CHALMERS
UNIVERSITY OF TECHNOLOGY

TURNING GENIUS INTO STANDARD BUSINESS PRACTICE

A case for Institutionalising organisational knowledge at a growing professional services firm

Master's thesis in The Management and Economics of Innovation

LLOYD WALLACE

Department of Technology Management and Economics
Division of Innovation and RD Management
CHALMERS UNIVERSITY OF TECHNOLOGY
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Supervisor: Professor Jan Wickenberg, Head of Division of Innovation and RD Management
Examiner: Professor Jan Wickenberg, Head of Division of Innovation and RD Management

Master's Thesis E2018:018
Department of Technology Management and Economics
Division of Innovation and RD Management
Chalmers University of Technology
SE-412 96 Gothenburg
Telephone +46 31 772 1000

Cover: Visualisation of knowledge and information pathways.

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Abstract

The study investigates how employees experience knowledge sharing in a professional services environment recognising formal and tacit avenues for knowledge integration. The study builds on literature from organisational behaviour, knowledge management and organisational leadership and organisational design to investigate how project teams integrate knowledge in dynamic work environments to solve client problems. The study was carried out in collaboration with a growing management consultancy firm in South Africa. Through researching the firm's knowledge management practices, findings from the report are used to generate recommendations for how the firm might *institutionalise* their organisational knowledge. The case firm's challenge with scaling their knowledge management activities is argued as congruent with classic organisational challenges documented in the literature for fast-growing organisations.

The thesis presents a thematic analysis of data collected during a 6-month study period to generate key qualitative themes pertaining to knowledge management. These findings are contrasted against data from two external perspectives to limit to contextual nature of the research making the findings applicable to a wider audience. The thesis concludes that taking a realistic stance on the costs of diverting resources into knowledge management activities is critical when seeking to make any changes to an existing system. Organisational knowledge comprises both strategic and operational elements that must be separated when reviewing and changing any knowledge management system. It is further argued that the separation of information from knowledge could reduce the time-effort of knowledge management freeing up time for management at the firm to focus on other strategic activities.The thesis presents four focus areas to assist with the institutionalisation of knowledge assets at the case firm. The focus areas pose questions around organisational identity, business unit silos, the relationship between mentorship and the pressure to deliver as well as a more direct look at knowledge management activities.

Keywords: Knowledge management, organisational learning, cost of knowledge, organisational behaviour

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Lloyd Wallace, Gothenburg, June 2018

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1
Introduction

This section presents an overview of the study area including a motivation of the importance of the chosen topic. The purpose of the study, research questions, limitations and concerns with regards to confidentiality are presented and overview of the chosen analytical frameworks is given. The section concludes with a summary of the layout of the report to assist the reader in following the research process that was employed.

The study investigates how employees experience knowledge sharing in a professional services environment recognising formal and tacit avenues for knowledge integration. The study builds on literature from organisational behaviour, knowledge management and organisational leadership and organisational design to investigate how project teams integrate knowledge in dynamic work environments to solve client problems. The study was carried out in collaboration with a growing management consultancy firm in South Africa from hereon referred to as *The Management Consulting Company* or *MCC*. The findings from the report are used to generate recommendations for how the firm might *institutionalise* their organisational knowledge through a study of the firm's knowledge management practices.

1.1 Background

MCC is a management consulting firm that has grown at a tremendous rate in the past few years. The firm has a hiring policy that focuses on hiring top achievers from various disciplines and concentrates on the provision of financial, institutional and legal advisory services. The firm began as a handful of highly competent individual consultants that were each responsible for their business areas. The environment was congruent with that of a startup with effective communication being driven on an *as required* basis that was appropriate for a small team of specialists. The firm now comprises a cohort of some 80 staff across numerous geographic locations, focusing on 6 primary business practices. The firm explains they have inherited a style of operations that is seen as organic and nimble from their earlier days but, that the increasing size of the firm is putting a strain on the management of key organisational knowledge within the firm which is seen as frustrating. Of specific concern is the evidence of a lack of encoded information and knowledge which results in a poor organisational memory outside of the individuals within the project teams. The firm is interested in understanding ways to improve their transfer

of organisational knowledge into their organisation at large while not inhibiting the organic, fast-decision making abilities that have allowed the firm to excel in their chosen markets. The notion of *genius* used in the title refers to MCC's provision of services that are highly valued by the clients, that have allowed the firm to grow at a tremendous pace. This thesis is to unpack this concept of genius towards understanding how these valuable knowledge assets might be better understood and developed at both a strategic and operational level.

While at first the problem experienced at MCC might seem unique, a scrutiny of the literature on knowledge management shows that theirs is a classic growing-firm dilemma. The age, design and size of an organisation affects a firm's knowledge management processes. As an organisation grows, there is a tendency to move away from mutual understanding towards formalised processes. This is done to reduce costly communication between resources that need not be in communication and is the reason mature firms separate business units and functions (Mintzberg, 1979). The development of formal process however, requires careful consideration to prevent an organisation from becoming overly bureaucratic slowing down the decision-making process which in turn makes it harder to respond to constantly changing client or project needs (Mintzberg, 1979; Hellstrom et al., 2001; Grant, 1996; Maylor, 2010)

1.2 Purpose

This study grows the body of research on possible best practices for knowledge integration in a professional services environment. The firm under investigation comprises the *smart people* demographic explored by Chris Argyris in his studies at management consulting firms in the USA (Argyris, 2002). The senior management at MCC have moved the firm into an era of growth and scaling. The established processes for sharing and integrating knowledge organically, with a strong focus of mentorship by senior consultants, is proving challenging. The purpose of the study is to better understand the existing model of knowledge management at MCC and then provide recommendations for institutionalising organisational knowledge at the firm that better aligns with the needs of a growing professional services firm.

The focus of the study is contextual which strives to first understand the barriers to knowledge creation and sharing at MCC. These findings will be compared against frameworks for knowledge management towards understanding how MCC might benefit from best practice guidelines, appropriate to the firm. The study presents an analysis of best practice guidelines from academic literature against the actual needs of a growing professional services firm. The study contributes to current theories of knowledge management by trying to test the *"knowledge as a social-construct"* theories through a less abstract lens.

1.3 Research Questions

The study answers the following research questions that were refined during the pre-study phase of the project (See Figure 1.1). These questions were asked at all

stages of the project to align the outcomes with the purpose. The main research question was developed from MCC's interest in a specific lens on the way they manage knowledge. MCC's interest in knowledge management is captured in the term *organisational memory*. The term is used to define the information and knowledge that captures strategic and operational aspects of the firm's value proposition to their markets as well as what MCC has learned since inception. Organisational memory presents a mental image of the collective knowledge that resides within the senior, experienced staff at the firm, especially within the founders. The focus of this thesis is to better understand the aspects of this organisational memory that might be institutionalised outside of the individual and made of use to the wider organisation, especially the less experienced staff members.

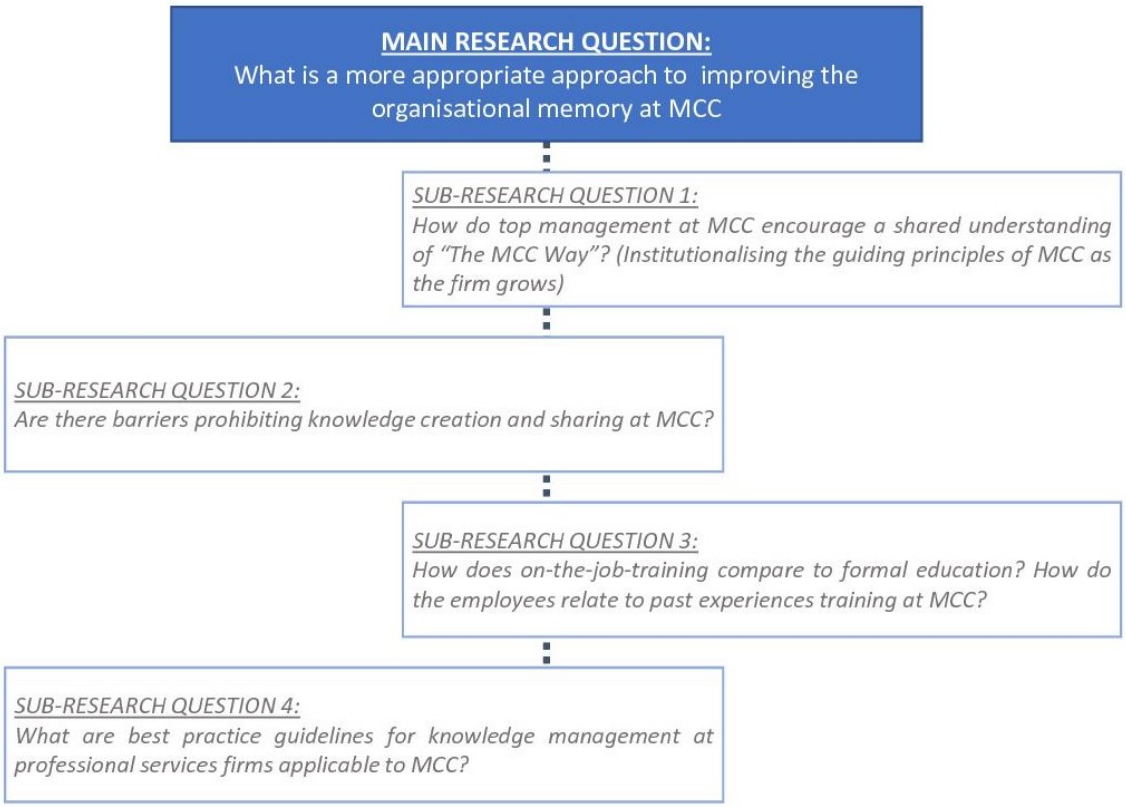

Figure 1.1: Research questions

1.4 Analytical Framework

The analytical framework presented in Figure 1.2 shows a structure for the analysis of the research data, linking the previous research to the data collected at MCC and other data sources. The framework guides the study towards meeting the purpose of the research.

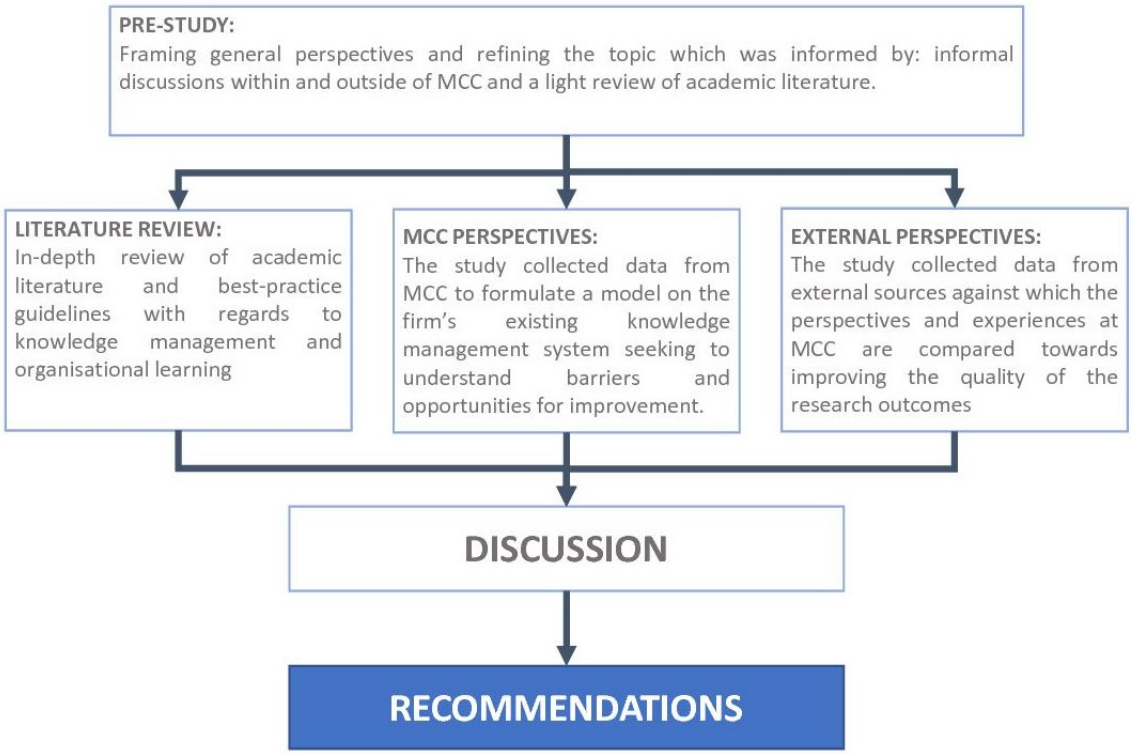

Figure 1.2: Analytical framework for the research

1.5 Limitations

While the study itself is contextual, the challenges faced by many growing professional services firms (trading in knowledge products) are hypothesised to be similar to those faced at MCC. This hypothesis implies that this contextual research would be applicable to a wider group of professional services firms adding to the value of the research. Regardless, the results of this thesis remain limited as a contextual investigation of a specific firm and would need to be tested in other contexts before any wider claims might be made.

1.6 Confidentiality

The data collected during interviews, focus groups and workshops at MCC has been classified as confidential. For ethical reasons, the researcher has decided to protect both the identity of the firm and research participants. Confidential interviews are also argued to improve the quality of the study as participants may feel comfortable sharing more openly when they know their opinions are anonymous.

1.7 Report Layout

The layout of this report is presented in Figure 1.3.

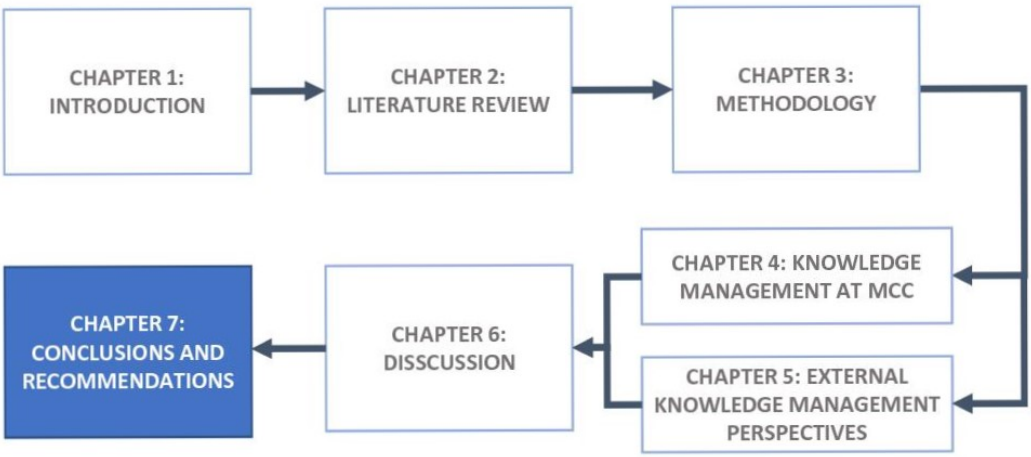

Figure 1.3: Layout of the report

2

Literature Review

This section presents a synthesis of the theories utilised from the fields of knowledge management, organisational learning, organisational leadership and organisational behaviour. The section further strives to collate and present some best management practices for knowledge management in professional services firms that may be useful in the case of MCC

2.1 Innovation and Knowledge Management

Schumpeter (1974, p.115-116) states that the only way for a firm to escape the environment of diminishing returns is through technological intervention, more commonly packaged as innovation. Schumpeter's viewpoint was based on the nature of industry at the time, being dominated by manufacturing and fabrication for the production of physical goods. Economic return was closely correlated with production volumes; the more a firm produced, the larger the returns. Innovation, in Schumpeter's view, was focused primarily on process or product innovation that delivered a physical good (Schumpeter, 1974; Grant, 1996, p.67-68). The shift in industry away from physical bulk manufactured goods towards technological products and services over the last 50 years has disrupted the sources of competitive advantage defined by early 20^{th} century economists (Grant, 1996, p.13-14). Industry has moved away from the primary processing of resources to the processing of information and how firms create and capture value through processing information is a key capability and an an important source of competitive advantage (Arthur, 1996; Werr, 2011).

