more manipulative and opaque in how they share information and communicate with their stakeholders. (Beelitz & Merkl-Davies, 2012; Egbon & Mgbame, 2020; Jones et al., 2020) Following an incident at a nuclear power plant Beelitz and Merkl-Davies (2012) found that the CEO of the company tried to negotiate a resolution between the initial accounts of the accident and stakeholders' divergent perceptions of the incident by using discourse of stakeholder engagement to signal change while maintaining status quo and consent of the continued operations. Similar accounts were found by Egbon and Mgbame (2020), studying oil spills in Nigeria, where organizations indicated multi-stakeholder engagement in determining the cause of incidents and thus portrayed the organizational accounts as transparent, credible, and objective. In most cases the cause of incidents was attributed to external factors and organizational outsiders (sabotage) which allowed the organizations involved to avoid accountability. Overall, this suggests that an organization may try to distance itself from a crisis and avoid accountability either by blame shifting or portraying that it has evolved to a different organization from the one that caused the crisis. To create credibility to their statements, organizations signal consensus of their understanding among stakeholders. Furthermore, while in crises it can be difficult to negotiate a resolution between the past and present by creating favorable distortions (Beelitz & Merkl-Davies, 2012; Egbon & Mgbame, 2020), organizations may try to disconnect themselves from the negative outcomes of past crises altogether by omitting comparative past information and competitors in communication, thereby creating a more favorable picture. (Jones et al., 2020)

2.1.6. The use of accounting tools and environmental perceptions

As described in the previous sections, a large body of the accounting and crisis literature has uncovered the bits and pieces of the delicate relationship between management control practices, information flows and how organizations perceive the external environment. Despite the different focus of the relationship, the root cause of the entanglement is inarguably the notorious shock element of crises. The uncertainty by its nature leaves organizational actors confused and increases the demand for information processing, one effective resolution then is to increase the information processing capacity (Galbraith, 1974) This serves as a general concept behind the switch between tight and flexible controls and the information exchange in vertical and lateral relations mentioned in the previous sections. Acknowledging how MCS can be shaped by perceptions of crises, Janke et al. (2014) takes one step further with Galbraith's organizational information processing theory to investigate the potential of MCS reshaping the environmental perceptions.

As suggested by Janke et al. (2014), the use of interactive controls removes communication obstacles across hierarchies and functions, enabling managers to be alerted of all the threats and issues the organization faces in a crisis. In that sense, the "negative external crisis effects", arising from both the crisis itself and deviations from preset goals, can be received by the actors on a deeper level with intensified information flows. This leads to the conclusion of a reciprocal relationship of accounting information and environmental perceptions, a piece of puzzle that brings the other side of the enactment to sight. Through the shaping and reshaping between management controls and perceptions of the environment, communication and debates regarding planning and assumptions are stimulated which in turn form the basis of organizational learning. This view is continued by Bedford et al. (2020), who argues that crisis builds up emotional exhaustion amongst managers along the process of repositioning their roles. The negative emotional effects can be elevated if a great deal of trust exists between managers and their superiors but can be mitigated if the controls open a dialog for managers to understand their tasks better and facilitate a more flexible response to the existing tighter budgetary controls. (Bedford et al., 2020)

The findings of how controls are applied and perceived by organizational members can increase their awareness and improve corporate actions is echoed by Bourmistrov and Kaarbøe (2017), who discuss the phenomenon where different actors in an organization relying on different controls to perform their tasks may lead to different responses towards the crisis. These findings are supported by Carlsson-Wall et al. (2020) who in addition discuss the mechanisms behind how actors focus more on what they perceive as important and filter out other things not deemed as important in crisis situations. Interestingly, a reluctance to change is also illustrated among some actors even when their preferred controls have become unsupportive of understanding the crisis situation. (Carlsson-Wall et al., 2020) In this regard, adjusting and readjusting controls can be even more time consuming under the unstable crisis environment. Nevertheless, the reciprocal relationship between use of accounting information and environmental perceptions provides the learning aspect in the existing literature, to the extent of how information processing capacity can be enhanced and redirect the organizations to the appropriate direction amid the crisis.

2.1.7. Identified gaps in the accounting and crisis literature

The previous accounting and crisis literature has revealed a considerable development in the corporate actions required to sort out a crisis. A rigorous research has described how control practices change in response to crisis. (e.g. Asel et al., 2011; Bedford et al., 2020; Christensen et al., 2018) A smaller part of the literature also documents the use of accounting tools and how the produced information shapes the perception of the crisis as it unfolds. (Bedford et al., 2020; Bourmistrov & Kaarbøe, 2017; Carlsson-Wall et al., 2020; Janke et al., 2014) However, we see a need to extend on this literature of how organizations initiate the process to understand a crisis and how changes in actions can simultaneously generate accounting information and affect how actors make sense of the chaotic situation. In particular, there is a need to further investigate the role accounting tools and information play in how the organizations get a grip of the uncertainty in a crisis. We aim to extend the overall picture by providing a more comprehensive connection between the use of accounting tools, the development of understanding within an organization and its engagements with the external environment and stakeholders.

A process view of crisis is well documented in terms of how the response and learning organizations make changes over time during crises. (Bourmistrov & Kaarbøe, 2017; Kenno & Free, 2018) Switching from tight and mechanical controls to flexible ones and adopting interactive MCS to sharpen information processing capacity are identified as two methods to understand the situation. (Janke et al, 2014) However, if the crisis is better understood from the start, the response can be preplanned with a reduced uncertainty as a result. (Galbraith, 1974) Some studies point towards an organizational life before and during a crisis (Carlsson-Wall et al., 2020) while some point to the imagining of future beyond the onset of the crisis through planning, forecast and scenario processes. (Becker et al., 2016; Janke et al., 2014) However, the literature tends to embrace a subjective and linear view on time which disregards the possibility of actors relating the crisis to different time periods altogether. While other studies show the interrelation of accounting tools and time (Becker & Messner, 2013), in this study we aim to address this empirical gap by illuminating the implications of accounting tools in the understanding of crisis organizational actors create over time. In conclusion, we focus in part on understanding how organizations use accounting tools and information to make and give sense internally and externally, and in part on understanding the involvement of accounting tools in how organizations relate the past, present and future to each other. Accordingly, this paper aims to ask the following question:

How are accounting tools and information employed by actors within organizations to make sense in times of uncertainty?

2.2. Making sense of uncertainties through temporal work

2.2.1. Sensemaking, sensegiving and sensebreaking

Accounting tools and information can be seen as a means of communication and to provide structure. From this perspective, accounting tools and information enables organizational actors to understand and influence organizational performance and stakeholders’ perceptions, as well as organizations to take collective action. This thesis primarily aims to understand the implications of accounting tools and information in how organizations familiarize with uncertainty in turbulent times. The literature on sensemaking provides insights of how actors and organizations reconstruct reality as to be able to act in it, especially when unforeseen issues arise or sudden events occur. (Weick, 1993) Widely recognized as an event where changes are characterized as rapid and discontinuous, the COVID-19 pandemic indeed triggers the need for companies to simultaneously understand and handle the situation as it unfolds. From this point of view sensemaking provides a suitable theoretical perspective for the research study.

Sensemaking is a process where individuals and organizations move from perception to action. When organizational members encounter uncertainty, they seek to clarify what is going on by extracting cues from the environment. With the cues they form perceptions and map out a plausible understanding of what has happened, which can be subsequently translated into possible actions. At an individual level sensemaking can be seen as a cognitive phenomenon, an illustration of what happens inside an individual when he or she "makes sense" of what has occurred and plans a suitable response to it. (Maitlis, 2005; Weick, 1995) In this regard, sensemaking is an ongoing process where perception and action happens in a spiraling manner as actions shape and are shaped by the environmental surroundings. (Weick, 1995) Stated differently, actors largely act their way into knowing by continuously acting, testing, and redrawing their internal map. (Weick, 1988) At a collective level within an organizational context, sensemaking becomes more complex since it considers not only the cognition building from all individual, group and societal perspectives but also the relational aspects between the individuals, groups and levels. (Weick et al., 2005) In an organizational setting, individuals interact with other organizational members and the outside environment in an ongoing iterative process, which gradually reshapes an individual's view of the organizational environment. (Maitlis & Christianson, 2014). Hence, the creation of understanding can take place both at the collective organizational level and at the individual or sub-group level such as a department or unit of an organization.

In the organizational literature sensemaking as a concept has been extensively discussed with regard to how sense is made (e.g. Daft & Weick, 1984; Maitlis, 2005; Weick, 1988) and how sensemaking is implicated in organizational processes ranging from organizational change (Gioia & Chittipeddi, 1991) to organizational learning (Christianson et al., 2009). In recent years sensemaking has also received more attention in the accounting literature. (Carlsson-Wall et al., 2020; Giuliani, 2016; Goretzki & Messner, 2016; Kraus & Strömsten, 2012; Tillmann & Goddard, 2008) The accounting literature describes how individuals can make sense of accounting tools and information through text, discussions and talk (Giuliani, 2016; Goretzki & Messner, 2016; Tillmann & Goddard, 2008) Serving as sensemaking devices, accounting tools and information bridge across the gap between individual and organizational level of sensemaking to establish a common understanding of new organizational concepts or new strategic change. (Giuliani, 2016; Jönsson, 1987; Kraus & Strömsten, 2012) However, the time pressure experienced during a period of uncertainty may lead to the management applying a "filter mechanism" to prioritize the collective sensemaking process on the most serious issues. (Goretzki & Messner, 2016)

The undertaking of sensemaking by managers is intended to create meaning for themselves; however, studies suggest that the managers can knowingly or unknowingly influence other organizational stakeholders' sensemaking processes when they give sense to others. (Gioia & Chittipeddi, 1991) Sensegiving is a closely interrelated concept to sensemaking and can be defined as "attempting to influence the sensemaking and meaning construction of others towards a preferred redefinition of organizational reality". (Gioia & Chittipeddi, 1991, p. 442). The process of sensegiving helps an organization to legitimize and normalize certain understandings while invalidating others. (Gioia & Thomas, 1996) From an accounting perspective, Giuliani (2016) argues that there exists "no coherent idea of how sensegiving should be carried out in order to affect the sensemaking process of human resources". He explains that while some think that the provider of information cannot directly influence the receiver of information or control the outcome, others argue that it is possible to indirectly influence a receiver of information by acting to influence how the numbers of measurement are designed and calculated. Scholars such as Kraus and Strömsten (2012) and Jordan and Messner (2012) observe how actors in organizations mobilize accounting as part of sensegiving efforts by increasing the emphasis on selected information, or in other words filtering the information. In the case study of Kraus and Strömsten (2012) many stakeholders, from top management to advisors, took part in the sensegiving effort to promote shareholder value in connection to an IPO through the extensive use of financial measures. Jordan and Messner (2012) found similarly how accounting information was successfully used to give sense when a top manager put forward a selection of performance measures as "targets" which other organizational members saw as unachievable but could translate into "visions" and a general direction for the strategic change initiated by the top manager.

The process of sensemaking and sensegiving can be destabilized, however, when frictions occur in organizational members' understanding of a phenomenon. Pratt (2000) introduces the concept of sensebreaking, with which the initial meaning formed by the actors is broken down "to create a meaning void that must be filled". The questioning of one's sense of a situation in order to make or give further sense is mobilized in different contexts of management accounting (Giuliani, 2016), where the sensebreaking action leads to the rebuilding of awareness which further results in either ground-breaking learnings or worsen circumstances. (Almqvist et al., 2011; Dervin, 1998; Maitlis & Christianson, 2014; Vlaar et al., 2008). In the context of accounting Giuliani (2016) provides one example of how measurements can, instead of making sense, break sense as some actors chose to look at certain measures and measures are seen as standalone instead of related to each other. This in turn creates incoherence among different actors' understandings. Linking one's sense of a phenomenon to organizational learning scenarios, whereas sensemaking emphasizes the identification of "what is happening" and sensegiving relates to the idea of "how can we spread our influence regarding the current situation", sensebreaking points out the uneasiness of "why is our approach flawed and what changes should we adopt". The movement between the three gears may create a steep learning curve for organizations and their members, with experiences accumulated from rounds of adjustments.

