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The role of organisational learning in maintaining a stable context for transformation: the case of a Scottish SME

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Abstract

This thesis explores organisational learning, a process of improving actions through better knowledge and understanding (Fiol & Lyles, 1985). Organisational learning is essential in an organisation's ability to evolve and grow and respond to environmental changes and is implicated in its survival. While all organisations are said to be learning constantly, the processes involved in this learning are highly contested, multi-layered and intricate. Knowledge, memory and practice have been implicated in the multi-faceted nature of organisational learning.

This study examines the role of organisational learning in stability and change patterns and the ways that this learning is manifested in an organisational context. In particular, this study focuses on the routine actions taken by organisational members and their role in reproducing relations of stability and change organisationally. It employs Giddens's Structuration Theory (1984) as a sensitising device to view the relationship between organisational structure and employees as one of mutual constitution where knowledgeable agents both produce their world at the same time as they reproduce it anew through their daily actions.

The research takes the form of a single case study comprising interview and documentary data collected over a period of eighteen months with an aerospace manufacturing company. The analysis of the findings indicated that organisations and the individuals who comprise them: are driven by a mutual objective that directs collective action; constantly interpret the information they receive from within and outside the organisation and act upon their interpretations; and accept that such varied interpretations can and do create conflict about organisational priorities. The findings are presented in the context of existing literature on organisational learning, knowing, remembering, practising and routine work; and within the theoretical framework of structure and agency. In doing so this study discusses the transformation of the organisation through practices, thus making stability and change constantly present rather than being viewed as mutually exclusive. This transformation is constant because organisations are comprised of individuals who engage in knowing as an element of living.

Individual employees, driven by incomplete and provisional knowledge, engage in learning about their work, their organisation and how to improve by constantly interpreting the knowledge transmitted to them through their socialisation in and through organisational practices. Their knowing and learning is continuous; when practising routine work not only do they reproduce the conditions that make their actions possible, they also produce the organisation anew. Better knowledge has increased the capacities of employees and their contribution to organisational

efficiency has improved. In their joint efforts they have thus transformed the organisation which in turn forces change back upon the individuals – a transformed organisation needs to be interpreted and understood once more and the cycle starts again. Organisational learning can be viewed as the transformation of the organisation, not only through major changes that are deliberate and contingent, but also though the subtle alterations that happen continuously in the course of each day as people go about their work.

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Declaration

I certify that this thesis has been written by me and is my own work except where explicitly stated otherwise. I further declare that it has not been submitted for any other degree or professional qualification.

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Chapter 1: Introduction

Introduction

The business environment today is characterised by extreme turmoil, complexity, intensified competition and uncertainty (Nonaka, 1991; Wang & Ahmed, 2003). It is filled with shorter product life cycles, aggressive acquisitions and a heightened degree of media attention bringing their practices to the public eye. Such environments necessitate organisational strategies that put a high value on learning, innovation and cooperation (Staber & Sydow, 2002). Nonaka, Toyama and Nagata (2000) argue that organisations' ability to consistently create new knowledge and disseminate it throughout the organisation is a source of lasting competitive advantage; an advantage that will strengthen organisational adaptation to any such environment and respond to its ever-changing challenges, which can ultimately lead to its survival. The knowledge advantage is sustainable because unlike material assets, knowledge increases with use and ideas tend to breed new ideas (Davenport & Prusak, 2000).

Organisations that rely on their traditional sources for competing in the new order such as their heavy machinery or their brand name, find it difficult to sustain a competitive advantage. In the new economy every worker needs to be a knowledge worker (Wang & Ahmed, 2003) because through the set of skills, developed and maintained in organisations, innovation and improvement can arise (Nonaka, 1991). These skills, quality, value, innovation and speed will be even more critical in the future and knowledge has been recognised as the 'single most important source of competitive advantage' (Pemberton & Stonehouse, 2000, p.184) for organisations. Their capabilities are based on the knowledge of their employees, and thus any knowledge becomes a resource that is at the very foundation of the organisation (Marr, Schiuma & Neely, 2004).