"Innovation can be defined as a new configuration of knowledge resulting in new or improved processes, products or business models" - (North et al., 2014, p. 3)

Without digressing from the topic of knowledge management too far, it is important to unpack the process of innovation and the difficulty in planning to innovate. Backman et al. (2007) highlight the difficulty in optimising the new product development process to the same degree that we have seen a focus on improving efficiencies in the areas of manufacturing or administration. The main critique is that by focusing on performance at these early stages, novel ideas or concepts are *killed* before having the opportunity to create value. Decision-making is one of the key functions of management (Mintzberg, 1994; Sarasvathy, 2001) and the way an organisation makes decisions needs to be carefully considered, especially when

working with innovation which embodies working with uncertainty (Backman et al., 2007). Sarasvathy (2001) believes that this issue can be understood by better understanding the environment in which the decisions are being made and then employing either causal or effectual reasoning in making the decision.

"Causation processes take a particular effect as a given and focus on selecting between means to create that effect. Effectual processes take a set of means as a given and focus on selecting between possible effects that can be created with that set of means" - Sarasvathy (2001)

In linear, static environments where behaviour and outcomes are likely to be well predicted, Sarasvathy (2001) favours causal reasoning due to the efficiency in decision making. However, in environments where the ability to predict the future is compromised, where human interactions and perceptions play a role, the author argues that it is far better to make use of effectual reasoning which focuses on employing the means you have to control the uncertain environment towards an effect that is favourable to you. Written in other words, causal decision-making favours significant upfront planning towards steering the outcome to a given effect whereas effectual reasoning understands that the ability to plan for a given effect is futile so it is better to *know thyself* and rather control the subsequent environment towards effects that favour your strengths (which implies limited upfront planning).

Understanding the effect of the innovation process and effectual reasoning is critical to a professional services firm (PSF) that *sells* its knowledge in ever-changing environments. Knowing thyself is thus a critical component in ensuring a PSF stays competitive.

2.2 Organisational Design

A successful organisation designs its structure to match its situation, it decides whether to grow large, to which environment it will gravitate and, depending on the situation, selects the structural configuration that best matches the organisation (Mintzberg, 1979) and proposes three general work styles based on the size of the company:

Small Organisation	*Mutual Adjustment*
Medium Organisation	*Direct Supervision*
Large Organisation	*Standardisation*

This understanding demonstrates the tendency for organisational behaviours to formalise as the organisation ages due to the repetition in the work an organisation conduct; a point supported by (Maylor, 2010). Maylor presents that teams organise to increasingly deliver projects as a process in an attempt to reduce risk and deliver results in a shorter turnaround time by using previous experience (refer to Figure 2.1).

With greater use of planning and control systems it becomes easier for organisations to formalise processes resulting in increased levels of bureaucracy observed

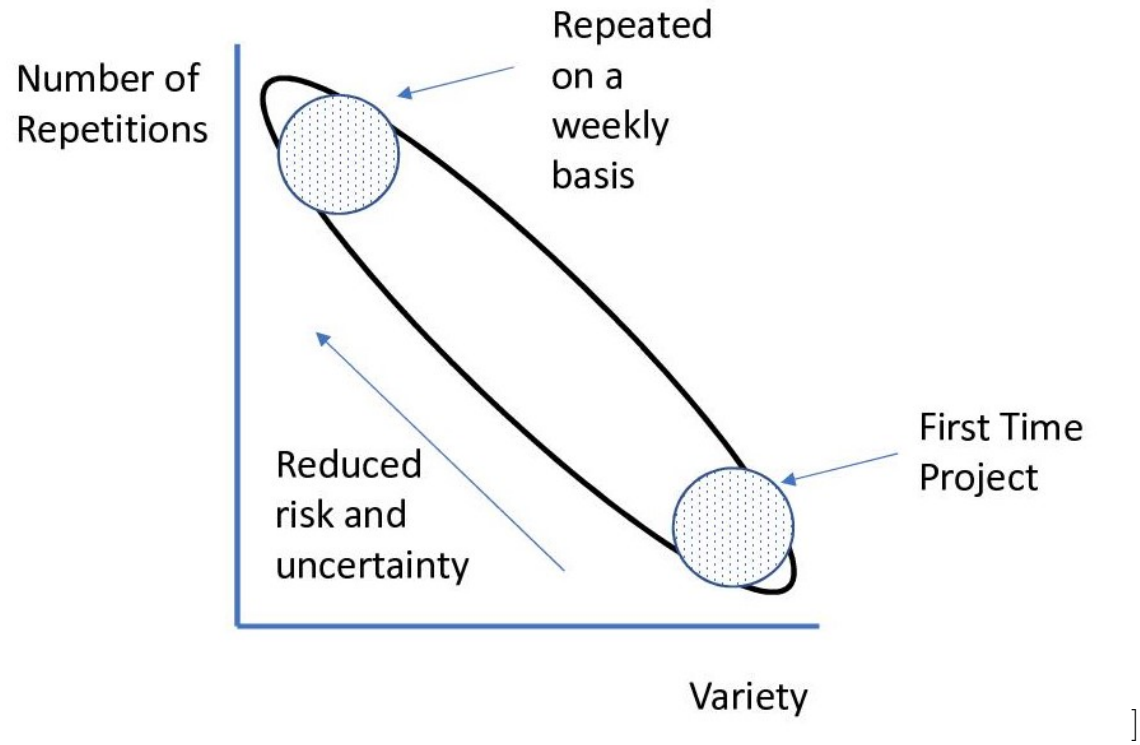

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Figure 2.1: Organisational transition from project to process orientated work reproduced from (Maylor, 2010)

in the organisation. Increased bureaucracy is also synonymous with increased hierarchical structures in the organisation requiring additional levels of coordination, slowing down the organisation's internal processes. This concept implies the counter-argument with younger firms tending to be less bureaucratised and using less formal processes (Mintzberg, 1979). Mintzberg further describes the role of planning in different structures and divides management styles of planning executed into either a calculating or a committing leadership style. The calculating style fixes the destination and sets goals for the team to reach said destination. This style involves intensive planning upfront and is not seen to inspire enthusiasm from the team. In contrast, the manager using a committing style sells a vision (strategy) and motivates the team around delivering on this vision without the intensive upfront planning (Mintzberg, 1994). The committing style of leadership is seen to be more synonymous with effectual processes presented by Sarasvathy (2001). Mintzberg also demonstrates that in certain cases planning is unnecessary; *"if an organisation is managed by intuitive geniuses, there is no need for formal strategic planning" - Steiner quoted by Mintzberg (1994)* although he also recognises that the likelihood of an organisation being fortunate enough to possess such leadership is not expected to be very likely.

Before moving off the discussion on organisational design it is relevant to discuss the reason that firms organise resources in the first place, which is to improve efficiency and reduce cost. Firms develop business units and work streams to reduce the cost of excessive communication or interactions which drives up the cost of doing business (Mintzberg, 1979). It is important that one take a critical view of the costs

of any knowledge management system, specifically the transactional costs. While it is true that there is a cost associated with redoing work that was lost due to poor knowledge management one must not forget that there is significant cost in simply making use of a knowledge management system, never-mind the cost of changing an organisation to make use of said knowledge management system. The needs of an organisation need to be carefully considered so that we strive to only create, store and manage valuable information where the cost of redoing the work outweighs the cost of the managing that knowledge or information.

2.3 The Learning Organisation

The relationship between organisational learning and knowledge management is more closely linked that one might expect. An organisation must first possess knowledge before it can seek to manage said knowledge (Werr, 2011). This requires awareness of what has happened previously especially when identifying patterns moving the work from *unique project* towards *standardised process* (refer to Figure 2.1. Despite there being an obvious benefit in organisations making use of previous work to make future work easier, there is an inability for firms to capitalise on *lessons learned* from project to project (Wickenberg, 2014). Section 2.4 will address this short-coming by looking at the why knowledge is difficult to identify, codify and transfer but, there are other reasons for the inability to identify lessons learned that are better understood through the lens of organisational behaviour and politics.

Distancing oneself from new skills and learned experiences to finding an objective lens for reflection requires that the subject acknowledge poor performance and failures before they might learn, which might even be painful. Further, the incentives for high performance focus on constant motion and looking ever forward to the next project, the next client, the next experience. Looking back is not synonymous with progress and productive work (Argyris, 2002).

A team's ability to identify and transfer knowledge is affected by both cognitive and motivational inhibitors (Wickenberg, 2014); that is team members not being aware of what they know (discussed further in Section 2.4) and team members not wanting to share what they know. The idea is that team members are not willing to divulge what went wrong if there is a chance that the knowledge will be passed on to managers and negatively affect performance reviews. This secret-keeping behaviour is a perfect barrier to the *knowledge-sharing culture* that is required as part of heedful knowledge integration (Werr, 2012).

Given the maturity of the field, it is noted that no researcher has presented a model that adequately explains the learning dilemma (Werr, 2011). This learning dilemma is seen as the paradox between learning and reflection versus productive execution. Team members must deliver results in an efficient manner to maximise both time and effort. The pursuit of these efficiencies makes it very difficult to allocate energy to reflection and learning from past experiences. Overcoming this *learning dilemma* requires that one looks at how performance is measured. If a firm would like to encourage organisational learning and reflection, team members must be evaluated based on their performance in this area. An organisation functions through its measurement system which is seen as a tool that orientates the

firm towards its strategic goals with the majority of companies selecting metrics based on physical and financial assets and outputs ignoring the intangible assets from which competitive advantage may be derived (North et al., 2014, p.250-251). Werr (2011) acknowledges that there is a shortage of tools to measure the sharing of knowledge. That said, the author argues that in order for knowledge sharing to become a priority, management must create space for reflection and sharing while recognising that trust is the ultimate currency in supporting organisational learning. Werr (2011) further acknowledge that a focus on traditional financial and productivity measurement metrics will have a negative effect on the trust between teams and managers which is a barrier to organisational learning (North et al., 2014). These static financial metrics are artefacts from industrial-age competition where top management exploited a strategy that was based on sound understanding of the environment within which the firm operated (Kaplan & Norton, 1996). These hierarchical planning and control systems worked well in the static environments of the time supporting a single loop learning cycle from which the company could assess their performance according to the strategic plans (Kaplan & Norton, 1996; Argyris, 2002; Sarasvathy, 2001). These traditional metrics and strategic plans are not suitable for working with innovation and uncertainty, where industry boundaries are increasingly blurred and a firm's ability to predict the future market needs is compromised (Sarasvathy, 2001; Kaplan & Norton, 1996; Werr, 2011). In the current business landscape businesses are required to maintain a long-term focus while delivering short term financial results to stakeholders and must somehow find a way to measure their competitive advantage as derived form both tangible and intangible assets, by no means an easy task (North et al., 2014; Sarasvathy, 2001; Kaplan & Norton, 1996). This challenge can be extrapolated to a professional services firm's approach to knowledge management: the drive to perform and increase billable hours correlates with short term results and the measurement of tangible assets, while the need to reflect and institutionalise that which has been learnt being congruent with a long-term focus and an ability to work with the intangible assets.

The balanced scorecard (shown in Figure 2.2) is a framework for monitoring organisational performance developed by Kaplan & Norton (1996) as a tool to balance the operational and long-term strategic needs of an organisation. The framework facilitate double loop learning cycles which reinforce the need to revisit strategic and operational assumptions when dealing with dynamic, uncertain environments Kaplan & Norton (1996). Feedback on the management of knowledge objectives is supported through the use of the balance scorecard (North et al., 2014, p.262) which helps solve the inherent issue with incentivising knowledge sharing activities which is that knowledge management activities are intangible and difficult to measure (Werr, 2011). The model views the company from four key perspectives with the ability to not only highlight the different perspectives but present a cause/effect correlation which allows discussions around short and long term needs simultaneously (Kaplan & Norton, 1996, p. 262). The application of the balanced scorecard creates a shared vision that uses measurement as a common language to create consensus among stakeholders highlighting, in operational terms, what the organisation is trying to achieve (Kaplan & Norton, 1996).

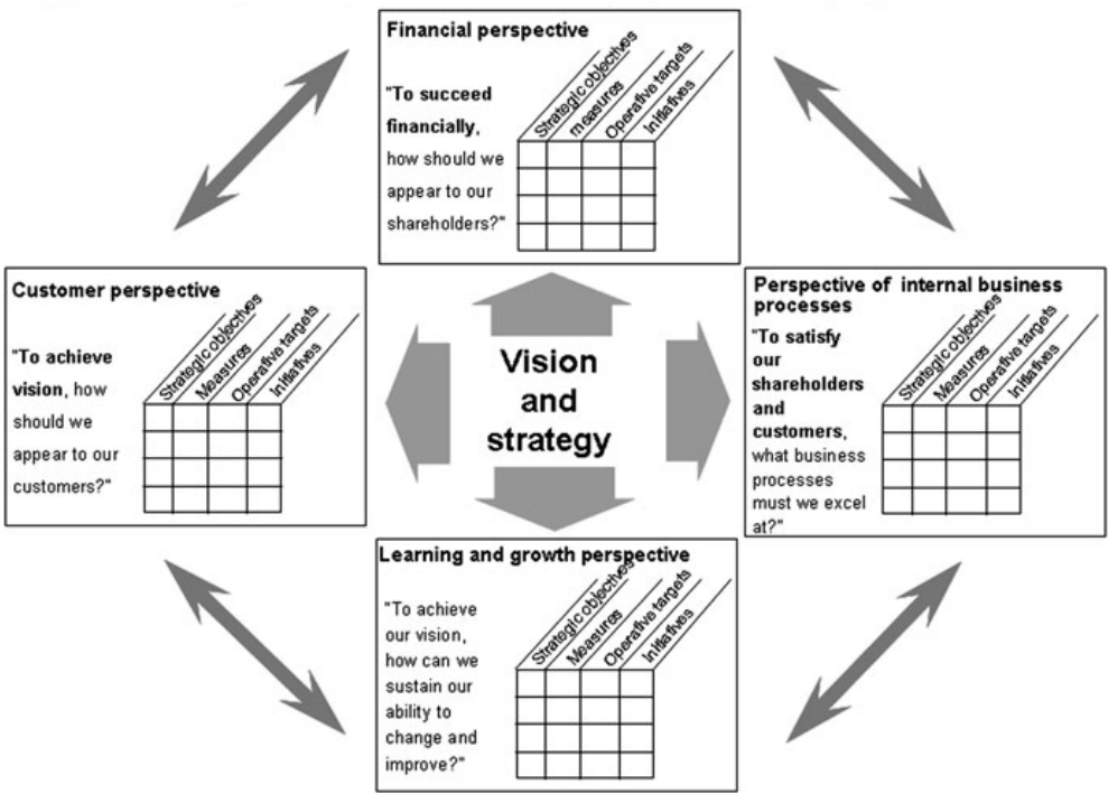

Figure 2.2: The Balanced Scorecard taken from North et al. (2014, p.262)

2.4 Knowledge Management

The knowledge management system comprises a set of distinct activities namely: creation, transfer, encoding and storage. Each activity requires individual attention and is influenced by nature of the knowledge asset (Nonaka et al., 2000).

