SCHOOL OF ECONOMICS AND MANAGEMENT

Lund University

Managing change in the absence of sense:

An interpretive case study on how the non-management of meaning can affect the performance of organisational change initiatives

BUSN49 Degree Project

MSc Managing People, Knowledge and Change

André Lundquist & Jack McMenzie

Lund, 2019

Supervisor: PhD Tony Huzzard

Word Count: 22,846

ACKNOWLEDGEMENTS

We would like to take this opportunity to display our gratitude to a number of individuals who have played a fundamental role in the creation of this Master Thesis. Chiefly, we would like to thank our supervisor Dr. Tony Huzzard for his support and guidance which has been indispensable within this research process – a huge thank you for listening to all of our questions and for your enthusiasm and inspiration in helping us deliver this project.

We would also like to thank all of the research participants from GrainChain and EnVisor for their time and compelling insight – this study would not have been possible without you!

Finally, we would also like to thank the wider MPKC faculty for their enthusiasm in furthering our education in the mysterious realm that is Management, and to our fellow students who have all been instrumental in helping each other reach this stage.

We hope you enjoy the thesis that awaits!

Regards,

Jack McMenzie and André Lundquist

Lund, May 2019

ABSTRACT

Title Managing change in the absence of sense: An interpretive case study on how the non-management of meaning can affect the performance of organisational change initiatives

Seminar Date June 4th 2019

Course BUSN49 Degree Project in Managing People, Knowledge and Change, 15ECTS

Authors Jack McMenzie and André Lundquist

Supervisor PhD Tony Huzzard

Key Words 'Organisational Change', 'Sensemaking', 'Sensegiving', 'Management of Meaning', 'Technology', 'Enterprise Resource Technology', 'ERP'

Purpose The purpose of this thesis is to increase the understanding of an organisation's change process by observing how the non-management of meaning can impact organisational change performance. With an emphasis on technological change, we will draw upon Weick's theoretical concept of sensemaking to analyse how individuals within such change projects formulate meaning towards events, allowing us to investigate how the non-management of this meaning influences organisational change performance. Alongside contributing to the relevant academic fields by furthering understanding and highlighting under-theorised areas, we also intend for this study to provide value for practitioners.

Methodology This study uses an abductive approach. Although a range of research methods were used to generate data, interviews provide the investigative spearhead of this study.

Theoretical Perspective Our study primarily leverages Weick's concept of sensemaking as well as diagnostic theories of organisational change.

Empirical Support The empirical data generated in this study was sourced from 10 in-depth semi-structured interviews, involving participants from client (n=7) and consultant (n=3) stakeholder groups. Supporting empirical material was also generated through initial observations and document analysis.

Conclusions In our application of Weick's concept of sensemaking as a method for analysing an organisational change project, we discovered the poor performance of the project can largely be attributed to the non-management of meaning. Our case study of a technological (ERP) change project suggested that a failure to manage meaning results in project members searching for accuracy but settling for plausibility which played a large role in a new system being configured to mirror the functionality of a pre-existing 14 year-old solution.

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION

The introductory chapter of this thesis intends to outline the theoretical context which has determined the parameters for this research. We begin with a brief overview of our chosen research area which is settled in approaches to organisational change as well as Weick's (1995) concept of sensemaking. The chapter continues by problematising the mainstream view of how change should be managed in order for us to justify our chosen research direction. Finally, this discussion will then lead to the presentation of our research question before we conclude with the disposition for our study.

"To deal with ambiguity, interdependent people search for meaning, settle for plausibility, and move on"

Karl Weick (2005, p. 419)

As information technology and global competition advances in parallel, organisations are finding themselves situated within hypercompetitive markets which have introduced unprecedented difficulty in running a business successfully. In order to remain competitive, managers are urged to leverage technology to secure value derived from business intelligence and streamlining business processes (Behesti, 2006; Huang et al, 2004; Namvar et al, 2018). One such technology frequently used by organisations includes enterprise resource planning systems (ERP) which provide organisations with an integrated solution to manage their resources (Stemberger and Kovacic, 2008). To implement these technologies quickly, organisations are turning towards diagnostic change approaches which seek to rapidly deliver change projects through their simplification of change processes (Dawson, 2002; Palmer et al, 2017). However, some argue that organisations appear to be hurriedly embracing ERP projects without careful consideration of their organisational impact (McNish, 2010). More specifically, scholars have noted that ERP implementation projects are often 'heavily biased' towards technological aspects, where human factors associated with these projects are marginalised (McNish, 2010; Sherry et al, 2000). These arguments could explain why the failure rate of ERP change projects is estimated at 90%, with such projects becoming an average of 178% over-budget and 250% times longer than intended, whilst only delivering around 30% of the promised benefit (Helo, 2008; Zhang et al, 2005).

Provided that Weick (1990) argues that information technology is equivocal by nature and can be interpreted in various ways, it appears the importance of a more humanistic and meaning-oriented approach has been overlooked by the prevailing diagnostic approaches used in such projects. Similarly, as introductions of new technologies create complex events which trigger ambiguity (Griffith, 1999), it seems there is significant scope within ERP projects for the management of meaning to help guide individuals through times of such complexity. As such, it is our intention to investigate how the non-management of meaning can affect the performance of an organisational change project. Although this study has an emphasis upon technological organisational change, we also seek to provide valuable insight into organisational change as a whole. In light of this, in the following subsection we will introduce, problematise and elaborate upon a selection of our chosen theoretical concepts to further justify the direction of our study.

1.1 Problem Statement

For decades, the diagnostic approach to change has remained at the forefront of the change management literature and is still widely used in today's business landscape (Palmer et al, 2017). This approach adopts a business-centric perspective by viewing organisations as fixed entities which operate within a single reality, and whose members act with total rationality (Bushe and Marshak, 2009). Furthermore, the diagnostic approach to change sees and treats the diagnosis and the implementation of change as two separate processes. As such, diagnostic practices align more towards a positivist philosophical tradition (Bushe and Marshak, 2009). Moreover, models alluding to the diagnostic approach simplify the complexity of change in viewing the phenomenon as a controllable, linear and episodic process where intended actions are translated to deterministic outcomes (Alvesson and Sveningsson, 2016; Weick and Quinn, 1999). This approach to change also stresses n-step models and best practices which provide scholars and practitioners with a template for how to manage change successfully (Palmer et al, 2017).

However, one can observe contention within the change management literature regarding the effectiveness of the diagnostic approach. For example, alongside arguing that the practical applications of the diagnostic approach are weak, Alvesson and Sveningsson (2016) contend that the diagnostic change approach overlooks the fact that individuals tend to make sense and interpret change efforts in various ways which will contribute to shaping the outcome of the change intervention. A similar position is taken by Weick (1995), who notes individuals within the context

of change make varying sense of what is happening around them. Similarly, Land and Jonassen (2000) also recognise the individual differences surrounding sensemaking, stating that conflicting meaning systems are often present within groups of stakeholders. Supportlingly, Weick (1995) explains that meaning is also fragmented within organisational hierarchies, where individuals at the top of hierarchies adopt more strategic project outlooks compared to their less senior colleagues who hold a more localised perspective. Provided that organisational change puts people in situations characterised by ambiguity, the sensemaking process is triggered as people attempt to make sense of what is going on in order to cope with the situation, a process that senior management cannot prevent (Dunford and Jones, 2000; Griffith, 1999; Weick, 1995). When engaging in this process, individuals retrospectively index their minds to recall similar events that they can associate to the current situation; a process of extracting a plausible cue and connecting it to a frame (Weick, 1995). Moreover, by extracting a plausible cue, individuals take a *"relative approach to the truth"* in attempt to make up a story that seems plausible and 'makes do', rather than one which is accurate (Weick, 1995 p. 57).

It is here in which trouble lies regarding the management of change. As previously mentioned, people engaging in sensemaking take a *"relative approach to the truth"*, thus implying that what one deems as sensible "*need not necessarily be sensible to others"* (Weick, 1995 p. 57). In other words, what seems as a plausible explanation for one person, is not necessarily accurate or in line with the desired action of another individual. An example of this could include senior management communicating project goals to the wider organisation which they do not understand. Hence, having the control over which of these cues will serve as a point of reference for individuals is an important source of power, a source of power that individuals with formal authority in the hierarchy such as management members usually possess (Weick, 1995). This process of guiding individuals to which cues to extract when trying to make sense can be compared to the concept of *management of meaning* or 'sensegiving' proposed by Gioia and Chittipeddi (1991). Instead of focusing on controlling change in order to reach intended outcomes, management of meaning instead aims to shape meaning given management cannot prevent the initial sensemaking that occurs in times of change (Dunford and Jones, 2000). Additionally, the use of management of meaning is also justified provided that *"we cannot confidently assume that receivers will always decode our messages in a way that gives them the meaning that we intend to transmit"* (Palmer et al, 2017 p. 215). In summary, the diagnostic perspective of change does not allow us to come as close to the actual change process as we would need to in order to make progress in the field of

organisational change, given it overlooks people's diverse sensemaking, emotions and experiences (Alvesson and Sveningsson, 2016).

In light of the preceding problematisation, we feel our adopted research direction is justified for two primary reasons. Firstly, in applying sensemaking theory to a technological change project within an organisation, we are contributing in bridging a theoretical deficit within the sensemaking field. According to Mills et al (2010) there is a lack of empirical studies focusing upon Weick's (1995) sensemaking framework as a method for analysis to see how the management of meaning can influence organisational change outcomes. More specifically, Sandberg and Tsoukas (2015) highlight how the influence of technology upon sensemaking is overlooked within the literature, with less than 3% of the field addressing technology (Orlikowski and Scott, 2008; Sandberg and Tsoukas, 2015). Secondly, there is increasing argument that we need to challenge the largely unquestioned assumption of the diagnostic approach to change, that individuals make collective sense (Palmer et al, 2017). Instead, by viewing change as a more ongoing and continuous process, it can be argued that change is "*simply business as usual*" for organisations (Worley and Lawler, 2006 p. 8). Moreover, by adopting such a perspective to change we can increase our understanding on how differing interpretations of change events held by individuals may influence organisational change performance (Balogun and Johnson, 2005). Similarly, Balogun (2006, p. 43) argues that *"we need to move away from reifying change as something done to and placed on individuals and instead acknowledge the role that change recipients play in creating and shaping the outcome of the change",* implying that individuals involved in change projects should be viewed as change participants rather than change recipients. In following this suggestion, managing change subsequently becomes more a matter of managing meaning (Smircich and Morgan, 1982). Hence, we feel it is important and interesting not only to contribute to an under-theorised area of the sensemaking literature, but to also investigate how the 'non-management of meaning' can influence organisational change performance.

1.2 Purpose and Research Question

The purpose of this thesis is to increase the understanding of an organisation's change process by observing how the non-management of meaning can impact organisational change performance. We aim to augment the existing sensemaking theory by providing empirical research where the sensemaking concept is used as the primary lens for analysis. Additionally, given the technological nature of the change programme we studied, we are simultaneously contributing to a theoretical deficit in which technological change projects are overlooked from a sensemaking perspective. By enhancing the understanding of the non-management of meaning and its implications on organisational change performance, this study provides valuable insight at both a conceptual and practical level. For scholars, this study illuminates not only an under-theorised pocket of the organisational change and sensemaking literature, but our study highlights the need for further investigation in this area. For practitioners, an enhanced understanding of the risks associated with the non-management of meaning can assist in the development of more successful approaches to managing organisational change. To fulfil these propositions, we draw upon a failing technological change project in a Swedish organisation to answer the research question of:

How can the non-management of meaning influence the performance of organisational change initiatives?

1.3 Disposition

In the next chapter we will outline the theoretical framework that was used in our case study, in which we adopted Weick's (1995) concept of sensemaking to guide the analysis of our empirical material. Chapter 3 discusses the methodological considerations we have made in designing this study, as well as explaining the process undertaken to generate and analyse our data. In chapter 4 we present the empirical data generated in our study, where we outline our findings through an explanation of the context surrounding the '2GETHER' project and by segmenting the data into three 'critical events' in the project timeline. Followingly, chapter 5 will provide us with the opportunity to analyse and discuss this empirical data through the lens of Weick's (1995) sensemaking theory. Finally, in chapter 6 we draw concluding remarks from our study and reflect upon both the theoretical and practical contributions of our findings and suggest avenues for future research.

CHAPTER 2: THEORETICAL FRAMEWORK

In this chapter we will outline the core theoretical framework that was used in our case study analysis. The deductive nature of this study meant that some theories were adopted in order to sensitise ourselves into the chosen field of research, whilst other concepts surfaced from our empirical material. Using the sensemaking concept (Weick, 1995) as a theoretical anchor, we attempt to highlight how prevalent use of diagnostic approaches to organisational change programmes inhibits the capacity for meaning to be managed.

2.1. 'Managing' change with a diagnostic approach

As technology advances more rapidly than ever before in the 21st century, many organisations favour a diagnostic, planned approach to change. This approach is considered by many authors to simplify the complexity of managing change through the adoption of a 'top- down' perspective, viewing change as a discontinuous, episodic and linear process (Alvesson and Sveningsson 2016; Palmer et al. 2017). This has given rise to a number of diagnostic tools in the form of n-step models which are assumed to simplify the process of successful change implementation (Palmer et al, 2017). Perhaps most famously, Kotter's (2012) '8 steps of leading change' suggests predefined steps that one should strictly follow to reach the successful outcome. This model is just one of many n-step models within the change literature, but most are signified by the same underlying linear steps of how to approach and manage change, namely; diagnosis, analysis, planning, implementation and evaluation (Dawson, 2002). Hence, when change is approached in this diagnostic way, it becomes feasible to copy successful change implementation efforts from one organisation to another (Bushe and Marshak, 2009). One assumption of this diagnostic approach is that individuals within organisations act as rational actors in which they are able to make perfectly rational decisions within a change process (Bushe and Marshak, 2009; Palmer et al, 2017). However, Alvesson and Sveningsson (2016, p. 38) argue that this rational approach to change fails to make any significant impact on change efforts, stating that it is "*representative of a social engineering that thrives as long as it remains where it is conceived: namely only on the drawing board"*.

In spite of such criticism towards the diagnostic change approach, it appears to have stood the test of time as it is still widely used despite poor success and the fact that over 70% of change initiatives fail (Beer and Nohria, 2000; Graetz and Smith, 2010). In trying to find an explanation for its weak

performance, there are a few researchers that, in contrast to the mainstream literature, have identified possible pitfalls and drawbacks of the diagnostic change perspective. Accordingly, Alvesson and Sveningsson (2016) argue that the diagnostic change approach overlooks the fact that individuals tend to make sense and interpret change efforts in various ways, which will contribute in shaping the outcome of the change intervention. In a similar vein, Land and Jonassen (2000) argue that among different individuals and stakeholder groups, there is often the presence of a conflicting meaning system. For example, individuals residing at the top of organisational hierarchies tend to adopt a more strategic outlook in projects, compared to those lower down the hierarchy who endorse a more localised viewpoint (Weick, 1995). Moreover, original stakeholders who have been present in the context might move on and the individuals replacing them might assess and make sense of issues and systems in a completely different way (Baxter and Sommerville, 2011). As such, the simplified solutions which follow the diagnostic approach might sound attractive, but such approaches lack substance in how change is to be executed (Alvesson and Sveningsson, 2016).

Accordingly, it becomes rather problematic to manage and implement change by relying solely on a 'top-down' diagnostic approach which neglects the 'bottom-up' perspective as it is the latter that reveals the complexity of change and how we might go about it (Sveningsson and Sörgärde, 2013). Therefore, we must acknowledge Alvesson's (2004, p. 49) argument that *"businesses, organisations and working life are very much made up of – or understood as –highly ambiguous pheonomenas"* and thus that the oversimplification of complex issues like organisational change is rather the enemy of reflexivity which requires a deeper analysis (Alvesson et al, 2017).

Moreover, in order to follow Alvesson and Sveningsson's (2016) recommendation of adopting a bottom-up approach, there is a need for a framework that views change in a different way to the diagnostic approach. Thus, one could identify the need within the literature for a more continuous approach to change which recognises the variety of individuals involved in a change project as well as their context. This is supported by Weick (1995, p. 6) who states *"sense may be in the eye of the beholder, but beholders vote and the majority rules".* Appropriately, the sensemaking framework provides us with a valuable analytical tool to understand both the management of change at the organisational level, and the management of meaning at the individual level (Helms Mills, 2003; Weick, 1995).

2.2 An introduction to sensemaking

The concept of sensemaking has attracted a significant deal of attention in both the managerial and organisational cognition fields since the 1980s, although research into this meaning-making domain can be traced back to the 1960s (Allard-Poesi, 2005; Brown et al, 2015). The sensemaking field has given rise to a number of theoretical approaches which have been instrumental in augmenting the understanding of decision-making processes, actions, change and learning in organisational contexts (Allard-Poesi, 2005). Within this field, Karl Weick's pioneering work has helped advance the academic discussion around the phenomenon given his efforts at 'binding' the research into sensemaking, which was traditionally fragmented by the multiple competing perspectives of how sense is made in organisations (Brown et al, 2015).

In 1995, Weick published the book *Sensemaking in Organisations* in which he introduced the concept of sensemaking to offer an explanation as to how and why individuals make sense of their environments. Focusing on events such as the Mann Gulch fire tragedy, Weick's earlier work explored how 'critical' or 'trigger' events cause individuals to engage in sensemaking behaviours in order to determine not only how to act, but how to deal with the resulting anxiety and fear such a situation produces (Stein, 2004; Weick, 1993). Weick's work was unique given his emphasis upon how individuals formulate meaning towards events, rather than focusing purely on organisational outcomes (Mills et al, 2010). Over time, sensemaking has evolved from being its own separate theory to becoming its own method of analysis, particularly in the interpretive traditions (Allard-Poesi, 2005; Mills et al, 2010). Today, sensemaking is an exceptionally influential perspective within organisational studies and is closely associated with research in the interpretive, social constructionist and phenomenological domains (Brown et al, 2015). Although sensemaking theory is synonymous with Weick, his work was in fact inspired by decades of prior meaning-making research (Brown et al, 2015).

Subsequently, at its most basic, Weick defines sensemaking as about how *different* meanings are assigned to the *same* event by individuals (Weick, 1995). Although a number of sensemaking definitions are present within the literature, there is, however, consensus that sensemaking refers to a processual approach in which individuals attempt to provide plausible explanations to explain confusing events in order to permit coordinated, rational action (Ainsworth and Hardy, 2015; Brown et al, 2015; Dane, 2013).