Organisations that foster a positive approach to organisational learning create important opportunities for themselves and their employees. Research suggests that organisational learning can improve actions through better knowledge and

understanding by developing insights and associations between past actions and future actions (Fiol & Lyles, 1985). Organisational learning has been shown to build organisation-wide understandings of internal and external circumstances (Lundberg, 1995) that bear on current actions. Organisational learning can also function as a structuring resource to help shape organisation activity and identity (Nicolini & Meznar, 1995). It has been found to be involved in the development of new and diverse interpretations of events and situations (Fiol, 1994) that can lead to significant shifts in organisational design, organising and managing (Vince, 2001).

Although organisations are said to learn (Cook & Yanow, 2001) quite naturally whether they choose to or not (Kim, 1993) with the learning being viewed as a continuous process inherent in the very being of the organisation (Nicolini & Meznar, 1995), the specific processes and actions that comprise this form of learning have received relatively little attention (Boreham & Morgan, 2004). Traditionally emphasis in the field has been placed on the individual, the managing team or the organisation as an institution, as the key unit of analysis (Easterby-Smith, Crossan & Nicolini, 2000), but although there is some consensus that organisational learning starts with the individual (Wang & Ahmed, 2003; Antonacopoulou, 2006), the value of the routine and repetitive actions in organisational learning has been neglected in favour of a more systematic study of major change and interventions.
Weick and Westley (1996) encourage researchers to look at the uncommon and inconspicuous events to spot learning and be less taken in by large-scale training programmes and campaigns of transformation. Instead more attention could be paid to 'learning moments' (p.456).

Such moments are inexorably linked with the daily lives of individuals as they learn how to best negotiate the situations at work, pick up skills by working with others and improve their effectiveness through better understandings. Organisational learning needs not be just as a result of some environmental stimulus but also can come from within the organisation itself (Cook & Yanow, 2001).

This first chapter presents the statement of the problem and the purpose of the study. It then identifies the research questions of the study along with its methodology and research goals. It concludes with an overview of the thesis including a breakdown of the chapters and their aims.

Statement of the problem

While organisational learning is said to improve organisational functions and enhance responses to the environment, this has been the focus of research that placed a premium on interventions emanating from management teams and decision-makers with little attention being paid on how individual learning, unconscious and unintentional (Huber, 1991) can have a direct effect on organisational change and stability functions. Organisational learning has been typically linked with organisational change and increased effectiveness, and thus any absence of observable change has been equated with absence of learning (Cook & Yanow, 2001). However there is another kind of organisational transformation that emerges as a result of organisational learning, 'one that is enacted more slowly and more smoothly [and] is grounded in the on-going practices of organizational actors and emerges from their (tacit and not so tacit) accommodations [with] everyday contingencies' (Orlikowski, 1996, p.65). Vince (2001) calls for research to be directed towards understanding the ability that individuals in an organisation have, to make an impact in their organisation's ideas and practices. By understanding local knowledge possessed by actors in lived situations, Yanow (2000) concludes that research can seek to understand the realities of the workday world and what she terms 'practical judgement' (p.251). That is the situational and contingent reasoning and deliberations that underlie acting.

Organisational learning is the process of improving actions through better knowledge and understanding (Fiol & Lyles, 1985). This definition is of particular resonance for this study as it offers a close interpretation of the findings and their discussion. Fiol and Lyles have identified that 'learning' is a process, and that has implications for actions such as knowing, remembering and practising. Furthermore, 'improving' is used to connote a spectrum of possible outcomes and not specifically associating change as: effective action (Kim, 1993), adaptation (Cangelosi & Dill, 1965) or

changes in norms and standard operating procedures (Popper & Lipshitz, 2000). This study sees organisational learning as the process of individuals being driven by the incomplete nature of knowledge to always seek to further their knowledge about how to do their work. This knowledge is constructed in a context mitigated by pre-existing circumstances and affects any knowledge interpretation. Thus any action has inherent both, the reproduction (replication) of existing structures and the production (creation) of new conditions. In other words, individual learning transforms the organisation through practices.

Purpose of the study

The purpose of this study is to explore the role of organisational learning in stability and change patterns and the ways that this is manifested in an organisational context. In particular, this study focuses on the routine actions taken by organisational members and the role they play in reproducing relations of stability and change organisationally. Developing a clearer understanding of the relationship between learning and organisational transformation is critical in supporting organisational survival through the medium of its individual employees.