2.4.1 Knowledge and Information

Previous research in the field highlights the importance of the philosophical definition of knowledge used in the existing theories; polarised as: knowledge as a possession that is readily acquired, transferred and stored and knowledge as a socially-embedded construct that is unique to each individual and not readily transferable (Werr, 2011). The main critique of the existing models for knowledge management is that they are often over-simplified, taking an asset-view of knowledge. Where they attempt to engage with the socially-constructed view of knowledge, the criticism is that the models are too abstract and of little practical use to professional teams (Werr, 2012).

Due to the inconsistencies in how knowledge and related terms are understood, Werr (2011) argues that any discussion around the management of knowledge needs to begin with clear key definitions of key terms. (North et al., 2014, p. 32) presents a relationship between the different levels of data, information, knowledge and competence which they call *the knowledge ladder* shown in Figure 2.3. In addition

to establishing a hierarchy between different types of information, the model also presents a useful relationship for understanding the difference between the operational and strategic management of knowledge. Key differences worth highlighting from Figure 2.3 are: the transformation of information knowledge through context and experience, the creation of action through the application of knowledge, which leads to the creation of competence by performing the right action.

Knowledge refers to both the *know-what* and *know-how* that comes from the application of both context and experience onto a piece of information (North et al., 2014, p. 33). The argument for the value of knowledge in modern organisations does not come from the possession of knowledge for the sake of knowledge but, rather the ability to access appropriate knowledge at the appropriate time in order to create value, this is especially true in the case of professional services firms (Werr, 2011). This notion of competence (leading to competitive advantage) is further developed in North et al.'s knowledge ladder. Roos & Von Krogh (1996) also view competence as an event, not an asset. Competence is related to a team's ability to access the right knowledge at the right time to create value which presents an interesting question. Should a firm be obsessed with creating a central knowledge repository or rather concentrate on facilitating knowledge transfer events that are aligned with organisational competence?

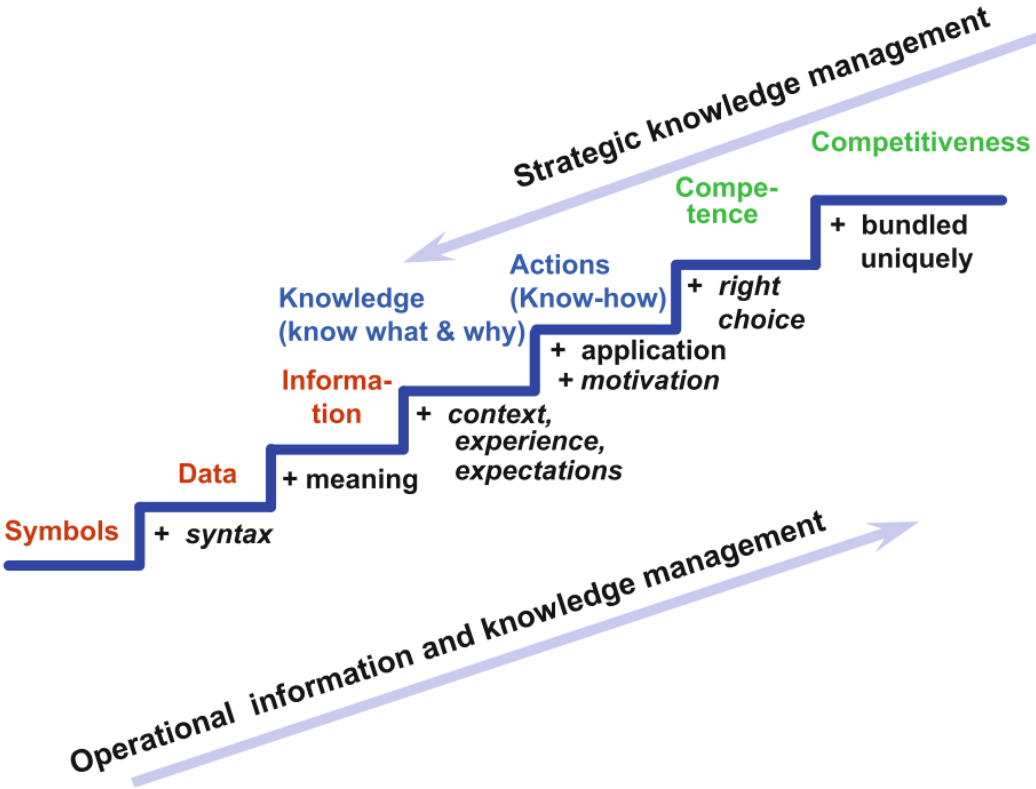

Figure 2.3: The Knowledge Ladder - taken from North et al. (2014)

The concept of heedful knowledge integration (refer to Figure 2.4) is proposed by Werr (2012) as a framework for how knowledge might be created and integrated in

a professional services firm. The model was developed to explain knowledge integration in a management consulting environment. This model was chosen as it finds a good balance between the two philosophical definitions of knowledge namely: knowledge as a possession that is readily acquired, transferred and stored and knowledge as a socially-embedded construct that is unique to each individual and not readily transferable (Werr, 2011). Further, this model makes an effort to understand some of the behavioural factors that influence knowledge sharing which are highlighted as a significant barrier to learning in a professional services environment; such as the need for a safe environment that encourages sharing and the disclosing of mistakes (Argyris, 2002). North et al. (2014, p. 43) expand on the nature of knowledge explaining that knowledge is often confused with information. A useful metaphor is to see information as something akin to *frozen food* that is readily stored, transferred and prepared. Knowledge is better described as an intricate dish made from fresh ingredients which is not as readily transferred or stored but, rather requires detailed preparation every time the dish is required (North et al., 2014, p. 43).

2.4.2 An Operational Knowledge System

Nonaka et al. (2000) argue that it is impossible for top management to control and dictate the knowledge management process. They highlight the importance of context that accompanies any knowledge and that this context is conveyed through social interactions. Their model for leading the knowledge creation process (refer to Figure 2.5) builds on their earlier discourse on tacit versus explicit forms of knowledge (the SECI model (Nonaka & Takeuchi, 1994)). Nonaka et al.'s (2000) knowledge creation model posits that knowledge management takes place at the middle of an organisation (at the level of the project leader) who are responsible for the generation of knowledge assets which are either more explicit or more tacit depending on the asset under consideration. The authors believe that the role of top management is limited to creating a knowledge vision with associated organisational support services. This view is congruent with the *knowledge ladder* which shows management's role in knowledge management to be limited to creating competitive advantage from the strategic use of competence (North et al., 2014, p. 33). No prescriptive guidelines for knowledge management are proposed however there is a strong emphasis on establishing a *place to meet* or *ba*; by this the authors mean a shared understanding between knowledge provider and knowledge recipient which may or may not be influenced by a knowledge broker (Nonaka et al., 2000).

The concept of a knowledge-broker model is also proposed by and further developed by Hellstrom et al. (2001) in their model for the decentralisation of knowledge management. Here, the author's call for decentralisation is congruent with the need to manage knowledge viewed as a "social-construct" i.e. knowledge that is not obvious (hard to identify) nor readily transferable. The paper contrasts two systems of knowledge management namely: a market system (decentralised) versus a hierarchy (centralised). The authors argue that a market system requires less resources/energy to maintain especially if the activities are supported by an appropriate knowledge-broker.

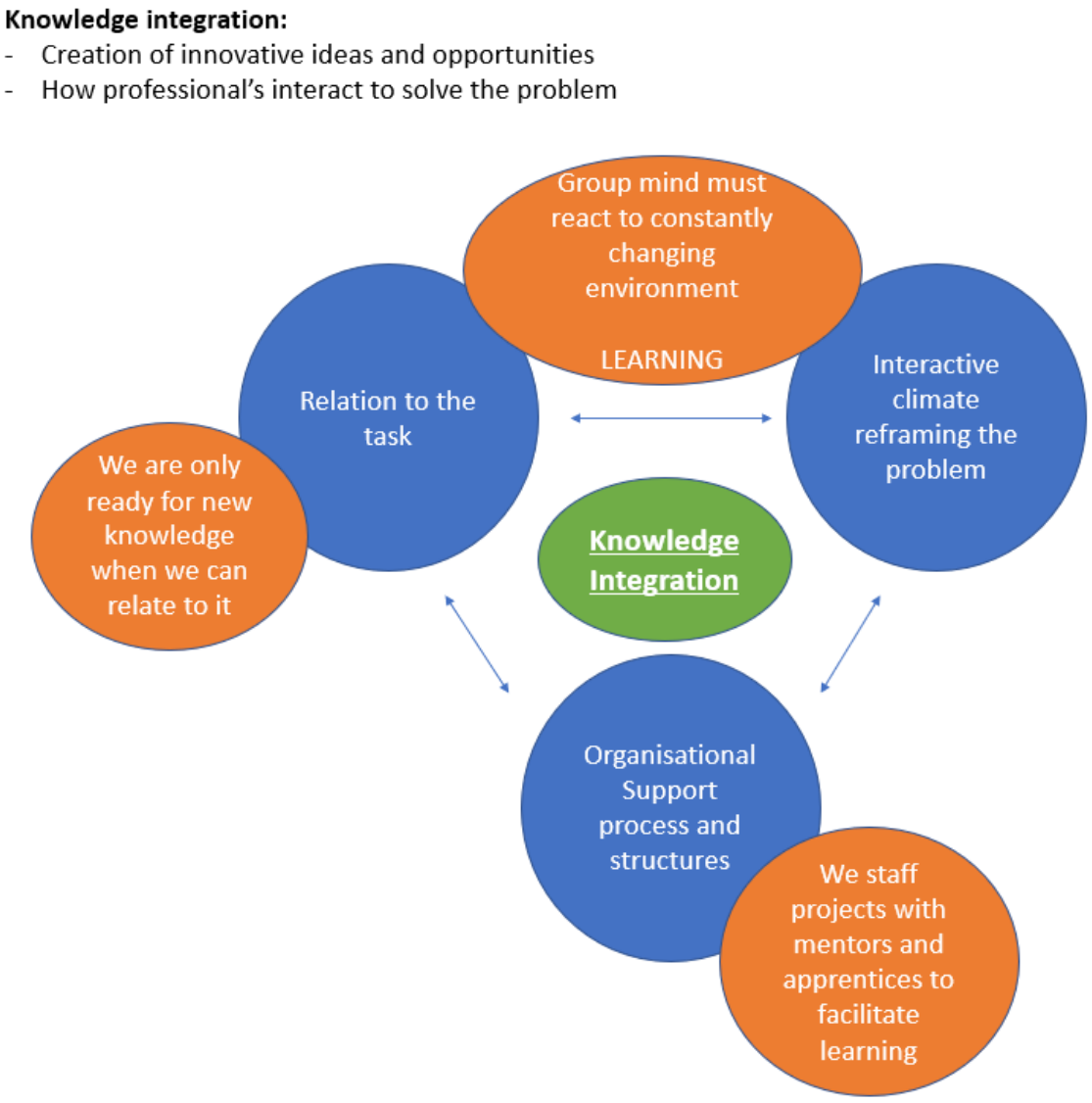

Figure 2.4: A model for Heedful Knowledge Integration - Adapted from Werr (2012)

This contrast is important because Hellstrom et al. (2001) is the first of the normative models to acknowledge that transaction costs are an important reason that firm's fail to engage meaningfully with knowledge management, it is simply too costly to pursue for the perceived value add.

Based on the call for the decentralised model to challenge a structured hierarchy, it is assumed that a decentralised model may be more favourable in a smaller, younger, flatter organisation which is perhaps suitable to a growing firm. In establishing the *knowledge market* within a firm there is a need to focus on the *know-what* and *know-how* spectrums of knowledge (North et al., 2014). The balance between explicit and implicit knowledge needs to be acknowledged. A successful knowledge broker will know whether to direct a know-seeker to a computer database with standardised

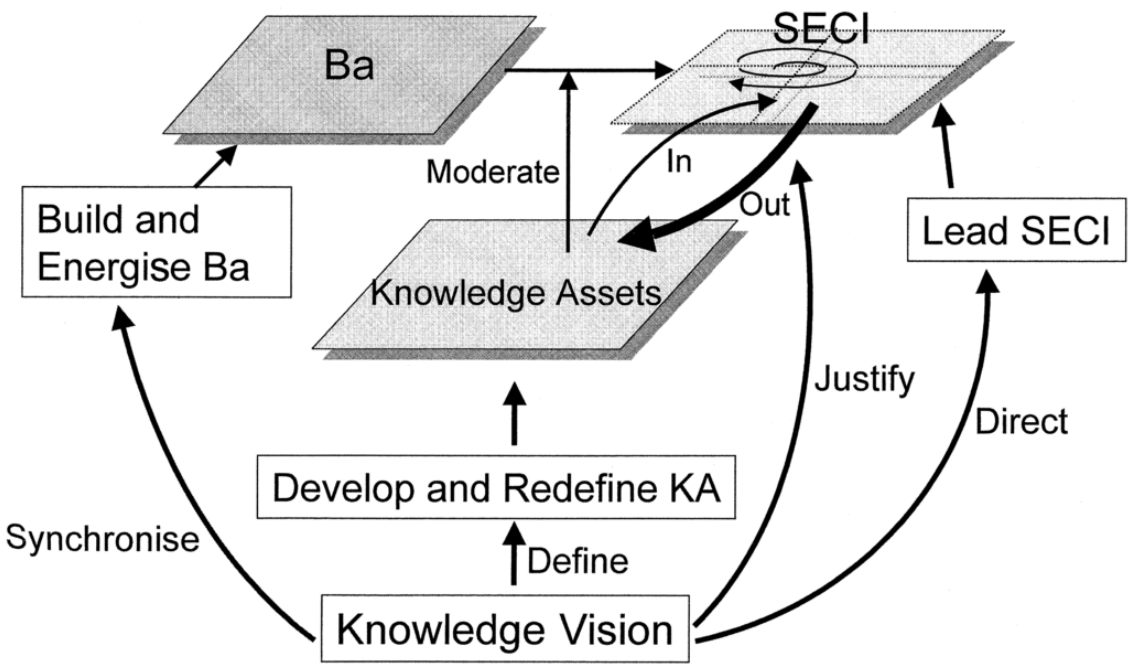

Figure 2.5: Leading the knowledge creating process (Nonaka, Toyama, & Konno, 2000)

documents (explicit, easily codified knowledge) or rather a specialist at the firm (contextual, tacit knowledge) (Hellstrom et al., 2001).

2.5 Change and Organisational Politics

Any recommendations made to MCC in this thesis would require that the firm consider changing their current behaviour. It is important that the thesis acknowledge the challenges of changing an organisation.

Despite organisations being well aware of the importance of changing an organisation to match the needs of the ever changing company, the way change is implemented in reality is often fundamentally flawed (Beer et al., 1990). Managers usually believe that organisational renewal happens on the back of change management programs with a focus on changing structures and systems where Beer et al. (1990) show that in fact these are the last elements that should be changed. Instead, change should begin in teams or units on the periphery of the firm and should be driven by operational managers, not from the strategic head. Instead of trying to change individual behaviours to bring about company-wide organisational change a better approach is to rather look at changing organisational roles and responsibilities to *force* a change in behaviour rather than allowing individuals to become barriers to change through their existing roles and responsibilities (Beer et al., 1990). This concept of concentrating on the role of individuals in the team is a fundamental premise of Werr (2012)'s *heedful knowledge integration*.

Case studies have shown that models proposed for changing the way an or-

ganisation manages knowledge have met resistance during implementation. This resistance can often take the form of a power struggle by incumbents in the existing system. Hellstrom et al. (2001) highlights that a risk to the proposal of a *knowledge broker* role in an organisation needs to acknowledge the shift in power from senior management to the new knowledge broker, whether through formal or informal designation. This talks to the sixth power base of *informational power* developed by French & Raven (1959) later refined by Raven (1965). The *informational power base* is the most transient of all of the power bases in that once information is divulged, the power base is gone (Raven, 1965). This is evident in individuals being unwilling to report mistakes (discussed in Section 2.3) and using information as a power base for selective reporting (Wickenberg, 2014). Adding to the discussion for moving a firm towards becoming a learning organisation, managers would do well to acknowledge the role of individuals in driving issues of organisational politics through their existing roles within the firm (Buchanan & Badham, 2008).