2.2.2. Temporality and temporal work

This paper holds an interpretative view on the sociology of time which in general divides time into past, present and future. (Chakhovich, 2013; Emirbayer & Mische, 1998; Kaplan & Orlikowski, 2013) The concept of time has been annotated from different angles in the accounting and organizational literature, where the traditionally dominated "clock time" sets an objective tone to the linear and quantitative characteristics. (Hassard, 1990; Jaques, 1982) Under the linear perspective, a duality of directions is further developed in the sensemaking literature, i.e., backward-glancing (Weick, 1995) and forward-looking sensemaking (Dawson & Sykes, 2019). An alternative subjective view on temporality suggests time to be qualitative and defined by actors through meaningful events. (Clark 1985; Hassard, 1999) Built around the qualitative approach towards time, the sociology of time studies the relations between constructs of temporality. (Chakhovich, 2013; Emirbayer & Mische, 1998) Here the past, the present and the future share an inextricable bond in which the flow of time experienced is fluid. (Jaques, 1982; Kaplan & Orlikowski, 2013; McSweeney, 2000) In the context of financial reporting, McSweeney (2000) suggests that estimations regarding the future are brought backwards to support the financial statements of measuring past financial performances. Kaplan and Orlikowski (2013) express an interpretative view where the past, present and future evince in various ways of how individuals regenerate past memories, assess present status and visualize potential future developments. The practices of "reimagining the future", "rethinking the past" and "reconsidering present concerns" constitute what they coin as "temporal work", with which they come up with a model to study the collective sensemaking process in the strategy making of an organization. (Kaplan & Orlikowski, 2013)

Set upon the background of the internet bubble, the study of Kaplan and Orlikowski (2013) suggest that projecting the possible paths in the future can be difficult without understanding the historical route and the current issue from new perspectives. To put it differently, the meaning of an external event can be created only when the imagining of future is relied upon multiple views of past and present. To move forward in face of uncertainty, however, a convergence in strategic action requires the different interpretations of the past, present, and future among managers to be resolved. In other words, temporal work allows organizational actors to make individual sense of the situation yet an agreement or a "provisional settlement" has to be reached to create "coherent", "plausible" and "acceptable" explanations of how the visions for the future may help the organization move forward. (Kaplan & Orlikowski, 2013) Nonetheless, it is important to acknowledge that the uncertainty coming from the external event makes the settlements difficult to be achieved, let alone to be maintained. The instability of the environment triggers not only a sensemaking process for the management but also potential "breakdowns" in the understanding of the past, present and future among them. As investigated by Kaplan and Orlikowski (2013), breakdowns provoke additional temporal work to subsequently find a new direction among the newly envisioned paths to the future. As a consequence, the circulation around temporal work, provisional settlements, actions and breakdowns forms a perception shaping and reshaping process of the organizational actors to make strategic decisions and ultimately find a way out of the mist.

2.2.3. Theoretical framework

To answer the research question of how accounting tools and information are employed by organizational actors to build awareness in times of uncertainty, a need to understand both sensemaking and temporality led to a fusion of the two theories for the development of the framework. Kaplan and Orlikowski's (2013) model sheds light on the struggles organizations face in picturing the future but also in comprehending the past and present. In the sense, the past, present and future become equally uncertain and have to be taken into consideration all at once. As described in the foregoing sections, "reimagining the future", "rethinking the past" and "reconsidering the present concerns" are the main elements of temporal work which mediates among parties with different interpretations of time when an external event leaves them puzzled. The original model, in particular the three propositions of temporal work, fit the purpose of this study which intends to seek how accounting tools can be mobilized within an organization to make sense of the situation amid uncertain times.

However, the original model is designed for research on strategy making to make sense of the then, now and beyond of business projects under uncertainty while this paper aims to highlight the utilization of accounting tools and information to figure out the puzzles in times of uncertainty. To attune to the core of accounting in crisis, the research thus draws upon the temporal work in strategy making model with the following modifications. Provisional settlement hereby refers to the product of what-if statements illustrating possible future events, where coherence, plausibility and acceptability should be reached to form a common agreement of how the past, present, future should be interpreted among actors within an organization. Action includes a wide variety of managerial decisions ranging from strategic decision-making to formal decisions made on which KPIs or accounting tools to focus on. Breakdown demonstrates the revealing of invalid what-if statements when the coherence, plausibility and acceptability are destroyed due to changes in the external event.

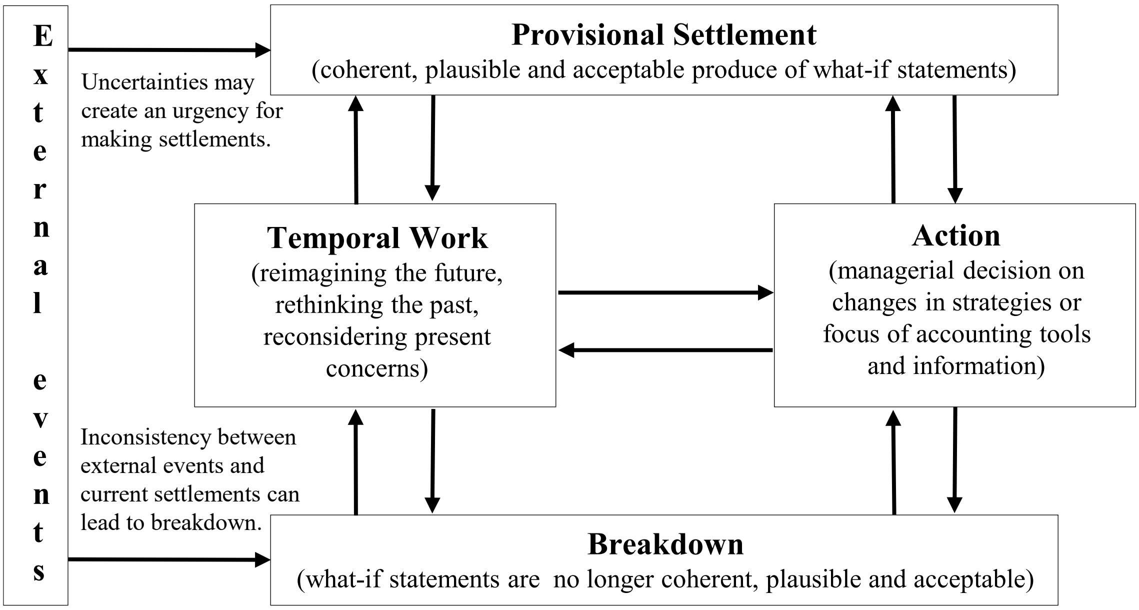

Figure 1. Temporal work model (adapted from "Temporal work in Strategy Making" by Kaplan and Orlikowski, 2013)

With the above adjustments made, the revised model is expected to deliver a broader picture of how dynamics can be created through accounting tools and information flows in the overall sensemaking process, and to provide a visualized relationship of how understanding, action and external events can influence each other from the viewpoint of organizational actors. In sum, the tailored temporal work model would enable the researchers to redirect the focus from strategy making to use of accounting tools and information in times of uncertainty which better fits the need to answer the research question.

3. Method

The following chapter describes the research methodology, where section 3.1 presents the research design and motivates the focus on one specific industry. Section 3.2 provides an overview of how data is collected and important details of the interviews, followed by section 3.3 which outlines the data analysis process.

3.1. Research design

To gain insights into the research question "How are accounting tools and information employed by actors within organizations to make sense in times of uncertainty?" using the theoretical framework, we chose to adopt an exploratory multi-case study approach. This approach ensures consistency and alignment between research design, research question and method theory. The qualitative research approach facilitates the research paper's aim to uncover how accounting tools and information are implicated in creating understanding in a crisis, as this approach allows for creation of a multifaceted understanding of phenomena within an environmental context. Recapitulating among in-depth analysis of a single case and comparisons across cases and survey studies, we directed our focus to the emerging patterns of anomaly. We deemed a multiple case study approach to be appropriate as such an approach allows us to on the one hand corroborate similar patterns making them more visible and on the other hand extend on different patterns by emphasizing complementary aspects of the research phenomenon. (Eisenhardt, 1989) Thus, using a multi-case approach we can draw a more complete and elaborate picture of the research phenomenon in question.

In addition, the design of our research aims to accommodate the different views of actors in organizations who utilize accounting tools and information in the business operation during the ongoing pandemic. The study is set within ResidentialCo and CommercialCo, two leading Nordic real estate companies that develop and manage different types of property portfolios. Geography wise, ResidentialCo has expanded its international reach with mainly apartment development projects. CommercialCo, on the other hand, focuses on a single country market with office and retail properties located primarily in central business districts. The particular industrial setting draws a fruitful discussion for our research question for the following reasons: 1) the real estate industry can be segmented by location and types of properties, with different segments being affected by the pandemic to different degrees; 2) cash flow models under fair value concept are favored for capital budgeting and investment appraisals, which require realistic assumptions to be made for several key factors, including growth rates of future net rent, risks of future potential net income from the property and opportunity cost of capital. (Geltner et al., 2007)

At the time of the study, the pandemic was ongoing albeit vaccines had begun to be distributed across countries to turn the tide. Nevertheless, the shifts in consumer behavior seen under the influence of digitalization has been further enhanced by the pandemic since individuals would prefer to work from home and shop online. Business wise, the fundamental changes in individuals' lifestyles amid the pandemic creates an interesting effect of benefit to ResidentialCo while raising concerns for CommercialCo. With regard to property development, however, the two participating companies share the same uncertainty as the implementation of social restrictions to limit the spread of the virus is deemed to be at odds with the required physical attendance at the construction sites. As a whole, the possible transformation of the industry and delays of the building process related to the pandemic led to the decision of interviewing personnel from both operational and financial functions at ResidentialCo and CommercialCo.

3.2. Data collection

Two types of data are gathered for the analysis of the selected case companies. Data collected through in-depth interviews provided the primary empirics, which were complemented by written material such as annual reports, website information produced by each company and news articles. The material downloaded from the company websites were documents released during the period of 2008 to 2021 to include aspects of the pandemic and the 2008 financial crisis, whereas filters were applied on the database Retriever Research to display news articles including keywords of the respective company names and the COVID-19 pandemic or the 2008 financial crisis. The purpose of collecting the written material was twofold. On the one hand it provided a basis to analyze the discourse on how the companies engaged with their external stakeholders and, on the other hand it provided ideas for interesting topics to discuss during interviews.

In total 11 interviews with 9 individuals lasting an average of 53 minutes were conducted between February and May 2021 (see Table 1 for details). An initial informal and semi-structured interview was conducted with an executive manager at ResidentialCo in February which was in part used as an orienting interview to revise and formulate a more precise research topic. The remaining interviews were conducted in a similar semi-structured manner with the intent of creating an open-ended discussion to explore the implications of accounting tools and information in the individual and collective processes for figuring out the puzzle of the COVID-19 pandemic.

Table 1. Interview details

Interviewee	Date of interview	Duration (minutes)
ResidentialCo		
Financial manager A	Feb 2021	75
	May 2021	27
Operational manager A	Mar 2021	57
Operational manager B	Mar 2021	54
Financial manager B	Mar 2021	56
Operational manager C	Apr 2021	51
CommericialCo		
Operational manager 1	Mar 2021	53
Financial manager 1	Mar 2021	56
Financial manager 2	Mar 2021	56
	May 2021	40
Manager	Mar 2021	57

Contact with ResidentialCo and CommercialCo was established through professionals familiar to the authors or other researchers in the authors' network. The initial contacts at the companies then provided additional contacts for interviews. To gain a deep understanding of the sensemaking processes within the organizations and discover possible tensions between personnel, the study includes interviewees from different organizational levels and departments of each company. All interviewees were expected to have experienced a previous period of global crisis either in the current or a different organization to resonate with the research topic of uncertain times. Prior to the interviews every interviewee received a GDPR guideline consent form about how any personal data collected would be stored and used for the purpose of the thesis and which the subsequently had to sign. Additionally, before conducting the interviews, a general interview guide was designed. The interview guide was further developed throughout the data collection process as different themes and interesting topics emerged over time.