Exploring organisational learning is a complicated process as there are no rigorous theories about it (Shrivastava, 1983) to guide research in the field. However in this study the approach was to delve into the context in which learning is created and maintained. It has been noted that what organisations learn depends on their environment (Cangelosi & Dill, 1965). This organisation-specific knowledge or know-how is unique to each organisation and is intimately bound to its processes (Cook & Yanow, 2001) and it has been noted in the literature to have the most significant bearing on the meanings that individuals ascribe to learning (Antonacopoulou, 2006). Nonaka, Toyama and Nagata (2000) find that outside its context, knowledge is equated with information and to create knowledge, a context is necessary.

The perspective adopted was that of learning as a social construction where learners construct understandings out of the context in which they function (Brown &

Duguid, 1991) which includes the social and physical circumstances as well as the histories and social relations of the people involved. This perspective takes into account that learning can be perceived as being embedded in the social and cultural contexts and can be understood as a form of participation in those contexts (Boreham & Morgan, 2004). Being released from focusing on what goes on inside the heads of individuals and more on what goes on in the practices of individuals in groups (Cook & Yanow, 2001) has allowed for a research study that investigates observed habits, routines and conventions as well as communications, perceptions and actions. Greater attention was paid to how knowledge is created mainly through conversations and interactions between people (Easterby-Smith, Crossan & Nicolini, 2000). But also the associations, cognitive systems and memories developed through learning (Fiol & Lyles, 1985).

This study has chosen to explore organisational learning as it is created and maintained in an aerospace manufacturing company. The organisational members' interactions as they created and maintained meanings were examined. Selecting to focus on how meaning comes about and is acquired by new members as well as created by existing ones helps to answer Argyris and Schon's (1978, p.9) question about the paradoxical nature of organisational learning: 'organizations are not merely collections of individuals, yet there is no organization without such collections. Similarly, organizational learning is not merely individual learning, yet organizations learn only through the experience and actions of individuals'.

Research Goal, Methodology and Questions

The goal of this study is to extend our understanding of organisational learning by exploring its implication to stability and change patterns, and thus how it might be involved in organisational transformation. This study explored the processes involved in organisational learning through routines and practices using a single case study methodology and utilising Giddens's Structuration Theory (1984) as a sensitising device.

This study explores this topic through asking one main research question and a sub-question:

1. What is the role of organisational learning in observed stability and change behaviour in an organisation, and
   a. In what ways is organisational learning manifested in this context?

Significance

This research offers an original contribution to the field of organisational learning through its in-depth examination of practices as the medium through which individual learning can transform the organisation. This research will increase the body of work related to, and understanding of the role that organisational learning plays in stability and change processes as organisations strive to decide where to spend their energies. In doing so, this study helps to fill a gap in the literature on the involvement of the day-to-day practices of employees and the possibility inherent in them for learning and for transformation.

To date studies have centred upon learning as an on-going feature of the organising process (Weick & Westley, 1996) where organising has been perceived as incorporating unending cognitive processes (Nicolini & Meznar, 1995). These 'cognitive processes' transform the organisation by creating variety and difference (Easterby-Smith, Crossan & Nicolini, 2000) and unintended and ambiguous circumstances whose meaning is open to further interpretations and actions (Tsoukas, 1996) thus creating a continually reconstituted knowledge base.

What this study contributes towards, is the use of employees' daily working lives, the minute and often inconspicuous to unpack the 'cognitive processes' and see organisational learning as part of the flow of organisational life and not only as something extra-ordinary that happens during times of upheaval and reengineering.

A second contribution of this research is the utilisation of Giddens's Structuration Theory for the study of organisational learning. A structuration approach has allowed for the whole picture of what is to learn organisationally to be addressed because it avoids subordinating the individual to the organisation and the organisation to the

individual since it focuses on the 'dynamic interplay' (Boreham, 2008, p.4) between them. While structuration has been used as a sensitising device, it extends understanding of organisational learning as a mutually constitutive phenomenon and directs attention to practices rather than on individual mind synapses through Giddens's use of 'agent knowledgeability', 'duality of structure' and 'dialectic of control'.