The *knowledge broker* model, found to be a better working solution for the company (Hellstrom et al., 2001), was found to have been abandoned when the firm was investigated by Wickenberg (2014). Being aware of the need to be sensitive to power dynamics, Wickenberg (2014) implemented a knowledge sharing method that focused on project leaders extracting previous lessons learned at the outset of any new project with confidentiality of respondents being a core requirement of the system. This method too was found to have been abandoned shortly after implementation despite project managers having acknowledged that the system implemented was helpful during the early stages of project scoping and helped identify risks early on (Wickenberg, 2014). The authors conclude that organisational learning can be institutionalised through the implementation of a knowledge management system but, that the system needs to fall outside of the influence of hierarchical power systems. The system should also focus on recognising the role and interest of various actors, acknowledging that there will always be deviations from the plan (Wickenberg, 2014).

3
Methodology

The following chapter presents the design of the research study highlighting the methods used to collect and analyse data towards answering the research questions.

3.1 The Nature of Knowledge

The subject area is shown to be influenced by individual and team perspectives with the system of knowledge management highly affected by culture and behavioural dynamics. This leads the researcher to see the ontology of the study as relativist, i.e. there is no absolute truth, recognising that knowledge comprises both explicit and tacit components. The team's ability to interact with and integrate knowledge is based on the individual's perspective of role and task thus a constructionist epistemology is taken. Despite the overarching philosophy with regards to the nature of knowledge being relativism, there is room in the thought models for a pragmatist reasoning; while there is no *absolute single truth* for how teams integrate knowledge, the process of knowledge integration is affected by formal training and frameworks which balance abstractions and concrete concepts. This results in observations and reflections that are partly constructed but, contain an element of *single truth* within them.

3.2 Qualitative Research Design

The study is placed within the constraints of a management research. Although the research field cannot be defined as nascent, the complex nature of the phenomena observed and the ontology and epistemology means that a qualitative analysis of the rich data associated with qualitative interviews is appropriate in answering the research questions with any level of confidence (Easterby-Smith et al., 2015, p. 49-64). The research builds upon a contextual case study of the chosen firm bringing in external viewpoints through investigations of knowledge management in other contexts.

3.2.1 Method: The Thematic Analysis of Narratives

Primary data for the study were collected through 16 formal interviews, informal engagements and observations at MCC. The data for the study comprises voice recordings from the interviews and field notes taken during the interviews and times

of observation. The voice recordings were not transcribed prior to analysis in a bid to improve confidentiality of the research participants, avoiding the use of exact terms or phrases that might make it possible for others to identify the origin of the insight.

The primary data often represented complex narratives (originating from the open-ended unstructured interviews). Narratives were chosen as the media with which to convey the data due to the ability of *stories* to help individuals collate and convey their thoughts on the unfamiliar, unexpected or exceptional (Easterby-Smith et al., 2015, p. 188). This is seen as appropriate due to the nature of knowledge being both tacit and explicit (See Section 2.4) and the expectation that the interviewees are not necessarily aware of their behaviours (or *theories in use (Argyris, 2002)*).

"narrative analysis is concerned with the ways in which people create and use stories to make sense of the world - (Easterby-Smith et al., 2015, p. 188)

The narratives examined relationships and perceptions of knowledge management at MCC which is seen as key to understanding professional competence; i.e. how a professional uses knowledge to create maximum value, rather than simply the interest in knowledge itself (Werr, 2012).

The rich narrative data were analysed using a thematic analysis method that brought forth the key insights towards answering the research questions. The analysis acknowledges a partisan approach because the current knowledge integration processes at MCC are not designed by those who use them (ie. The apprentices). The themes from the analysis are divided into 6 main themes which each comprise sub-themes. The themes are further divided according to Werr's 2012 three aspects of heedful knowledge integration yielding a matrix of themes that are seen to influence the institutionalisation of organisational memory at MCC. This matrix can be found in Appendix A (refer to figure A.1) and is further discussed in Chapter 4.

3.3 Sampling

MCC comprises a group of individual specialists with varied backgrounds and training. Further, these individuals operate in different business practices. In an attempt to gather representative narratives more applicable to the wider organisation, sampling was done on an ad-hoc basis, influenced by recommendations from research participants. The intention was to identify participants with contrasting views and roles, varied levels of seniority, including recent and long-term hires across the varied business practices.

3.3.1 External Perspectives

External perspectives for knowledge management are created through the analysis of data collected on knowledge management from different contextual perspectives. These perspectives are used to limit the contextual nature of the results of the study towards ensuring a wider application of the findings. The external perspectives are

also used to cast a critical eye on the results from the data collected at MCC allowing the researcher to reach deeper into the subject area.

4

Knowledge Management at the Firm

This section presents the data collected in understanding knowledge management at MCC towards answering the research questions. The data was collected through a combination of observations and interviews with various members of staff at MCC. The intention was to make sense of as many perspectives as is necessary to solve the research questions.

4.1 Origin of Access

The relationship between the researcher and MCC was driven through existing business connections. The researcher approached the leaders with the offer to conduct a management research study within the topics of organisational renewal and sustainable business practices. The question posed was found to be of mutual interest. The researcher was offered a desk in the open plan office sitting within the strategy consulting business division with free access to speak with staff as necessary. The researcher based themselves in the office for a period of 6 months during which time they built up relationships with many of the respondents and support staff. This arrangement allowed ad-hoc access to individual perspectives through interviews and the opportunity to gather observations while being treated as another member of staff. Outside of helping guide the research questions, the leaders were clear that the main objective of the research was to satisfy the needs of the thesis and that any subsequent value to MCC was to be taken as a convenient benefit. The researcher took time to familiarise themselves with the organisation and planning the project before collecting data which allowed time for the researcher to gain further legitimacy for the proposed study.

4.2 Summary of the sampling strategy

Qualitative data in the form of unstructured (at the outset) moving towards semi-structured interviews were undertaken during a 6 month period. A summary of the sampling at MCC is presented in figure 4.1. These data were supplemented with data from observations and casual group engagements during the researchers time at the firm.

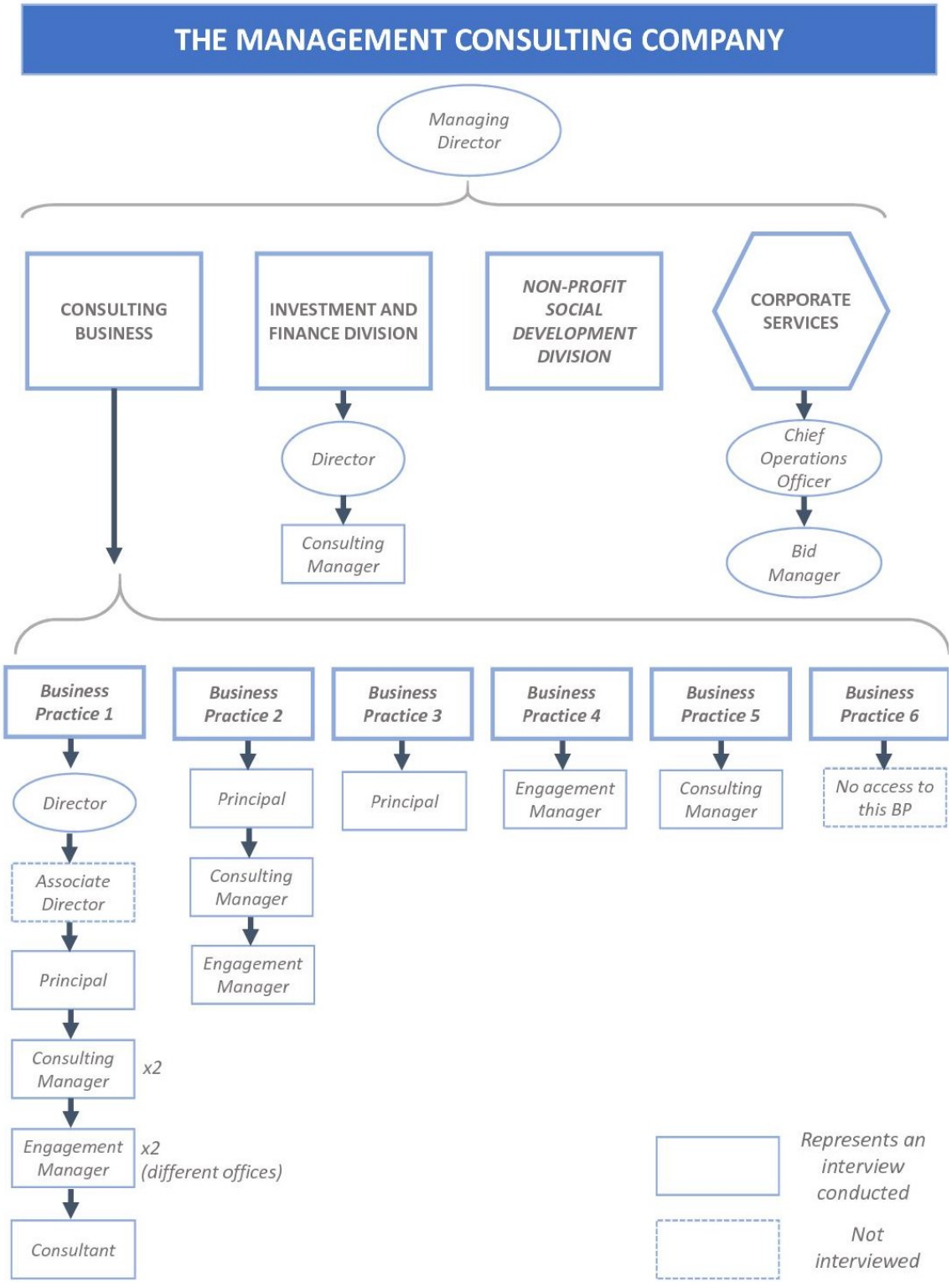

Figure 4.1: Summary of interviews conducted at MCC presented on an organogram of the firm

4.3 Data Analysis

The first perspectives collected through meetings were those of the managing director and the director of the largest business practice (hereon referred to as the leaders). The purpose of the study and research questions emerged from the interrogation of these perspectives, understanding that the needs of the current KM system at MCC are changing. The leaders classify MCC as a boutique consulting firm that captures value through building high trust relationships with their clients. Their focus has always been on development work that looks to uplift marginalised communities predominately in an African context. Their solutions do not follow a copy and paste methodology but, rather individual solutions are built from first principles for each client based on the interrogation of the *real issues* as opposed to the questions clients may present MCC with. Historically, this identity and business know-how (both recognisable as different forms of organisational knowledge) was transferred and managed organically through the close-knit social interactions between the relatively few, highly competent professionals that made up what was then a smaller management consulting company. This organic model of knowledge sharing is seen to be presenting challenges in the present day organisation. The leaders are concerned that there is poor understanding of *"The MCC Way"* and that there is a need for a more process-orientated approach to managing organisational knowledge at the firm. At the same time, the organic systems and flat hierarchy are valued and the leaders don't want to accumulate unnecessary hurdles that slow down the ability to make decisions. The thesis was to investigate practical best practice recommendations appropriate to MCC's culture and business.

While *story collecting* proved to be a successful mechanism to get respondents to think and respond to the difficult topic, the nature of the data did not lend itself to a detailed narrative analysis as the stories were not rich enough to analyse actors and plots. Instead the rich unstructured data was put through a thematic analysis to identify themes to the stories and other data that had been collected. As consistent themes began to emerge, it was possible to structure engagements towards obtaining certain perspectives or insights that were more relevant to the purpose of the study.

4.3.1 Analysis of Themes

A matrix was developed that differentiated main-themes from sub-themes and placed these themes in relation to their relevance to the heedful knowledge integration model framework Werr (2012). This matrix can be found in Appendix A, refer to figure A.1. The data from the matrix was summarised into six main themes around which the data centred. Insights in each theme are categorised into the elements of the heedful knowledge integration framework. Within each theme the insights are arranged by frequency of recurrence, a higher number of blue boxes denotes a insight that came up frequently in multiple interviews. The six themes along with their weighted insights are shown in Appendix A, refer to figures A.2, A.3 and A.4.

To help make sense of the data the findings were structured to unpack the relationships between the themes. Figure 4.2 summarises the findings into 4 focus areas that move from a strategic perspective of knowledge (identity and behaviour

of MCC) through to an operational perspective of knowledge that focuses on how knowledge is integrated at the firm. The structure can also be seen as a progression from "know what" to "know how" elements of institutional knowledge at MCC. These *four foci* form the thematic pillars that will support the basket of recommendations that will answer the main research question later in the thesis.

4.3.1.1 Focus Area 1 – The identity of MCC

This focus area deals with the strategic identity of MCC talking to questions such as "who is MCC" and "What value MCC provides to their clients". This focus area unpacks data to answer sub-research question 1: creating a shared understanding of *The MCC Way*. The findings show that clarification of "The MCC Way" is required and that the nature of the knowledge entails both understanding the strategic importance of MCC's identity and sharing a vision of what it means to be part of MCC. The tendency for MCC to concentrate on asking the right questions applicable to all stakeholders, maintaining a development focus emerged as the key differentiator when comparing MCC to perceived competitors. This understanding of identity is influenced by the distance from the respondent to top management with more distant, later hires having less access to this shared identity.

4.3.1.2 Focus Area 2 – Business Practice Silos

Despite having an open-door culture with limited formal system and process, the growing MCC is found to have significant silos within different business units (called business practices by the firm). There is limited shared-understanding between team members of different business units unless the individual has been extensively involved in business development activities or is driven to socialisation through personal traits. There is a desire to be better informed about the work undertaken by different business units with respondents having noted they knew more about what the firm was engaged with at previous employers where the size, systems and bureaucracy were far higher. The silos are driven by both practice management styles, the vastly different work undertaken and deliverables required. The business practices are not of equal size; the biggest business practice is more engaged with questions of systematisation and process while smaller practices have less need in this area and focus more on issues of identity and value proposition towards growing the relevant business practice.

4.3.1.3 Focus Area 3 – Delivery Mentorship

These two themes have been combined as the ability for project leaders to mentor younger consultants is in direct competition with the challenges of time management for delivery activities. There is a tendency for junior consultants to specialise within their business practices early-on which results in delivery-focused team members being spread across multiple projects. Middle management (with some exception) is inundated with the pressure to deliver and have less time available to mentor and train junior consultants to take over more of the delivery activities. The existing socially-driven knowledge integration system (discussed in focus area 4) adds further

pressure to middle management as managers are repeatedly interrupted to respond for queries of information that could be encoded and search-able within an information management system. While mentorship is acknowledged as a key activity from middle management upwards, performance in this regard is not measured as effectively as business development and delivery activities. Within existing systems there is no way to highlight that mentorship is being achieved. Mentorship is further linked to access to more senior management and the size of the business practice. Smaller business practices, in general, have less challenges in balancing these two activities while the larger practice sees value in allocating effort to clarifying roles and expectations within project teams. The general perception surrounding formal training is that it is useful in growing an awareness of a subject area but, that the real lessons come from engaging with on-the-job-learning. Whether or not formal training should be driven by the individual or the human resources department is not clear from the research undertaken.