Likening sensemaking to cartography, Weick (1995) draws upon a famous incident involving a group of soldiers who were sent on a reconnaissance mission in the Alps. During this mission, the soldiers faced inclement weather causing them to become lost. Luckily, one soldier found a map in his pocket which the group of soldiers used to successfully return to base. Amazed by this feat, their Lieutenant requested to see the map which the soldiers used, and was surprised to see it was in fact a map of the Pyrenees. This incident suggests that in times of ambiguity, 'any map will do' as people then tend to settle with what is *plausible* (Weick, 1995). In order words, *"interdependent people search for meaning, settle for plausibility, and move on"* (Weick, 2005 p. 419). Similarly, Winograd and Flores (1986) support this claim by suggesting that when individuals find themselves in a situation of 'thrownness' requiring immediate action, they have to 'make do' in order to make sense of the situation. The incident also has implications for management, given these situations of ambiguity are characteristic of organisational life (Alvesson, 2004). In essence, by mapping an unknown situation and ensuring a group of individuals are reading from the same map, managers can collectively facilitate coordinated action and work towards a common goal or destination. Despite this, Weick (1995) highlights how managers, who are often responsible for setting such goals, frequently do so in a vague or contradicting manor, possibility as a result of their preference of speed over accuracy.

Given its emphasis on micro-activities within organisations, sensemaking research is particularly useful in understanding how such activities influence organisations at the macro level (Zilber, 2007), such as the outcome of a radical change programme. Moreover, Weick (1995) summarises several distinguishing features of the sensemaking process which commences with the act of noticing and bracketing before retrospect, prospect and presumptions help formulate and guide resulting behaviours. Additionally, Weick (2005) also stresses the interdependent nature of this process in which articulation between social actors helps individuals in making sense of the disruptive ambiguity they collectively face. Weick's (2005) notion of articulation is a key element of the sensemaking process which many authors have explored further. Fairclough (1992) highlights that language as a means of articulation has a central role in creating new realities for others. Afterall, language is a central medium which individuals leverage to forge sensemaking (creating their own meanings of events) and sensegiving (influencing meanings of others by sharing their own meaning) (Dunford and Jones, 2000). For example, Czarniawska (1997) explains that events are often configured into a form which has 'narrative meaning', whereby social actors draw upon thematic threads to develop narratives which influence or contribute to final outcomes. However, Fairclough (1992) warns that language does not rest in a 'discursive

vacuum' and that the way in which it is conveyed and interpreted is affected by its interaction with existing objects and subjects within a social context. This is supported by Palmer et al (2017), who argue that individuals have differing 'images of change' which are used make sense of events by 'framing' an individual's constructed reality. For example, one individual may align themselves with a diagnostic perspective on change, such as the director image, compared to another individual who may adopt a more meaning-oriented approach, such as the interpreter image (Palmer et al, 2017). One explanation behind the notion that individuals frame events differently comes from Locket et al (2014), who cite that individuals have various idiosyncratic schemata which in turn operate as unique frames of reference when one is to make sense of what is going on. Harris (1994) also highlights that these schemata are retrospective in the sense that they are derived from previous experiences to guide inference. This is similar to the concept of frames in sensemaking, which will be explored in the following subsection (Weick, 1995).

In light of the subjective and individualistic nature of the ways in which social actors make sense, the sensemaking and organisational change literature has warmed towards more meaning-oriented management approaches which are receptive to individual differences. For example, Mills et al (2010) stress that a thorough consideration of sensemaking must be integrated into any analysis of how to respond to organisational shocks. Considered as triggers for sensemaking, these can include ambiguous events at both the macro and micro levels that organisational members may face (Weick, 1995). Given these organisational members seek meaning in times of ambiguity, Weick (2000) calls for managers to become 'interpreters' in recognition that management's job is to 'author interpretations' to certify, rather than create change.

2.3 The relationship between sensemaking and organisational change

The sensemaking perspective views change as an ongoing process resultant of real-life and day-to-day interactions that organisational members face, in which they negotiate meaning (Sveningsson and Sörgärde, 2013). Subsequently, it acknowledges that *"change occurs on a daily basis as a result of adjustments, experiments, improvisations and small accommodations that are triggered by focusing on everyday breakdowns, exceptions, requirements and other contingencies"* (Sveningsson and Sörgärde, 2013 p.3). In other words, change is not necessarily initiated by top management but emerges in a natural way, meaning that this approach becomes more concerned with *'constructing'* rather than '*discovering*' a world as it does not emphasise on the objective reality which underlies the diagnostic perspective (Bushe and Marshak, 2009).

Accordingly, within the sensemaking theory, organisations are seen as continuously constructed and reproduced through the process of sensemaking, hence being described as *'sensemaking systems'* with a strong attention to the local conditions of the context (Bushe and Marshak, 2009). This means that change efforts that are planned and managed with a 'top-down' approach *always* become "*modified, reinterpreted and altered in unpredictable ways*" by those whom the changes affect (Sveningsson and Sörgärde, 2013 p. 13). In contrast to the diagnostic approach, the sensemaking perspective sees individuals as being of pivotal importance in any change situation (Sveningsson and Sörgärde, 2013). As such, the sensemaking perspective embraces the complexity of how to manage change, instead of trying to simplify it, given the acknowledgement that various stakeholders have different ways of making sense of what is going on, which contributes to the uprise of fundamental questions that will challenge what is often taken for granted (Baxter and Sommerville, 2011).

2.4 Sensemaking in technological change projects – the case of ERP implementation

As information technology advances and global competition continues to grow, firms are finding themselves situated within hypercompetitive markets which have introduced unprecedented difficulty in running a business successfully. In order to remain competitive, managers must leverage technology to achieve agility through improving information flows, reducing costs and streamlining business processes (Huang et al, 2004; Behesti, 2006). Subsequently, companies are flocking toward enterprise resource planning (ERP) technologies in order to capture these business benefits. ERP systems generally encompass multiple software modules which allow organisations to "*automate and integrate the majority of business functions by sharing common information and data in real time*" (Ali and Miller, 2017). When used successfully, ERP systems present a comprehensively integrated solution for organisations to manage their resources (Stemberger and Kovacic, 2008). Although it is clear to see how organisations are lured into the lucrative promises of ERP systems, in reality ERP projects can be conceived as nebulous, enigmatic phenomena.

Despite ERP projects representing major change for organisations, in order to reap the associated benefits, organisations appear to hurriedly embrace such projects without careful consideration of their organisational impact (McNish, 2010). Specifically, scholars have noted that ERP implementation projects are 'heavily biased' towards technological aspects (McNish, 2010), with mangers becoming "*so engrossed in the technical factors and financial details that they ignore the more subtle human factors associated with the change*" (McNish, 2010 p. 201). These arguments could help explain why 90% of all initiated ERP projects can be considered failures (Helo, 2008). Perhaps one reason for why ERP projects have unusually high failure rates is

because much early research and implementation strategies concentrated on following 'best practices' and diagnostic approaches into an environment presumed to be predictable (Nandhakumara et al, 2005). Such diagnostic approaches to change assume a causal relationship between following critical success factors and ERP implementation success (Nandhakumara et al, 2005).

Clearly, the issues associated with ERP are, at least partly, symptomatic of an underestimation of the humanistic side of ERP (Boersma and Kingma, 2005). ERP implementation is not strictly a sequential procedure from one stage to another as the traditional change literature suggests (Nandhakumara et al, 2005). Given that ERP projects represent complex and radical change that often challenges social actor's principles and long-standing ways of working, these circumstances "*force people to literally make sense of what is going on*" (Boersma and Kingma, 2005 p. 200). This situation of sensemaking becomes particularly sensitive when one recognises that individuals are likely to have differing 'technological frames' whereby incongruent frames between individuals can not only shape technological solutions, but also spawn conflict (Orlikowski, 2000; Orlikowski and Gash, 1994). For example, individuals may struggle to make sense of new technologies that are radically different from older technologies such as in an ERP refresh project (Rose and Kraemmagaard, 2002).

Equally, another area within ERP in which technological frames appear incongruent is regarding the *Go-Live* of an ERP system, which can be defined as the perceived end-stage of the project (Ali and Miller, 2017). For example, Huang et al (2004) cite that in a survey targeting manufacturing companies, 70% of companies believed average ERP *Go-Live* times would be 6 to 24 months. Comparatively, academics generally stress greater *Go-Live* times of 12 to 30 months (Akkermans et al, 2003; Prahalad and Krishnan, 2008). Equally, Ali and Miller (2017) highlight that other scholars (Davenport, 1998; Willis and Willis-Brown, 2002) believe that the *Go-Live* stage of an ERP project is in fact the most crucial stage to organisations, where the organisation must manage numerous risks and challenges associated with the technology.

In summary, two core concepts can be taken from the literature into sensemaking in ERP projects. First, ERP project management has historically been likened to the traditional change management literature emphasising n-step models, which are symptomatic of ERP's unusually high failure rate. Second, this research is illuminating significant scope for the sensemaking

approach to improve the effectiveness of these projects. The process of how sensemaking unfolds will be elaborated upon in the following subsection.

2.5 The sensemaking process – cues, frames, connections

According to Weick (1995), the concept of sensemaking is largely drawn from the fusion of three key components; frames, cues and connections. The *frame* can be conceptualised as a mental model that structures contextual information (Goffman, 1974). A *cue* refers to an interpretation that is constructed by an individual when they are trying to make sense of a critical event (Weick, 1995). Moreover, given these events trigger equivocality or ambiguity, they lend themselves to many possible interpretations (Maitlis and Christianson, 2014). The notion of ambiguity is central to Weick's (1995) sensemaking theory, given he argues that in such circumstances individuals search for *plausible,* rather than *accurate* cues when trying to make sense of a situation they face. Thus, in critical events where complexity and ambiguity is heightened due to the *unexpected* interruption to the organised sequence with an ongoing flow of a social context, the greater the search for extracting *plausible* cues becomes, hence individuals take a relative approach to the truth which appears believable at face value (Weick, 1995). Accordingly, this can be seen as the '*sensemaking dilemma*' (Weick, 1988). The third variable is the *connection* between the *abstract* (the cue) and the *concrete* (the frame) (Weick, 1995, p.120). Thus, *"a cue in a frame is what makes sense, not the cue alone or the frame alone"* (Weick, 1995 p. 110). Hence, sensemaking becomes a process of structuring the unknown (Weick, 1995). It is the act of seeking a connection between a frame and a cue that represents the sensemaking process. Equally, where there is no frame, or where there is no obvious connection between cues and frame and one has to be created, there is sensemaking (Maitlis and Christianson, 2014).

In order to being able to better grasp how the sensemaking process unfolds in reality, we have offered Kramer's (2017, p. 2) useful description as an example:

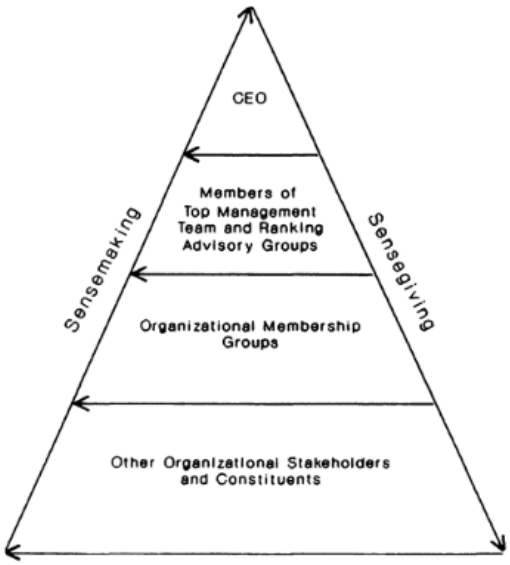
"Consider employees working for a company accused by the local newspaper of dumping chemicals into the stream behind its plant. To begin with, the situation is equivocal because there are many possible interpretations of the situation. The accusation could be false and the newspaper was simply wrong for reporting it. If it occurred, the chemical spill could have been an unavoidable accident due to some malfunctioning equipment. It could have been the result of an untrained employee who did not know any better or a lazy employee who simply cut corners

to save time. Another interpretation could be that the company is always looking to cut costs and so it disposed of the chemicals illegally to save money. Faced with this equivocality, employees are likely motivated to make sense of this accusation (retrospective). Employees likely overhear a number of peers discussing these various explanations for the accusation (equivocality). (...) the group focuses on evidence provided by a trusted supervisor who says it was an accident caused by a new, untrained employee who now understands correct procedures. Eventually, the employees focus on the evidence provided by a supervisor that this very minor accident was due to an untrained employee and the problem was corrected through additional training before the story was written and the accusations in the newspaper article of a large scale problem were unfounded (extracted cues). Collectively (...) the employees accept the supervisor's explanation as the most likely explanation. It is not critical whether this is an accurate explanation of the events as long as they agree that it makes sense (plausible). A commitment to this interpretation impacts the employees' future communication as they defend the company to others in conversations and condemn the newspaper for its inaccurate reporting. Of course, if another report of a similar problem occurs two months after this initial accusation from the newspaper, the employees must continue to make sense of the situation (ongoing)."

2.6 Sensegiving – 'the management of meaning'

Alongside making sense of organisational issues themselves, managers also disseminate their self-created meaning to influence other's understanding of the same issue (Mesgari and Okoli, 2019). Figure 1 depicts this reciprocal and continuous sensemaking and influencing of meaning process.

Moreover, the influence of such meaning on others is known as *sensegiving*, or the *management of meaning*, which involves an attempt to encourage individuals to connect the desired to cues to their existing frames (Smirich and Morgan, 1982). The control over the cues which will serve as a point of reference in occasions where people are trying to make sense is subsequently an important source of power (Smirich and Morgan 1982). Given that information technology is equivocal by nature and can be understood in multifarious ways (Weick, 1990), the management of meaning is imperative in shaping the outcome of technology related change projects. Additionally, the management of meaning is also particularly important in technological change projects given the introduction of new technology often produces novelty and creates critical events in organisations (Griffith, 1999; Weick, 1995).



The sequential and reciprocal cycle of sensemaking and sensegiving to expanding audiences

Figure 1 – Gioia and Chittipeddi's (1991) model of sensemaking and sensegiving

The importance of the management of meaning is stressed by Balogun and Jonhson (2005) who state the creation of shared meaning and understanding is critical in managing change projects. In order to manage this meaning, Weick (2000) and Palmer et al (2017) call for managers to become interpreters in change projects in order to create and shape meaning for others. Academics often highlight the importance of language and narratives, such as metaphors and storytelling as mediums in which such meaning can be diffused (Dunford and Jones, 2000; Fairclough, 1992; Huzzard et al, 2014). However, due to inherent contextual forces such as culture and power dynamics, managers must recognise they do not have a totally deterministic influence upon meaning creation. Equally, the management of meaning is also heavily influenced by the emotion individuals attach to events, given its capacity to constrain sensemaking in the event of *unexpected interruptions* (Weick, 1995).

2.7 Theoretical framework summary

To summarise this theoretical framework, this chapter has elaborated upon how the diagnostic approach, with its emphasis on viewing change as an episodic process shaped by total rationality to reach predetermined outcomes, is still widely used by both scholars and practitioners despite its poor performance. Comparatively, some authors have suggested that a more comprehensive

approach to change is needed which focuses on how different individuals attach various meanings to the same events, which is said to influence the performance of a change project. Within this area, authors also argue that when individuals face ambiguous situations which are commonplace in organisational change, especially within technological change initiatives, they engage in the process of sensemaking in order to figure out how to cope with the situation. Provided the equivocal nature of change, individuals may interpret their environment in many possible ways, following engagement in the sensemaking process of extracting cues that are interpreted as plausible and connecting these with their existing frames, which are formulated by their experience and understanding of the world around them. However, the extracted cue and the evoked action might not be in line with what was intended from a managerial point of view. As such, some authors argue that in order to create desired action at the collective level, managers must focus on the management of meaning by guiding employees to extract the intended cues. By facilitating the connection of employee's cues and frames, managers have the capacity to establish shared meaning and collective action. Equally, a failure to do so could induce fragmented meaning and subsequently undermine the performance of an organisational change programme. The sensemaking and management of meaning processes is visualised in Appendix 6.

Having presented the theoretical framework that will be used as an analytical lens for our study, in the following methodology chapter we further elaborate upon both how the preceding theoretical concepts, alongside the design of our study, will guide us towards our research objectives.

CHAPTER 3: METHODOLOGY

In order for this investigation to be executed as effectively as possible, the design of this study involved a number of philosophical and methodological considerations. These considerations will be reviewed in the following chapter, commencing with how our philosophical groundings give rise to a study rooted within interpretivism and social interactionism. Additionally, we will also justify our use of elements from an ethnographic study approach. This chapter will also explain our use of an abductive research approach, where we reciprocated between the literature and the empirical material. Finally, this section closes with an overview of how we conducted our analysis through a variety of research methods and made considerations pertaining to source critique, reflexivity, limitations and ethical factors.

3.1 Research Philosophy

Within this study, the ontological perspective of social constructionism is assumed given the central unit of analysis in which this study is focused upon is business - a socially constructed phenomenon which is too complex to be measured in the objectivist and positivist essence of the natural sciences (Wilson, 2014). Adopting this ontological perspective allows us to enter the world of the social actors being examined in order to formulate an understanding of how these actors might make sense of their environments differently within the context of organisational change. To achieve this, we interviewed employees and consultants working within an ERP implementation project at the company GrainChain, with the goal of gaining rich insight into how their sensemaking activities were shaped and how this contributed to the project's performance. As such, given our aim of understanding the social world of the research participants, this study aligns closely with an interpretivist epistemological approach which acknowledges the interpretivist nature of such social constructions of reality (Prasad, 2018). However, as interpretivist researchers with an investigative focus upon sensemaking, we are aware that critics may argue this study is too individualistic and marginalises wider societal or contextual influences given the emphasis of 'self over society' (Prasad, 2018). Subsequently, in light of these concerns associated with generalisability (Bryman and Bell, 2015), we seek to generalise our findings empirically, but not analytically, through observation into the chosen research area at a micro-level world of organisations.