The interviews started with a short presentation of the thesis topic and basic questions about the interviewee's current and previous roles at the company as well as their background. Since the interviews were semi-structured, the overall themes from the interview guide were covered but the order and the amount of time spent discussing each theme varied from interview to interview. During the interviews, the researchers focused on listening and constructing new connections to the responses of interviewees to ask follow-up questions while encouraging them to provide examples in order to create an in-depth understanding. (Bryman & Bell, 2011) Each interview was subsequently transcribed and reflected on to make detailed adjustments to the interview guide for the next interview. Thus, preliminary analysis of the interviews and data collection were done simultaneously to form new prepositions to identify the relevant information and questions. (Yin, 1994)

3.3. Data analysis

As our qualitative research is based on a series of interviews and discourse, we perform our data analysis with a high degree of iteration. The interview transcripts, documents from company websites and news gathered from business media served as the material with which we brought forward initial observations. Keywords reappearing in the observations were divided into different clutches, which were subsequently transformed into potential coding themes that resonated with the overall concepts of sensemaking and temporality.

Through further iteration with the literature of method theories, the authors identified more refined and concrete coding themes. Below we present a summary of the main steps in the process of data analysis as a chronology. (see figure 2 for details) The first round of coding involved creating an understanding of how the actors and organizations viewed and interpreted the pandemic as well as how these views were formed. The first round of coding was done using an entirely inductive approach in that the views and interpretations emerged from the data which allowed us to create a bottom-up understanding. We found that some of the views of the interviewees and organizations overlapped while some others were more independent from each other. In the second round of coding, we wanted to give structure to the findings so as to be able to interpret them more easily and draw conclusions later. The emerging views and interpretations were divided into overarching themes guided by the theoretical framework. Using the theoretical framework, we formed a data matrix in which we collected quotes and evidence for the patterns we had observed. Thus, the analysis was more guided in this step and a combination of inductive and deductive approach was used.

The discourse of documents and news was studied in a similar way as the interviews but with a slightly different approach as by this time a theoretical framework had already been developed which functioned as a loose guidance for the coding. Thus, the first and second rounds of coding from the analysis of interviewees can be said to have been combined into just one round of coding. The findings from these secondary sources in part functioned to triangulate the observed patterns from the interviews but also in part to complement the findings. (Eisenhardt, 1989)

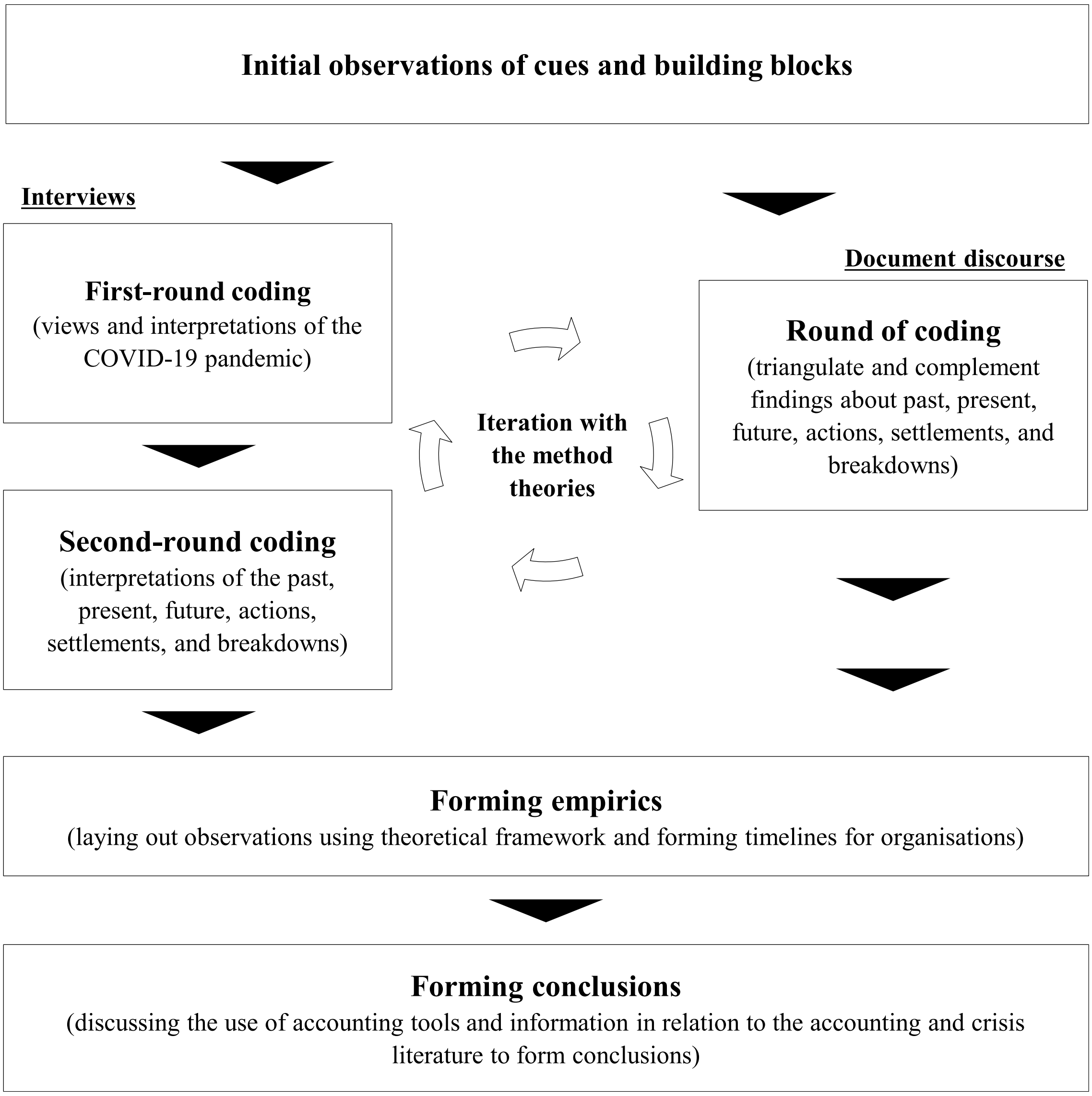

Figure 2. Analytical process

In the next step, the two parts of analysis were combined into one story. The empirical analysis section is presented in section four using the theoretical framework. In presenting the empirical analysis we worked with a combination of both within- and across-case analysis. The empirical findings are then discussed in section five in light of how the actors and organizations made and gave sense using accounting tools and information to answer the research question. The interpretation of the material and eventual arrival at conclusions involved going back and forth between the empirical data and the literature of the studied topic. Finally, conclusions, contributions, limitations and suggestions for future research are presented in section six.

4. Empirical analysis

The empirical analysis is guided by the adjusted model of "Temporal work in strategy making" from Kaplan and Orlikowski (2013). Our framework fuses the three types of managerial negotiation towards temporality, namely (1) reimagining the future, (2) rethinking the past and (3) reconsidering present concerns with the aspects of sensemaking, sensegiving and sensebreaking. By tailoring the "Temporal work in strategy making" model to give a broader picture of the sensemaking process, the following analysis seeks to develop insights of how organizational actors employ accounting tools and information to construct and reconstruct their awareness of uncertainties amid crises.

4.1. Case study 1: ResidentialCo

4.1.1. Reimagining the future

In March of 2020 when the COVID-19 pandemic led to a slowdown of social activities in most of the markets ResidentialCo was active in, the work of creating forecasts at ResidentialCo had just been completed. Forecasting was a major quarterly activity at ResidentialCo in which the company created updated P&L, balance sheet and cash flow forecasts for the next three years. Among all aspects of forecasting one of the most important one was the forecasts that concerned how quickly apartments in the ongoing projects would sell. These forecasts were used as a component in ResidentialCo's percentage of completion model for revenue recognition and were of equal importance as a guideline to assess when the company should start developing new projects. However, as the realization of the pandemic came upon the company, the forecasts did not necessarily represent the views held by the interviewees of the future. Instead, the interviewees imagined alternative futures in which the company would likely experience a more difficult period. Since forecasting was a time-consuming and bottom-up activity involving a large part of the organization, the company chose to not update its forecasts. In fact, one financial manager noted that updating the forecasts would only take a lot of administrative work without adding many insights to the understanding of the situation. Instead, ResidentialCo chose to rely on scenario analysis that included scenarios where the company would have difficulty in starting new projects and finding customers as these were the most pressing concerns for the company at that moment. Despite the concerns, based on past experiences the company was well aware of the fact that in times of disruption the development of an external event could swiftly turn both ways. Consequently, the scenario analysis also included more positive scenarios where the negative impact of pandemic on its business could be minimal.

Doing scenario analysis was not a new activity for the company and when doing its quarterly forecasts a smaller number of individuals from different functions, business units and levels would also come up with reasonably realistic alternative scenarios and map out the plans if things would go worse or improve beyond the base scenario. This could be considered as an add-on activity to the main forecasting which for the interviewees seemed to promote constant thinking around scenario planning within the organization. As the scenario analysis was an exercise that involved fewer people than the main forecast it allowed the company to better coordinate the actors and be more agile in forming more explicit scenarios at the start of the pandemic. The scenario analysis would usually be done at a higher level but in connection to the pandemic the company chose to apply more scrutiny to the calculations and work through the scenarios deeper than it normally would. Although internally the company would put more effort into building details around the scenario analysis, externally ResidentialCo displayed mostly the base case scenario to its stakeholders to form a general sense of the potential impact of the pandemic. When it came to the investors, sharing this type of information was something that the company tended to be careful with so instead it provided various sensitivity analyses in its reporting.

> "We're a bit cautious with the forecasting for our investors but we give them these parameters that we're talking about so they can make their own assessments."
> - Financial Manager, ResidentialCo

As time progressed the pandemic became a crisis that was never realized business wise as the market development turned out to be far from the worst scenario. Instead, the interviewees could quickly see the road back to normal. The return to normal was however communicated by the company in a neutral way to its investors. This was not the case during a more drawn-out period of turbulence amid the 2008 financial crisis, as the company would emphasize all the positive aspects in its annual report such as potential turning points in some of its markets when talking about the future. Now when the numbers already looked good there was less of a need for the company to emphasize the positives. Therefore, the tone was more neutral as bringing up negative aspects or questions about the future could overall still maintain a positive tone in the communication. Some of these question marks mentioned in the 2020 annual report were brought up by some of the interviewees and appeared to be something they contemplated about. The operational managers in particular had observed how the pandemic had changed some of the trends in the market and they wondered what this might mean for the future. As noted by one of the operational managers, "... look at the prices they have gone really really high, people move from an apartment to a house these days in a way that we haven't seen for ages." The switch in customer preferences raised the question of whether this new trend would continue in the future.

Moreover, the same operational manager remarked on the change in how people looked at their homes during the pandemic. Now a home was not only a home, but a home and a workplace. For ResidentialCo this had already meant changes to the way they tried to sell their apartments but what further changes would be needed?

> “… we have apartments with smaller rooms that we are selling as a room for work. Before it was maybe a closet or a minor room for a small child, but now we are taking photos of a desk and a laptop in that room and say, “oh, here is a place for you to work or you can shut the door or be alone in that room”. So we need to try to sell the apartments in a new way …” - Operational Manager, ResidentialCo

Although these questions existed among some of the interviewees at ResidentialCo, this did not seem to bother them too much as they foresaw that the demand for apartments would continue to be strong in the markets the company operated in. As a result, the predominant view among all the interviewees at ResidentialcCo was that the future would continue in the past patterns. This belief was primarily based on several external factors such as demographics and low interest rates. One interviewee at the company described the demand for residential property in some of its regions as endless as the industry had not built enough for a long time, therefore it was just a question about price. Similar opinions were shared throughout the industry, in the media as well as among the external consultants conducting ongoing analysis of the market conditions for the company, which likely further engraved these beliefs among the interviewees.

4.1.2. Rethinking the past

The decisions of what to do and perhaps just as important, what not to do, during the pandemic often came from past experiences and how the individuals at ResidentialCo looked back at previous crises. At ResidentialCo, the 2008 financial crisis had hit the company hard across most segments. In response, the company had let go of a significant portion of its workforce to save money and scale back production during the 2008 financial crisis. However, as the crisis subsided the company acknowledged how the layoff had resulted in a longer time spent on regrowing and developing the human resources. In order to retain capacity several interviewees addressed that downsizing the company would be the last reaction ResidentialCo would make if it faced a crisis again.