4.3.1.4 Focus Area 4 – Knowledge Management at MCC

The existing knowledge management system at MCC is inherited from the smaller company before undergoing growth. In the past, individuals were responsible for whole business areas and information and knowledge moved in a very organic fashion. There was a shared understanding of "who knew what" and asking for information or knowledge as required. There is limited coded information available and no protocol for storing or sharing information or knowledge. Most of the knowledge and information of value to the organisation still resides in an individuals private work folder which is saved on the server when individuals leave. A knowledge broker system is in place that relies on social interaction to find both knowledge and information. A new hire is limited to asking their line manager where to find certain information or with whom to speak for advice as the needs arise. An individual's ability efficiently make use of the information system at MCC is linked to length of employment and during which growth period the individual was hired. More senior staff have typically been employed for long periods of time and operate as very effective knowledge brokers within the organisation. Across all interviews, there was acknowledgement that this system is both frustrating, time consuming and needs rethinking. While knowledge management exists as an activity as a performance indicator, there is consensus that it is not treated as such. The existing system makes no differentiation between information and knowledge which literature shows requires different systems of management. Within the larger business practice there is a call for process to create standards for creating, transferring and storing knowledge by focusing on appropriate structure with which to approach engagements.

4.3.2 Renewed Knowledge Management Efforts at MCC

The fact that the research question originated from the leaders of MCC provides evidence that management at the firm are indeed self-aware and cognisant of the fact that their systems are under pressure. Since the inception of this research study, management at MCC has made significant changes to the corporate service functions including additional resources such as the appointment of a chief operating

officer. Work groups have been formed that are tackling issues important to long-term strategic thinking and organisational culture. These groups are also interacting with opportunities for a renewed knowledge management system at MCC and seeking answers to questions of strategic and operational aspects of their institutional knowledge. This thesis is seen as tool with which to test the perceptions of senior management against perspectives gained from all levels of seniority within the firm.

MCC is rolling out a company-wide Microsoft SharePoint system that will improve the encoding and transfer of knowledge products generated at the firm in the future. This system use appropriate protocols for storing and tagging the relevant information or knowledge. No differentiation has been made between the handling of information or knowledge and many of the assets that will be stored in SharePoint are understood to be knowledge assets (such as key lessons learned) which may be challenging to encode and store. There is no evidence of the proposed system having addressed the motivational and cognitive challenges highlighted by Wickenberg (2014) as critical to the success of rolling out a new knowledge management system.

4.4 Preliminary Discussion of the Findings at MCC

The preliminary discussion is structured around the four focus areas (from hereon the four foci) identified during the thematic analysis.

Focus Area 1: Identity of MCC This focus area is synonymous with the *know-what* aspect of organisational knowledge at MCC. The leaders are seen as vision-creators who are competent at selling the identity and value-proposition of MCC. Further, MCC management is actively engaging with issues of identity. This identity should be expanded to include a knowledge vision that details strategic use of knowledge assets at MCC. These knowledge assets are strategic components of the organisational memory that this study seeks to improve. This vision should be set at senior management level but, the permeation of *The MCC way* should be incentivised and driven from middle management level. It may be difficult to identify these knowledge assets, which are contextual and tacit in nature. Iteration of these identity activities may, with time, help reveal the true nature of *The MCC Way*.

Focus Area 2: Business Practice Silos There is an opportunity to improve the understanding between business practices which will ultimately improve the trust between different units facilitating the permeation of the strategic aspects of organisational memory. Improving trust would also help reduce the push-back from any operational changes to knowledge management. The presence of the silos itself is remarkable. From literature, it is expected that such levels of division is more likely to arise in firms far larger than MCC Mintzberg (1979) but, a counter argument could be that these silos have arisen to reduce the bureaucracy and processes that would slow down decision-making capabilities. By making silos, perhaps MCC has allowed the prevalence of *small-firm culture* in a growing firm which is not necessarily a negative thing. While there is a unanimous call to add a level of process and system to the management of organisational knowledge assets, the needs of the

business practices are different. The largest practice is looking to optimise operational knowledge while the smaller practices are needing to focus more on strategic knowledge creation.

Focus Area 3: Delivery and Mentorship This focus area starts the transition of the view of organisational knowledge from *know-what* to *know-how* as it deals predominately with operational elements of knowledge management at MCC. Mentorship needs to become a more valued activity with middle managers afforded more time for similar strategic activities. Cost and capacity is the primary barrier that limits the amount of mentorship middle managers are able to offer. It is hypothesised that the implementation of a carefully considered, practical knowledge and information management process has the potential to assist middle managers in finding more time for the requisite strategic activities. Making an effort to clarify expectations and team roles through a structure (appropriate to each business practice) could further assist with time management, reducing the effort expended engaging with unstructured interactions.

Focus Area 4: KM at MCC The current KM system at MCC exhibits the characteristics of a knowledge-broker model that relies on social-interaction in directing individuals to the knowledge and information they seek. The brokers are senior managers of the firm which is not unexpected given the high costs and potential for politics associated with senior management being disconnected from delivery activities at a firm (Hellstrom et al., 2001; Wickenberg, 2014). The recent focus on the encoding of knowledge and information via a SharePoint system is a very positive indicator but, there is limited evidence that MCC has engaged with the motivational and cost issues associated with the newly proposed activities (Beer et al., 1990; Hellstrom et al., 2001). The firm is found to not differentiate between knowledge and information which are shown by literature to need different management processes North et al. (2014). Any new knowledge management system would need to take these differences into account. A simple solution could be to establish the role of information manager who need not be an individual with extensive experience and contextual knowledge of past projects. This information manager would be tasked with the encoding of appropriate information assets onto SharePoint in accordance with an appropriate information storage protocol. Organisational knowledge on the other hand should be viewed as events and not fixed assets and should be created and transferred through the existing, socially-driven knowledge broker model. This system thus encourages the establishment of more social knowledge events that would improve the organisational memory at large and further build relationships between teams across practice boundaries. All of the above has been proposed under the realisation that increasing knowledge management activities is associated with high transaction costs which are seen as the reason that knowledge management is typically so poorly valued and incentivised in many organisations. There is a balance to be found between alleviating the frustration and time wasted by inappropriate knowledge management and allowing the knowledge management system to add enormous cost while adding little value.

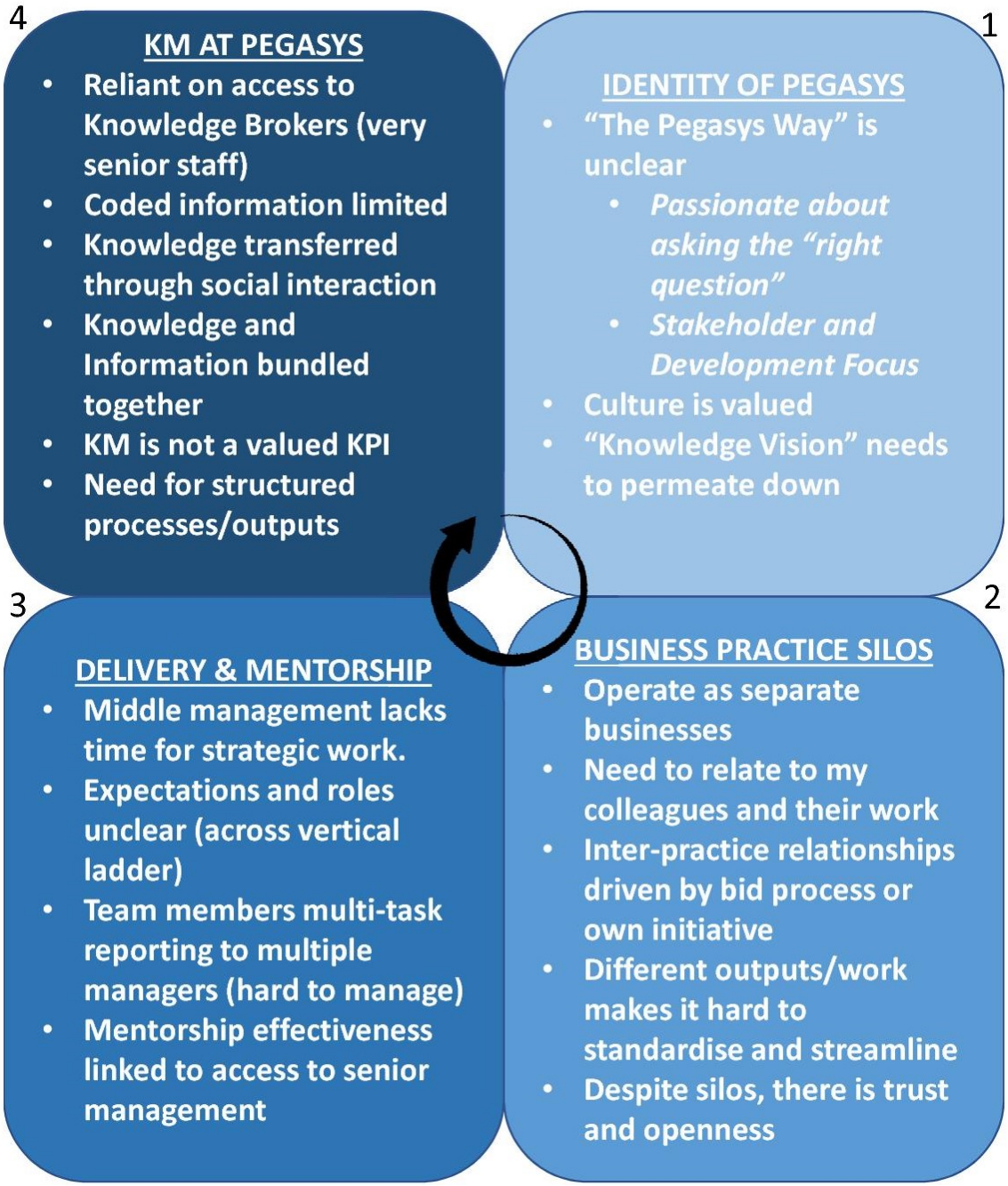

Figure 4.2: Structured insights from data analysis at MCC

5

External Perspectives of Knowledge Management

This section presents the data collected from external sources seen as appropriate lenses for contrasting the knowledge management experience at MCC. The intention of the section is to bring a perspective of best practice for knowledge management applicable to a wider context than only management consulting firms.

The external perspectives are purposefully taken from examples outside of the consulting environment. Consulting has a specific business model that centres around *selling time* which brings the challenge of delivery and strategic activities to the fore. The only way to scale consulting is through the addition of extra resources (ie. more consultants) compared to a fintech-startup, for example, who need simply add more computing power or need acquire more customers to scale their businesses. The first perspective is taken from an organisational learning project for a big pharmaceutical (big pharma) firm in Gothenburg, the second perspective is taken from discussions with a non-profit organisation (NPO) working to improve investment in the Green Economy in Cape Town.

5.1 Improved organisational learning for Big Pharma

These insights were collected through a design-thinking (DT) project initiated at Chalmers between September and October 2018. The team were given 8 weeks to use the principles of DT to investigate a problem brought forward by industry-actors; the projects and relationships were sourced by Chalmers and given to teams of between 5 and 6 students. The researcher was a member of a team of 5 students who were approached by a large pharmaceutical company in Gothenburg with an issue of organisational learning. The brief was for the students to use DT to investigate ways for the company to extract better lessons-learned from clinical trial projects across multiple geographical locations. The team was not to focus on content generated for the approval of drugs under trial but, rather extract the insights generated around how to run successful trials avoiding perceived pitfalls experienced when running any clinical trial.

Providing a full methodology of the DT process is outside of the scope of this thesis. Of importance to note is that the DT process uses the design process to better understand human perspectives of those interacting with the chosen problem or outcome. The goal is to form questions related to the actual human-need as opposed

to building solutions to the wrong question. The process is unconventional and in the team's case did not rely on any review of literature or knowledge management models.

In unpacking the DT case, the team interviewed respondents within the pharmaceutical company working within clinical trial projects as well as external respondents who were thought to elicit unique perspectives for organisational learning such as: project managers in different industries working in teams located in different geographic locations. A poster of the outcome of the project was created for the client and is shown in Appendix B.

The main findings, relevant to the thesis are shown in figure 5.1. The client had thought the focus of the study would be to look at a relevant technology that may help solve their issue, the findings from the DT data collection showed a very different scenario. Frustrations with the existing systems showed a need for: consistency in process, resources dedicated to the activity, increased social interaction and highlighted the need for project reflections to be valued and rewarded.

The team identified potential barriers for reflecting on *lessons learned* that could be categorised into different levels of complexity. The least complex system was understanding how reflection takes place on an individual level. The complexity increases when understanding reflecting in a team environment where individuals are well acquainted with one another. The environment for reflection is further complicated when moving these activities outside of intimate teams across unit boundaries and finally, the most complex of reflection systems exists when trying to motivate for reflections in teams situated in different geographic locations with different values and cultures with limited ability to *relate*. The goal for creating seamless, easy sharing of lessons learned was broken into a phased approach that wanted to first concentrate on extracting good reflections in the intimate team environment using an iterative process to gradually work towards the more complex scenarios, tackling issues of consistency, making lessons searchable and then, finally, unlocking sharing across multiple sites.

The primary issue for the existing system centred around a lack of clarity around what constituted a *good reflection*. The process of reflecting was found to be driven from social interaction, and not an IT system. It was thought that an external party would not adequately extract the relevant knowledge but, that teams would be better equipped to perform this activity if it became a regular, valued exercise.

The final solution centred around making the process of reflecting a socially-driven, rewarded, valued and regular activity. The team proposed the establishment of a *reflection room* where teams were mandated to regularly meet in an space different to their day-to-day work environment. Teams would be encouraged, through facilitation, to forget about delivery issues for a day and spend the time in strategic thinking, identifying lessons learned to be taken forward to future projects. Over time, the intention is that this activity would be refined an improved and gradually become part of standard work practice at which point the firm would be ready to concentrate on scaling the operation to achieve the envisaged goal.