It is this belief that social actors are engineers of their own reality which subsequently provides us with the motivation to dig deeper and attempt to understand individual's sensemaking arising from

the non-management of meaning in the context of organisational change. However, we recognise that an individual's social reality is only 'true' to the individual in an intrinsic and subjective sense due to the fact that social actors possess varying frames of reference and schemata (Locket et al, 2014; Orlikowski, 2000). This was particularly evident in the interviews in which individuals from the consultant and client sides appeared to disagree on the project goals and how bugs in the system were approached. Subsequently, it can be suggested that the presence of a single, objective 'truth' is absent within GrainChain.

3.2 Qualitative Research

Given research into sensemaking is grounded within "*detailed, situated and concrete practices and interactions within organisations*" (Allard-Poesi, 2005), this study leverages interpretivist data generating techniques in order to capture the meanings which participants generate in order to make sense of organisational change. Additionally, the generation of qualitative data is pertinent as it provides us with the ability to obtain rich and in-depth information about how the participants studied construct their social realities whilst in a fast moving organisational change project (Saunders et al, 2016). As such, data in this study was generated through three qualitative streams; initial observations, semi-structured interviews and document analysis. Observations of 'status meetings' were initially conducted in order for us to sensitise ourselves into the research environment by forming a greater understanding of the project at GrainChain. Acting as the investigative spearhead of this study, the interviews aimed to capture the meanings held by the participants involved in the organisational change project through a semi-structured and open-ended approach which allowed for the key themes from the observation to be discussed, whilst also providing the participants with sufficient capacity to control the direction of the interview itself (Prasad, 2018). Finally, document analysis was conducted to gain additional insight (Bowen, 2009) into the nature of the organisational change project, such as information explaining the ERP project and highlighting conversations between project members.

One may note that these data generation methods maintain a linguistic or situational emphasis, with the reason being that this study assumes elements of an ethnographic research approach. Such studies attempt to analyse the methods individuals use, both individually and collectively, to make sense of their social realities (Prasad, 2018). As language is central in both sensemaking and sensegiving (Dunford and Jones, 2000; Fairclough, 1992), the interviews, observations, and to an

extent the document analysis, will allow us to uncover the meaning behind each individual's socially constructed reality.

Given the research within this study leverages both established theoretical frameworks such as sensemaking whilst also leaving capacity for exploring the findings generated in the data collection stage, we feel an abductive approach is most appropriate. Combining both inductive and deductive approaches, we are able to leverage theories to sensitise ourselves into the research field whilst remaining receptive to new concepts as they emerge from the field through our experience and intuition (Wheeldon and Ahlberg, 2011). In other words, the abductive approach allows for existing theory to act as a theoretical map allowing us to navigate the research field while allowing for detail to be added to this 'map' as the study progresses.

3.3 Data Collection Methods

The aim of this qualitative study was to attempt to understand the social world of the research participants, or more specifically, to understand how the non-management of meaning affected the performance of a radical organisational change initiative involving a new ERP technology. In order to satisfy this aim, three different data generation methods were used, involving interviews, observations and document analysis (Figure 2). The use of multiple data generation methods also augmented the credibility of this study through triangulation effects (Greene et al, 1989; Yin, 2013). The following section will provide an in-depth justification and explanation behind these chosen data collection methods.

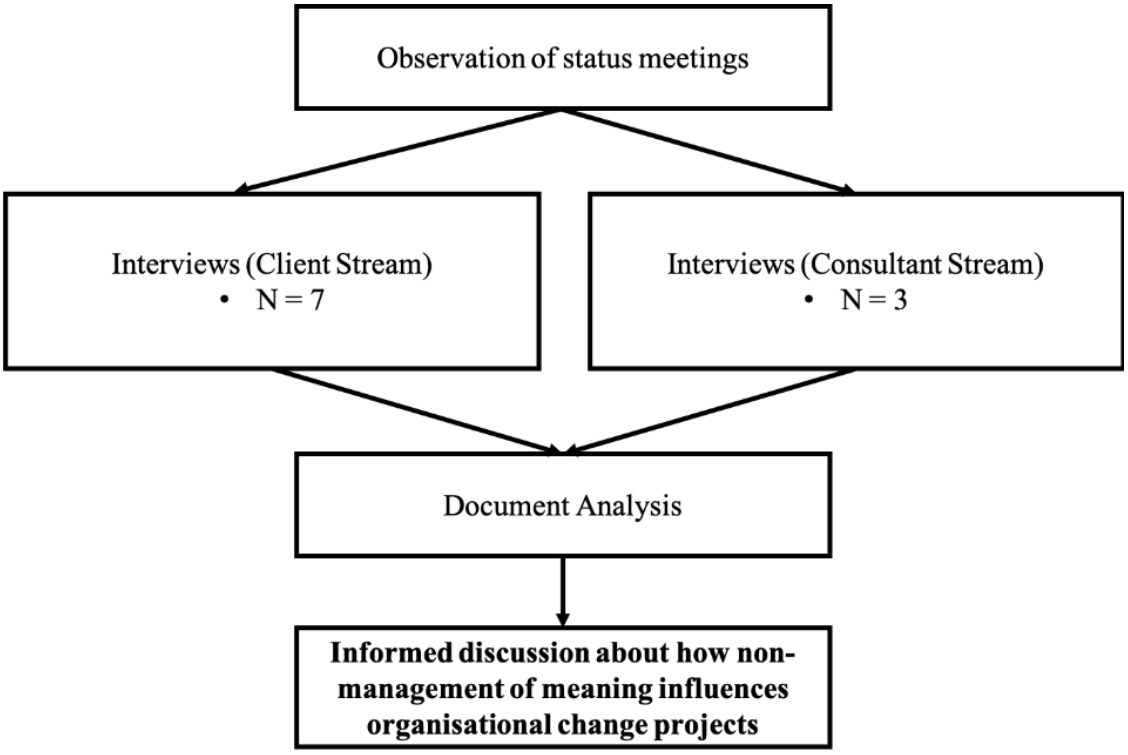


Figure 2: Qualitative research methods used in this study

3.3.1 Observations

The aim of the observations within this study was to gain an initial understanding of the project and its surrounding context to sensitise us into the research environment. Furthermore, as these observations were of a participative nature, they also allowed us to enter the worlds of the individuals studied to uncover their sensemaking capacities and the meaning they associate with events (Prasad, 2018). These observations were conducted over two days during the testing phase of the project, a time where the *Go-Live* had already been postponed four times and where many client issues remained unsolved. The observations focused on status-meetings which were attended by projects members from GrainChain. These meetings constituted discussions regarding the progress of the project, live issues, and, accordingly, if they were on-track for the proposed *Go-Live* date. Progress was communicated using a 'traffic light' system, whereby each project member selected one of the following colours:

- Green – project member feels implementation is going according to plan
- Yellow - project member feels risks are present which must be fixed to avoid delays

- Red - project member feels implementation is not going to plan and immediate action is needed

The observations were noted down and the generated field notes were used to help provide us with insight into the analytical context at GrainChain. The use of the initial observations also contributed to this study's triangulation benefits (Greene et al, 1989; Yin, 2013) given statements in the interviews could be corroborated by the observations, thus enhancing the credibility of the overall study findings. Provided that naturalistic observations have limitations such as demand characteristics (Bryman and Bell, 2015), we would like to remind readers that observations were primarily used as a method to sensitise us into the analytical environment in which we would be studying.

3.3.2 Semi-structured interviews

As previously mentioned, semi-structured interviews were the investigative spearhead of this study, acting as the research method where the bulk of primary data was generated. Semi-structured interviews involve the collection of qualitative data through an open interview approach which is guided by a prepared framework of topics (Bryman and Bell, 2015). This technique was chosen as it allowed us to explore our chosen phenomenon whilst giving participants the capacity to elaborate on key issues.

We conducted a total of 10 interviews. 7 of these interviews were held with current and former employees from GrainChain who all had been or were currently involved in the ERP project but who came from varying departments and seniority. The remaining 3 interviews were conducted with ERP consultants at EnVisor, the consultant company helping GrainChain with the project. Interviews typically lasted between 50 and 70 minutes, which we felt was sufficient in gaining satisfactory insight into the desired topics whilst avoiding the generation of excessive amounts of data which had to be analysed under strict timescales. Additionally, the interviews were simply conducted in order of the participant's availabilities, rather than following a predefined schedule.

Questions within the interviews were formulated out of general questions which we deemed to be relevant to the research context, which could be used at our discretion based on what the interviewee was saying. The questions oriented around general topics such as how the participant makes sense of their job in the company, alongside more focused questions about the ERP project itself, such as questions about the GrainChain and EnVisor relationship and how they interpreted concepts such as the *Go-Live* and system bugs. Given this study benefited from the involvement of two researchers, one researcher asked the questions whilst the other observed and asked follow-up questions. This technique helped ensure a meaning-centred approach to the interviews to ultimately gain a more comprehensive insight into the participant's social worlds (Prasad, 2018).

As with any data generation method, interviews are not without their limitations. Perhaps the most immediate concern within the interviews was a form of social desirability bias (Bryman and Bell, 2015) whereby interviewees are afraid to talk badly about the project or their organisation. This was perhaps exacerbated by the fact the ERP project was performing poorly and organisational politics were clearly visible both within GrainChain and between GrainChain and EnVisor. Appropriately, all participants were reminded of the study's ethical precepts, namely of anonymity and confidentiality. Critics may argue a further limitation of this study is its small sample size (n=10) which may contribute to generalised, and thus bias results. To counter this criticism, we would like to affirm that it is not our intention to generalise any results analytically, but rather we seek interesting interpretivist observation into the chosen research area at a micro-level world of organisations. However, we did attempt to make the sample as balanced and representative as possible by interviewing individuals from different departments, seniority and experience in order for a comprehensive dataset to be collected. Finally, all interviews were conducted in English to ensure consistency and ease of interpretation by readers and examiners. Considering this study was conducted in Sweden, where all of the interviewees were either Swedish or Danish, this language difference has the possibility to negatively impact results. For example, cultural differences may result in questions being interpreted differently and the language barrier may have limited one's capacity to explain events coherently or as intended (Bryman and Bell, 2015). To reduce this bias, we attempted to make the questions as clear as possible whilst also allowing for clarification to be made in the interviews, where appropriate.

3.3.3 Document analysis

As documents can be seen as evidence of past events they provide us with rich historical insights and an overall background into the organisational change project at GrainChain (Bowen, 2009). Hence, document analysis in this study served as an additional source of data generation which allowed us to contextualise and verify the data that was collected from the interviews and observations (Bowen, 2009). As such, the document analysis served a similar purpose to the observations, namely by allowing us to formulate a deeper understanding of the project, whilst enhancing the credibility of this study (Bowen, 2009).

As one of the researchers is a part-time employee (now resigned) at the client company, we had extensive access to company documents relating to the project. Hence, we had access to the project database which consisted of documents from both the client and consultant teams. These documents consisted of PowerPoint presentations explaining the goal and overall plan of the project, financial and time estimates, project status reports along with explanations of the project's different phases. Additional documents that were analysed included 'FDDs' (functional design documents) which are documents written by the consultants to confirm or reject the client's modification requests to the system. Along with this, we also had access to the projects' 'Azure DevOps' portal. This portal was used as an 'issue-log', where project members from the client team report different bugs they encounter in the system which is then followed up and commented upon by consultants. In addition to these documents and portals, we also analysed a series of e-mail communications, both internally within GrainChain and externally between GrainChain and EnVisor, in order to understand the nature of interactions between the project stakeholders. Accordingly, the document analysis also provided us with the possibility of tracking the change and development of the project (Bowen, 2009). Although document analysis is an efficient method at obtaining data to review our findings from the interviews, it involves data *selection* rather than *collection* (Bowen, 2009). Subsequently, this data selection can be subject to biased selectivity, in which documents are cherry picked to confirm the agenda or findings of a study (Bowen, 2009). As a result, we considered an extensive breadth of project documents by using a wide scope, ensuring that we remained as impartial as possible in our selection process.

3.4 Data analysis techniques

The aforementioned research methods presented us with a variety of empirical material which required various analytical techniques in order to record and extract the most appropriate material for our study. In this subsection, we will explain the approaches and techniques employed to analyse the empirical material generated in this study.

Beginning with the initial observations, detailed notes were recorded by hand of events in the status meetings, such as the disagreement and concerns that the employees expressed. We then conferred to determine which of these topics we felt were most interesting to consider exploring in the following interviews. Once each interview had been conducted, we transcribed the interviews as soon as possible. Provided the strict timescales associated with this study, we used transcription software (Otter) which automated the transcription process, thus saving us significant amounts of time. Despite the use of this software, to provide accuracy we went through each transcript to ensure they matched with the appropriate recordings. When analysing these transcripts, we employed the *analytical bracketing* technique (Gubrium and Holstein, 1997) in an attempt to gain a more holistic and deeper insight into the data by alternating between both *how* and *what* questions. Alongside this approach, using a coding technique (Rennstam and Wästerfors, 2018) we completed our first level of analysis alone before coming together to discuss what we thought were crucial extracts of empirical material. This allowed us to make unbiased judgements of the transcripts to determine what we individually felt to be most interesting before conferring with the other researcher. This was particularly important given our reducing strategy followed Weick's (1989) *disciplined imagination* approach whereby empirical material is filtered by its perceived level of interest rather than its frequency of occurrence, in which the former is highly subjective. Following the analysis of the interview transcripts, access to GrainChain's project intranet meant that we searched for documents which verify key themes that had surfaced in our investigation. Again, our selection and sorting of company documents was conducted on the basis of which documents we believed valuable and stimulating in regards to our recorded analytical environment (Becker, 1998).

Finally, after all empirical material was collected and analysed, we attempted to integrate this with the existing literature pertaining to this study, namely sensemaking theory and organisational change approaches. For example, in order to present our data as coherently as possible, we

structured both the presentation and analysis of our data using Weick's (1995) *organisational shocks*, also known as *critical events*, which we felt were highly relevant and observable in our case study.

3.5 General limitations

Aside from the limitations associated with our chosen research methods, we would also like to address some general limitations associated with the nature of our chosen research direction. Firstly, we would like to acknowledge the fact that one of the researchers in this study can be considered an 'insider' given they were previously employed at our chosen case study company, GrainChain. Although this provided a level of trust and openness around interviewees, encouraging them to share their emotions, opinions and experiences truthfully, there is a risk of researcher bias being introduced to the study, particularly in the interpretation of events. To counter this issue, the use of a second researcher who assumed the position of an 'outsider' to GrainChain meant they were not too close or involved in the project, allowing for rational, unbiased and reflexive observation to be made (Dwyer and Buckle, 2009).

Drawing attention to the concept of sensemaking, Palmer et al (2017) note that limited critique towards sensemaking is observed within the literature. However, present critique points towards a degree of contradiction given sensemaking views change as an ongoing cyclical process but is itself confined to specific episodes that occur when an interruption to the 'ongoing flow' is made until it is removed (Sandberg and Tsoukas, 2015). However, as individuals engaged in sensemaking first create the meaning in which they subsequently interpret and act upon, this suggests the sensemaking process is itself a cyclical process (Sandberg and Tsoukas, 2015).

Additionally, some researchers have noted the interpretivist nature of sensemaking theory introduces somewhat of a conceptual paradox. For example, as highlighted by Allard-Poesi (2005), scholars such as (Schwandt, 1994, p.119) *"sensemaking processes are faced with a fundamental paradox: defining reality as essentially mental and socially constructed, yet seeking to disengage from that experience and objectify it"*. As such, we would like to stress that our use of sensemaking theory is used as an analytical tool to gain a deeper understanding of a localised micro-organisational context, and that we seek to generalise our findings empirically, but not analytically.

Equally, from an internal validity standpoint, we do not intend to suggest that variables such as the non-management of meaning are solely deterministic for the performance of the change programme studied at GrainChain. Rather, the complex and multifaceted nature of the research environment means that cause and effect cannot be objectively established (Bryman and Bell, 2015). We also recognise that, almost ironically, the outcomes of this study are not exempt from the way we as researchers make sense of and interpret our world, particularly the analytical environment in which we are studying. In the following subsection, we will outline the considerations made to ensure that the collection and analysis of our data was as credible as possible.

3.6 Source critique and reflexivity

In difference to quantitative researchers who are primarily concerned with generating valid and reliable data, as qualitative researchers we intend to employ the appropriate methodological strategies to ensure credible or trustworthy findings (Noble and Smith, 2015). In order to ensure credibility, we first decided to ensure that our population sample for the interviews was diverse. For example, within GrainChain, employees from varying departments, seniority and backgrounds were selected for interview. Additionally, consultants from EnVisor were also interviewed in order to gain an 'external' perspective in the hope that a more holistic and comprehensive account of the ERP project could be attained. The diversity in the people interviewed also allowed for sensemaking to be explored at a deeper level by investigating whether similarities or differences existed between various departments, seniority and companies. Within the interviews, further measures were taken to ensure credibility. For example, semi-structured interviews were used so that there was consistency in the themes or topics discussed. However, we were careful to ensure interviewees had the capacity to elaborate and provide rich descriptions of the ERP project. This was achieved through the technique of asking meaning-centred 'how' and 'why' questions, which invite the participant to think at a deeper and more reflexive level (Prasad, 2018).

A second way in which we attempted to increase the credibility of this study was through triangulation, which involves the use of different forms of data collection to investigate the same phenomenon (Greene et al, 1989). For example, document analysis and observations allowed for additional insight into the project member's socially constructed realities which were recorded in the interviews.

The final measure taken to maximise the credibility of this study involved us engaging in reflexive practice. As postgraduate students who had recently read in in the change management and sensemaking fields, we were careful to exercise caution in that a balance had to be maintained between using our previously acquired knowledge while leaving scope to explore our chosen phenomenon without bias. In other words, it was our intention not to use existing literature to simply 'fit the narrative' but to instead remain open and conducive to new ideas or theories as the research progressed. Additionally, we took particular care to avoid assumptions, instead using language such as 'our belief/inference/understanding of this is…' in order not to mislead or confuse the reader. This consideration was critical given the paradoxical relationship of being a qualitative researcher; *"to be acutely tuned-in to the experiences and meaning systems of others, and at the same time to be aware of how one's own biases may influence what one is trying to understand"* (Maykut and Morehouse, 1994, p. 123).