Overview of the thesis

This thesis has seven chapters: introduction, review of literature, theoretical lens, research design and methodology, presentation of findings, discussion of the findings and conclusion.

The first chapter, the *Introduction*, has briefly introduced the reader to the research study presented in this thesis. It provides a brief introduction to the study and also breaks down the rationale for this piece of research through a statement of the problem and a definition of the term 'organisational learning' as it has been understood and used in this study. It continues with the purpose of the study. It also unfolds the goal, methodology and research questions and proposes a contribution to the field of organisational learning and finally has an overview of the thesis.

In the second chapter, where the *Review of the Relevant Literature* is explored, the background of the field of organisational learning is set. The purpose here is to ground the study amongst the various strands and debates in the area as they are currently portrayed in the literature.

It begins with Organisational Learning and explores the various debates as they have evolved. It continues with Organisational Knowledge which is considered as that which is acquired in the process of learning and also elaborates on Organisational Memory which discusses the possible retention capacities of organisations. Also it explores the effects of Organisational Routines and Organisational Practices as the means through which such organisational capacities can be said to be carried out by individuals.

Chapter three presents the *Theoretical Lens* of Giddens's Structuration Theory through which the relationship between organisation and learning has been viewed. It presents the main tenets of the theory and it follows the evolution of structuration

through Giddens's publications. Furthermore it provides a critique of the approach that Giddens has taken in forming and popularising his theory but also makes a link between the theory and its potential empirical applications in the field of organisational learning.

In chapter four, the *Methodology* is presented. Here an exposition of the case study approach and an explanation for the single-case study employed for this research are offered grounded in literature on the depth and breadth of qualitative research. It also describes the data collection and analysis procedures that were used and includes an overview of the organisation participating in the study.

Chapters five, six and seven, where the *Findings* are presented, three thematic networks are introduced grouping the data around main themes exposing their various strands. In addition a tabular summary of the networks is added as a snapshot to the whole chapter to facilitate linking between all three networks and usher the reader towards chapter eight on the *Discussion* of the findings. Here the outcomes from the networks are projected through the state of the literature as presented in the second chapter and also through the Theory of Structuration to critically examine them and make judgements as to what has been learnt from this piece of research. Here an argument is presented to cut through the three networks which is then explored through the literature in the field.

Finally, chapter nine, *Conclusion*, discusses the implications of the findings for theory and practice and also points out the limitations of the study and offers directions for further research.

Chapter 2: Literature Review

Organisational learning

Introduction

Themes in the literature were centred on the different constructs of the 'learning' that can be said to be organisational. They fall under these headings: organisational learning as adaptation; as the learning of the collective or as a metaphor for individual learning; as the outcome of social construction, as being directly related to change but also seen through the 'cultural perspective'.

Organisational Learning as adaptation

Organisational learning has been viewed as adapting to one's environment. This adaptation is what authors call learning. This learning has been depicted in the literature as having many shapes. It is seen as what the individuals perceive happens outside their organisation.

As early as 1965 Cangelosi and Dill had connected the environment as having a direct impact on what the organisation learns. Organisational learning then is the direct result of adaptation that takes place at the individual, subgroup and organisational level. Adaptation takes place as the result of what the authors call 'stress' (p.200) that stimulates learning in the systems that make the organisation. As the individuals and subgroups adapt to their environment, they control learning at the organisational level primarily by producing divergent and conflicting patterns of behaviour. When individual and subgroup adaptation produce divergent and conflicting behaviour beyond what the organisation can tolerate, then 'total-system learning is likely to take place' (p.200-1). Organisational adaptation on the other hand serves to limit the range of individual and subgroup learning through its influences on organisational goals and the attention given to which kinds of activities. Following the rationale of the equilibrium and beyond the equilibrium, the organisation once in a stable position expects its members to behave such that they maintain the current situation. Only by going beyond the equilibrium the organisation can shift paradigm and be called to 'change' or 'learn'. These views

separate the individual from the organisation and view change at the macro level.