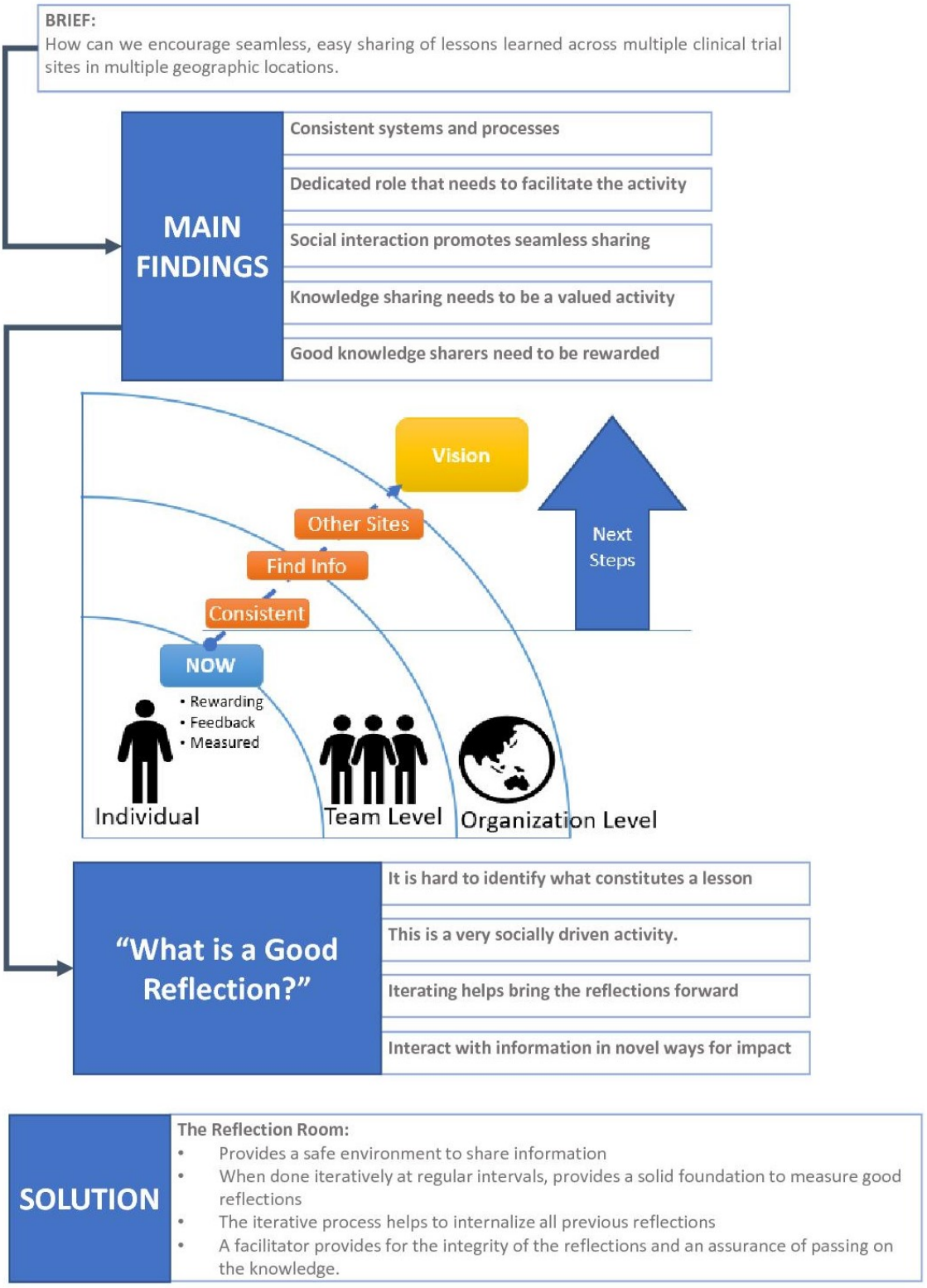

Figure 5.1: Summary of the DT project on improving lessons learned in clinical trials

This perspective is useful as the project, unknowingly, grappled with some of the main challenges for improved knowledge integration, that being:

- The difference between tacit and explicit knowledge assets.
- The paradox of balancing delivery and strategic activities.
- Making KM a valued activity.
- That knowledge transfer is a socially-driven activity centred on relating to one another to build context with the information.

5.2 Managing Information and Knowledge at a Green NPO

The following data are extracted from two interviews between the researcher and the manager of technical and knowledge considerations at the organisation. The contact originated through existing business networks when the researcher explained their current work at MCC. The manager at the NPO agreed to the interviews to present the challenges to the KM system at the NPO which the researcher hoped would provide useful contrast to the findings from the research study at MCC.

The NPO rely on funding from numerous institutions. Initially, almost all of the funding came from provincial government in South Africa but, there is an increasing need to source additional funding. The ability to raise funding is seen to be linked to the ability for the NPO in collating and communicating their specific industry intelligence. The NPO see themselves as unique brokers of intelligence that are positioned in the middle of industry, government and academia. Their primary function has been to build relationships between key actors to map the green economy landscape in the Western Cape area (A province in South Africa that includes managing the City of Cape Town). As the firm has grown they have seen increasing pressure to collate the unique knowledge and information stored in each individual and business unit area. Their primary value proposition is seen as their relationships they build with key actors and their unique insights on the business environment for various green technology opportunities across the Western Cape area. According to the manager interviewed:

- the organisation has increasingly limited awareness of *who they know* and *who is speaking to whom*.
- is concerned that some of their intelligence outputs are not rising to the appropriate level and are simply collating the facts rather than adding the appropriate level of insight various stakeholders have come to value from their outputs.
- is considering the importance of assigning skills and roles across teams in achieving the knowledge transfer goals.

The second interview included a discussion of specific knowledge products at the NPO. The manager indicated that many clients required a report on deliverables at project closure. The manager observed a tendency for individuals who were actively involved with the clients to report poorly (with little backlash from the clients) while the individuals with more distant client relationships appearing to put more effort into producing better quality project closure reports. When the former individuals

were asked about their report quality, they cited these reports as tedious to produce because no one really reads them.

This perspective from NPO is valuable in contrasting the MCC experience with a company that also produces knowledge products as their value proposition while also concentrating on the relationships with their stakeholders. NPO doesn't follow a consulting business model but, rather relies on funding with less direct delivery pressures.

5.3 Preliminary Discussion of the Findings from External Perspectives

These preliminary findings are drawn to contrast against the findings from the study undertaken at MCC.

5.3.1 Preliminary Findings from Big Pharma

The analysis of the DT project on organisational learning in a clinical trial project environment contrast well against the call for improved organisational memory at at PSF. Both cases call for the creation and transfer of knowledge and information between project teams in what is perceived to be siloed organisations. The pharmaceutical industry has a business model that doesn not relate to the *selling of time* yet their experiences show a common theme to those experienced at MCC.

The contact point at the pharmaceutical company approached the project team knowing that they were to undertake a user-centric, socially-rich research methodology in trying to understand the real problem the clinical trial teams were experiencing with identifying lessons learned. It is worth noting that the client was apparently underwhelmed when the project outcomes highlighted a need for solving the social-motivators before tackling the needs of *an IT system.* This cannot be concluded as an opinion of the larger organisation, since sampling was very limited but, the trend reinforces the conclusion in the MCC study that the role of social-interaction in a knowledge management system is under-valued and poorly understood.

The DT team concludes that making the leap from poor organisational memory to learning organisation needs to be done in a phased approach allowing time for iteration to reveal the tacit, contextual knowledge. This finding is of use to the system being developed for MCC.

Finally, the key conclusions of the DT project, which emerge from detailed scrutiny of the user-perspective alone, are seen to correspond with the primary challenges identified in literature for institutionalising organisational knowledge. This reinforces the view of the contextual nature of knowledge and is congruent with Werr (2011)'s definition of knowledge being a social construct that is not readily transferred across an IT system.

5.3.2 Preliminary Findings from a Green NPO

The relationship between the effort of reporting performance formally and distance from the client is seen to reinforce the importance in balancing the needs for managing knowledge efficiently and the cost of engaging with the system. The reporting of knowledge outcomes at NPO is related to the level of interaction between the researcher and their client. In the instance of a close relationship between client and researcher, neither party felt the need to expend energy in unnecessary reporting.

Despite NPO not having the same business acquisition and delivery pressures as MCC (especially at middle management level), knowledge management remains an undervalued and poorly executed activity. NPO is also struggling with issues of: distinguishing between knowledge and information, assigning and adhering to knowledge management goals and creating a shared knowledge vision that permeates to all corners of the firm. This observation lends legitimacy to the findings at MCC and builds on the external validity of the results that emerge from this study. It is hypothesised that any recommendations for improving the organisational memory at MCC would be applicable to a wider context than growing PSFs.

6

Discussion

This section presents a full synthesis of the literature and the findings from data analysis of both MCC and the external firms. The section aims to answer the research questions drawing evidence from both data and literature. The chapter first presents a discussion on the central theme of balancing transaction costs, from thereon the chapter is structured around answering the research questions to aid the reader in following the arguments in a logical sequence. The chapter concludes by answering the main research question by combining the answers of the sub-research questions

6.1 The Transaction Cost Paradox

A central theme through the thesis has been the importance of balancing the requirement to manage knowledge and information with the costs associated with this activity. The existing socially-driven brokered KM system and any associated advantages and disadvantages at MCC has an inherent cost for the activity but, any change or optimisation of the system brings an added cost too. This paradox is related to the dilemma of balancing short term delivery activities with longer term strategic activities. The argument is that energy and resources should only be diverted from *immediate value generating activities* to an extent that makes sense from a cost perspective. The normative models presented by Werr (2012), Nonaka et al. (2000) and North et al. (2014) are extensive in their understanding of knowledge versus information and the factors that influence heedful knowledge integration however, none of these models talk to the costs associated with simply engaging with a knowledge management system. There is also the additional challenge associated with implementing a change in organisational systems which literature highlights are more often than not unsuccessful (Beer et al., 1990; Wickenberg, 2014). Literature has highlighted the motivational and cognitive issues that are barriers to organisational learning (Wickenberg, 2014) however, not acknowledging the cost of learning and similar activities could prove a significant omission. Organisations may be perceived as having poor organisational memories because the cost of changing and expending energy in these activities does not exceed the frustration and time-loss associated with being a poor learner. The true danger of this paradox lies in the difference between the perceived and actual value of becoming a learning organisation. Should this gap be found to be significant, firms may continuously divert energy away from strategic activities and over time find themselves out of touch with their markets leading to less innovation, limiting the ability to make strategic decisions

based on effectual reasoning (Sarasvathy, 2001; Backman et al., 2007; Grant, 1996).

6.2 Sub-research Question 1: Creating a Shared Understanding of *The MCC Way*

The recognition by the leaders that *The MCC Way* needs clarification is a positive sign that this issue is being actively investigated. This thesis makes a differentiation between the strategic and operational elements of *know-what* and *know-how* of organisational knowledge at MCC. In addition, it is important to apply clear definition and structure to any engagement with *organisational knowledge* as the field will easily become unwieldy because every aspect of the business may impact knowledge management in some way. The final insight is that the role of senior management is knowledge management is to set the strategic direction of the knowledge vision and relate the vision to the competencies and value proposition of the firm North et al. (2014). The actual permeation of *The MCC Way* is to be incentivised at the middle manager level and the permeation of this strategic component of the organisational memory is the job of middle management in the firm. Improving performance in this regards would also serve to even the playing field for those individuals who, by nature of their position in the team, miss out on the opportunity to learn *The MCC Way*.

6.3 Sub-research Question 2: Barriers to Knowledge Management at MCC

6.3.1 The Separation of Information from Knowledge

Knowledge management at MCC has been shown to correspond with a knowledge-broker model that is socially-driven with limited knowledge and information encoded and searchable within the existing IT support systems. It is argued that time constraints found at middle management, affecting delivery versus strategic activities, are related to managers being inundated with queries for information that could be stored and made searchable in an appropriate database system (such as SharePoint). The literature study highlights the difference in approach required between the management of information and knowledge.

6.3.2 Structure, Process and Expectations

Despite Werr (2012)'s model highlighting that role definition would usually have significant impact on knowledge integration, the findings do not show significant frustration with role allocation. There is some evidence that when onboarding new staff, a bit of effort in delineating roles and expectations between line manager and team member might alleviate some of the frustration associated with these interactions. There is relatively strong evidence in the data that a revision of structure and process is required. From middle managers upwards, there is recognition that the

lack of formal process is creating issues with creating a level of consistency in project outputs from different teams as well as creating consistency in what the client sees and expects from an engagement with MCC. The more junior perspective is that the development of formal processes for certain work activities would reduce the frustration that comes from waiting for access to senior managers in order to carry-on with the project.

This call for increased process systems is seen by Mintzberg (1979) to entail two things: develop appropriate rules and standardise documentation. According to the Mintzberg (1979), this is a classic development in the bureaucratisation of organisation due to the growth of a company. The findings highlight that MCC are engaging with both aspects of the process. By better understanding corporate identity, culture and expectations they are in effect building rules into the organisation and by engaging with the new SharePoint system they are improving their consistency in documentation. Neither are negative points for the company to be engaging with however, if the overall aim is to *stay young while growing old* there is a need to acknowledge that it costs enormous resources to maintain every aspect of *the smaller company* in every facet of their business. In reality, some prioritisation needs to take place, such as increasing silos between practices avoid slowing down decision-making due to excessive communication. These silos are not seen as negative but, there is a need for teams to relate to each other across business practices Werr (2011).

6.4 Sub-research Question 3: Mentorship and Training

The findings show that mentorship is valued at MCC and that the existing pressures on middle managers are resulting in less mentorship activities. Should middle managers be given more capacity for activities other than delivery (see Section 6.3.1) it is thought that mentorship could be positively affected. In terms of performance criteria, there is some evidence that the mentorship activity needs to be made a more rewarded activity compared to delivery or business development activities. This idea of rewarding mentorship is interesting given MCC's history. The leaders of MCC highlighted that the historic training of staff at MCC was almost exclusively using an apprentice model. Almost all new hires were brought in at junior level and then taught *The MCC Way* through very close engagement with the leaders of the firm. Recent rapid recruitment has meant that MCC has begun recruiting for more senior roles which has brought about discussions about the organisational memory at MCC.

In terms of understanding the view of external training versus internal mentorship, there is almost unanimous agreement amongst those interviewed that mentorship or *on-the-job training* is where the value and focus should lie. The findings on external training agree with literature in that it is useful to train a specific skill or to build up general understanding of a subject area however, without mentorship,

these external skills remain of lower value Werr (2011). An interesting question emerges that asks whether the identification and management of appropriate external courses for staff is an activity that should be driven from the individual or the human resources department. There is insufficient evidence to make any conclusions from the data however, literature presents that this paradox is not a simple question to answer and that it is closely related to the question of who takes responsibility for career development (Werr, 2011; Shani et al., 2009). *Self-starters* or those who have high drive are likely to push this issue more and take more responsibility of their careers and training.

6.5 Sub-research Question 4: Approaching Best Practice for Knowledge Management at MCC

The following sub-sections present the key themes that would align the aim of improving MCC's organisational memory with best practice from literature and the external cases. These themes take a critical view of the transaction costs in an attempt to hit *the sweet spot* between delivery versus strategic tasks. The intention is to provide forward momentum on *the learning dilemma*. It is difficult to formulate a metric to measure whether or not these best practice guidelines manage to find the balance. These themes are seen as the first iteration of a group of interventions, tailor-made for MCC, that could solve the questions posed at the outset of the study. The subsequent iteration of best practice guidelines should include a series of queries that would test the suitability of the recommendations in attaining the desired balance for MCC.

6.5.1 Creating Space for Knowledge Events

Queries for context-heavy knowledge within MCC should remain a socially-driven activity due to the tacit nature of the insights and the difficulty in transferring knowledge from one individual to another. Building on the call by Werr (2012)'s heedful knowledge integration model for appropriate organisational support, it is important that senior management acknowledge their role in creating space and incentivising teams *to meet* via social interactions Nonaka et al. (2000). This thinking further implies that MCC acknowledge the difficulties in transferring knowledge and that knowledge should be seen as an event rather that a fixed organisational asset. This view implies that MCC maximise the opportunities for formal (their existing brown bags program) and informal (coffees and happenstance conversations) knowledge events. It is reasoned that an increase in knowledge events at MCC will allow teams to relate across business practices (see Section 6.3.2), without adding unreasonable cost, and ultimately builds trust between staff members. This trust is seen by both Werr (2011) and Hellstrom et al. (2001) as the currency for knowledge integration and a successful knowledge broker system respectively.

6.5.2 Establishment of an Information Manager

In overcoming the barrier of separating information from knowledge (See Section 6.3.1), project outputs, such as reports, slidepacks, client details and bid proposals are seen as readily accessible information that could be captured and stored in the SharePoint system. Further, in contrast to tacit context heavy project knowledge, this project information could be readily captured through the establishment of an information-broker role who need not be a senior member of staff. It is hypothesised that the implementation of such a system would assist with freeing up middle managements time for duties other than information sharing and reduce the reliance on access to senior managers for new, junior staff. While there is no evidence of power-based politics within MCC, Wickenberg (2014) and Buchanan & Badham (2008) would both argue that the proposed system has the potential to reduce the prevalence of organisational politics due to the erosion of the information-power base described by Raven (1965).