3.7 Ethical considerations

To assure rectitude, this study adhered to a universalist ethical stance, ensuring that any ethical precepts remained unbreached through a number of initiatives (Erikson, 1967). Firstly, verbal consent was gained from each interviewee prior to the interview itself. Upon commencing the interviews, participants were fully briefed which involved an introduction of the researchers and a description of the study and its intentions. Participants were also reminded of their right to withdraw from the interview and study at any time and that all data would be kept both anonymous and confidential. Once the interview had finished, participants were debriefed and were asked whether they would like to receive the results of the study once completed. By following these initiatives, we are satisfied that this study complies with ethical guidelines. Having outlined the methodological considerations made in the design of this study, in the following chapter we will present the empirical data that was generated in our research.

CHAPTER 4: EMPIRICAL MATERIAL

In the following chapter, we will present the findings that surfaced from our case study of an organisational change project at GrainChain involving the implementation of a new ERP system. The initial sections of this chapter seek to outline the context in which our study was conducted, including an overview of GrainChain and the '2GETHER' project as well as explaining the prevailing relationship between GrainChain and EnVisor. Following this, we have segmented the '2GETHER' project into three critical events in order to structure our empirical findings in a chronological fashion. Although the following empirical material was largely generated through interviews conducted with GrainChain and EnVisor employees, we will occasionally use empirical data selected from corporate documents to provide additional insight to the interview data.

4.1 The case company

GrainChain is one of Sweden's largest food distributors within the buissness-to-buisness sector with an annual turnover of almost 1 billion SEK. As a member of the GIC-group consisting of over 60 companies situated throughout Europe, GrainChain represents the largest company within the group. With its core business involving sales and distribution activities, GrainChain has approximately 5,000 stocked items and 2,500 registered customers. Over the past few years, GrainChain has been facing increasing competition in its market whilst also suffering from a deterioration in profitability, which saw it post its lowest profits in 15 years. In light of this poor financial performance, the board members of the GIC-group, of which a handful of GrainChain board members also reside, subsequently decided action needed to be taken.

4.2 The project

In the late autumn of 2016, the GIC-group introduced the '2GETHER' project with the aim of streamlining intercompany business-flows within the entire group. To achieve this, all 67 companies within the GIC-group would be migrated from their existing ERP systems to one common ERP platform. As the largest company with the GIC-group, GrainChain would act as the 'pilot company', meaning they would be the first company of the GIC-group to implement the new ERP system. It was hoped that this would create a scalable and flexible template for the technology to be implemented that could then be deployed to the wider GIC-group. In other words,

the ERP system created by GrainChain would cover the requirements of the 66 remaining, much smaller GIC-group companies. If executed correctly, one senior management member of GrainChain described how this would enable the GIC-group to streamline information flows between each company to ultimately facilitate greater intercompany synergies.

Accordingly, in the early spring of 2017, GrainChain, together with the GIC-board, invited two consulting companies to their offices to present the various ERP systems they were deliberating between. The first system, called Movex M3, was the newer version of GrainChain's existing ERP system (which they had not updated for 12 years) and the second was Microsoft AXE280 (AXE280), a state-of-the-art system that had just reached the market. In the end, GrainChain and the GIC-group decided to choose the AXE280 solution. To implement this solution, a Danish consultancy named EnVisor was selected given their strong reputation in the market as one of Microsoft's 'inner circle' members, consisting of the top 1% of Microsoft's most successful ERP partners. Subsequently, GrainChain and the wider GIC-group felt they were in safe hands and were ready to start their ERP implementation journey.

4.3 The organisation of the project and project roles

As GrainChain was the first GIC-company to implement the new system, they began gathering different organisational members who would be included in the project. Together with EnVisor, GrainChain decided to nominate one individual to represent each department of their business. Known as 'track-leads', these individuals were experienced within their departments and worked with the existing ERP system. These individuals had the responsibility of explaining their departmental requirements to the consultants, so that these could be integrated into the new system. Similarly, EnVisor also assigned one consultant to assist each GrainChain track-lead to develop a greater understanding of GrainChain's business flows and to determine how such flows could 'fit' with the new ERP system's parameters. This 'fit' was achieved by either adopting the system in a standardised configuration, or by modifying the system itself. Finally, facilitating the project were project-leaders from both GrainChain and EnVisor, who were also part of the overall project management team. The project-role chart is visualized in Appendix 1.

4.4 The Project Plan and Phases

As the project was about to start, EnVisor presented their project approach which adopted a planned change initiative consisting of five different phases. This change approach, recommended by Microsoft, is named the 'SuresStep model' (Figure 3).

Figure 3 - 2GETHER project documents (2017)

The *first* phase in this model is the diagnostic phase, which aims to define the client's core business functions and to decide upon which system-modules (warehouse, sales, finance etc) will be in scope for the project. The *second* phase is the analysis phase, which aims to enhance the understanding of the client's requirements by conducting a more thorough 'gap-fit analysis'. This method adopts a more micro perspective by exploring business processes in each department to determine if they fit the standard functionality of the chosen ERP system. Should there not be a fit, modifications to the system must be made. Here, the consultant shows the track-lead on the client side how these processes would work in the new system and ask them if this would be suitable for them. Within this stage, track-leads also get introduced to and trained within the system. The *third* phase is the design phase, where all of the requirements and modifications determined in the analysis phase are then created in the system. This is then followed by the *fourth* phase, development. Here, the track-leads test all the solutions, processes and modifications that have been made in order to find and report bugs to the consultants. Once identified, consultants will then solve any bugs so that the system and the client will be prepared for the deployment and operation phases, which are often combined and referred to as the *Go-Live* phase. This is the final phase in which the customer terminates their old ERP system and migrates to the new system. In summary, this SureStep model is an example of an n-step model characteristic of the diagnostic approach to change given its linear and sequential nature (Palmer et al, 2017).

However, at the time of writing, GrainChain is yet to reach this last phase given the *Go-Live* has been delayed some 5 times. As the first *Go-Live* date was estimated to be the 1st of April 2017, it is now delayed by over a year. The estimated project cost has ballooned from 12 million SEK to 55 million SEK, with further cost increases anticipated. In light of this poor performance, EnVisor has been downgraded from its position as the implementation partner for the whole GIC-project (67 companies), to a subcontractor. To add insult to injury, the new implementation partner is their biggest competitor. As such, we feel justified in our conviction that this organisational change project has been a failure thus far. Through a presentation of our empirical data, we will now tell the story of what happened in this project, beginning with a brief contextual analysis of GrainChain's culture and working relationship with EnVisor, before outlining three critical events from the project.

4.5 Contextual Analysis: Culture at GrainChain and the GrainChain-EnVisor relationship

Perhaps the most immediate theme that surfaced from our interviews was the presence of incongruent cultures that were manifested both internally within GrainChain and between their consultant, EnVisor. Within GrainChain, the culture is advocated as a 'unified and winning culture' where mistakes are tolerated, as described by the CEO in an organisation-wide email:

> "Having a winning culture and a cohesion that makes us happy and strong together can take us as far as possible. GrainChain has a strong culture and it is important that the new people who come into GrainChain support the culture and together we develop it further. People are allowed to make mistakes but everyone has a responsibility to strengthen the positive and work away what feels awkward." - CEO, GrainChain

However, conversations with GrainChain employees were enshrouded by a more pessimistic overtone, whereby individuals felt apprehensive about assuming responsibility in fear of making mistakes:

> "Nobody wants to be the black sheep and take responsibility for things, they're afraid of the consequences" – Hugo

> "I think if you made 100 things that were good and made 1 mistake, you would only hear about this one bad thing." – Lucas

> "Sometimes you see someone making an error and nothing happens, and then suddenly that person is gone" – Lisa

The seemingly disparate ways in which various departments tolerate and deal with mistakes is implicit of a fragmented culture existing at GrainChain, which is in stark contrast to the CEO's original communication of GrainChain possessing a unified and cohesive culture. Similarly, further cultural fragmentation was observed between senior management and less senior employees, which contributed to what one employee referred to as a 'strategic black hole'. He emphasised:

> "It's very hierarchical. Like the top management feels like its own functionality divided from the rest of the business. They just work with what's interesting for them and it feels like they don't really understand this project themselves. I mean they haven't even come out to us and talked to us about how the project is going, how we are feeling." – Lucas

This is supported by one of the top managers himself who stated that as soon as the planning of the project was completed, the rest of the management were nowhere to be seen:

> "We started from the management team. Getting everyone involved in the in the decision process. We chose the system, the consultants, strategy, meetings etc. but they [other top management members] kind of dropped interest. (...) They have to be a model for change, but we failed to involve them." – Paul

Similarly, we couldn't help but notice a degree of scepticism and distrust emerge within our interviews. Although multiple individuals from GrainChain felt that they could not trust EnVisor, one track lead in particular felt that EnVisor was knowingly selecting sub-optimal solutions in order to safeguard their own interests:

> "It's cultural. I don't see EnVisor as a company that wants to cooperate. And if you're with them, one on one, maybe you listen to them. But otherwise, it's like they have been ordered not to do things, not to say things just to cover themselves. I think they want to minimize their losses. And that's all they're interested in now." – Lisa

This was further highlighted by a consultant in a later interview, who recalled hearing this accusation and likening this scenario to a 'blame game':

> "There is mistrust evident here. For example, in the Azure DevOps system where [GrainChain employee] says to [EnVisor employee] "you have designed this functionality to work as what is easiest for you at EnVisor and not to fit GrainChain". So, it gets to be a blame game and I hate that, I really hate that." – Victor (consultant)

Our interviews with GrainChain and EnVisor have highlighted interesting cultural dynamics. Internally within GrainChain, employees appear to have a divergent view to the culture advocated by senior management. This is particularly evident regarding claims of a 'cohesive' culture, where instead, GrainChain's culture is portrayed as fragmented. Secondly, the relationship between GrainChain and EnVisor is negatively portrayed, characterised by skepticism and blame. Now we have provided some context portraying GrainChain's fragmented culture and its relationship with EnVisor, we will move onto the project itself.

4.6 Critical event 1 - The first meeting

The '2GETHER' project commenced with initial sales meetings from two consulting companies representing two different system solutions; EnVisor, who represented the AXE280 solution, and MLC, who represented the M3 system. These companies presented their proposals to GrainChain's senior management. Assisting the senior management was Hugo and Lucas, who, despite their non-management status, had technical backgrounds working with ERP systems. Another GrainChain employee named Eva was also present, who held limited ERP experience. Interviews with GrainChain employees revealed that EnVisor's sales pitch was far more superior than that of M3's. Eva, for instance, explained GrainChain's position as already having an earlier version of M3 caused them to become complacent in their pitch:

> "They had a very bad presentation. Terrible presentation. They kind of thought that we would just go in and buy M3 as if it was no big deal given we have Movex [The M3 precursor ERP system] already. (...) And this salesperson, she was, I can't explain, but there was something about her that everyone reacted to - very arrogant." – Eva

The quality of MLC's sales pitch was in stark contrast to EnVisor', which was widely praised and well-received by GrainChain's senior staff. To quote one senior management member:

> "The sky was the limit, it was very much promising. He made a good impression. He understood everything." – Paul

Interestingly, interviews with two GrainChain employees who had technical backgrounds in ERP systems, revealed a more cynical perspective of EnVisor' pitch:

> "EnVisor said it [AXE280] could do everything for us, you know, like machine learning and so on. He repeatedly said it was a fantastic system. So then we asked him to show us a customer who has already done this implementation of AXE280 [with them] - and he couldn't really say any. So it was like we were the first ones out there together with them it felt like" – Hugo

Similar to this concern about EnVisor lacking the necessary experience with the AXE280 system, the other GrainChain employee with ERP knowledge recalls how the salesperson showcased complex system functionalities which were not available on the standardised system, in what he believes to secure top management buy-in:

> "The people from GrainChain who were in the room were not people working with ERP systems usually. It was only me and Hugo… the rest was top management guys. So EnVisor introduced the system in a very fancy way, like reporting stuff that's not even part of the standard system but an add-on. But we didn't understand this at that point because we had never seen AXE280 before. But yeah, he was showing all the nice stuff,

> like the 'nice to have' stuff, on a very high level. Stuff that we later understood that you implement in the system after three years. It was the right button to press to get the top management onboard" – Lucas

Consequently, the technical staff in the sales meeting were worried that EnVisor was overselling a solution it didn't have adequate experience with. Concerned that senior management were unaware of this, one individual made an attempt to ask EnVisor more about the system, before promptly being told to stop asking questions by management:

> "The top management people, they just said, oh, we can't talk about the details. It's not important at this point" – Lucas

Notably, even consultants working at EnVisor were mindful of their organisation's sales approach. For instance, one consultant mentions EnVisor' salesperson had a focus upon 'seeing money', whilst another consultant explained that tailoring messaging to the client is key to ensuring competitive advantage:

> "You're put in a room and you're listening to some salesperson who says that we can do this and this and this, and they say that you're really a unique customer, and you have all of these things we need to do for you and we will make this custom built for you - whatever you want! And that is because that guy is just seeing money." – Hannah (consultant)

> "When we go out and we need to quote for our project, if you wanted to be 100% sure you wanted to spend as much time as you could on getting the perfect solution, it will be twice as expensive. And that is nothing you can tell a customer in a sales meeting if you want to be the one who is going to win the negotiation against your competitors. No top management wants to hear that this is going to take time, be challenging and expensive. They want to hear the opposite. So then you won't get any projects." – Victor (consultant)

4.6.1 Setting the project goals

Following the initial meeting, management began 'communicating' their goal for the project. Speaking with GrainChain's senior management about this revealed a high-level perspective inclusive of the entire GIC-group:

> "(...) we wanted to reach more synergies when it comes to intercompany trade which is maybe 30 or 35% for the GIC-group. Buying and selling to each other. And we wanted to decrease capital, current capital. Increasing turnover rate, reducing stock. (...) By staying in Movex we couldn't get any further." - Paul

In communicating this vision with the wider organisation, the results appears mixed. For instance, one GrainChain track-lead understood the GIC vision, but did not see it as realistic:

> "But it's quite hard to see all the GIC companies having the same solution when we have all the problems that we've had during this journey. And I understand the vision. But if it's possible, I don't know." - Rebecka

Others saw the project vision from a non-GIC perspective. When asked about the project goals, another track-lead provided a purely GrainChain-based interpretation, failing to show awareness of the wider GIC objectives:

> "To get a common system in GrainChain which everyone can understand. So the goal is to make sure it's going to be good for all our departments in the company." - Emma

Similarly, other employees in GrainChain demonstrate limited sensemaking of the project goals in general, citing a lack of communication from management regarding the project vision:

> "From the beginning, we had no goals. We didn't kind of know what the project would aim for. We didn't know the project meaning, the purpose for it or how we should do it. (...) So it was it was much up to the project members ourselves to decide these things and try to understand." - Lucas

Poor understanding of the project goals was not only observed within GrainChain, but also amongst the consultants. In particular, one consultant revealed that he only learned of the GIC vision after some time into the project:

> "I didn't receive any on-boarding. (…) today I know it's actually 66 different companies that might be pushed into this solution after GrainChain." – Dennis (consultant)

4.6.2 Setting the ambition level for the system

As previously mentioned, track-leads showed difficulty in making sense of what the project goal was and what they had to do in order to achieve this. However, our interviews reveal that, following communication from senior management, many track-leads understood this project as highly ambitious in terms of system performance in its focus to be a 'perfect' or 'world-class' system by the *Go-Live* stage:

> "The decision in GrainChain from top management was that this system should be a world class system. That it must be much better than before. So in that way, I think you need to have a system where all areas in the system works from the beginning. It felt like this was what expected from us from the top management…" - Lucas

Another GrainChain employee also absorbed top management's focus of creating a 'world-class' system as she aimed to make a solution that was 'error-friendly' where the system tolerates user errors:

> "You have to have a system where you're allowed to make errors, because we know there will be errors sooner or later. So you have to have a system that's error friendly (...) Since we don't have the full picture, we go in and we solve, we focus on every small problem, and then we sub-optimise it." – Lisa

In turn, the consultants working alongside the track-leads appear to have made sense of the ambition level in a similar way. One consultant, discussing his first interactions with his assigned track-lead, states:

> "(...) there was a huge goal to have a have a really good solution. Very high ambitions. Maybe too high at some points in time. (...) The approach of the project was like "now we need the perfect system." – Dennis (consultant)

A different consultant who managed the project from the EnVisor side also demonstrated similar sensemaking:

> "The *Go-Live* at GrainChain is like a 'big bang'. It's not only the ERP system, but also the new reporting system, the new CRM system, the new E-commerce system, the new planning system - all, everything, everything should work when GrainChain is about to *Go-Live*." – Victor (consultant)

In order to ensure that the new ERP system would deliver to its ambitions, some argue that GrainChain acted in a highly risk-averse manner by emulating characteristics of the previous ERP solution into its new system. Some of the views from GrainChain employees include:

> "The feeling I have right now is that we created the system to work exactly as our current system." - Rebecka

> "We just went to the exam without being prepared for it and hoped for the best. Just as we always have done. So it became like "I have always taken the order manually. We should do it in the same way". No one changed their way of working." – Hugo

However, as GrainChain's previous ERP system was highly customised, this led to GrainChain requesting a number of modifications within the new system, which was contrary to the best-

practice advice offered by EnVisor and Microsoft. Despite this, two GrainChain employees acknowledged this situation:

> "Like even though the new system tells you not to do X. We still want to change that system so it will work with doing X even if it says go Y. But yeah, we instead customise it to go X." – Hugo

> "If the system says go to the left. Well, then we can't go to the right. We have to go to the left but we didn't. (...) If you look on every modification we have done, it is designed to place us on the same spot as we are in today. Nothing has been done to get better, everything has been done in order to just reach exactly the way we work today." - Eva

As previously mentioned, highly customised ERP systems are deemed to be risky given modifications can cause the system to function in unintended ways. For example, one consultant says:

> "Modifications have been a challenge in this project. (...) I think we all should have the same kind of approach that we should kind of try all kinds of different ways to work around and keep to the standard way of working in AXE280 as much as possible because now it has taken so many iterations to do the modifications. I guess, both EnVisor and GrainChain, should have been more agreed on having the ambitions of not having too many modifications and go for standard instead. And not code that much." – Dennis (consultant)

Another consultant elaborates on this when he discusses on the risks of customising excessively