Scenario analysis similar to what the company had conducted during the pandemic had been utilized by the company in the past and it had shown itself to be useful in not only imaging the future internally but also in communicating with external stakeholders such as its debt holders during the 2008 financial crisis. Through scenario analysis the company could show the future potential impact which one interviewee described as having made it easier to communicate with the company’s lenders. When reinterpreting the history of ResidentialCo, most interviewees addressed that over the past several decades the company had operated its business throughout different periods of turbulence. What the company had learned through these past experiences of turbulence was something that many of the interviewees at ResidentialCo carried with them. On top of this, the company had created a crisis handbook providing generic guidance when the COVID-19 pandemic appeared. Although the handbook did not contain any detailed plans, experiences and scenarios, some of the interviewees still described it as useful in creating common understanding around crises. For example, one of the operational managers described how the company had defined what a crisis was and what it meant to the company. Regarding this sharing of past experiences within the organization, the interviewees expressed that it gave them confidence to better handle new periods of turbulence. However, these learnings from previous turbulent periods were not stated explicitly in the communication with its investors. One reason for this could be to avoid creating a sense of crisis around the pandemic. Instead it was left up to the investors to make their own interpretations about any past comparisons and connections. A comparison between annual reports, however, may be able to give the investors a sense of the severity of the different events. For instance, the word “crisis” and “turbulent” was mentioned explicitly in the 2008 annual report while in the 2020 annual report the word “uncertainty” was used instead to describe the pandemic. Still, the learnings were very important internally to the company and for how it would tackle the pandemic. Looking back at the 2008 financial crisis, one of the operational managers described the strategy regarding what to do in a crisis as deeply embedded in the culture among the managers. Thus, the manager was clearly committed to the company's way of doing things and had clear expectations of how the causal relationships of actions and outcomes would work.

> "... others can see it in other ways, but in my world there was probably a little bit in the culture of the company ... how we would handle the crisis. ... For us in the management, it was not rocket science what we needed to do. Instead, we knew what we needed to do. There are a number of things that have to be worked on in a crisis and they are things you work with all the time in a company, so it is not something you just deal with in a crisis. When there is a crisis, things come to a head and then you have to work much more with it.” - Operational Manager, ResidentialCo

This commitment of how to do things was further engraved among the interviewees in that the company, as one manager remarked, generally had a tougher time to gain market share in normal times but in connection to crises ResidentialCo had often managed to increase its market share. Thus, looking back at previous crises seemed to be something that the interviewees used to form confidence around and express capability to deal with periods of turbulence.

The interviewees at ResidentialCo had not identified anything fundamentally wrong with the business in the 2008 financial crisis or the period leading up to the pandemic. One manager expressed that “the home is very high up in people’s needs pyramid. Regardless of time or turbulence, there are changes in people’s lives. You are born, you move in together, you divorce, you die. So it creates a need for housing consumption over time”. As this would not change in the future, most interviewees saw no reason to expect anything else than a continuation of the past in the future and there was no need to rethink the fundamentals of the business.

4.1.3. Reconsidering present concerns

ResidentialCo recognized that cash flows were going to be important in the pandemic. Cash flows come from three different streams: operations, investing, and financing. ResidentialCo determined that it was important to continue making investments into the projects to safeguard the production and the operational cash flows as well as be in a good position when things would eventually turn around. The main questions therefore resolved around the financing and operations, or in other words would the pandemic be a financial crisis, a demand crisis, both or neither.

> "We were unsure about the demand for apartments and houses and we were also uncertain about the credit markets. How would they react if the demand would fall?" - Operational Manager, ResidentialCo

Based on experiences from the past ResidentialCo had made sure to always have large credit lines in place that they could use if needed. However, the financing was never a burning issue as the banks continued to provide financing to ResidentialCo. As for the operational cash flows the company's main concern was the sales which the interviewees described as the driver for the whole business. Without a satisfying level of sales, ResidentialCo would experience a halt in its ongoing projects while the new projects could not even be started. Costs were less of a concern as it was something the company kept an eye on all the time over the business cycle. The long lead time of projects also implied that there could be developments that the company had not foreseen regarding the local planning processes in the business cycle. To mitigate the related risk, the company would prefer to purchase its building rights without planning risk, meaning that payment of land was conditioned on planning gaining final approval. In turn this meant that much of the margin was already locked in at the time of payment for the land as there would be fewer cost related surprises and the time between cash flows out and in was reduced. In its reporting the company describes the risk management of its building rights portfolio as a crucial aspect of the business and the use of conditioned agreement building rights plays a key part in how it manages this risk. In this communication the company also described how the building rights portfolio had a significantly higher value than what is communicated via its balance sheet as the valuation is based on a conservative margin assumption. In addition, the conditional building rights made up an implicit hidden value reserve off the balance sheet. Altogether the company tried to portray a sense of control that the unfolding reality was better than they anticipated initially in the written communication with its investors. One interviewee pointed out that ResidentialCo had been very successful in managing the costs in the past. Some interviews described how the company had a good basic scenario to tackle the pandemic which likely lessened the concerns about the costs among the interviewees.

> "... in this business to have good margins over time really requires having strong cost discipline. ... compared to our competitors we feel that we have been very successful. They have sometimes bought land that doesn't match the business cycle." - Financial Manager, ResidentialCo

The concerns regarding the sales were more serious but the business model of ResidentialCo also made the interviewees feel less urgency about any potential sales related issues. At ResidentialCo the business worked such that the company sold apartments one to two years before they would be ready and paid for. Therefore, sold apartments today did not affect the cash flows so much in the very short-term and a few months of hesitance from the buyers would not be that bad for ResidentialCo as it could still get cash flows from the banking system and projects that were being completed. However, the sales measures were also important as a guidance for when to start building and sales today meant they could continue with projects and collect revenue and cash flows in the future. Thus, it was still very important for the company that it managed to keep the sales up.

> "We are in a business with ongoing projects, it doesn't stop from one day to the next. Our projects are between one and a half years and two and a half years in length from start to finish. Many of our ongoing projects that we had in the pandemic have a great deal of apartments sold already, and could we keep up the projects ongoing? Then we secured the revenue for the nearest future."
> - Financial Manager, ResidentialCo

At ResidentialCo the most important KPIs that the company followed closely were sales related such as the percentage of apartments that were sold or reserved in ongoing projects. One financial manager described how this was normally tracked week-to-week to see how the demand was for the moment but that they previously had put up a system where it could be followed not only week-to-week or day-to-day but in real time. Using the KPIs the interviewees could see how the pandemic initially slowed down the decision making among its customers, first in the international markets and then in the domestic market. These trends are also visible in the company's reporting and the development of different markets are carefully described. While the company signaled that times would be uncertain it also expressed confidence to keep the business stable and that it so far was largely unaffected. It also pointed towards an even higher level of sales for the housing starts that were set to be completed in 2020 than in the previous year meaning that cash flows were relatively secure for the short-term.

The importance of maintaining business stability is also evident in the interviewees' responses. Even though the sales had started to be affected, the experience from previous crises had made the managers committed to stay cool and not act in anticipation as crises in their experience would often initially get worse quicker than expected but likewise the market often came back quicker than expected.

> "We turn to private consumers and as soon as something dramatic happens, everyone stops a little and stands on their toes." - Operational Manager, ResidentialCo

After the initial shock among its customers had settled down, as time progressed the interviewees could see from the sales KPIs that the market had not crashed as they had feared. As a matter of fact, marching into summer of 2020 sales had begun to recover sharply in the domestic market. The company explicitly documented the recovery in its reporting and described the situation in its international markets as stable to give a sense of optimism that those markets may soon head back to normal. Some months later the international markets had also recovered.

4.1.4. Beyond temporal work

The temporal work of reimagining the future, rethinking the past and reconsidering present concerns builds the foundation for reaching provisional settlements and taking actions. Provisional settlements refer to managerial agreements on the answer to the what-if questions asked during the temporal work, whilst actions are the decision makings in response to the external event. Based on the above empirics a change in focus of accounting tools, i.e., from traditional forecasting to scenario planning and scenario analysis, can thus be identified as an action. On the other hand, convergence on the connection of meanings made between the past, present and future through the preferred scenario tools can be regarded as provisional settlements. Since the tools enabled individuals to be creative in the imagination of possible futures while being selective towards the inputs, the company was able to reach an agreement on what the best, base and worst cases may look like by settling on the input variables they would pay close attention to. Naturally, as the multiple versions of the future were reduced to three alternative scenarios a better understanding of the situation around the pandemic could be made. A clearer picture of the roads ahead, with one of them being the main path or the most likely scenario, made the management of ResidentialCo become more certain about how it could respond to the uncertainty in the market influenced by the pandemic. Therefore, preventive cost saving measures were taken in the international markets while digital house viewing and contract signing were implemented to mitigate the concerns addressed by customers.

Another action that was taken at the onset of the pandemic was to activate a centralized crisis team which provided general guidance of crisis management should the situation worsen and pose threat to the business operation of ResidentialCo. Having been through the financial crisis in 2008, one operational manager believed that it was one of the key learnings from the past experience that specialized groups should be set up as soon as possible to be fully prepared in unusual times. That being said, the subsequent development of the pandemic varied from nation to nation, leading to a breakdown in the previous anticipations. A breakdown occurs when the link between the interpretations of the past, present and future becomes futile, most often due to uncertainty arising from the external environment. (Kaplan & Orlikowski, 2013) According to several interviewees, the pandemic was initially deemed to pose a significant impact on the company and particularly in some markets. However, a few months into the pandemic the managers at ResidentialCo noticed that in general the financial impact of the pandemic was less severe than its worst-case scenario. The centralized team was then separated into subgroups by country, which two interviewees at ResidentialCo suggested that the proper division enabled the management to sort out what was certain and what was not in the local markets more precisely.

Interestingly, it came to the researchers' attention that not all breakdowns were destructions of meaning that were shocking to ResidentialCo. The breaking down of sense can be regarded as beneficial should it dawn on the actors that opportunities exist in the meaning voids. In that sense, breakdowns can be reframed as surprises with a more positive tone:

> "I think no one had thought about it that instead of going to a construction site to see your new home, you can see it through a digital show. ... We had thoughts about digitalization, we had worked with it for a couple of years because we saw the digitization was quite strong. But when COVID showed up, we had to do it in a faster way. ... Digital housing display, digital signing of contracts, everything got a boost." - Operational Manager, ResidentialCo

The digital transformation opened doors for ResidentialCo, leading the actors to experiment with new tools in a world that had rarely been explored. The exploration took time, as mentioned by the operational manager, a few rounds of trial and failure were done before obtaining the right tools and getting on the right track. Most actors in the organization were said to be enjoying the changes made upon the breakdown. In particular, one strong influence that made the settlement of digital signing stick in the minds of the managers was that the key indicator of customer satisfaction saw a rather sharp increase after the digital plan was carried out at ResidentialCo. As the updated working systems had raised positive feedback from both the customers and the employees, it can be noted that there existed a sense of optimism about the continuous usage of the digital tools at ResidentialCo. Accordingly, the actors reinterpreted their views on the past, present and future with regard to impacts of the pandemic on the residential business. As stated by the operational manager and other financial managers in ResidentialCo, they now view the pandemic more of a hiccup with a rather short period of uncertainty instead of a threatening crisis.

4.2. Case study 2: CommericialCo

4.2.1. Reimagining the future

At the onset of the COVID-19 pandemic in March 2020 the interviewees at CommericialCo wondered what the potential impact of the pandemic would be and where the company should be heading. The company realized that some of its tenants would most likely not be able to pay their rents and the financial markets had begun to function less smoothly than in normal times. Just as at ResidentialCo, CommericialCo wanted to model the future to see what the impact of the pandemic could be on the company.

> "... in March and April last year the financial market really died. We were not able to issue any bonds for example. Suddenly we wanted to make sure that we didn't run out of cash. That was one reason that we wanted to make sure to see will this [rental discounts and non-payments] affect the cash flow." - Financial Manager, CommericalCo

CommercialCo usually did some scenario analysis as part of its ongoing business. The scenario analysis was always done on a consolidated basis by a smaller team from only a few departments and the primary focus was usually on financial outcomes and key metrics for the company such as loan-to-value (LTV) and interest coverage ratio. Therefore, the scenario work was in several ways different from the forward-looking budgeting work that the company did once every year for planning purposes of the operational business involving all business units. Nonetheless, since the financially focused scenarios were built from the operational budgets and forecasts as a starting point, the whole company was indirectly involved in the scenario analysis. At the onset of the pandemic the scenario analysis was still done by the same small group of people, but it included a wider range of information than what was normally the case and focused more on cash flows. Rather than also focusing on the potential upside as ResidentialCo did, CommericalCo only focused on the potential downside. Furthermore, instead of the normal three-year scenarios the company usually made, the scenario analysis now included scenarios where the pandemic would last for different amounts of time.