Two counter-arguments for the proposed socially-driven broker-model for knowledge integration emerged from the data. The first argument is that the system is unfairly biased towards strong-communicators with extrovert personalities. The strong analytical skills desired by PSFs can attract introverts who relish exploring a problem at great depth but, lack the need to be overly social in their work. This is not an argument condemning the proposed model but, managers would do well to remember that not all staff exhibit the same characteristics and the introverts may become over-shadowed by the rest negatively affecting team-dynamics (Shani et al., 2009). The second argument is related to the fallibility of human recollection. It is unwise to build absolute conclusions based on data that is recollected from a knowledge providers' memory. It is reasoned that relying on contextual, tacit knowledge through recollection but, making sure these insights are supported by encoded information should go a long way to ensuring this problem does not leave to over-sight is acceptable however, it remains important to note this short-coming of the proposed system.

6.5.3 Improved Process and Structure at Business Practice Level

The findings show that attempting to create a company-wide structure for standardising work-flows and outputs would be futile given the significant differences in the work undertaken in different divisions. There is however an argument for using structure to set expectations between team member and manager which would reduce the time taken in getting both parties at the same place. This structure should be applied at business practice, if not team, level and is particularly appropriate to the larger business practices where there are many more team members involved in any one project which slows down communication efforts. Creating an element of structure to check-ins, work-flows, meetings, etc would provide more junior staff with the clarity of task, accepting more responsibility while the managers, in the long term, are in a position to spend more time mentoring and less time in delivery activities.

6.5.4 Incentivising Knowledge Management and Measuring Performance

The rewarding and measurement of performance with relation to knowledge management activities is highlighted as critical to ensuring meaningful engagement with the issue of improving the organisational memory at MCC. The findings show that MCC have yet to acknowledge this challenge within their current thought-models. This is congruent with literature as both Werr (2011) and Wickenberg (2014) highlight these are some of the most difficult elements to unpack with North et al. (2014) highlighting the measurement of performance of knowledge management activities being extremely difficult to develop direct metrics for. It may be interesting to assess whether or not these metrics need be as *hard and fast* as presented by Werr (2011) and North et al. (2014). The balanced-scorecard may well prove to be a useful tool to MCC in creating a holistic picture of their performance across strategic and operational targets however, such a tool should be carefully implemented to avoid bloating the *bureaucratic systems* without delivering real value.

The DT project presents an interesting lens on this problem. While the client never communicated their disappointment with the results of the project and the team never confirmed via a suitable metric their perception of high performance, these results were immediately apparent. The argument is that is may be enough for teams to actively engage with KM activities and attempt to reward performance without confirming *absolute conformance* to a metric. This would mean that firms are in a better position to incentivise KM activities and improvement their performance in this area than the normative models may lead us to believe.

6.5.5 Adopt a Phased Approach

Their is recognition from literature (North et al., 2014) that the progression from poor organisational memory to learning organisation does not happen in one step and that the system takes time and iteration to mature. This view is supported by the findings of the DT project where the team found the pharmaceutical company should focus first on identifying lessons learned and facilitating social-interaction. MCC are argued to be more mature in terms of their KM maturity than the pharmaceutical firm (based on very limited data thus limited to the observations of the stakeholders interviewed). The journey ahead for MCC remains an iterative one that will benefit from setting a clear direction but, this direction needs to be regularly checked in order to ensure the firm moves towards to goal of learning organisation.

6.5.6 Avoiding the Control Trap

The call for increased structure and process at MCC corresponds with Mintzberg's (1994) levels of organisational bureaucratisation from: mutual adjustment; direct supervision and process. What Mintzberg's (1979) thinking fails to explain is why there is such a prevalence of failure amongst companies that implemented a new structure for managing knowledge (Hellstrom et al., 2001; Wickenberg, 2014). When taking the view that knowledge is an event, contextual and transferred through social interaction an argument can be made that while Mintzberg (1979) may be correct

in dividing organisational interactions according to the size of the organisation, the author fails to explain the importance of mutual adjustment (finding a social place to meet) at all levels of organisation.

Taking an overly structured approach is congruent with Hellstrom et al.'s 2001 hierarchical model of knowledge management which he argues is costly and less efficient than a market (broker) system. The question then emerges for why Mintzberg (1979) and management teams in the cases from literature focus on a heavily process orientated mechanism for knowledge management? The answer could be for the sense of control that is offered by not relying on human-interaction but rather relegating the task to a polished and perfect computer system. By implementing systems and processes that appear comprehensive management feels a sense of accomplishment that they are indeed *managing knowledge*. The result from cases show that while the systems are initially met with positive sentiment and enthusiasm, the systems are found abandoned shortly after implementation.

In moving towards a best practice for knowledge management, management is advised to avoid falling into the control gap which is seen as implementing a process that appears impressive, offering a sense of control but, is ultimately ill-suited to the needs of the company.

6.6 The Four Foci for Improving Organisational Memory at MCC

Having broken down the arguments applicable to answering the sub-research questions, a set of recommendations emerge that are seen as appropriate for improving the organisational memory at MCC (The main research question). These recommendations, combined, represent a set of opportunities to approach the issue from the many lenses of *organisational knowledge*. The recommendations are made with critical awareness of the costs of intervening in the existing knowledge management system which have been argued as one of the reasons for poor adoption of new knowledge management systems.

The four foci are presented in in Figure 6.1. The foci talk to different aspects of organisational knowledge at MCC and move from a *know-what* or strategic view through to a *know-how* or operational view in answering the complex question.

6.6.1 Focus Area 1 – The identity of MCC

Focus area 1 is related to understanding how MCC uses their organisational identity in demonstrating competence, offering value to their clients. The area highlights the importance of self-awareness and strategic direction. Any quest for being seen as innovative is driven from this focus area. Sarasvathy (2001) would argue that the firm needs to first understand their means in shaping their goals. This effectual reasoning is to happen at senior management level and will ensure that the firm does not miss out on valuable market-opportunities that would arise from the dynamic environments in which the firm operates. The strategic identity of MCC needs

to be extended into the formulation of a *knowledge vision* that should be clear, concise and compelling and packaged in a way that is a highly-social experience. This vision is then *sold* at the middle manager level giving these managers the freedom to permeate the knowledge in a way that suites their teams. The strategic component of organisational knowledge is hypothesised as tacit in nature thus, it is appropriate to see any advancement in this focus area a being an iterative process. Senior management is advised to engage with these identity issues regularly in a style that seeks to learn from previous thinking.

6.6.2 Focus Area 2 – Business Practice Silos

The silos in the business practices are not seen as a barrier but rather, a mechanism that helps reduce unnecessary, costly communication activities. They are a release valve that helps MCC maintain their *small company* culture. There is, however, a need to increase the connection or relating between inter-practice teams which would build trust between the practices improving the environment for knowledge sharing. This *space to meet* needs to be through formal and informal social interactions. In taking a highly *future-proofing* lens, it is recommended that senior management consider incentivising junior consultants to move between practices to strengthen their *generalist* skills. The argument is that innovation is derived from variation Sarasvathy (2001) and that, from a purely strategic perspective, training the future leaders of the firm with the variation offered in the different business practices builds a *future-proof* leader. This last recommendation is acknowledged as difficult to implement and may need to wait for the organisation to grow to a size that can better support such high-cost strategic activities.

6.6.3 Focus Area 3 – Delivery and Mentorship

Past research highlights low success rates in implementing alternative knowledge management systems (Wickenberg, 2014; Hellstrom et al., 2001). It is important that MCC acknowledge the cognitive and motivational aspects of this issue. Both mentorship and the strategic management of knowledge (communicating The MCC Way) need to be incentivised and made as valuable as delivery activities. It is hypothesised that the new approach to KM (see Section 6.6.4) would free up time for middle managers to engage more with these necessary strategic activities without adding further burden to these already taxing roles. There is an opportunity to improve mentorship through focusing on team roles and developing structure for engagements in the team settings. This structure could be standardised at business practice level and should simply detail the expectations on a basic level for common engagements (feedback meetings, reporting, emails, letters, etc.). Focusing on increased mentorship is thought to put additional pressure on middle management in the short term, due to the extra time required in reviewing junior consultants work and not compiling the final deliverable themselves. In the long-term, stronger mentorship would equip the junior staff with stronger skills allowing them to take larger responsibility in delivery activities which would again free up time for middle management for strategic (KM) duties.

6.6.4 Focus Area 4 - Knowledge Management at MCC

The existing knowledge-broker model in use at MCC corresponds with the needs of a decentralised (siloed) business structure and is argued as appropriate for MCC's requirements. The firm is growing but cannot yet justify an extensive, costly approach to management of organisational knowledge. It is recommended that MCC differentiate knowledge and information and establish the role of information-manager. This role is mandated with the development (with assistance) of an appropriate protocol for the storage of information assets to SharePoint. The information manager would then be tasked with the capturing of project and organisational information in accordance with the protocol with the aim of making organisational information searchable and available without the need for approaching knowledge-brokers within the firm. The existing *knowledge-brokers* should be identified by their respective expertise. Knowledge-sharing at MCC should be underpinned by the realisation that knowledge is an event, not an asset and these formal and informal events should be valued and allowed to happen more frequently. This proposed system caters for Mintzberg (1994)'s call for improved rules and documentation while not losing the mutual adjustment processes that are so vital in maintaining the *small company* culture.

Figure 6.1: The four foci for improving organisational knowledge at MCC

7

Conclusion and Recommendations

This section presents a presents the conclusion of the study answering the main research question based on the findings of the study

The purpose of the study was to better understand the existing model of knowledge management at MCC, providing appropriate recommendations for institutionalising organisational knowledge at the firm that better aligns with the needs of a growing professional services firm. The literature review highlights that the field of knowledge management is complex and that it is influenced by many facets of the business environment. The also presents evidence of very poor success rates in the adoption of revised knowledge management systems across numerous case studies. The existing knowledge management system is seen to rely on a knowledge-broker model whereby knowledge-seekers engage socially with experienced, senior knowledge-brokers at the firm in locating the knowledge and information they seek. The challenge experienced at MCC with scaling their knowledge management activities is congruent with classic organisational challenges documented in the literature for fast-growing organisations.

The thesis argues that taking a realistic stance on the costs of diverting resources into knowledge management activities is critical when seeking to make any changes to an existing system. Organisational knowledge comprises both strategic and operational elements that must be separated when reviewing and changing any knowledge management system. A combination of recommendations have been developed, called the *four foci*, that move from answering strategic or *know-what* through to more operational or *know-how* questions around improving the organisational memory at MCC.

Focus area 1 looks at improving the organisational identity of MCC that is related to competency, called *The MCC Way* by the company, and calls for the development of a *knowledge vision* at senior management level.

Focus area 2 unpacks the observation of business practice silos across the firm. The thesis argues that these silos are a mechanism that helps the company maintain their *small company* culture but, that there is a need to increase social-interaction between different business practices that will improve how teams relate to one-another improving trust which is shown by literature as critical to creating the appropriate environment for knowledge integration.

Focus area 3 delves into the relationship between delivery pressures and the need for mentorship at middle manager level. There is a need for MCC to incentivise mentorship and knowledge management activities which includes making the

dissemination of *The MCC Way* a mandated activity for middle managers. Middle management at the firm are found to be under pressure to carry out delivery activities leaving them less time to engage with the necessary strategic activities they need to focus on. The thesis argues that a simple revision to the existing knowledge management system at MCC, presented in the following paragraph, could free up much-needed capacity at middle manager level.

Focus area 4 presents an alternative system for managing organisational knowledge at MCC that should improve the organisational memory of the firm in the long term. The system covers the need to provide rules (structure) and improve documentation that, combined with the existing socially driven knowledge management system, would help overcome the current frustrations at the firm. It is recommended that the firm separate organisational information from knowledge. Information is to be captured and managed by an information manager (new role) and is driven through the existing SharePoint system. Organisational knowledge, which is understood to be more tacit and contextual, should still be created and transferred through social-interaction between team members and knowledge-brokers at the firm. Organisational knowledge should be viewed as an event not an assets and as such, it is recommended that the company maximise the opportunities for these formal and informal *knowledge sharing events* which should be in the form of social exchanges.

In conclusion, it remains imperative that the firm acknowledge that they are growing and may not have the economies of scale to justify significant changes to their knowledge management systems. By concentrating on the implementation of the four foci, the researcher argues that the existing frustrations experienced at the firm would be relieved until such time that the firm is large enough to consider more costly, resource-heavy approaches to the systematisation of knowledge management at MCC.

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A

Appendix A - Narrative Analysis Themes

MAJOR THEMES	Relation to the Task	Climate and Environment	Organisational Support
Knowledge and Information	Make the world better (development focus) |||||||	**Directors are the brokers ||||| bid proposal person, CVS, must have been here a while, big firms also use brokers not machines**	KM not measured ||| this is much more prevalent at bigger consultancies, still kept to not so time consuming, no lessons learned
	Trusted advisors_look at real data_understand client |||| this is challenging to scale and not too different from other consultants	Probation period creates trust	Performance in KM not formally rewarded ||||| mentorship is not a kpi, not weighted the same as deliverable metrics
	Knowledge is bundled with information ||| people are important too but its slower	PM and up inundated with information queries ||||| only come to me when the ingredients are missing	Limited coded institutional information ||| lack of documentation (at least final docs), this will save time
	Collaboration is important |||| proposals	Just ask someone |||| still via email and "heys" not necessarily good, not formal, this is a slow process	No Clear Pegasys Way |||||
	Strong strategisers || we have content expertise, we understand africa	Takes culture very seriously	Need a knowledge vision |||
	Analysis and research heavy + stakeholders || not external but stakeholder focus		Brown bags program | once a quarter
Silo-ed Business Practices	BP offer wildly different services. || not all practices need to be	Silo-ed work divisions ||| pigeonholed early, become specialists	Pull together vs strong role allocation (driven by the top) ||
	Poor shared understanding between practices |||| driven by doing proposals, knew my colleagues better at bigger companies (more general?)	Much more pressure on transport (carry the firm)	Lack of standardisation of process ||||||| where is the recipe (information) stored, recipe is appropriate structure that answers expectations, by design and fit-for-purpose, BP are different businesses, time with manager planning more and left to execute. How we manage needs a process too.
	Roles not always defined || everyone multitasks and multireports, this is hard to manage, driven by pigeonholing, hard to manage feedback/expectations	Different climates	No regulation |
	Intuition and structure in helping understanding ||| people are fallible, people forget	Scared of the tough questions Hard push to gain an in	
Delivery Pressures	Red penning versus redoing work ||| learn by doing is better than training, overall cheaper but takes more time. Lack of generalist/interpractice work limits development	Limited capacity ||| business acquisition adds stress, have to deliver, spend your cognitive energy wisely	High cost of managing knowledge ||
	Don't want to reinvent the wheel |||| lose time trying to get to top dogs, access to past information is worth the cost of coding	Never enough time || better KM/generalist makes us less competitive, time management is key	Hugely variable deliverables (reports, presentations, letters)
		Less team collaboration (work alone) | less need to share on low project turnover	The size of the company is key
Human Resources	Expectations unclear (especially new staff) || makes us slow to react	High turnover || but not of senior leaders (KM can be lazy)	Good internal training offered
	Integration of new employees is sluggish	Probabation period adds stress	Internal training needs long term commitment
	Good interpersonal interactions ||| need to know each other, we have different preferences	Social work atmosphere. |	Directors are vision creators
	Training is one-way communication (doesn't add value) |	Willingness to open up and share	Consultants could move around without huge drain
	Access to directors is hugely valuable to train/where to go	Communciation becomes academic and highly cognitive, needs a bit of streamlining	
	CM is the middle manager (nonaka) | first direct line to top	I trust Pegasys |	

Pegasys way:
values focus
responsibility for the communities we affect.
commitment towards these creedos
this is a culture thing
real value for the client
asking the right question, focus on the human experience
individualistic practice approach