> "You have this rule of thumb - that if I spend 100 hours making a modification, then you will at least spend three to five times more than this of maintaining it in the system, so for such a modification, you will have to spend like 300-500 hours to maintain it the next 10 years, because you know the AXE280 has all these automatic updates all the time which can break down the functionality of modified modifications you've made, and then you need to change your

> modification in a live environment which can risk bringing your business to a halt. So it's not without either risk or cost to do modifications." – Victor (consultant)

However, one GrainChain employee felt that the consultants failed to challenge him sufficiently when he sent the consultants his requirements for the system by stating;

> "No, they didn't challenge us that much" - Lucas

Dennis concedes that more could have been done to encourage GrainChain to stick to the standardised ways of working:

> "I think the reason there is so many modifications in this project is because we should maybe have challenged GrainChain a little bit more. (...) That is a principal today at consultant companies - that we should actually try to have all the customers we have as a partner choosing to work according to the best practices in AXE280…" – Dennis (consultant)

The same consultant then becomes reflexive as he tries to determine an explanation for why EnVisor failed to challenge GrainChain enough:

> "When I look back actually….I was just told about the project on a high level - I mostly heard rumours of like well now we are making this project for GrainChain and then a few other companies, will use the same platform also. But today I know it's actually 66 different companies that might be pushed into this solution after GrainChain. And I mean that is extremely important to know! If I would have known these kinds of things I would have definitely have challenged GrainChain/Lucas a bit more [in regards to making modifications]. (...) And I don't know even if project people in GrainChain even knew this, that they were to build a template that works for all 60 companies and not just them." – Dennis (consultant)

4.7 Critical event 2 - The implementation process

4.7.1 The analysis phase

Following the initial sales meeting and the diagnostic phase, management had now set the project goals and the ambition level for the system. Now this was completed, the project moved on to the analysis phase, where the track-leads were introduced to the system. When reviewing the project plan more thoroughly in the company documents, what struck us was the estimated project timeline and resources appeared minimal in regard to such a large project (Appendix 2). When asked about this, almost all of the interviewees heavily emphasized upon the fact that the analysis phase was rushed. Both a top manager, track-leads and consultants agreed upon this:

> "I would like to turn back time and do the analysis phase - demands, our requirements specifications, much, much more detailed and thorough. And also ensuring that the consultant has understood the requirements." - Paul

> "I think I had in total, perhaps eight hours to explain all of our Supply Chain processes, issues, problems, flows etc so they could find the solutions for it." - Lucas

The consultants also believed the rate at which this was completed prevented the desired level of understanding from being achieved:

> "I believe that you see the result of not having enough time in the analysis phase. (...) we had moved into the design phase from the analysis phase with so many open issues that we didn't know how to solve or understand yet. So many unsettled things." – Victor (consultant)

> "When you do that very fast way of going through 100 processes, you never get to a deeper level of understanding the customer's business. It's just more an approach from EnVisor that you should use this rapid value stuff and go there and show the processes." – Hannah (consultant)

Moreover, the lack of resources along with the time pressure experienced by track-leads being expected to work on this project alongside their regular roles, is also something that several of the interviewees emphasised upon:

> "I was supposed to work with my current role, taking over all of Timmy's stuff [retiring employee] and be a track-lead in the project. It's kind of impossible."
> - Rebecka

A track-lead elaborates on the amount of time she was allocated to work with project when she was asked about her involvement:

> "Nothing at all it feels like. (...) 30% of my time was supposed to go to the project but this has not happened. And it's really hard to solve for me as well because we don't have any resources that can fill up for me in my department when I go into the project anyway… the management does not want to fill it up." - Emma

Accordingly, one of the consultants argues that management's underestimation of the resources required in a project of this nature is evidence that management overlooked the complexity of the organisational change:

> "When you have a project of implementing the new core of a company, like it's the ERP system - you cannot live without it as a company. And then, not taking it seriously and confining project members time to work with it to 10%-20% and then also conduct their normal daily responsibilities, that is just shitting on the project!" – Hannah (consultant)

Another consultant appeared far from impressed when emphasising upon how GrainChain's management treated the resource problem. He described what happened when GrainChain's Supply Chain track-leads left the business, so management instead hired a consultant from one of EnVisor' competitors, MLC, rather than appointing resources internally:

> "I mean, stuff like that can happen but cannot be treated as it was in this project. Certainly not like in the supply chain track. That was a complete catastrophe to be honest. Both the track-leads of the Supply Chain track, the core of the whole business, quit and were not replaced by anyone from GrainChain for a very long time. And when there was actually someone taking care of it again, someone we were to hand over the solution to - it was suddenly a guy from our competitor company MLC that had been appointed responsible for the track on GrainChain's side. This was not good. Of course, we could agree on it to go on for a couple of months - but I mean almost six months later he is still there?!" – Victor (consultant)

4.7.2 The feeling of finding bugs in the system

Once the track-leads had been introduced to the system in the analysis phase, they decided to request a number of system modifications as the standardised system fell short of expectation. Unfortunately, this led to many system bugs. Bugs can be defined as errors in the ERP system. If an individual on the client side finds a bug, they must then report it to the consultants by logging it in the Azure DevOps portal, a digital platform where the responsible consultant can then view and attempt to solve the problem. By analysing interview transcripts and existing bugs in the Azure DevOps portal, we discovered GrainChain and EnVisor felt significantly different about encountering bugs. Opinions from GrainChain employees included:

> "I get a bad feeling of course, because it's not productive or effective to find a bug." - Hugo

> "I guess you can say I think it's important to find them, but that does not mean I am happy when I find them…" - Lucas

Hence, individuals on the client side appeared to attach negative feelings to bugs given they fail to bring any value. Comparatively, the consultants have a totally different perspective, viewing bugs as positive things that should even should be celebrated:

> "That is [finding a bug] the most perfect thing in the world because that is what we need to do in this [testing] phase! So when you find a bug we need to celebrate it. Instead of crying, and closing the computer and go home... That was not what they [the track-leads] did, but my point is that finding bugs was seen as a bad thing. And in contrast - in our heads and minds of a project world it's a good thing! Because you need to find them at this phase, because if you don't find it there, you will find it in the 'live' environment which is hell…" – Hannah (consultant)

Victor, another consultant, also holds a similar view of bugs:

> "I mean you'd rather find a bug early in the project than when you *Go-Live*. Then you have a much better feeling about it, but it seems like people - when they find bugs - they just blame all the time. They blame us consultants in the Azure DevOps platform - like "you need to fix this! This is not good at all!"... So it becomes a blame-game." - Victor

Victor elaborates on the discovery of bugs as a blame game when he highlights a customer-invoicing issue caused a track-lead to accuse a consultant for deliberately not solving an issue in a way that was seen as detrimental to GrainChain where a GrainChain employee writes:

> "You have deliberately entered the wrong table, chosen the easiest solution for you and not what is right for GrainChain." - Azure DevOps Issue #3911 (Appendix 4)

Furthermore, when asked to compare how the consultants and their colleagues have treated bugs in other projects, Hannah states that they usually celebrate and reward the finding of a bug together with the client as she says that:

> "We are having this celebration button or like a beer after work. So if you found four bugs, you get four beers." - Hannah (consultant)

On the same notion, Victor draws upon a similar experience from a prior project:

> "We had these (and I kid you not) red and blue plastic balls. And whenever someone found a bug they could throw a red ball in a basket which then led down to a transparent tube so you could see how many bugs you had. And on the other side we had like a huge printout of how many bugs there were and how many that was solved. So every time anyone found a bug, it was like; yey - well done! And then they could remove one red ball and put in a blue one as these were solved. I know it sounds a little bit crazy but it generates a good attitude towards bugs! Bugs are nothing negative." – Victor (consultant)

Moreover, when Hannah is asked to elaborate on the difference in sensemaking and attachment of feelings towards bugs between the consultants and client individuals in the GrainChain-project, she argues that it was because:

> "(…) no one was told from the beginning what it [a bug] is, what a project is and what the phases means and what we do in each phase." - Hannah (consultant)

This is confirmed by a GrainChain employee who says that there was limited sense given regarding how to approach bugs:

> "In the start I was very confused and didn't really know how to deal with it [bugs]. I think there was quite a bad introduction about it. And I didn't know how to write when logging them in the Azure DevOps portal." - Eva

4.8 Critical event 3 - Making sense of the *Go-Live*

We believe the third critical event of this project to be the *Go-Live* stage. Although GrainChain is yet to reach this stage, it has received much attention provided GrainChain is preparing to *Go-Live* in the near future. As arguably the most anticipated stage of any ERP project, the *Go-Live* theme was a recurring topic among the interviewees. The *Go-Live* is when the client starts using the new system in a 'live' or real-world production environment. One of the consultants elaborates on their view of a *Go-Live*:

> "A *Go-Live* for me, it's like Christmas Eve. It's the most amazing part of the whole project. It is the day where all your hard work pays off, where no one uses the old system but only the newly deployed one." – Hannah (consultant)

Furthermore, when asked if there might be different views on how a *Go-Live* might be perceived, the same consultant becomes reflexive as she states:

> "I hope there is not. I never actually thought about there being two visions about it…"
> - Hannah (consultant)

However, employees from the GrainChain team appear to have a contrasting view:

> "I mean, there is definitely a big gap between what we feel and what they feel in regards to feeling safe with going live. And this disagreement is evident on all levels." - Paul

This statement of a 'gap' or 'disagreement' being present is further supported by various conflicting perspectives on what a *Go-Live* means. The individuals with prior experience of ERP-projects refer to the *Go-Live* as a phase which is characterised by a drop in productivity while the company adjusts to the new system. One consultant argued it is in line to the typical ERP journey (Appendix 3), stating that:

> "There will always be a [productivity] curve. That it will drop down to a lower level than the current in the beginning for some time." – Dennis (consultant)

One GrainChain employee who has significant ERP experience, agrees with this:

> "Well I know for a fact how an ERP-journey looks like. When you *Go-Live* you usually go down and are less good for like 6 weeks compared to where you were. Before you get better." - Hugo

This view is reinforced by a consultant who argues that it takes a significant amount of time after going live to enhance productivity to pre *Go-Live* levels:

> "If you go from a company-bespoke system which you have been working in for 20 years to this completely new one, there is no way in hell I can make something that is even 30%, as good as that in two years. There's no way I can do that! So it needs to go really, really, really, really low before it gets good." – Hannah (consultant)

When asked if EnVisor had explained this to GrainChain employees that lacked prior ERP-implementation experience, one consultant states that she made an attempt to, but people could not make sense of it in the way she intended:

> "No, I think that I drew it on the blackboard and I tried to explain it, but I don't think people actually got it, because no one wants to become worse than your current state. It's like when you go out and you buy a new phone, then you buy one that is better than the current one you have, I mean you do not go out and buy a Nokia 3210 when you currently have an iPhone. It's like your mind just not... it cannot comprehend that you will get something worse than that old shit you had before." – Hannah (consultant)

Contrasting the view of the consultants, the 'inexperienced' individuals from GrainChain referred to the *Go-Live* as a day, a day when you finally have a new, more efficient and productive system than before. As such, it appears these individuals did not relate to the ERP journey that was advocated by other individuals who had prior experience with ERP:

> "When you are introduced to a new system, you expect that the newer system should be much better. It can do a million more things." - Rebecka

> "That [*Go-Live*] means that the solution should be so good, that you really can do a week's work in a week." – Eva

The above quotes imply that the 'inexperienced' individuals believe that the system should be fully operational in terms of system functionality at the *Go-Live* stage. Again, this view is contrasted by one of the consultants who uses the analogy of moving into a new apartment when referring to the *Go-Live*:

> "In my perspective a *Go-Live* is like a moving to a new apartment. It's like, you put all the furniture inside the apartment. It doesn't mean that they're perfect, it doesn't mean that they're standing in the right rooms. It just means that you can function - you can sleep in the apartment while you are actually working on the stuff." – Hannah (consultant)

Hence, the people with significant ERP-implementation experience argued that when going live with a new system, rather than being 100% perfect, it is instead an ongoing process and a journey that takes time. This is supported another consultant at EnVisor, who states:

> "Right now they [GrainChain] are standing there and looking over the edge, considering to jump in and *Go-Live*. But they are a little bit afraid because they don't feel too comfortable with the system. But I think, you know, to some extent, you cannot have full confidence in the system at this point, it is still a new system, you don't know all of it. No matter how much you train and sit and work with it, you will still feel a bit uncomfortable. It's completely natural!" – Victor (consultant)

4.9 Summary of empirical material

To summarise the first critical event, the project approach commenced with the initial sales meeting. EnVisor 'pressed the right buttons' in order to get GrainChain's management to choose them as a solution partner. People with experience within ERP implementation attempted to raise their doubts but were silenced by the management who decided that AXE280 was the right system and that EnVisor was the right partner to choose. In hindsight, many individuals at GrainChain felt that EnVisor oversold the project in the initial sales meeting, something which is also recognised by the consultants themselves, having argued that it is a necessary selling technique to remain competitive. Regarding the overall goal of the project, fragmented sensemaking can be observed. GrainChain's management adopted a broader, GIC view of the project, while less senior track-leads generally showed either limited understanding of the project goals, or viewed them from a

more micro, GrainChain perspective. Moreover, there also appears to be a difference in sensemaking regarding the ambition level of the system that was expected at *Go-Live*. Several track-leads had interpreted management's communication that the system should be 'perfect' and fully functional at *Go-Live*, and thus strived to reach this goal by making a number of modifications to the system. Although the consultants recognised the high ambition levels advocated by GrainChain's management, they emphasised that productivity generally drops during the *Go-Live* stage before increasing again over time.

In the second critical event, the implementation phase, the interviews revealed that the analysis phase was rushed, meaning that consultants and clients had a reduced window of opportunity to create shared meaning, particularly regarding EnVisor' understanding of GrainChain's processes. This was exacerbated by the fact that the project also lacked resources. Following the rushed analysis phase, many system bugs surfaced during the testing phase due to the significant number of system modifications requested by GrainChain. Interestingly, we found individuals attached different feelings towards finding bugs. While the consultants demonstrated more positive emotions about discovering bugs, the client viewed bugs as non-value adding and negative. It was also revealed that there was no evidence of anyone successfully explaining to others about how a bug should be approached and no consensus of what finding a bug actually meant.

In the final critical event, our research indicates the presence of varying interpretations of what a *Go-Live* is, with people who hold ERP experience emphasising this as a phase involving a productivity dip, whilst inexperienced project members see the *Go-Live* as a day where the system goes live in its ideal state. In the following chapter, we will synergise these empirical findings with the concept of sensemaking (Weick, 1995), in order for discussion to be made about how the non-management of meaning may have contributed to this fragmented meaning and the project's poor performance overall.

CHAPTER 5: DISCUSSION

In order to form a deeper and more profound understanding of our research, the following discussion seeks to synthesise our preceding empirical findings and literature. To structure the discussion, we have distilled the '2GETHER' project into 3 critical events (Weick, 1995), ordered in a chronological fashion. A critical event can be described as an 'organisational shock' or interruption in the ongoing flow that an individual resides within (Weick, 1995). Given critical events introduce ambiguity, regardless of their perceived size, it forces people to engage in the sensemaking process by extracting cues from their environment in order to make sense of the situation they face (Weick, 1995). In order to deal with such ambiguity, 'interdependent people search for meaning, settle for plausibility, and move on' (Weick, 2005 p. 419).

5.1 Critical event 1: The initial sales meeting – 'sensegiving in the absence of sense'

Following Weick's (1995) and Mills et al's (2010) definitions of a critical event, we interpret the initial sales meeting as a critical event within the '2GETHER' change project given it initiated a sequence of complex events which would radically change GrainChain's business. Another reason why the initial sales meeting can be categorised as a critical event is because it triggered several elements of equivocality which can be understood as a series of questions; *Why does GrainChain need a new ERP system? What are the goals of implementing this new system? What does GrainChain need from such a system?* Such questions introduce a degree of complexity and ambiguity as GrainChain's management begin to plot the future direction of the business, hence being an occasion for sensemaking (Weick, 1995).

As highlighted in the interviews, the overwhelming majority of GrainChain members present in the initial sales meeting were not from technical backgrounds and subsequently did not possess the appropriate technical knowledge to fully grasp the extremely complex nature of ERP. Subsequently, management's frames in relation to ERP projects were either poorly developed or non-existent. In support of this, Weick (1995) states individuals at the top of hierarchies tend to make sense from a strategic perspective in comparison to those at the bottom of the hierarchy who make sense from a local viewpoint. Comparatively, as an expert consultant specialised in ERP

projects, the salesperson from EnVisor would have fashioned a highly developed frame accrued from years of experience and training.

The resulting asymmetry in frames between GrainChain's management and EnVisor is significant in terms of meaning creation because during the sales pitch, EnVisor was essentially working with a 'clean slate' in that they were communicating cues into undeveloped frames (visualised in Appendix 7). Arguably, not only was the EnVisor salesperson presenting cues, but they were heavily influencing senior management's frames in which these cues would be connected. Given EnVisor's status as a certified 'inner circle Microsoft partner', the cues presented to GrainChain's management, particularly that AXE280 would be a 'perfect' system at *Go-Live*, would have carried significant legitimacy and thus catalyse the development of management's new frame of ERP. In other words, GrainChain's management believed the EnVisor salesperson's narrative, indicating that EnVisor had successfully exercised their power of controlling cues in the meeting to shape meaning. A visualisation of this management of meaning is visible in Appendix 6. To elaborate upon this, Weick (1995) states that when people manifest belief in something, it makes sense. Thus, individuals extract cues that are not necessarily accurate, but plausible according their socially constructed reality. Hence, *"what is believed as a consequence of action is what makes sense. Accuracy is not the issue"* (Weick, 1995, p. 60). This is supported by one of GrainChain's management members, Paul, who stated he was highly impressed by the sales pitch, likening it to a feeling of 'the sky's the limit'. Moreover, drawing from the fact that the consultants from EnVisor showed self-awareness of overselling the project, we argue that this demonstrates their use of power by controlling cues, thus managing meaning (Appendix 6). More specifically, we believe EnVisor guided GrainChain's to extract what we call *disguised cues* (plausible cues made to appear accurate) in order to secure management buy-in.