> "We just wanted to see what would happen if [there were] different levels of discount to the tenants, and we realized that right there we couldn't really forecast for how long we would be seeing these effects. So in the beginning we counted on for example discounts for the retail tenants for half a year, one year, 18 months and two years and so forth." - Financial Manager, CommercialCo

Even though the impact of the pandemic had not subsided in the same way as at ResidentialCo, the interviewees at CommericalCo were soon asking similar questions about the future to the ones posed by the interviewees at ResidentialCo. What would the future look like and how would the company need to adapt its business? These questions appeared to be a more serious long-term concern at CommericalCo than at ResidentialCo.

The idea that retail business would continue to move online was a trend that all the interviewees thought would continue but what would the future of the office look like? One operational manager noted that the office segment had not been affected much during the pandemic because the office tenants had still not decided what they should do after the pandemic. Nevertheless, as the office segment was by far the most important for CommercialCo, this was a question that deserved the attention of the organization. The interviewees expressed beliefs of how the company's office tenants viewed the office would change as they thought more work would be conducted from home in the future. This was something that the pandemic had clearly shown to be possible. The effect of this change would not be immediate for CommericialCo as the office lease agreements were signed for several years and only a small portion of the contracts were renegotiated each year, but it would still possibly occur over time.

> "If we would assume all employees within all companies leasing office spaces would have employees working from home once a week, that would lead to a decreased demand of 20%, right? But of course, that wouldn't have an instant effect because as I said we have typically quite long lease agreements, so even if you're not using your space fully you cannot quit or withdraw from your lease agreement. But at least the effect will be there post pandemic I believe." - Manager, CommercialCo

Some interviewees were more expressive than others in suggesting what the future of the office would look like, views they often built on trends they could spot in the present or past such as the activity-based office. However, the change to how the office tenants viewed the office would not affect only the office segment of the business. In fact, fewer people in the office buildings meant that more people would be sitting at home and in turn fewer people would be visiting shops and restaurants near the office buildings. Therefore, it was not only important to determine what the future of individual property types would be but also what the mix between different types of properties, such as retail and office buildings, should be. In turn this meant that some of the interviewees posed the even bigger question, what should the city of the future look like?

> "The main thing for us right now is what should the city be like in the future? Why do you want to go there, why do you want to be there, why do you want to spend time there, if you are not really obligated to go to work, for example? How do you program a city center? Is it an H&M, the grocery store, the post office, the bank and the liquor store like it was in the 50s? What should it be like in the 2050s? Is it culture or restaurants or coffee shops, or what is it? This is the thing that we are trying to figure out, and mainly think of how these systems are related to each other." - Operational manager, CommercialCo

While the reimagining of the future was always on the agenda at CommercialCo, the question had been further actualized as the pandemic had accelerated change and made some issues more urgent. Even though the interviewees struggled with projecting exactly what the future would be, which could not necessarily be answered with traditional forecasts, many interviewees expressed confidence in the organization's ability to handle the possible paths to the future. The past and the present were important factors in how the interviewees justified this confidence in themselves and lack of confidence in their competitors. Here, both qualitative and quantitative accounting related information played a crucial role in how the interviewees connected the past and present to the future. One manager at CommercialCo expressed how the quality of its properties, e.g. location or energy efficiency, would mean that the properties would still be in demand in the future and thus valuable, implying that what measurable quality meant in the present would largely remain the same or be in the company's favor in the future. The same manager also expressed confidence in the capability of the company to deal with any changes necessary which was connected to the strong results the company had had in the past in dealing with crises and its normal operations.

4.2.2. Rethinking the past

At CommericialCo, previous crises such as the 2008 financial crisis had not affected the company to the same degree as ResidentialCo and the interviewees at the company tended to have a more difficult time expressing what explicit learnings the company had drawn from those earlier turbulent periods. Despite this, the interviewees all thought they had some takeaways and expressed confidence in dealing with future crises. As a matter of fact, they often connected the faith to how CommericialCo had remained largely unaffected in the past, which they believed to a certain degree depended on how they had operated the company. Within this context, the past had often been helping the company rather than hindering it even when the company was only affected by its environment to a limited degree. For example, one interviewee described how one of the measures taken by the states to deal with the 2008 financial crisis, i.e., lowering the interest rates, may have helped the company in the long-term as it had greatly increased the value of its properties in the subsequent years leading up to the pandemic.

As the pandemic progressed there was a realization at CommericialCo that the future would be different from the past and past experiences they had had of crises. New strategies were needed and one interviewee at CommericalCo described how there had been a shift in the way they thought about the rental income the company collected. It was no longer such a big concern to maximize the profit for individual properties as this was simply not working in the present. Instead, CommercialCo was more concerned about the overall income they collected from its tenants, which can be likened to how a shopping mall operated.

> "... how we think or our business model has been related to each individual property, each individual level and each individual store, and how can you maximize each individual store on their own, not thinking about how this affects the next store. But if we take 10 stores on the street and drive the average rent, that is, it sounds pretty basic to do that, but we haven't done it before."
> - Operational manager, CommercialCo

4.2.3. Reconsidering present concerns

Similar to ResidentialCo, cash flows were the biggest concern at CommericialCo and the interviewees also asked the question of what type of effects the pandemic would have on the company. CommericialCo chose to continue with its investments in its projects, although more carefully than before. The company also had some initial concerns about the financing of its business, but they appeared to be of a lesser degree than at ResidentialCo, as CommercialCo had more ways to access financing and owners that could provide capital. One financial manager at CommercialCo noted that while the company had difficulty issuing bonds for some weeks during the spring the company seldom had issues borrowing from the banking system, although it had gotten more expensive to do so. The same financial manager expressed particular concerns about the cost for funding and described how the agency determining the credit rating for the company raised concerns about the capability of the tenants to pay their rents which would affect the cash flows and property values. In turn this would also affect the LTV and interest coverage ratios which were the most important key metrics that the rating agency based its rating on. Therefore, an extra inquiry regarding the business outlook, cash flows and liquidity was made by the external party. In communicating with the agency both financial managers described how the company usually would present the main scenario for the business going forward. Also this time CommericialCo provided the main scenario for three years into the future, including the predicted effects from the pandemic. Unlike how scenario analysis was done internally with a range of different scenarios, CommericalCo usually only presented one scenario which it deemed most likely to the external parties such as the credit rating agency and banks. One financial manager explained that this had to do with the fact that the agency and banks made their own calculations regarding scenarios and sensitivity analysis. As the financial manager reviewed the 2008 financial crisis in comparison to the pandemic, although the credit markets had been a little rocky it was clear that the pandemic was not a financial crisis.

Constituting the main part of the business, the long-term lease agreements CommercialCo signed with its office tenants were usually only renegotiated upon contract renewal. Since the contract renewal only applied to a small percentage of the office tenants each year, the renegotiation effects on the business had always been expected to be trivial. In that sense the business model of CommercialCo is similar to the one of ResidentialCo as changes in the industry normally happen slowly and the momentum the business has built over decades could override a small period of turbulence. Therefore, what concerned the interviewees was not so much about what could happen in the present. Instead, it was what the present would mean for the future if the pandemic continued for a long time. Taking into consideration the communication through the reporting, CommercialCo may suggest that it had not considered the 2008 financial crisis as a threatening event to the company. In contrast, the inclusion of economic downturns in the risk management section of the 2021 quarterly report more explicitly demonstrates the acknowledgement of some possible future challenges by actors at CommericialCo. The retail part of the business, which represented a far less significant part of the business when compared to the office segment, was such a concern. According to the annual reports and the interviews with CommericalCo, one could sense that digital transformation had started to reshape the retail property business, thereby becoming a prioritized issue for the company to manage in the long-term. However, having seen other countries imposing lockdowns the interviewees wondered whether all the restaurant and retail tenants would only struggle even more with keeping their businesses in shape. What if the sudden hit of the pandemic would impact their ability to pay rents on time, would there be continuous rental renegotiation? Moreover, since rental income and vacancy rates were two important factors in valuing properties, how would the values be affected? These what-if questions largely resonate with the credit rating agency's concerns. Similar thoughts in mind were also seemingly present among the company's investors. In communicating with its investors, the factor of long-term vacancies was for the first time presented as one of the major value impacting factors in its reporting. One financial manager described it as something the investors had asked for.

Due to the increasing importance of rental income and occupancy rate, the focus naturally fell on whether customers could pay their rents on time. The interviewees soon saw how every retail tenant they had, even the tenants that did not need to renegotiate from a financial standpoint, wanted to renegotiate their contracts. As the previous 2008 financial crisis had not affected CommericialCo in any major way the interviewees sometimes struggled with relating this new experience to the past for guidance on what to do.

> "... when it happened this was a new world for all of us, and at that moment we were just trying to figure out "what do we do", what do we need to do right now? We had every single one of the tenants calling us on the phone, help, help, we need help." - Operational Manager, CommercialCo

Despite the concerns about the retail tenants' ability or willingness to pay, in doing the scenario analysis considering the rental income one financial manager expressed how it had eased the intense emotions, "We realized that it didn't really affect the value of property that much." While the scenarios contained estimations and judgements, the assumptions made were still important for the company to get a better sense of the situation and to handle the challenges ahead in every possible way. Although the company only did this scenario analysis at the onset of the pandemic it engaged in extensive monitoring of the issues at hand. To gain a better understanding of the situation regarding whether the tenants would be able to pay their rents or not, CommericalCo began ongoing "due diligence" of its tenants and divided them into different risk classes based on the likelihood of paying. Yet, some of the interviewees at the operational side of the business found it difficult to make sense of the situation. In understanding what was at stake, one interviewee at CommericalCo described a shift in how they thought about the rental income the company collected. Rather than the issue of maximizing the profit for individual properties mentioned in the previous section, CommercialCo paid more attention to the overall revenue it collected from its tenants. This deliberate shift in thinking about how the problems at hand should be dealt with likely made it easier for the actors at CommericalCo to prioritize the tenants they deemed to have better potential to drive up the average rent. In turn this better aligned the actors' concerns with the target of the company to maximize the overall rental income and profit for its shareholders.

4.2.4. Beyond temporal work

The empirics from CommercialCo indicate that some provisional settlements may last longer in nature than others. Shortly after the pandemic hit, actors across functions in the company had agreed on the adoption of remote working methods and digitalization of contract signing. Because part of the technological tools required had already been in place prior to the pandemic, the approval and execution of digitalization took less time than it normally would. As the urgent need of further digital transformation was in line with the generally positive views on technology prior to the pandemic, a provisional settlement regarding the digital matter could be reached. From the interviews it is evident that the ideas of working from home and running the process of contract signing virtually had gained acceptance among interviewees at CommercialCo, with a common interest noted in continuing the same methods even after the pandemic ends. Hence, the fact that the provisional settlement and actions taken for digitalization are built upon the trends enhanced by the pandemic and existing infrastructure of CommercialCo may to some extent protect the company from experiencing related breakdowns.

Following the smooth transition of digital contract signing and remote working since the start of the pandemic, CommercialCo had to continuously deal with various challenges coming from stakeholders including tenants, customers and construction work forces. The breakdown in constructing workers being infected happened in Spring 2021 but was quickly resolved upon the close down of related construction sites. However, especially during the spring of 2020 when the uncertainty from the pandemic reached a peak, the operational management spread themselves as thinly as possible and found it difficult to form an immediate response when plot twists happened. When asked about how the operational departments tried to move forward at that time, an operational manager replied, "What has changed in the pandemic is that our normal business model doesn't work, so I guess the main part is focusing on our normal business and a few [of us] trying to figure out new things. We have a small team working on that, we can’t do it on a broad scale because then we can’t get it anywhere.” The act of building up a separate team brainstorming potential ways of attracting people to the company’s properties in the future was an effective compromise to the intensified uncertain situation CommercialCo was facing at the onset of the pandemic. The action taken allowed a major part of the operational function to not worry about the fundamental transformation of the industry and focus on coping with the most urgent issues instead.