Figure A.1: Main Themes from Data Analysis against Werr's 2012 Heedful Knowledge Integration Model

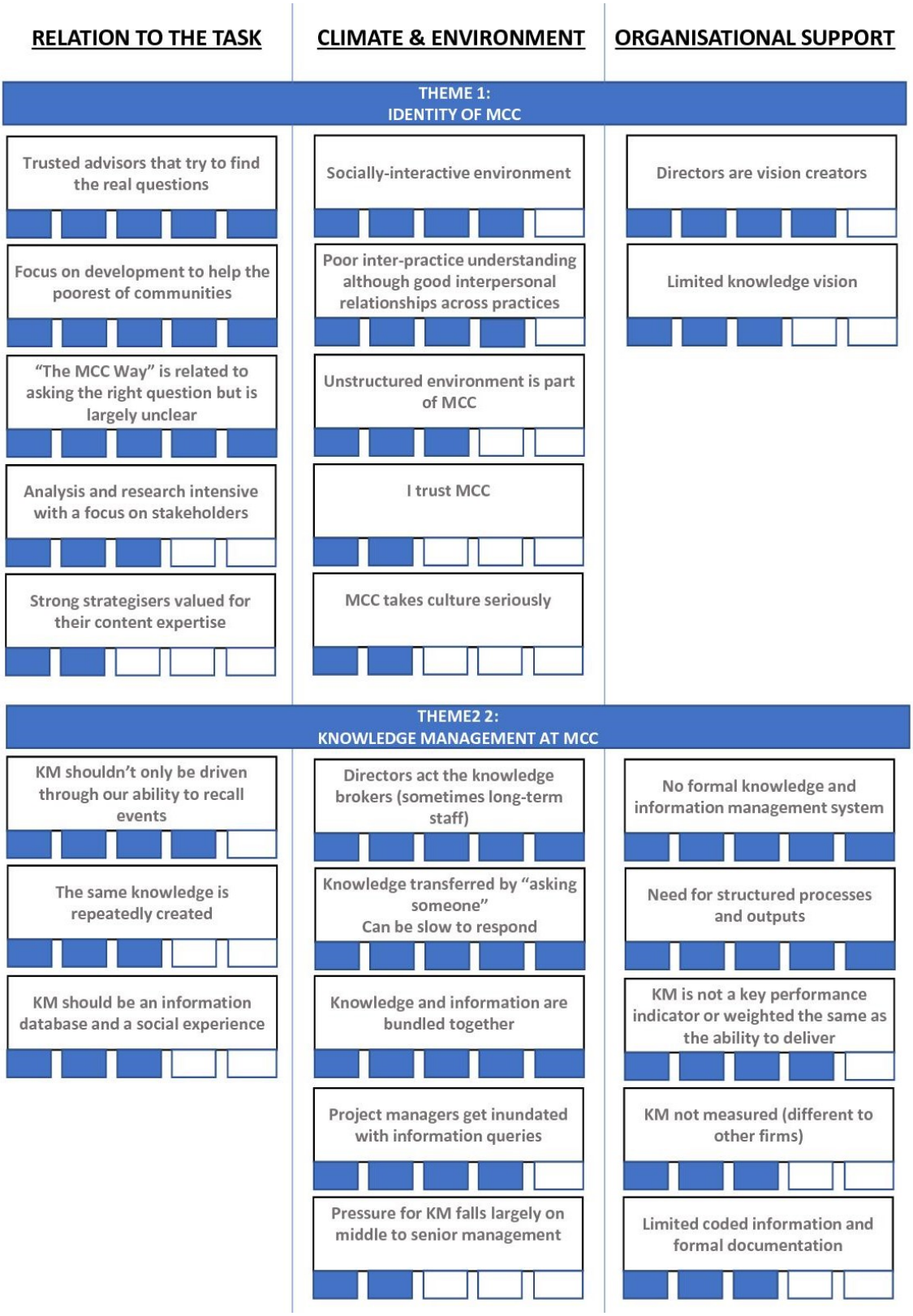

Figure A.2: Themes 1 and 2 from the Data Analysis

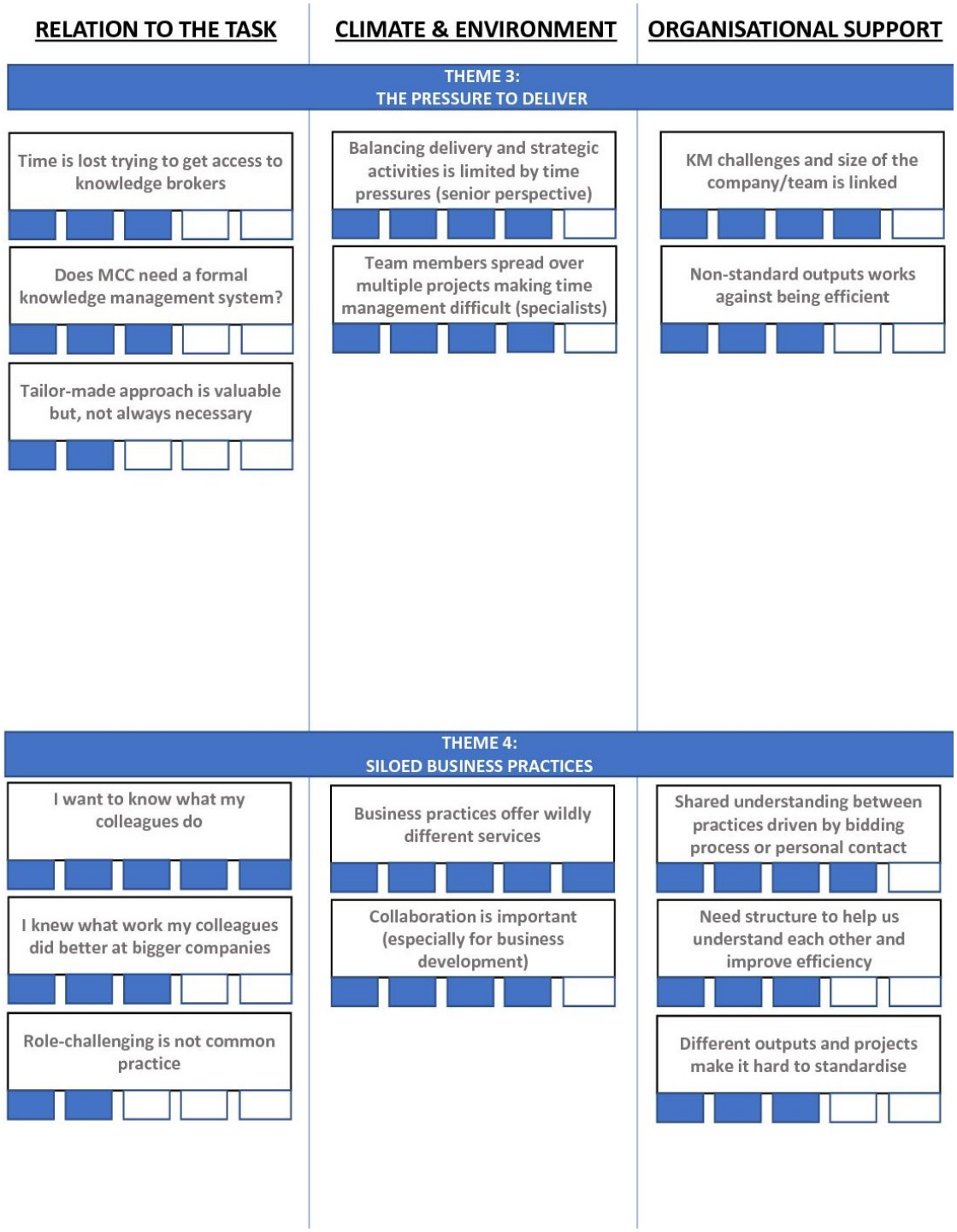

Figure A.3: Themes 3 and 4 from the Data Analysis

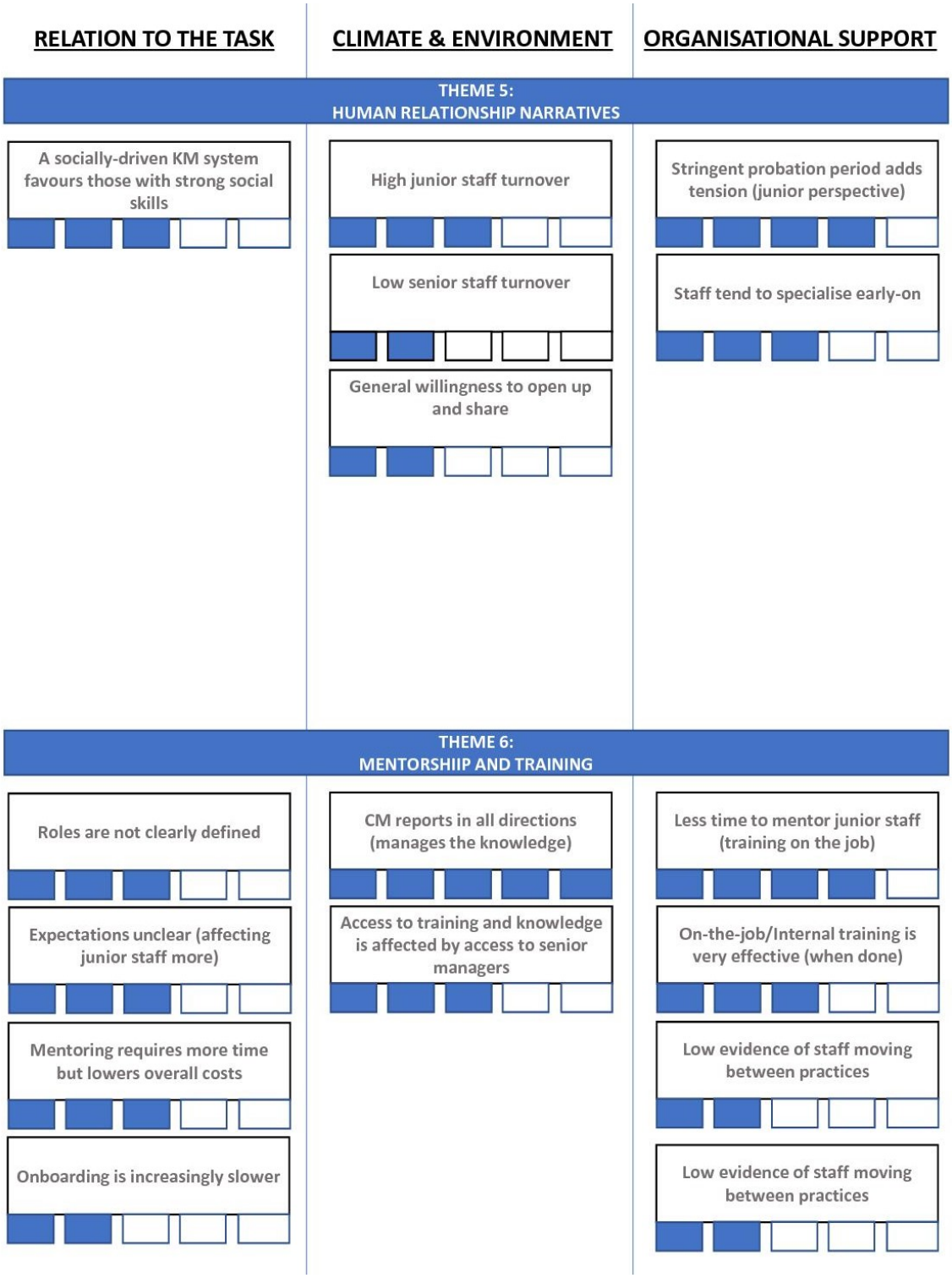

Figure A.4: Themes 5 and 6 from the Data Analysis

B

Appendix 2 - Improving Lessons Learned: Design Thinking Project Poster

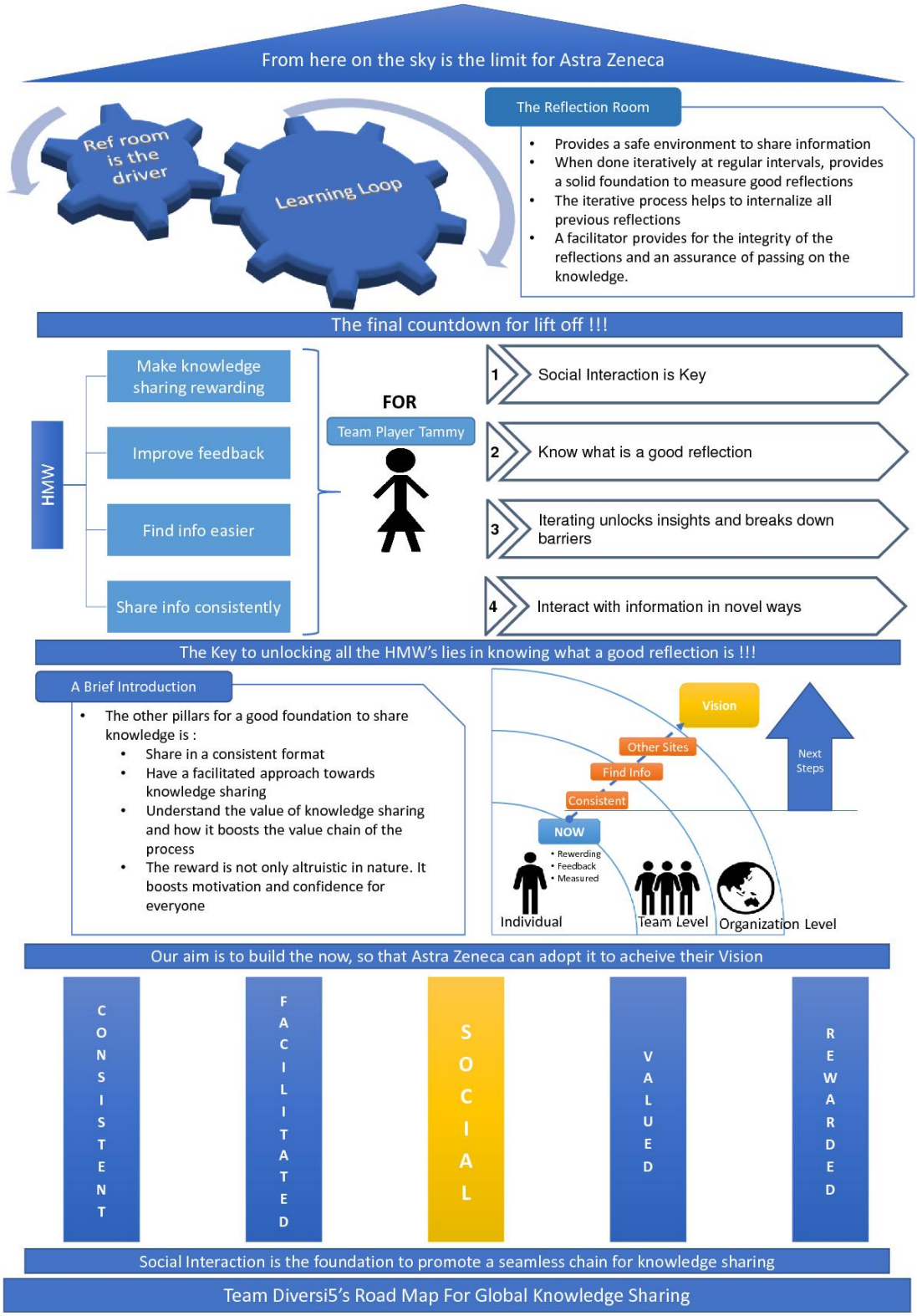

Figure B.1: Summary Poster of Design Thinking Project: Improving Lessons Learned in Clinical Trials