By contrast, GrainChain's technical members present in the meeting, who held predeveloped frames of ERP projects, viewed these cues of a becoming a 'perfect' system at *Go-Live* with greater scepticism and caution. In line with Weick's (1995) theory, this was likely because they did not fully believe the narrative from the EnVisor salesperson. When challenging the consultant about their experience and asking about more complex system functionalities, GrainChain's management immediately prevented them from speaking further. Here, in discussing sensemaking in social interactions such as a meeting like this, Weick (1995, p. 6) states *"sense may be in the*

eye of the beholder, but beholders vote and the majority rules". Ironically, GrainChain's management exercising their power by preventing technical members from asking questions in their attempt to seek more accurate sense, almost reverses this statement to *"sense may be in the eye of the powerless, but the power rules".* The influence of power upon sensemaking is supported by Brown et al (2015), who find that sensemaking is not exempt from power and self-interested motivations.

Further, relating this critical event to Weick's (1995) sensemaking framework, a clear disparity between accuracy and plausibility can be observed. One of the central aspects of sensemaking theory is that it favours plausibility over accuracy when people are to make sense. Moreover, *"if accuracy does become an issue – it does so for short periods of time and with respect to specific questions"* (Weick, 1995, p. 58). Arguably, due to the extremely complex nature of ERP projects, this first meeting can be characterised as such a situation, where, according to the sensemaking theory, project members seek an accurate interpretation of the event in order to ensure the optimal solution with the greatest strategic fit is selected. However, the legitimacy of the cues coming from EnVisor combined with management's undeveloped frames, meant the pitching of AXE280 as becoming a 'perfect' system at *Go-Live* was believed and ultimately plausible to management. Interestingly, the only individuals who sought greater accuracy were the two technical GrainChain members, who were quickly told by management to stop asking 'detailed questions', as previously mentioned. This situation can be conceptualised as somewhat of a paradox with regards to the sensemaking theory. In a specific situation like this, where individuals tend to search for accuracy rather than plausibility, GrainChain's management in this case were doing the opposite. Given their poorly developed frames, they 'make do' with the sense given from EnVisor (of a 'perfect' system at *Go-Live*) as this was attractive and appealed to management. Having made sense of this as a *plausible* goal, this was then diffused to the track-leads. As this was the only sense given to GrainChain's track-leads, to compensate for the deficiency in sensegiving and management of meaning regarding how to achieve the 'perfect' system at *Go-Live*, we argue track-leads instead *sought* for accuracy to make up for this meaning-making information deficit.

Having entered the initial sales meeting with almost empty frames, management exited the meeting having made sense of AXE280 as becoming a 'perfect' system at *Go-Live*. Now with this frame of AXE280 rooted in place, management began giving sense to the wider GrainChain organisation

by communicating this as becoming a 'perfect' system at *Go-Live* and that they had high ambitions for the project. Interviews with GrainChain track leads indicate that this view was widely adopted further down the organisational hierarchy, which subsequently meant that track-leads engaged in a relentless pursuit for perfection in helping building such a 'perfect' system.

5.2 Critical event 2: The implementation process

5.2.1 The analysis phase

As the analysis phase commenced, the interviews revealed a clear disparity in the meanings that individuals from both GrainChain and EnVisor linked to management's communicated goal. Although the interpretation of the project's ambition as becoming a 'perfect' system at *Go-Live* was coherent, less so was how individuals viewed the strategic role of the project. Particularly amongst senior members of staff, individuals understood that implementing this new ERP system to be a strategic solution for the entire GIC-group, with GrainChain being the first company through the door. Comparatively, many of the less senior employees working at GrainChain, such as the track-leads, failed to recognise the GIC scope of the project, instead adopting a more localised view of the project as a 'perfect' system for GrainChain itself. Although a slightly more consistent interpretation was traced to the consultants, there was evidence of fragmentation of meaning and misunderstanding at the early stages of this phase. The fragmentation of meaning in the strategic aspect of GrainChain management's communicated goal is in line with Weick's (1995) view that managers often convey vague and ambiguous goals.

Perhaps one of the most prevalent findings from our interviews was that the analysis phase was rushed; a view supported by both GrainChain and EnVisor employees. As previously mentioned, management from both sides decided to leverage Microsoft's SureStep model, a diagnostic approach to change, to rapidly execute the '2GETHER' project. The project management's selection of a diagnostic, rather than a meaning-oriented change approach, is supported by Weick (1995) highlighting that managers often favour speed over accuracy given organisational action is significantly time pressured. From a sensemaking perspective, the analysis phase being rushed in combination with the non-management of meaning regarding what this phase entailed, meant that

all stakeholders involved in the project had a small window of time to create shared meaning about a complex project within a phase they did not understand.

This view was supported by many of the consultants, who believed that GrainChain's users were not provided significant time to 'mature' into the system and fully make sense of its standard capabilities. As they were not given the time or any other sense to understand the default system capabilities, it fell short of expectation in comparison to management's communication of it becoming a 'perfect' system at *Go-Live*. Hence, in order to reach this 'perfect' system, the track-leads started to emulate the functionality of their existing 14-year-old ERP system in the new system, which is recognised as against industry best-practice. In regards to sensemaking and in light of the non-management of meaning, one could argue that the track-leads extracted cues that made sense and were plausible at the idiosyncratic level; cues that were drawn from their existing ERP system. Hence, in attempts to make sense of reaching the 'perfect' system ambition level, GrainChain track-leads extracted cues that emphasised on their existing ways of working in the current ERP system and tried to connect them to their frame themselves, given the non-management of meaning.

To further expand on the role of sensemaking and the non-management of meaning in this project, we would like to build upon Weick's (1995) metaphor which likens the process of sensemaking to a map. Under this analogy, management's communication of the '2GETHER' project goal is metaphorical of a map. By making sense of the goal, project members know their destination. However, the maps provided by GrainChain's management only had the destination shown; that of reaching a 'perfect' system at *Go-Live*. There was no sensegiving as to how to get there. When people are presented with maps with no directions to the destination, they turn to plausible cues in order to approximate how they will get there. In other words, to deal with ambiguity, *"interdependent people search for meaning, settle for plausibility, and move on"* (Weick, 2005, p. 419).

Interestingly, this quote resonates with the sensemaking behaviours indicated by the track-leads at GrainChain. Having made sense of the system as becoming the 'perfect' system at *Go-Live*, the track-leads *sought* accurate cues to guide them to towards this goal. However, the non-

management of meaning exhibited by management meant that the track-leads did not have access to any accurate cues, so they instead settling for *plausible* cues which were rooted in the only thing that made sense to them; the working habits in the 14 year-old ERP system. As a result, the track-leads requested a significant number of modifications to emulate the old system which they understood and they thought of as a plausible working system.

The desire for modifications was likely further enforced by the 'black sheep' culture at GrainChain, where track-leads were so afraid of making mistakes that they decided to deviate from the standardised system as much as possible, which was deemed as insufficient as per their existing frames. This influence of contextual forces, such as culture, upon sensemaking is supported by Weick (1995), who argues that what cues are extracted is dependent upon prevailing contextual forces. To further complicate events, individuals were reading from different maps. Some individuals were reading from a global map, seeing the journey from an GIC perspective, whilst others were reading from a local map, seeing the journey from a GrainChain perspective.

While this metaphor builds upon how GrainChain's track leads attempted to make sense of the new system under significant time pressure by requesting modifications, it also demonstrates vacant management of meaning. Firstly, as orchestrators of this project, Weick (2000) argues that management should have a direct and continuous role in 'authoring interpretations and shaping meaning' within the project, acting as managers of meaning (Pettigrew 1985). Instead, it appears they merely set a goal which was interpreted differently by various individuals, and expected the same individuals to reach this goal without support. This is evidenced by our finding that many track-leads noted management's absence and lack of involvement in the project. In fact, there was even one member of senior management who argued that the rest of his executive team had abandoned ship, leaving him alone at the helm. Secondly, consultants were also viewed as having passive involvement in the project given their failure to challenge and give sense to GrainChain, particularly regarding the risk of integrating modifications. If GrainChain's senior management set the destination, following Weick's (2000) and Pettigrew (1985)'s call for managers to focus on the management of meaning, one could argue that EnVisor should have been acting as Sherpas, keeping GrainChain on the right track and guiding them through any obstacles encountered in their journey. However, as we know from the interviews, EnVisor admitted to failing on challenging and giving sense to GrainChain enough with regards to the hazardous modifications they were

requesting. As mentioned by one consultant, this could be linked to the speed at which the analysis phase was completed, in which EnVisor felt they did not have the time to fully understand GrainChain's businesses processes, nor for GrainChain to understand the system. Despite EnVisor knowing that GrainChain's intention to follow the 'modification route' was risky and against best-practise, they failed to manage their meaning to place them on a more appropriate route to reach their destination safely. Moreover, as a few of the consultants stated that they should have challenged GrainChain's track-leads *more* regarding the modifications, implies that they at least to some extent *tried* to manage meaning. However, given the fact that GrainChain's culture had contributed to the presence of a 'strategic black hole', GrainChain's track-leads were likely used to working in a way which was disengaged from senior management, causing them to make sense themselves. As for this culture having an influence upon sensemaking, we argue that the limited attempts of managing meaning executed by EnVisor would have possibly been in vain provided the track-leads may have struggled to accommodate such a way of working.

5.2.2 Bugs in the implementation process

As expected, the large number of system modifications requested by GrainChain introduced a number of bugs in the new system, causing it to lose its functionality. The integration of modifications in the system can be argued to take place in an organised sequence (Weick, 1995) which involves the client requesting a modification, the consultant approving and then building it, before ending with the client testing the modification. The bugs surfacing during this stage represented an interruption to this organised sequence inherent in the ongoing flow of which project members and consultants reside within (Weick, 1995). According to Weick (1995), such interruptions generate emotions which have the capacity to influence sensemaking.

Interestingly, our research uncovered that individuals felt varying emotions when discovering bugs in the system. From the interviews, GrainChain members were consistent in describing negative emotions when findings bugs, viewing them as an *unexpected interruptions* to the organised sequence. In contrast, all of the consultants highlighted positive emotion towards finding these bugs in viewing them as an *expected interruption* of any ERP project and a cause for celebration given the opportunity they present in improving the system.

But why is GrainChain track-lead's sensemaking about bugs so different to EnVisor's? We argue one possible explanation is that individuals within GrainChain saw the discovery of bugs as an unexpected interruption for two reasons. Firstly, following GrainChain management's communication envisioning the system of reaching a 'perfect' standard, track-leads did not expect a system of such calibre to have any bugs. Secondly, as previously mentioned, there was limited evidence of sensegiving from GrainChain's management and EnVisor about how to understand and approach bugs. Hence, the bugs provided a warning that there was some stimulus to which attention must be paid to initiate appropriate action (Weick, 1995). Perhaps, as no track-lead wanted to appear as a 'black sheep' whose processes within their track were undermined by bugs, negative emotion was connected with bugs given their possibility to threaten track-lead's wellbeing. Additionally, this further evidences the influence of contextual forces, such as culture, upon how individuals make sense (Weick, 1995).

In addition to bugs creating negative emotion amongst GrainChain's track-leads, we also argue that the numerous requests for system modifications placed the project members in a situation of 'thrownness' (Winograd and Flores, 1986). For each system modification, additional sensemaking was required to understand the new system environment. Given that numerous system modifications were occurring simultaneously across many departments, combined with the time pressure of the analysis phase, project members likely felt overloaded with cues. This situation of 'thrownness', characterised by equivocality, hindered the extraction of accurate cues. We argue that had EnVisor been more concerned with the management of meaning, GrainChain's track-leads would have forfeited their pursuit of creating the 'perfect' system for *Go-Live*, instead settling for the standardised system with continuous improvement. In following the 'standardised route' by using a reduced number of modifications (and therefore reduced ambiguity), we argue the desired collective action would have better conditions to occur (Weick, 1995).

5.3 Critical event 3: the *Go-Live*

As previously mentioned, the *Go-Live* is one of the most anticipated stages of any ERP project. We also interpret this stage as a critical event given its capacity to transform, or in the worst case significantly disrupt, the existing business. Our findings revealed significant fragmented meaning regarding the interpretation of what a *Go-Live* was, namely what this was and what such an event

entailed. We will now explore how the inadequate management of meaning ingrained within this project caused such a situation.

The majority of GrainChain, who were inexperienced with regards to ERP projects, saw the *Go-Live* as a *day* in which the system would be flawless and operational, with productivity gains being realised instantly. By contrast, a different view was held by the consultants and by GrainChain's employees who had technical experience. Instead, these individuals viewed the *Go-Live* as a *phase*, rather than a day, and where productivity is actually likely to suffer medium-term losses before improvements could be experienced.

In relation to sensemaking theory (Weick, 1995), we argue that a disparity in these individual's frames, combined with limited management of meaning, contributed to this meaning becoming fragmented. Firstly, our prior discussion about the initial sales meeting highlighted how GrainChain management's poorly developed frames led them to believe the EnVisor salesperson's pitch of achieving this 'perfect' system at *Go-Live* was completely plausible. They failed to seek greater accuracy in a specific time in which it was highly relevant (Weick, 1995), and even marginalised technical staff who did attempt to search for greater accuracy. Subsequently, GrainChain's management diffused this meaning of working towards having a 'perfect' system at *Go-Live* to the wider organisation, but failed to manage this meaning in terms of communicating how this would be achieved. In turn, this resulted in many of GrainChain's track-leads and non-technical employees, who also had undeveloped frames regarding ERP experience, viewing the *Go-Live* in this naive way. The damaging effect of management's failure to provide enough meaning to GrainChain's employees is supported by Weick (1995), who argues that in frames which have limited contextual information, cues are likely to have equivocal meaning.

6.4 Summary of the discussion

To summarise this discussion, we found that meaning was non-managed and fragmented throughout the '2GETHER' project which we firmly believe contributed towards the project's poor performance. Beginning with the initial sales meeting, we found GrainChain management's poorly developed frames about ERP technology influenced how they settled with plausible cues

in a time where Weick (1995) argues people should be searching for accuracy. We also argue that in order to secure management buy-in, EnVisor steered GrainChain towards extracting *disguised cues* by making plausible cues appear accurate, namely by promising AXE280 would be a 'perfect' system at *Go-Live* for GrainChain. Interestingly, the consultants at EnVisor were self-aware of this tactic. Having extracted and made sense of these disguised cues and connected them to their frames, GrainChain's management disseminated this meaning to the wider organisation but failed to manage this meaning in the form of explaining *how* this 'perfect' system would be achieved. In other words, GrainChain's management failed to exercise their power to control and guide which cues that would serve as a point of reference for the track-leads, thus failing to manage meaning. With regard to the hierarchical culture and the 'strategic black hole' between the management and the employees, it seems that the culture may have contributed to the fact that the managers did not involve themselves in the management of meaning.

The non-management of meaning exhibited by GrainChain's management resulted in track-leads being largely alone in making sense of the '2GETHER' project. This was especially noticeable regarding the disparities in how the goal of the project was perceived as either GrainChain or GIC-based. Moreover, in order to reach management's vision of the 'perfect' system at *Go-Live*, GrainChain's track-leads requested a significant number of system modifications to ensure the new system had at least equal functionality to the existing system in which all of the track-leads were familiar with and could make sense of. This request for modifications was also exacerbated by the fact the analysis phase of the project was rushed, which inhibited GrainChain's track-leads from making sense of the new system, resulting in the view that it was inadequate in its standardised form. Equally, GrainChain's 'black sheep' culture likely influenced track-leads to request modifications in the fear that the new system's seemingly inadequate standard functionalities would land them in hot water. Akin to GrainChain's management at the beginning of the project, EnVisor also failed to exercise their power to control and guide which cues that would serve as a point of reference and thus also the management of meaning as they failed to challenge GrainChain track-leads enough regarding all the requested modifications.

As a result of GrainChain's relentless pursuit of modifications, numerous bugs were encountered in the new system. Interestingly, fragmented meaning was observed in regards to the feeling individuals felt when findings bugs, which we argue was symptomatic of two causes. Firstly, we

found positive emotion was exhibited when one *expects* the bugs to occur, whilst negative emotion was associated with bugs being *unexpected*. Secondly, project management's failure to manage meaning meant that GrainChain's track-leads did not understand what bugs were or how to manage them. As such, the bugs were unexpected, particularly considering their previously extracted cues of the system being 'perfect' for *Go-Live*. We also believe that this contributed to the 'blame game' highlighted by many GrainChain and EnVisor employees which likely undermined the working relationship between the two companies and as a result, had a negative impact upon the project's performance.

This leads us to the *Go-Live* stage of the project which was also characterised by fragmented meaning. Here, individuals with undeveloped frames of ERP technology saw the *Go-Live* as day in which the system has full functionality, whilst those with developed frames viewed the *Go-Live* as a phase involving medium-term drops in productivity. Reflecting on this fragmented meaning, we believe the fact that much of GrainChain's staff having undeveloped frames of ERP combined with expectations of the system as 'perfect' having contributed to this optimistic outlook of the *Go-Live*. Equally, we observed limited management of meaning from EnVisor about helping GrainChain's staff make sense of what such a phase entails. Again, we believe the poor relationship between GrainChain and EnVisor catalysed the non-management of meaning evident in this project stage. The preceding discussion chapter sought to analyse the fragmented meaning observed within each critical event of the '2GETHER' project using Weick's (1995) sensemaking framework. In the following section we will distil this discussion into final concluding remarks.

CHAPTER 6: CONCLUDING REMARKS

This study sought to increase the understanding of how the non-management of meaning can impact organisational change performance. To achieve this, we conducted a case study of an organisational change project in a Swedish company involving the introduction of a new ERP technology. Primarily using an interview technique, the resulting empirical material that was generated was analysed using Weick's (1995) concept of sensemaking. The following chapter summarises the conclusions drawn from our research, namely that the fragmented meaning observed in the '2GETHER' project sourced from the non-management of meaning, had a large detrimental effect on organisational change performance. To help conclude this study, we would like to return to our initial research question of *'how can non-management of meaning influence the performance of organisational change initiatives?'*. By summarising our findings from each critical event, we will provide a possible explanation as to how the non-management of meaning contributed to the poor performance of GrainChain's '2GETHER' project.