From the beginning of the pandemic, CommercialCo had foreseen that the retail segment would be hit harder than the office segment for a short period of time. A breakdown appeared when the effects came earlier than what the organizational actors had previously expected as nearly every retail tenant called for rent renegotiation. An operational manager mentioned how the initial approach of allowing the tenants to postpone rental payments no longer worked effectively as the pandemic was still in sight after the first three to six months, “What we are trying to do is just try to figure out which one of these tenants will not be sustainable after the pandemic, just trying to have the scale and then trying to figure out, which one should we help?” Once a provisional settlement loses its ability to make actors move forward in their sensemaking process, a new round of temporal work has to be accomplished to fill up the previous sense that is destroyed at present. The expectation of actors from the operational part of the company that the first round of discussions with retail tenants would work well was broken down as some retail store operations could not stand the test of time. As the retail business was wrapped in a pall of gloom under the influence of social restrictions, the operational manager had to discuss more in depth with the tenants about how they viewed the pandemic’s impact on their business and what solutions had come to their minds. To reconstruct the temporal work related to the interpretations of the past and present, the breakdown brought up by the unceasing social restrictions triggered the need of incorporating stakeholders’ perceptions into the organization’s own sensemaking process. While the tenants who showed capability of forward thinking were more likely to stay on the list of the operational manager, the need to list out the riskiest customers was discovered by the financial teams. As stated by one of the financial managers, "Previously, we didn’t have any problem with bad receivables. Now we had to follow the cash flows very closely. We followed specific customers, the largest customers especially in the retail sector.".

Built upon the concerns, rental income linked to the retail sector became a primary focus during the beginning of the pandemic. The following rent renegotiation not only pointed out the increasing uncertainty in the underlying assumptions of vacancy rates, but also brought other accounting information surrounding property valuations and bank loans into the spotlight. Based on the interviews and financial reports, it can be deduced that the documented property valuations were generally done twice a year by a renowned evaluating institution, where write downs may be considered should the level of rents fall, or the occupancy rate goes down. Internally, sensitivity analysis in connection with the property valuations and additional information of the credit reference for both new and existing tenants were demanded by the top management. The action that top management took to request more research and data was shown to emphasize the actors' perception of the uncertain external environment, as stated by a financial manager.

> "I think that we have to live with the uncertainty. Towards the board we do a lot of sensitivity analysis … [which] we do all the time and not just during this time to make sure we understand what will happen to the key ratios that are also connected to the bank loans. What will happen to those key ratios if the valuation drops, if the rents drop and so on. I think we have to live with the uncertainty so we are aware of what will happen in different scenarios." - Financial manager, CommercialCo

The financial manager continued to describe the situation where a revised settlement with regard to the rent renegotiations could finally be built up thanks to the CEO, "The CEO had a lot of discussions with other real estate companies. It is a lot of cooperation in general with other real estate companies and also within this subject ... and it was good to have the same approach for the big tenants throughout the industry." The new approach with more standardized renegotiation procedures and terms had at least prevented further breakdowns in its plausibility and acceptability. Nonetheless, the fact that the pandemic was still in sight had created the impression among interviewees that the impact of the pandemic would be longer than the initial expectations and reach further into 2021.

For the office properties, the concern with regard to cash flows was much less albeit a different type of information drew the attention of the operational management. Drawing upon the belief that the pandemic will have a long-term effect on the demand of offices for most companies, an operational manager noted the importance of looking into the square meters needed per employee to support the imagination of an office in the future. In response to the possibility of decreasing square meters per employee, CommercialCo had been active in coming up with actions to optimize the existing office spaces. Based on the news articles collected, it can be deduced that the company gives out a vibrant image of flexible office solutions to meet the needs of its office tenants. Through the delivery of messages about how the ongoing and new office projects would look like, a reassurance of being well prepared to the changing environment could be "signaled" (Gioia & Chittipeddi, 1991) towards the external stakeholders.

4.3. Temporal work at ResidentialCo and CommercialCo

In the midst of a crisis a next move is often required to unravel the mystery; yet it is not guaranteed that every step taken improves the understanding of the unfolding crisis. As a matter of fact, there exists a difference between actions that prove to turn the table and actions that are merely fiddling around the edges. Whether the information input of the action can further produce useful material to decipher the cues from the external environment is dependent on how an organization asks and answers the what-if questions.

Drawing on the temporal work model, actors ask the what-ifs through temporal work and find out whether their answers match through provisional settlements or turn out to be wrong through breakdowns after an action is taken. Within this context, breakdowns that usually come with a more negative image are as important as temporal work and provisional settlements in terms of shaping one's sense of the uncertainty. A breakdown is more than a destruction in meaning, it can also be a moment of awakening where actors are allowed to spot the misfit between cognition and reality.

When comparing the empirics between ResidentialCo and CommercialCo, differences can be observed within how the stories based on the temporal work model have been developed. To begin with, since the uncertainty of what the pandemic would mean to the business and how it would develop was at its highest during March and April 2020, temporal work was done the most extensively in both companies in the beginning stage of the pandemic. The intensity of temporal work and actions taken was deemed to sharply decrease after June 2020 in ResidentialCo as the actors acknowledged the trend of people spending more time at home as a potential benefit the pandemic had accidentally brought. Hence, ResidentialCo has one storyline dealing with the uncertainty for the first few months and focusing on the ongoing operation of residential housing projects over the past year. In contrast, CommercialCo has multiple storylines as its business includes both office and retail segments which have faced challenges to different degrees since the pandemic showed up. The descriptions and risk analysis related to the pandemic given in the annual reports also imply that CommercialCo has experienced more negative breakdowns and rounds of temporal work than ResidentialCo. One major reason could be that the nature of the pandemic itself has shifted the fundamental demand within different sectors of the real estate industry, thereby triggering less sensemaking process for companies in the residential housing market than those in the commercial real estate market. Nevertheless, similar patterns could also be found within the temporal work done by actors within ResidentialCo and CommercialCo. (See the appendix for an overview of the storylines in the two case companies)

How the two companies defined and imagined the future initially was in general based on the actors' multiple interpretations of what had happened in the past and the present such as the concerns that the respective company had during the pandemic. In both case companies the process of rethinking the past and reconsidering present concerns involved identifying the most relevant indicators and accounting tools. At the onset of the pandemic, the number of apartments sold dominated the attention of the managers at ResidentialCo while at CommercialCo the management kept an eye on the collection of rental income from its retail tenants as well as two key metrics of LTV ratio and interest coverage ratio. In response to the uncertainty of how the pandemic might affect the business, tools such as scenario analysis and scenario planning were deemed to be more suitable for illustrating the possible future events than the traditional forecasting which was identical to the base case scenario. However, as time passed and the awareness of what the ongoing pandemic might mean to the companies was raised among the actors, the better illustrations of present concerns also "triggered new imaginings of the future and alternative versions of the history." (Kaplan & Orlikowski, 2013) For the interviewees at ResidentialCo, the rather short period of uncertainty experienced had influenced the way the interviewees commented on the possible future impacts of the pandemic on the company. After the hesitation from the demand side seen in March 2020 diminished, the glancing back into the past may serve the purpose of enhancing actors' confidence in the company's existing core strategies and visions on an optimistic future. When reconsidering the concerns of sales and starting new projects then, the managers at ResidentialCo brought forward the experiences of dealing with even more severe turbulences from the past and the projections on the future where the importance of residential housing would remain or even increase should living in a home with multiple functions become the new norm.

On the other hand, the uncertainty of when the pandemic may end and make the commercial business, especially the retail sector, prosperous again seemed to linger in CommericialCo. The interviewees therefore expressed a general note of envisioning more substantial transformations in what customers might be looking for when renting offices and retail spaces. Although the possibility of fundamental changes in the markets had never been a question raised during the previous crises at CommericialCo, the process of keeping closer dialogues with different stakeholders at present encouraged the managers to leverage the sensitivity to customer needs cultivated from the past and to dedicate themselves to the ongoing illustrations of the business looking forward. In sum, from the empirics it is clear that an interpretative view of time in which every moment embeds the past, present and future creates the adaptive nature of the tools implemented by the two companies. In particular, the scenario analysis which was conducted extensively during the first two months of the pandemic functioned as the main device for organizational actors to make sense of the different unfolding situations in ResidentialCo and CommercialCo.

5. Discussion

The empirics collected offer insights about how accounting tools and information related to the interpretations of the past, present, and future can convey key messages throughout the sensemaking, sensegiving and sensebreaking processes in a crisis. While the tailored temporal work model highlights the fact that uncertainties from the external environment can at any time create unpredictable plot twists for organizations, the empirics show that the uncertainty level saw a peak in the first two months of the pandemic. As the public health crisis was nothing similar to what the organizational management had experienced in the past, they recognized the need to address the issue internally and externally even more. Under the time pressure and especially at the onset of the pandemic, however, making reasonable future projections around the uncertainty with traditional forecasting tools became much more difficult in the changing environment. In view of scenario analysis implemented by actors to alleviate the stress, the researchers aim to articulate and nuance the role that it plays in the overall sensemaking process via the temporal work model. We find that scenario analysis works to enable actors and organizations to make sense through three mechanisms, envisioning, structuring and reflecting. In the following discussion we develop an understanding for these mechanisms and also comment on the differences in how the tool is used internally and towards external stakeholders at ResidentialCo and CommercialCo.

In line with the depiction of the usefulness of scenario analysis in crises mentioned briefly by the limited previous research (Becker et al., 2016), several empirical accounts of ResidentialCo and CommercialCo highlight the importance of the accounting tool in how the members of the organizations make sense of the pandemic. By conducting scenario analysis, members at the two organizations avoid the restrictive nature of fixed targets and the limitations of traditional forecasts, thereby exploring a most likely scenario from a wider visualization of what will possibly happen. In other words, the envisioning aspect of scenario analysis describes its flexible nature which allows the mindset of actors to be as adaptable as the external environment itself. With the envisioning mechanism it is visible how adding multiple scenarios to the initial base case analysis displays a movement in an organization from having a tighter control to introducing more flexible ones in periods of uncertainty. (Janke et al., 2014) However, while the previous literature suggests that the balancing between tight and flexible controls often happens at a later stage of a turbulent period, scenario analysis was already implemented as an initial response to the uncertainties arising from the pandemic in both CommercialCo and ResidentialCo. (Fink et al., 1971; Janke et al., 2014) Scenario analysis and other more flexible approaches taken by both organizations from the start may suggest that the actors are willing to first build up an understanding of the potential threats from the pandemic rather than aggressively act towards all the possible damages right away. The willingness to envision by learning from the cues also made the prioritization of present concerns possible. In this sense scenario analysis proved to be not only a useful accounting tool for both organizations to reimagine the future efficiently, but also an interactive tool for learning. (Asel et al., 2011; Janke et al., 2014; Rad, 2017) The comparative analysis of ResidentialCo and CommercialCo reveals a more nuanced view of scenario analysis as a learning tool, in specific, the variance in the perceived function of scenario analysis in normal times and selected members for developing alternative futures lead to different dynamics in the two companies. At ResidentialCo it is evident how prior to the pandemic the scenario analysis process was also an important part of the broader planning process to enable discussions around scenario planning within the organization. A significantly smaller part of the organization was included in the scenario analysis process at the onset of the pandemic than the usual budgetary forecast work. However, members of different levels and business areas of the organization were included in the conversation of scenario analysis, developing a common understanding of plausible outcomes among the members in an interactive way. At CommercialCo a small team of people were also involved in making scenario analysis, yet a more centralized structure can be found from the empirics where the purpose of doing so was not to drive scenario planning but primarily to understand the possible effects based on information collected. Thus, the metrics in the scenarios at CommercialCo represented something to be closely monitored when the uncertainty rose to its highest during the first few months. As time progressed and the situation went under control the scenarios created were not followed up by the same actors. The more nuanced description may suggest that conducting scenario analysis as a response to the external environment should not be seen as an entirely flexible approach to get a grip of the uncertain situation. Indeed, while the accounting tool contains an interactive and flexible envisioning element, it still possesses tighter characteristics such as centralized and mechanical elements to take actions amid the uncertainty. (Janke et al., 2014)

The tighter and more conforming aspect of scenario analysis emerges through a mechanism which we term as structuring. The structuring element can be proved to be useful when envisioning different futures as the process does not aim to imagine every possible state of the future but to come up with plausible downsides (or upsides) the present concerns may evolve into. In turn this helps actors determine what matters in the present by comparing the better and worse case scenarios to the base case and reconsidering their present concerns. Incorporating this structuring element of scenario analysis means that the organization does not altogether abandon the benefits of tighter controls in steering the organization towards common goals and understanding (Becker, 2014; Bourmistrov & Kaarbøe, 2017; Chenhall, 2003; Czarniawska-Joerges, 1988) In fact, through structuring new yet broader borders can be effectively created around what the organizational members may picture as possible futures. The empirics show that the interviewees at both ResidentialCo and CommercialCo became less concerned about the present problems gradually as they saw the potential financial outcomes of the pandemic. However, from the empirics it is visible how scenario analysis provided more structure and support to certain interviewees than others. Particularly the operational side of CommercialCo did not express the same laid-back attitude towards the situation as its financial counterpart. Besides the findings which suggest that operational actors may not have relied on scenario analysis as much as their financial counterparts, one reason to explain the phenomenon could be that the accounting tool itself primarily focuses on financial outcomes instead of serving the strategic planning purposes of the business operations. (Becker et al., 2016) This corroborates the findings of studies concluding that different actors and groups rely on different tools and controls. (Bourmistrov & Kaarbøe, 2017; Carlsson-Wall et al., 2020) In that regard, scenario analysis may provide more sufficient support for the daily work of operational actors if complemented with strategic tools such as scenario planning. (Carlsson-Wall et al., 2020)

A third important mechanism behind scenario analysis, reflecting, can be observed. Apart from the respective assessments of what has happened, what is currently at stake and what might happen, reflecting mainly addresses how the alternative views on the history, present concerns and possible futures of an organization may reflect upon each other. Although scenario analysis is a forward-looking accounting tool, one may recognize the fact that the fusion of past, present and future enables actors to interact with the uncertainty from different perspectives. Indeed, the empirics suggest that scenarios can be produced either by reimagining the future through rejudging the past and present or by bringing the past and future into the reconsideration of present concerns. To put it simply, scenario analysis works like a kaleidoscope, an optical instrument with three mirrors tilted to each other and loose colored beads on one end of the mirrors. If we substitute an object no one has ever seen before for the colored beads, to provide it with meanings one should look into the kaleidoscope while rotating the cell, i.e. conducting temporal work. The object will remain unidentified if there is only one mirror, or one part of temporal work, as it merely shows an identical reflection. However, with the three mirrors of past, present and future, each turn of the cell allows every mirrored image to be reflected in the other mirror. The continuous reflection therefore creates different graphs with changing colors and compositions, which represent multiple scenarios that reveal the characteristics and potentials of the mysterious object. Cognition can be further built as the individuals read, compare and draw connections between the various reflected visuals. By reflecting upon the history, present concerns and future and reflecting among each of them, organizational actors are able to get a grasp on the uncertainty through scenario analysis.

Interestingly, with regard to sensegiving the researchers notice that scenario analysis may serve different purposes between internal and external use. Internally, companies usually create three to five scenarios as they aim to include all important information with potential impacts that may not be seen before on their key metrics. Among all the scenarios presented to for instance the board, however, a company has to be able to motivate a base case scenario which actors agree to be the most-likely future event. The most-likely scenario can be observed as a sensegiving device when the organization communicates with its external stakeholders. The use of the most-likely scenario as a significant sensegiving device suggests that the organizations try to portray an accurate and consistent picture towards its different stakeholders (Merkl-Davies et al. 2011) rather than engaging in more manipulative sensegiving practices (Beelitz & Merkl-Davies, 2012; Egbon & Mgbame, 2020; Jones et al., 2020). One reason for why companies filter out the best- and worst-case scenarios in external communication, while they use multiple scenarios internally, could have to do with the context of stakeholder relations. For external stakeholders that conduct their own assessments such as credit agencies or banks, the most-likely scenario produced by the organization may give them a sense of reference without influencing the required independence of work. This observed stakeholder relation context dependency is in line with what can be observed by synthesizing previous research. (Janke et al., 2014; Kenno & Free, 2018; Rad, 2017) In addition to this observation, a narrowing down of focus on which type of accounting information that is emphasized in the scenario analysis can also be found during the information exchange with external parties. When communicating to external stakeholders, the organizations tend to choose the metrics most relevant to the business of the stakeholders, i.e. for CommericalCo, LTV or interest coverage ratio in communication with credit agencies. Scenario analysis as a sensegiving device is thus observed to have a "filter mechanism" (Carlsson-Wall et al., 2020; Goretzki & Messner, 2016) that highlight areas where there is a particular need to ascertain common understanding. Overall it can be suggested that compared to its internal use which emphasizes more on the flexible envisioning aspect, scenario analysis as an external sensegiving device bears more of the structuring element to provide clear sense.

Whether a scenario analysis is done to generate a common sense of an uncertainty within an organization or influence how the external stakeholders view the responses of the organization to the uncertainty, to ensure a good dynamic the scenario analysis has to be able to function all three propositions of envisioning, structuring and reflecting. The power of the forward-looking tool may be rather limited if one only focuses on imagining the different paths to the future without taking the past and present into consideration. The reimagination of a new world may trick people into merely seeking what no one else has ever come up with. Yet oftentimes a brilliant vision of the future in times of uncertainty is not achieved by thinking completely outside of the box but developed from details discovered around the box, from hints hidden in the past and the present that have long been neglected by people walking past. As a consequence, the consistency among the envisioning, structuring and reflecting of scenario analysis is utterly crucial for supporting the more dynamic understanding provided by the tool.

6. Conclusion

In wake of the COVID-19 pandemic organizations were suddenly thrown into the unknown where they had to quickly adapt and make sense of the new situation. Considering the uncertainty of the pandemic as well as the lack of research regarding how actors get a grip of crises as part of a larger temporal context this thesis has aimed to extend on the knowledge of how organizations use accounting tools to make sense of uncertainty and form temporal structures. In order to reach this aim, an explorative multi-case study comparing two real estate companies, ResidentialCo and CommercialCo was conducted. In studying how the actors of two organizations create sense, a series of semi-structured interviews formed the primary basis for the empirical understanding. By drawing upon the theory of sensemaking (Weick, 1995) and a modified temporal work framework (Kaplan & Orlikowski, 2013) that emphasizes how actors comprehend the past, present and future to guide the empirical inquiry, we have provided several insights into the research question: How are accounting tools and information employed by actors within organizations to make sense in times of uncertainty?

In our study of ResidentialCo and CommercialCo, scenario analysis emerges as an important tool in how actors make and give sense of the pandemic. Our findings suggest that visualizing possible future events with the tool enables a dynamic understanding of uncertainty. We identify three primary mechanisms of how scenario analysis works to create dynamics and form reasonable assumptions for alternative futures within organizations. Envisioning contributes to imagining different futures to break the limitations of traditional forecasts and exploring a most likely scenario from a wider range of thinking about what might happen. Structuring provides boundaries to the range of plausible outcomes and directs attention of actors to what matters at present. Reflecting offers a way to bridge the sudden disconnect of the past with the present and the future and form alignments among the interpretations of past, present and future. Furthermore, we find that scenario analysis is not only useful for the organizations to make sense internally but also important in giving sense to outside stakeholders. As a sensegiving device emphasis is put on the structuring mechanism of the tool to provide clearer guidance.

By illuminating these different mechanisms, this paper shows how organizations create and give sense through scenario analysis, a tool that is barely discussed in the accounting and crisis literature. (Becker et al., 2016) Thus we extend the understanding of how different accounting tools are used to make sense under uncertainty. (Bedford et al., 2020; Bourmistrov & Kaarbøe, 2017; Janke et al., 2014) In practical terms the development of the notion of a more dynamic understanding through scenario analysis enables management and actors in organizations to switch to more plausible and coherent expectations and evaluate the severity of present concerns. Besides contributing more broadly to the knowledge about how accounting tools and scenario analysis in particular is used to understand uncertainty, this paper also contributes to the overlooked area of temporality (Becker & Messner, 2013) in the accounting and crisis literature. Previous accounting and crisis literature mainly focuses on present concerns, thus the interrelation of past, present and future has long been neglected in studying how organizations cope with the threat of uncertainty through changes in control or information exchange. In introducing the additional layers of past and future to the present in the accounting and crisis literature this paper makes strides towards filling this gap. By illustrating the relationship between sensemaking and temporality in conducting scenario analysis, we show how organizations try to gain a better understanding of uncertainty already from the onset of the crisis.

This thesis is subject to several potential limitations, ranging from its basic design to contextual factors. First, this study was conducted during a limited time period with the aim to explore processes and events that had taken place over a longer time period. Even though several interviews with different actors across functions and organizations were conducted and later compared, as well as complemented with additional written material, the reliance on interviewees' retrospective views might lead to certain biases. This may in turn limit the study's ability to form a credible degree of description since perceptions of past events among the interviewees are likely to have changed over time and these changes are difficult to "undo". Therefore, this research approach carries the risk that the stories told and conclusions formed by this thesis about accounting tools and information are too arranged and narrow. Gathering data on a more real-time and on-going basis could solve this issue but due to the limited time period for research it was not an option.

Second, there are limitations to this thesis in studying the sensemaking process and in particular the sensegiving aspect. Since the observations are based on interviews with executive and middle managers as well as written documents where opinions of the same managers or other managers are expressed, the sensegiving process can be said to be studied from mostly one of two potential perspectives. How the attempts of sensegiving that are observed in the study translates into sensemaking among its intended audience is something that this thesis is only able to answer to a partial degree. However, gaining access to other stakeholders such as investors and suppliers as well as different groups of employees proved difficult and thus their perspectives are missing from this study.

This study and its findings open up for several interesting avenues for future research of which we have chosen to highlight a few. First of all, we see potential in conducting more in-depth studies around the use and design of scenario analysis in periods of uncertainty. Conducting interviews with a larger range of stakeholders to understand the different perspectives of these groups is likely to generate further insights into how organizations and its external environment interact and the dynamics around how they make and give sense with scenario analysis. We also see several potential exciting research opportunities of accounting tools more generally connected to the context of crises and temporality. While many papers have a process view of crisis, the onset of the crisis when uncertainty is often at its peak gets a disproportionate amount of attention in research. Equally difficult and complex for organizations can be how to exit or transition from the crisis as by then a crisis mode has been established with certain inherent collective actions and practices. It would therefore be interesting to do further research into how accounting tools are implicated in such a transition. Moreover, what role do accounting tools play in how organizations balance the need to initially create buy-in from a range of actors to collectively respond to the crisis but at the same time prepare already from the onset to exit the crisis? While this paper provides some initial empirical hints about these questions, we argue that there is a need for further research in this area. We see these questions as especially relevant in connection to the COVID-19 pandemic since when or how to exit the pandemic has often been a moving target and whether exiting will mean going back to the past, as ResidentialCo believes, or transitioning to a new state of normal, as CommericalCo believes, is not so clear. Seeing that new behaviors and practices have been established and accepted in society that may be difficult to reverse.

7. References

Almqvist, R., Catasús, B., & Skoog, M. (2011). Towards the next generation of public management: A study of management control and communication in the Swedish Armed Forces. *International Journal of Public Sector Management*.

Asel, J. A., Posch, A., & Speckbacher, G. (2011). Squeezing or cuddling? The impact of economic crises on management control and stakeholder management. *Review of Managerial Science*, 5(2-3), 213-231.

Becker, S. D. (2014). When organisations deinstitutionalise control practices: A multiple-case study of budget abandonment. *European Accounting Review*, 23(4), 593-623.

Becker, S. D., Mahlendorf, M. D., Schäffer, U., & Thaten, M. (2016). Budgeting in times of economic crisis. *Contemporary Accounting Research*, 33(4), 1489-1517.

Becker, S. D. and Messner, M. (2013) 'Management control as temporal structuring', in Kaarbøe, K., Gooderham, P. N., and Nørreklit, H. (eds) *Managing in Dynamic Business Environments*. Cheltenham: Edward Elgar Publishing Ltd, 141–162

Bedford, D. S., Spekle, R. F., & Widener, S. K. (2020). Budgeting and Employee Stress in Times of Crisis: Evidence from the COVID-19 Pandemic. *Available at SSRN 3749883*.

Beelitz, A., & Merkl-Davies, D. M. (2012). Using discourse to restore organisational legitimacy:'CEO-speak'after an incident in a German nuclear power plant. *Journal of Business Ethics*, 108(1), 101-120.