We interpreted the *first* critical event in the '2GETHER' project to be the initial sales meeting between GrainChain and EnVisor. In this stage we found that GrainChain management's poorly developed frames influenced how they settled with plausible cues, such as EnVisor's assertion that AXE280 would be a 'perfect' system at *Go-Live*. This contradicts Weick's (1995) argument that individuals search for accurate cues in times of facing specific questions, such as in the initial stages of planning a complex technological project, at least when it comes to managers. Following GrainChain management's belief that the cues provided from EnVisor were accurate, management disseminated this meaning of the 'perfect' system at *Go-Live* to the wider GrainChain organisation. However, we found limited evidence that this meaning was managed as no further sense was given to GrainChain's track-leads. GrainChain's track-leads, to compensate for the deficiency in sensegiving and management of meaning, thus *sought* for accuracy for the majority of the remaining project. Also reinforcing this search for accurate cues was the 'black sheep' culture at GrainChain. This, combined with the non-management of meaning, led the track-leads to extract accurate cues (such as 'perfect' system) and connect it to their poorly developed frames. As a result, the track-leads requested system modifications that built upon what they already knew and felt safe with, namely the old outdated working processes in the old ERP system.

Moreover, we previously mentioned the power to direct cues that will serve as points of reference for people in ambiguous situations is regarded as an important source of power (Weick, 1995). Given our finding that EnVisor were aware themselves of overselling the project, we argue that this was a reflection of EnVisor exercising their power to control cues in this critical event. By guiding GrainChain's management to extract what we call '*disguised cues*' (plausible cues made to appear accurate), we believe EnVisor were able to guide GrainChain's management to extract the desired cues to secure management buy-in. Equally, GrainChain's management also possessed the same power in directing the track-leads to the desired cues. However, the evident non-management of meaning meant GrainChain's management simply disseminated these '*disguised cues'* without assisting track-leads in cementing these cues in their frames.

The *second* critical event in the '2GETHER' project involved the implementation phase. Beginning with GrainChain's management communicating the project goal, we found non-management of meaning with this goal given there were limited attempts to manage GrainChain's track-leads meaning associated with it. With the help of Weick's (1995) map metaphor, we highlight how various project members were reading from different maps and were subsequently aiming for disparate destinations. Given the non-management of meaning meant that GrainChain's track-leads were embarking this journey alone, they leveraged their frames of working with the 14 year-old ERP system, in combination with the cue provided by GrainChain's management of the 'perfect' system, in order to head towards their perceived destination. In emulating the functionality of the old ERP system, track-leads requested a number of system modifications which resulted in a large number of bugs. In essence, non-management of meaning contributed to the track-leads mirroring a 14 year-old solution into a brand new system that now contained numerous bugs as result.

Moreover, we argue that bugs can be thought of as interruptions in an organised sequence (Weick, 1995). Interestingly, we found the that the interruption itself can sometimes be expected rather than unexpected. For example, the consultants viewed the bugs as an inherent and expected part of the implementation process while the track-leads did not. Given the consultants associated positive emotions with finding bugs, we found that an expected interruption in an organised sequence can induce positive emotions. However, the poor relationship between GrainChain and EnVisor made it difficult for EnVisor to manage GrainChain's meaning in educating them that

bugs are in fact expected and finding them should be seen as something positive in the implementation phase. Had they achieved this, GrainChain's track-leads would likely have had a more positive outlook on the project, resulting in a closer relationship with EnVisor and a better-performing project overall.

Our findings also uncovered a significant degree of fragmented meaning regarding perceptions of the *third* and final critical event; the *Go-Live* stage. GrainChain made sense of this stage as a day in which the 'perfect' system was achieved, whereas EnVisor saw the *Go-Live* stage as a phase characterised by the medium-term loss of productivity. Through the use of sensemaking theory as an analytical lens, we argue this fragmentation of meaning is symptomatic of the non-management of meaning at three levels. Firstly, the aforementioned poorly developed frames and non-management of meaning by GrainChain's management likely resulted in them naively giving sense to GrainChain's track-leads that achieving the 'perfect' system at *Go-Live* was possible. Secondly, we argue the poor relationship between GrainChain and EnVisor likely had an influence upon the non-management of meaning evident throughout this project. Believing that the lack of trust between GrainChain and EnVisor was sourced from the 'blame game' resulting from differences in approaching bugs, we argue EnVisor faced significant difficultly in attempt to shape GrainChain's meaning such as challenging them client about their excessive request for modifications. Thirdly, the creation of the 'strategic black hole' as a result of GrainChain's fragmented culture, could have meant that EnVisor's attempts to manage meaning may have been in vain provided GrainChain's track-leads would have been used to making sense themselves without the help of managers.

To summarise, our findings are in line with Weick's (1995) claim that when people are faced with ambiguous situations, such as those introduced as a result of organisational change, they try to make sense of what is going on in order to formulate their actions. As these situations are often equivocal, lending themselves to be interpreted in various ways, individuals select one of many different possible interpretations that seem 'plausible' (Weick, 1995). However, the chosen interpretation and its evoked action might not be in line with what was intended from a managerial point of view, hence demonstrating the importance of the management of meaning. As this study shows, in situations where the management of meaning is absent, such action can have a large detrimental effect upon organisational change performance, especially in the realm of technology.

If managers want their employees to evoke collective action that is in line with the intended goal, they must first and foremost be present and more specifically guide their employees to extract the desired cues and interpretations through *management of meaning*, for example by telling stories, using metaphors or narratives (Dunford and Jones, 2000; Fairclough, 1992; Huzzard et al, 2014). Hence, managers and scholars alike must abandon the premise that change is something that is controllable and leads to intended outcomes, and instead try to shape the way people make sense of and interpret ambiguous situations to result in improved organisational change performance.

6.1 Suggestions for future research

Following our use of Weick's (1995) sensemaking theory as a method for analysis, we discovered the difficulties experienced in our study of a technological change project can be largely traced back to the non-management of meaning. We found a failure to manage meaning within technological refresh projects leads employees to make sense of such complexity themselves, which carries the risk of them manipulating the new system in order to work exactly as the same as the old system. In essence, individuals attempt to connect the abstract (the new system) with the concrete (the old system) (Weick, 1995). As such, the management of meaning is imperative to ensure organisational change performance is maximised in parallel with the benefits of new technologies are maximised. Equally, our findings also suggest that such an approach would create the preconditions necessary for organisational change projects to be better managed.

Interestingly, our study surfaced undeveloped areas of sensemaking that appear overlooked in the literature. In particular, we recommend prospective readers of sensemaking theory to seek greater insight into manager's extraction of disguised cues in the sensemaking process and how this influences organisational-wide sensemaking, possibly relating this to functional stupidity approaches (Alvesson and Spicer, 2016). Defined as the inability or unwillingness to use cognitive and reflective capacities, we believe this was evident in our case study, particularly by EnVisor in presenting false promises in the form of *disguised cues*, and also with GrainChain management's inability to question any of these cues (Alvesson and Spicer, 2016). Equally, we believe the sensemaking field could benefit from further research towards how expected interruptions in organised sequences can influence organisational change projects. Finally, a more straightforward research direction would be to invert our research question by asking: *how can the presence of management of meaning effect organisational change projects?*

7. References

Ainsworth, S., and Hardy, C. (2012). Subjects of inquiry: Statistics, stories, and the production of knowledge. *Organisation Studies*, 33, pp.1693–1714.

Akkermans, H.A., Bogerd, P., Yucesan, E. and Wassenhove, L.N. (2003), "The impact of ERP on SCM: exploratory findings from a European Delphi study", *European Journal of Operational Research*, 142(2), pp.284-301

Ali, M. and Miller, L. (2017). ERP system implementation in large enterprises – a systematic literature review. *Journal of Enterprise Information Management*, 30(4), pp.666-692.

Allard-Poesi, F. (2005) 'The Paradox of Sensemaking in Organisational Analysis', *Organisation*, 12(2), pp.169–196

Alvesson, M. (2004). *Knowledge Work and Knowledge-Intensive Firms*. Oxford University Press.

Alvesson, M. and Sveningsson, S. (2015). *Changing organisational culture*. 2nd ed. London: Routledge.

Alvesson, M., and Spicer, A. (2016). *The stupidity paradox: The power and pitfalls of functional stupidity at work*. Profile Books.

Balogun, J. (2006). Managing change: Steering a course between intended strategies and unanticipated outcomes. *Long Range Planning*, 39(1), pp.29–49.

Balogun, J. and Johnson, G. (2005). From Intended Strategies to Unintended Outcomes: The Impact of Change Recipient Sensemaking. *Organisation Studies*, 26(11), pp.1573-1601.

Baxter, G., & Sommerville, I. (2011). Socio-technical systems: From design methods to systems engineering. *Interacting with computers*, 23(1), pp.4-17.

Becker, Howard. (1998). *Tricks of the trade: How to think about your research while you're doing it*. Chicago & London: The University of Chicago Press.

Behesti, H. (2006). *What managers should know about ERP/ ERP II*, Management Research News, 29(4), pp.185-193.

Boersma, K. and Kingma, S. (2005). Developing a cultural perspective on ERP. *Business Process Management Journal*, 11(2), pp.123-136.

Brown, A., Colville, I. and Pye, A. (2015). Making Sense of Sensemaking in Organisation Studies. *Organisation Studies*, 36(2), pp.265-277.

Bryman, A. and Bell, E. (2015). *Business research methods*. 4th ed. Oxford: Oxford University Press.

Bushe, G. R., and Marshak, R. J. (2009). Revisioning organisation development: Diagnostic and dialogic premises and patterns of practice. *The Journal of Applied Behavioral Science*, 45(3), pp.348-368.

Chang, M.-K., W. Cheung, C.-H. Cheng, and J. H. Y. Yeung. 2008. Understanding ERP System Adoption from the User's Perspective. *International Journal of Production Economics*, 113(2), pp.928–942

Czarniawska, B. (1997). *Narrating the organisation: dramas of institutional identity*. London: University of Chicago Press.

Dane, E. (2013). Things seen and unseen: Investigating experience-based qualities of attention in a dynamic work setting. *Organisation Studies*, 34, pp.45–78.

Davenport, T.H. (1998). Putting the enterprise into the enterprise systems, *Harvard Business Review*, 76(4), pp.121-131.

Dawson, P. (2002). *Behind Closed Doors: Multiple Histories and Competing Narratives in the Political Process of Technological Change*: EGOS, Barcelona.

Dunford, R. and Jones, D. (2000). Narrative in Strategic Change, *Human Relations*, 53(9), pp.1207-1226.

Dwyer, S. C., and Buckle, J. L. (2009). The space between: On being an insider-outsider in qualitative research. *International journal of qualitative methods*, 8(1), pp.54-63.

Erikson, K. (1967). A Comment on Disguised Observation in Sociology. *Social Problems*, 14(4), pp.366-373.

Fairclough, N. (1992). *Discourse and social change*. London: Polity Press, 1992.

Farquhar, J. D. (2012). *Case study research for business*. Sage.

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

Glenn A. Bowen. (2009). Document Analysis as a Qualitative Research Method. *Qualitative Research Journal*, 9(2), pp.27-40.

Goffman, E. (1974). *Frame analysis: An essay on the organisation of experience*. Cambridge, MA, US: Harvard University Press.

Graetz, F., and Smith, A. C. T. (2010). Managing organisational change: A philosophies of change approach. *Journal of Change Management*, 10(2), pp.135–54

Greene, J., Caracelli, V. and Graham, W. (1989). Toward a Conceptual Framework for Mixed-Method Evaluation Designs. *Educational Evaluation and Policy Analysis*, 11(3), pp.255-274.

Griffith, T. L. (1999). Technology features as triggers for sensemaking. *Academy of Management review*, 24(3), pp.472-488.

Gubrium, J.F. and Holstein, J.A. (1997). *The New Language of Qualitative Method*. New York & Oxford: Oxford University Press.

Harris, S. (1994). Organisational Culture and Individual Sensemaking: A Schema-Based Perspective. *Organisation Science*, 5(3), pp.309-321.

Helms Mills, J. (2003). *Making sense of organisational change*. New York, USA: Routledge.

Helms Mills, J., Thurlow, A. and Mills, A. J. (2010). Making sense of sensemaking: the critical sensemaking approach. *Qualitative Research In Organisations and Management*, 5(2), pp.182-195.

Helms Mills, J., Thurlow, A., and Mills, A. J. (2010). Making sense of sensemaking: the critical sensemaking approach. *Qualitative Research in Organisations and Management: An International Journal*, 5(2), pp.182-195.

Helo, P., Anussornnitisarn, P., and Phusavat, K. (2008). Expectation and reality in ERP implementation: consultant and solution provider perspective. *Industrial Management & Data Systems*, 108(8), pp.1045-1059.

Huang, S., Chang, I., Li, S. and Lin, M. (2004). Assessing risk in ERP projects: identify and prioritize the factors. *Industrial Management & Data Systems*, 104(8), pp.681-688.

Huzzard, T., Hellström, A., and Lifvergren, S. (2014). System-wide change in cancer care: Exploring sensemaking, sensegiving, and consent. *Research in Organisational Change and Development*, 22, pp.191-218.

Jonassen, D. H. and Land S. M. (2000). *Theoretical foundations of learning environments*. Mahwah, N.J: L. Erlbaum Associates.

Kotter, J. P. (2012). *Leading change*. 2nd ed. Boston: Harvard University Press.

Lockett, A., Currie, G., Finn, R., Martin, G., and Waring, J. (2014). The influence of social position on sense-making about organisational change. *Academy of Management Journal*, 57(4), pp.1102-29.

Maitlis, S., and Christianson, M. (2014). Sensemaking in organisations: Taking stock and moving forward. *Academy of Management Annals*, 8, pp.57–125

Maykut, P., and Morehouse, R. (1994). *Beginning qualitative researchers: A philosophical and practical guide*. Washington, DC: Falmer.

McNish, M. (2001). Guidelines for managing change: A study of their effects on the implementation of new information technology projects in organisations. *Journal of Change Management*, 2(3), pp.201-211.

Mesgari, M., and Okoli, C. (2018). Critical review of organisation-technology sensemaking: towards technology materiality, discovery, and action. *European Journal of Information Systems*, 28(2), pp.205-232.

Kramer, M. (2017). in *The International Encyclopedia of Organisational Communication*. Scott, C., and Lewis, L. (2017). Turner John Wiley & Sons.

Namvar, M., Cybulski, J., Phang, C., Ee, Y. and Tan, K. (2018). *Simplifying Sensemaking: Concept, Process, Strengths, Shortcomings, and Ways Forward for Information Systems in Contemporary Business Environments*, 22, pp.1-10.

Nandhakumar, J., Rossi, M. and Talvinen, J. (2005). The dynamics of contextual forces of ERP implementation. *The Journal of Strategic Information Systems*, 14(2), pp.221-242.

Noble, H., and Smith, J. (2015). Issues of validity and reliability in qualitative research. *Evidence-based nursing*, 18(2), pp.34-35.

Orlikowski, W. J. (2000). Using Technology and Constituting Structures: A Practice Lens for Studying Technology in Organisations, *Organisation Science,* 11(4), pp.404-428.

Orlikowski, W. J., and Gash, D. C. (1994) Technological Frames: Making Sense of IT in Organisations, *ACM Transactions on Information Systems*, 12(2), pp.174-207.

Palmer, I., Dunford, R. and Buchanan, D. (2017). *Managing organisational change*. 3rd ed. S.L: Mcgraw-Hill

Pettigrew, A. M. (1985). *The awakening giant: Continuity and change in ICI*. Oxford: Basil Blackwell.

Prahalad, C.K. and Krishnan, M.S. (2008). *The New Age of Innovation, Driving Co-Creating Value through Global Networks*. McGraw Hill, New York, NY.

Prasad, P. (2018). *Crafting qualitative research working in the post-positivist traditions*. 2nd ed. M.E. Sharpe.

Rennstam, J. and Wästerfors, D. (2018). *Analyze! - Crafting Your Data in Qualitative Research*. Studentlitteratur AB.

Rose, J. and Kræmmergaard, P. (2002). Dominant Technological Discourses in Action: Paradigmatic Shifts in Sense Making in the Implementation of an ERP System. *IFIP Advances in Information and Communication Technology*, pp.437-462.

Sandberg, J. and Tsoukas, H. (2014). Making sense of the sensemaking perspective: Its constituents, limitations, and opportunities for further development. *Journal of Organisational Behaviour*, 36(S1), pp.S6-S32.

Saunders, M., Lewis, P. and Thornhill, A. (2016). *Research Methods for Business Students*. 7th ed. Harlow: Pearson.

Schwandt, T. (1994). *Constructivist, Interpretivist Approaches to Human Inquiry*, in N. K. Denzin and Y. S. Lincoln. (2017*). Handbook of Qualitative Research*. pp.118-137. London: Sage.

Sherry, R. Harrison, D. and David, A. (2000). Considering Social Sub Systems Costs and Benefits in Information Technology Investment Decisions: A View from the Field on Anticipated Payoffs, *Journal of Management Information Systems*, 16(4): pp.11–40.

Smircich, L., and Morgan, G. (1982). Leadership: The Management of Meaning. *The Journal of Applied Behavioural Science*, 18(3), pp.257–273.

Stake, R. E. (1995). *The art of case study research*. Sage.

Stein, M. (2004). The critical period of disasters: Insights from sense-making and psychoanalytic theory. *Human Relations*, 57(10),1243–1261.

Stemberger, I.M. and Kovacic, A. (2008), *The role of business process modelling in ERP implementation projects*, Proceeding of the 10th International Conference on Computer Modelling and Simulation, Cambridge.

Sveningsson, S., and Sörgärde, N. (2013). *Organisational change management*. In L. Strannegård, and A. Styhre (Eds.), *Management: an advanced introduction* (pp. 57-74). Studentlitteratur AB.

Teegavarapu, S., Summers, J. D., and Mocko, G. M. (2008, January). Case study method for design research: A justification. *ASME 2008 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference*, pp. 495-503. American Society of Mechanical Engineers.

Wanda J. Orlikowski and Susan V. Scott (2008) 10 Sociomateriality: Challenging the Separation of Technology, Work and Organisation. *The Academy of Management Annals*, 2(1), pp. 433-474.

Weick, K. (1989). Theory Construction as Disciplined Imagination. *The Academy of Management Review*, 14(4), pp.516-531.

Weick, K. (1995). *Sensemaking in organisations*. Thousand Oaks, Calif: Sage.

Weick, K. E. (1988). Enacted Sensemaking in Crisis Situations. *Journal of Management Studies*, 25(4), 305–317.

Weick, K. E. (1990). Technology as equivoque: Sensemaking in new technologies. In P. S. Goodman and L. S. Sproull. (Eds) *The Jossey-Bass management series. Technology and organisations*. pp.1-44, San Francisco, CA, US: Jossey-Bass.

Weick, K. E. (1993). The collapse of sensemaking in organisations: The Man Gulch disaster. *Administrative Science Quarterly*, 38(4), pp.628–652.

Weick, K. E. (2000). Emergent change as a universal in organisations. In M, Beer. and N, Nohria. *Cracking the code of change*. pp.223–41. Boston: Harvard Business School Press.

Weick, K. E., and Quinn, R. E. (1999). Organisational change and development. *Annual review of psychology*, 50(1), pp.361-386.

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

Wheeldon, J., and Ahlberg, M. K. (2011). *Visualizing social science research: Maps, methods, & meaning*. Sage.

Willis, T.H. and Willis-Brown, A.H. (2002), Extending the value of ERP. *Industrial Management & Data Systems*, 102(1), pp.35-38.

Wilson, J. (2014). *Essentials of Business Research*. 2nd ed. Los Angeles: Sage.

Winograd, T., and Flores, F. F. (1986). *Understanding computers and cognition: A new foundation for design*. Intellect Books.

Worley, C. G., and Lawler, E. E. (2006). Designing organisations that are built-to-change. *Sloan Management Review*, 48(1): pp.19–23.

Yin, R. K. (2003). *Case study research, design and methods*. Newbury Park, USA: Sage Publications, Inc.

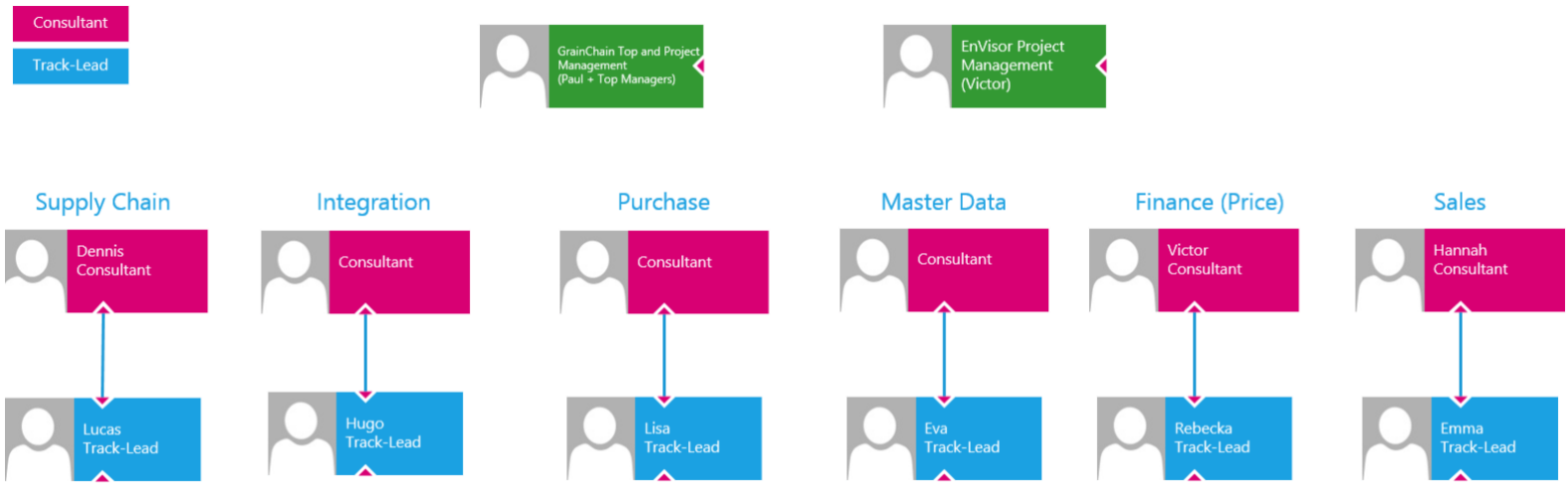
Yin, R. K. (2013). Validity and generalization in future case study evaluations. *Evaluation*, 19(3), pp.321–332.

Zhang, Z., M. Lee, P. Huang, L. Zhang, and X. Huang. 2005. A Framework of ERP Systems Implementation Success in China: An Empirical Study. *International Journal of Production Economics*, 98(1), pp.56–80.

Zilber, T. B. (2007). Stories and the discursive dynamics of institutional entrepreneurship: The case of Israeli high-tech after the bubble. *Organisation Studies*, 28(07), pp.1035–1054.

8. Appendices

8.1 Appendix 1 – The project-role chart



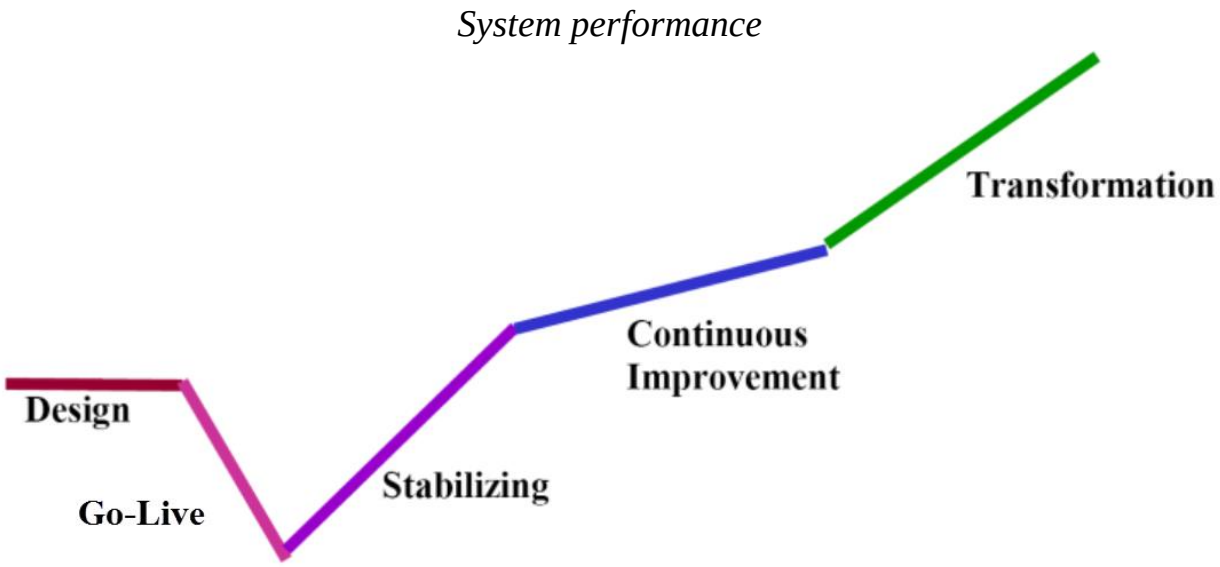
8.2 Appendix 2 – The project plan

Projektplan

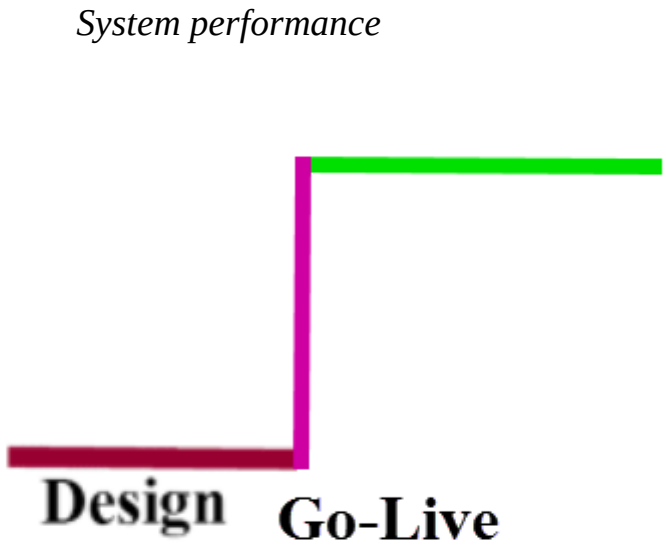
Phase	Key activities	Key deliverables	Time			Jastbolaget effort
Diagnostic	• Define project succes criterias • Verify high level business processes & requirements • Verify scope definition & overall solution design • Verify project estimation • Project planning	• Project Charter	December 2016 (January 2017)	1 Full Time Employee	2 FTE	½ FTE Please note duration of implementation is only 3 months
Analysis	• Detailed business processes & requirement analysis • Data migration analysis • Integration analysis • Proof of Concept • Key user training • Environment installation	• Business processes functional, requirements & gap/fit documented in Rapid Value • Draft data migration design document • Draft integration design document • Environments	January-April 2017	6 FTE	8 FTE	3 FTE / 2 weeks
Design	• Functional solution design • Data migration design • Integration design • Configuration specification	• Functional solution design document • Data migration design document • Integration design document • Configuration document	May-June 2017	4,5 FTE	8 FTE	
Development	• Development and unit test (incl. Integrations) • Configuration • Initial data migration	• Solution documentation	July-Sept. 2017	6 FTE	2 FTE	0,5 FTE / 1 month
Deployment	• End user training • User testing and acceptance test • Final migration	• Solution ready for go live	Oct.-Nov. 2017 Dec. Buffer	8,5 FTE	17 FTE	8 FTE / 1 month
Operation	• Go live support	• Solution live	January 2017	6 FTE		

8.3 Appendix 3 – The ERP-journey(s)

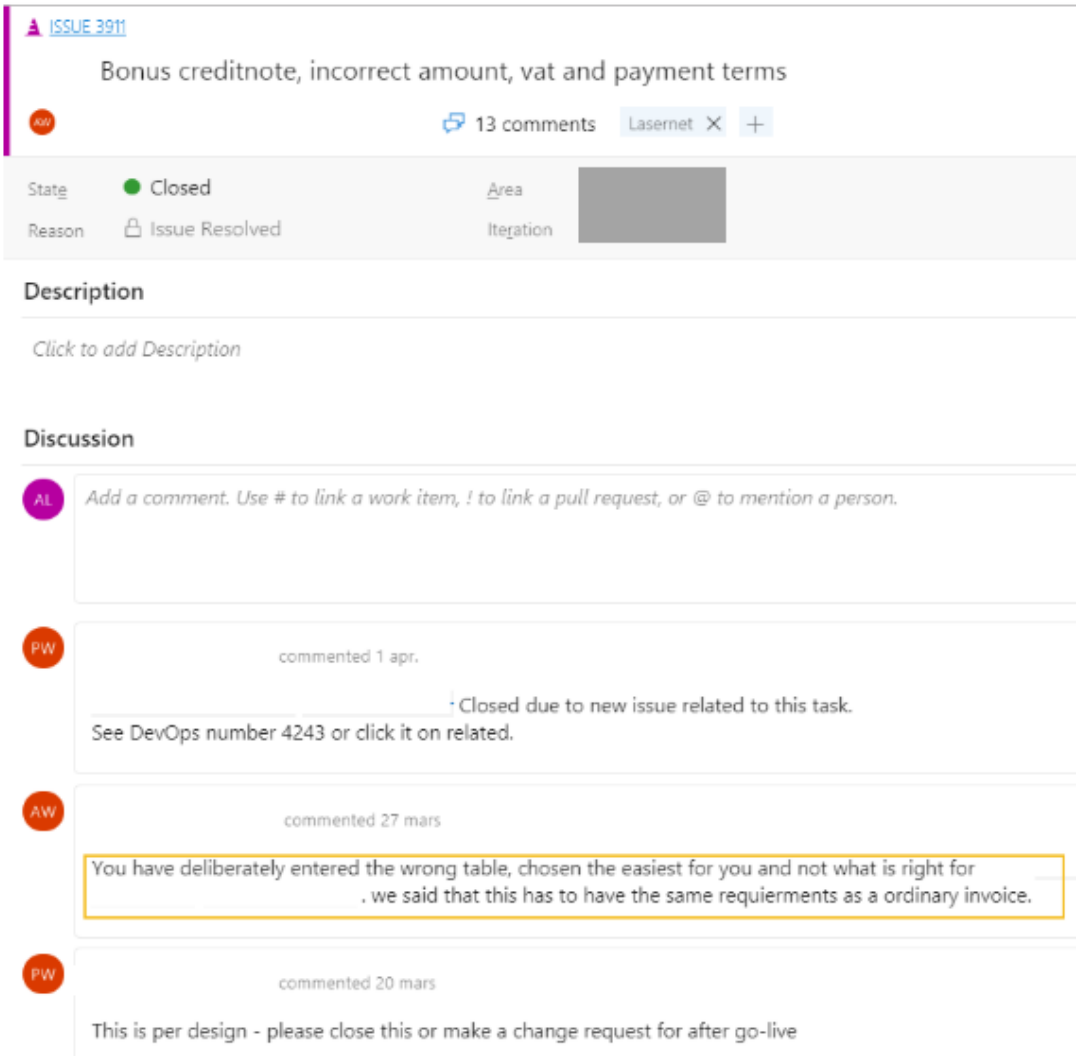
The individuals with high ERP-experience interpreted the Go-Live as a phase in which you at the day you start using the new system begin a phase of continous improvement and where there is a productivity drop for quite some time after the day the system gets implemented



The individuals with no/low ERP-experience interpreted the Go-Live as a day where the company should have a 'perfect system' in place



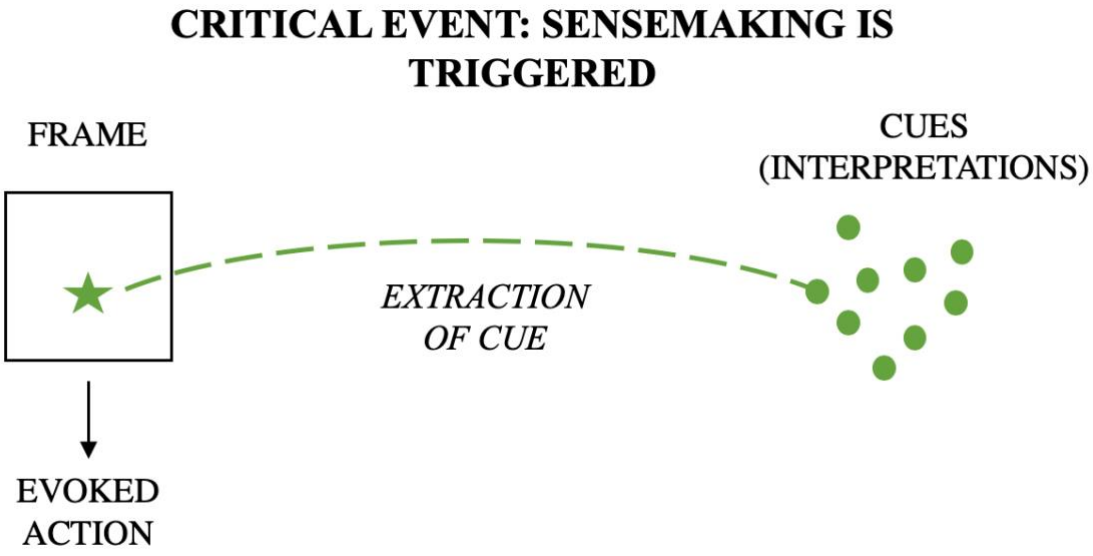
8.4 Appendix 4 – Azure DevOps issue #3911



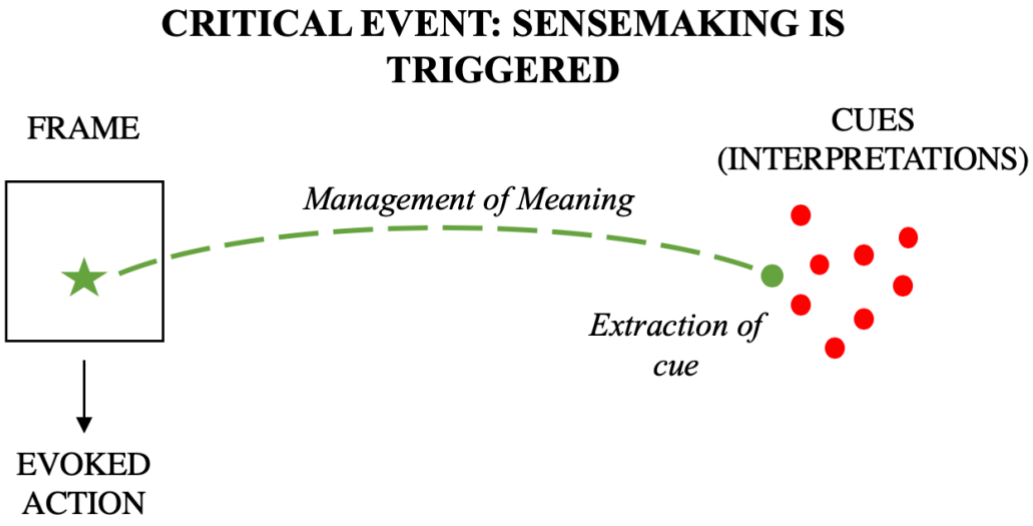
8.5 Appendix 5 – Glossary of Key Terms

Term	Definition
Azure DevOps	Digital communication platform where track-leads log bugs they detect in modifications or elsewhere in the solution. The consultants then validate it, comment on it and act upon it if necessary
Bug	System-errors found in modifications made by consultants
Cue	One of many possible interpretations when trying to make sense
ERP-system	Enterprise Resource Planning-system. A business management software which includes different integrated applications (warehouse, sales, finance etc.). Almost every medium-large sized company have an ERP-system in order to have an integrated business. Activities done in reality, such as the packing of goods, pricing, invoicing, sales-order entering, purchase-order entering etc. is accordingly set up in the ERP-system. Hence it operates in real-time, collecting and interpreting data from these various business areas
Frame	Mental model that structures contextual information
Go-Live	Point in time when the old ERP-system is no longer used but instead all activities are done in the newly implemented ERP-system
Track-lead	Responsible on the customer's side for explaining the company's business processes and test the modifications/solution provided by the consultants

8.6 Appendix 6 – Visualisation of sensemaking processes in critical events



The above diagram depicts a situation of sensemaking where there is no management of meaning – individuals will settle with any plausible cue.



The above diagram depicts a situation where management of meaning is used to direct individuals to extract the desired cues from an event, resulting the desired action being evoked.