Bhimani, A., & Langfield-Smith, K. (2007). Structure, formality and the importance of financial and non-financial information in strategy development and implementation. *Management accounting research*, 18(1), 3-31.

Bourmistrov, A., & Kaarbøe, K. (2017). Tensions in managerial attention in a company in crisis: How tightening budget control resulted in discomfort zones for line managers. *Journal of Accounting & Organizational Change*, 13, 239-261.

Bell, E. & Bryman, A. (2011). *Business research methods* (3 ed). Oxford university press.

Carlsson-Wall, M., Iredahl, A., Kraus, K., & Wiklund, M. (2020). The role of management controls in managing heterogeneous interests during extreme situations: the Swedish migrant crisis in 2015. *Qualitative Research in Accounting & Management*.

Chakhovich, T. (2019). Time rationalities: Complementing "the orientation from the present" and the focus on "short" and "long terms" in performance measurement. *Accounting, Auditing & Accountability Journal*, 32(2), 456-482.

Chenhall, R. H. (2003). Management control systems design within its organizational context: findings from contingency-based research and directions for the future. *Accounting, organizations and society*, 28(2-3), 127-168.

Christianson, M. K., Farkas, M. T., Sutcliffe, K. M., & Weick, K. E. (2009). Learning through rare events: Significant interruptions at the Baltimore & Ohio Railroad Museum. *Organization Science*, 20(5), 846-860.

Christensen, L., Rikhardsson, P., Rohde, C., & Batt, C. E. (2018). Changes to administrative controls in banks after the financial crisis. *Qualitative Research in Accounting & Management.*

Clark, P. A. (1985). A review of the theories of time and structure for organizational sociology. *Research in Sociology of Organizations*, 4, 35-79.

Collins, F., Holzmann, O., & Mendoza, R. (1997). Strategy, budgeting, and crisis in Latin America. *Accounting, Organizations and Society*, 22(7), 669-689.

Czarniawska-Joerges, B. (1988). Dynamics of organizational control: the case of Berol Kemi AB. *Accounting, Organizations and Society*, 13(4), 415-430.

Daft, R. L., & Weick, K. E. (1984). Toward a model of organizations as interpretation systems. *Academy of management review*, 9(2), 284-295.

Dawson, P., & Sykes, C. (2019). Concepts of time and temporality in the storytelling and sensemaking literatures: A review and critique. *International Journal of Management Reviews*, 21(1), 97-114.

Dervin, B. (1998). Sense-making theory and practice: an overview of user interests in knowledge seeking and use. *Journal of knowledge management.*

Egbon, O., & Mgbame, C. O. (2020). Examining the accounts of oil spills crises in Nigeria through sensegiving and defensive behaviours. *Accounting, Auditing & Accountability Journal.*

Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of management review*, 14(4), 532-550.

Emirbayer, M., & Mische, A. (1998). What is agency? *American Journal of Sociology*, 103(4), 962-1023.

Fink, S. L., Beak, J., & Taddeo, K. (1971). Organizational crisis and change. *The Journal of applied behavioral science*, 7(1), 15-37.

Galbraith, J. R. (1974). Organization design: An information processing view. *Interfaces*, 4(3), 28-36.

Geltner, D., Miller, N. G., Clayton, J., & Eichholtz, P. (2007). *Commercial real estate analysis and investments* (2nd ed.). Mason, Ohio: Thompson South-western.

Gioia, D. A., & Chittipeddi, K. (1991). Sensemaking and sensegiving in strategic change initiation. *Strategic management journal*, 12(6), 433-448.

Gioia, D. A., & Thomas, J. B. (1996). Identity, image, and issue interpretation: Sensemaking during strategic change in academia. *Administrative science quarterly*, 370-403.

Giuliani, M. (2016). Sensemaking, sensegiving and sensebreaking. *Journal of Intellectual Capital.*

Goretzki, L., & Messner, M. (2016). Coordination under uncertainty. *Qualitative Research in Accounting & Management.*

Hassard, J. (1990). Introduction: The sociological study of time. In J. Hassard (Ed.), *The sociology of time* (pp. 1-18). London: The Macmillan Press Ltd.

Hassard, J. (1999). Images of Time in Work and Organizations. In S.R. Clegg, & C. Hardy (Eds.), *Studying Organization: Theory and Method*, 327-344. London: Sage.

Hopwood, A. G. (2009). The economic crisis and accounting: Implications for the research community. *Accounting, Organizations and Society*, 34(6-7), 797-802.

Janke, R., Mahlendorf, M. D., & Weber, J. (2014). An exploratory study of the reciprocal relationship between interactive use of management control systems and perception of negative external crisis effects. *Management Accounting Research*, 25(4), 251-270.

Jaques, E. (1982). The enigma of time. In J. Hassard (Ed.), *The Sociology of Time* (pp. 21- 34). London: The Macmillan Press Ltd.

Jones, M. J., Melis, A., Gaia, S., & Aresu, S. (2020). Impression management and retrospective sense-making in corporate annual reports: Banks' graphical reporting during the global financial crisis. *International Journal of Business Communication*, 57(4), 474-496.

Jönsson, S. (1987). Frame shifting, sense making and accounting. *Scandinavian Journal of Management Studies*, 3(3-4), 255-298.

Jordan, S., & Messner, M. (2012). Enabling control and the problem of incomplete performance indicators. *Accounting, Organizations and Society*, 37(8), 544-564.

Kaplan, S., & Orlikowski, W. J. (2013). Temporal work in strategy making. *Organization science*, 24(4), 965-995.

Kenno, S. A., & Free, C. (2018). Fostering and forcing uses of accounting: labour-management negotiations in the automotive crisis in Canada 2008–2009. *Management Accounting Research*, 39, 17-34.

Kraus, K., & Strömsten, T. (2012). Going public: The role of accounting and shareholder value in making sense of an IPO. *Management Accounting Research*, 23(3), 186-201.

Maitlis, S. (2005). The social processes of organizational sensemaking. *Academy of management journal*, 48(1), 21-49.

Maitlis, S., & Sonenshein, S. (2010). Sensemaking in crisis and change: Inspiration and insights from Weick (1988). *Journal of management studies*, 47(3), 551-580.

Maitlis, S., & Christianson, M. (2014). Sensemaking in organizations: Taking stock and moving forward. *Academy of Management Annals*, 8(1), 57-125.

McSweeney, B. (2000). Looking forward to the past. *Accounting, Organizations and Society*, 25(8), 767-786.

Merkl-Davies, D. M., Brennan, N. M., & McLeay, S. J. (2011). Impression management and retrospective sense-making in corporate narratives. *Accounting, Auditing & Accountability Journal.*

Pavlatos, O., & Kostakis, H. (2018). Management accounting innovations in a time of economic crisis. *The Journal of Economic Asymmetries*, 18, e00106.

Pratt, M. G. (2000). The good, the bad, and the ambivalent: Managing identification among Amway distributors. *Administrative science quarterly*, 45(3), 456-493.

Rad, A. (2017). The importance of trust for inter-organizational relationships. *Qualitative Research in Accounting & Management*.

Tillmann, K., & Goddard, A. (2008). Strategic management accounting and sense-making in a multinational company. *Management accounting research*, 19(1), 80-102.

Vlaar, P. W., van Fenema, P. C., & Tiwari, V. (2008). Cocreating understanding and value in distributed work: How members of onsite and offshore vendor teams give, make, demand, and break sense. *MIS quarterly*, 227-255.

Yin, R. K. (1994). Discovering the future of the case study. Method in evaluation research. *Evaluation practice*, 15(3), 283-290.

Weick, K. E. (1988). Enacted sensemaking in crisis situations [1]. *Journal of management studies*, 25(4), 305-317.

Weick, K. E. (1993). The collapse of sensemaking in organizations: The Mann Gulch disaster. *Administrative science quarterly*, 628-652.

Weick, K. E. (1995). *Sensemaking in organizations*. London: Sage.

Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (2005). Organizing and the process of sensemaking. *Organization science*, 16(4), 409-421.

8. Appendix

Appendix 1. Timeline of Temporal Work at ResidentialCo

Through Mar 2020

Temporal Work
Rethinking the past: Success in gaining market shares during past turbulences; survived past crises although too excessive preemptive actions.
Reconsidering present concerns: Hesitation from the demand side; increasing importance of sales KPIs.
Reimaging the future: Uncertainty regarding the impact of pandemic with the possible falling demand and credit markets.

Action: Crisis team and meetings
Activation of a centralized crisis team at executive level and inter-segment meetings to monitor the development of the pandemic.

Apr-Jun 2020

Breakdown: The pandemic development became divergent in different countries, thus the executive communication platform for the group as a whole could not function well.
Action: Decentralized working groups by countries and further by departments.
The communication and exchange of information between hierarchies becomes more interactive.

Jul-Sep 2020

Turning point: The domestic market quickly normalized where an increasing demand of residential housing can be observed; the international markets also began to see a gradual recovery.

Action: Scenario planning and analysis
Scenario thinking to create what-if mappings is promoted within the firm. Agile more in-depth scenario analysis is preferred to updating forecasts.

Provisional Settlement
Scenario analysis was used to study the potential effects of the pandemic, connecting the assumptions and knowledge about how the business had worked in the past with present concerns to project for the future.

Action 1: Implement cost savings in the international business segments as preventive measures.
Action 2: Introduce digital tools for house showing and contract signings first in the international markets then in the domestic market.

Turning point: The digital transformation came much sooner than previously anticipated despite the management had considered the trend prior to the pandemic. The feedback from customer and employees regarding is highly positive, encouraging the company to maintain digital even after the pandemic.

Oct-Dec 2020

Jan-Feb 2021

Temporal Work
Rethinking the past: Effects from the pandemic were considered short-term and insignificant.
Reconsidering present concerns: The concerns of sales and demand diminished as the housing demand and prices reach pre-pandemic levels and beyond. Focus was redirected to the execution of ongoing and new construction projects.
Reimaging the future: No major changes in the business are projected as the pandemic is believed to have limited impact on the future residential business.

Mar 2021

Provisional Settlement
Cost savings and digital tools implemented are deemed to be useful for the future and thus will be here to stay.

Appendix 2. Timeline of Temporal Work at CommericalCo

Through Mar 2020

Provisional Settlement: Digitalization
Past: CommercialCo was familiar with digital systems for online meeting and sustainability measurements
Present: Smooth digital transitions with tools for contract signing
Future: Positive about continuous implementation of digitalization

Action
Approves employees to work from home until further notice; all work can be conducted virtually except for the constructing activities.

Temporal Work
Rethinking the past: The company had not experienced much turbulence in past crises.
Reconsidering present concerns: The retail businesses may be hit harder than offices under the digital transformation enhanced by the pandemic.
Reimagining the future: The retail segment would only face short-term impact from the pandemic.

Breakdown: Retail segment
Financial struggles of retail tenants came sooner than expected. The previous projection for the retail segment became implausible, unacceptable and incoherent with reality.

Temporal Work
Rethinking the past: The company had not faced a similar shift in demand for the retail sector before.
Reconsidering present concerns: Most retail tenants asked for rent renegotiation as they struggled to pay rents on time.
Reimagining the future: The necessity of office space and the cultural potentials of retail business are being questioned.

Apr-Jun 2020

Provisional Settlement: Rent renegotiation 1
Action: Postpone rental payments for the first three months; focus on square meters needed per employee for the office segment
Breakdown: Financial status deteriorated for some tenants and further negotiation was required.

Action 1: Specialized team
Creates a small team in the operational function focusing on the cultural potentials of the CRE industry for future business.

Temporal Work
Rethinking the past: The digital trend may continue to reshape the industry.
Reconsidering present concerns: A need to prioritize tenants who the company is willing to apply longer periods of rent reduction
Reimagining the future: What will the future of the city look like?

Provisional Settlement: Rent renegotiation 2
Action: Prioritize the tenants with futures after the pandemic; apply similar rental conditions as other real estate companies to the big brand tenants.

Jul-Sep 2020

Action 2: Credit reference
Reexamine credit reference of tenants to monitor the risk of non-payments.

Oct-Dec 2020

Jan-Feb 2021

Breakdown: Construction site
Sudden reports of infection among construction workers point out the inherent risks of inevitable physical contacts despite of the social distancing rules.

Mar 2021

Action
Close down operations at two sites with infected workers.