Others such as March and Olsen (1975) take a similar view on the impact that individual understanding of the external environment can ultimately have. For them, the individuals in organisations are the ones who interpret the world around them and establish their beliefs in the face of change. The authors are particularly interested in how these beliefs are formed considering that there is not an 'objective world' (p.148). Again, they advocate a similar process where individuals experience the discrepancy between what the world should be and what the world actually is. Following this understanding their behaviour is altered that aggregates into collective or organisational action and choices. This action is followed by a response from the environment, a response that affects individual assessments 'of the state of the world and of the efficacy of the actions' (p.149). A change is happening within individual system of beliefs and that is sufficed to be called organisational learning.

The interesting thing here is that adaptation is a constant element of organisational existence but as before it is initiated from outside factors and comprehended by individuals.

Some authors are wary of this limitation of external stimuli and its impact on organisational learning. For Fiol and Lyles (1985) the learning of individuals can be translated into organisational learning once 'associations, cognitive systems and memories' (p.804) are shared. The authors are alerting to the differences between learning and adaptation. Whereas learning is about developing insights and making associations between past and future actions and reflecting on the effectiveness of actions taken; adaptation is about making incremental adjustment motivated by changes in the environment of the organisation. Hence the authors ask that we are aware that when observing change in the organisational structure, we should be wary of the distinction and whether we are observing simply, 'change' or change that was the result of learning.

This preoccupation with adaptation is considered by some within the Organisational Learning field as too narrow and that the impetus for learning can also come from within the organisation itself (Cook & Yanow, 2001).

Organisational Learning is the learning of the collective

Apart from individuals and the effect of their learning upon the organisation, there is another school of thought that considers individuals in aggregate as creating Organisational Learning.

Individual learning in organisations has been conceptualised as a 'social, not solitary phenomenon' (Simon, 1991, p.125) that is viewed as emerging from the interactions of individuals within groups and collective behaviour.

Collectives are significant in that viewed through behavioural lens, can be seen to be constantly balancing between building consensus and generating diversity (Fiol, 1994). In the face of change or external stimulus, collective learning, which encompasses both the divergence and convergence of the meanings that people assign to their surroundings (p.404), will need to create common understanding so as to be able to move forward. The workings of the collective to reach consensus can be seen as learning and the action taken as the outcome of that process to be Organisational Learning.

This is not strictly universal though as organised action can occur in the face of dissension around one dimension as long as there is consensus around another.

As well as collective action, Weick and Roberts (1993) suggest the existence of a 'collective mind' (p.360) that individuals contribute to. A collective mind has capacities beyond the individual minds that contribute to it as it 'inheres in the pattern of interrelated activities among many people' (p.360). The argument made by the authors is that a well-developed organisational mind can have social skills that would allow it to have a 'heightened understanding' of the environment around it. Organisational learning is the ability of the 'collective mind' to comprehend the environment and respond to stimuli. Furthermore the collective can actually have a more specific feature such that it refers to the decision makers in organisations. If organisations are viewed as 'collective forms of coordinated cognition and action' (Nicolini & Meznar, 1995, p.740) then the actions of those in charge can control the future behaviour of the organisation.

Organisational Learning as a metaphor for individual learning

The term itself has been considered as a metaphor for all those organisational phenomena that can be attributed to individual learning.

For Gherardi (2000a) organisational learning is but a metaphor for understanding knowledge and knowing. By using the term 'Organisational Learning' we are representing the organisation 'as if' it is capable to do what human brains can. By doing this then human learning theories can be applied to the metaphor and avoid anthropomorphising the organisation, giving it human capacities. For Gherardi, the term is not contested, it is the language that allows us or prohibits us from making inferences about organisations. The metaphor becomes an artefact that can 'produce identities, meanings, material artefacts [and] collaborative actions' (p.1075). If then new metaphors are created, learning is said to have occurred according to Gherardi. It is proof that the groups are absorbing new knowledge to develop new joint action and negotiate meanings and identities. The author is suggesting the use of metaphors as they are used by organisational groups to explain their learning. As these changes or transformations are replaced, examining the reasons why or the meanings ascribed to them we can 'see' Organisational Learning through language eliminating the ontological issues that come with anthropomorphising the organisation itself.

The equating of Organisational Learning with individual learning *in* organisations had been a traditional theme within the field (Shrivastava, 1983, Easterby-Smith, Crossan, Nicolini, 2000) and it has contributed greatly to our understanding of the phenomenon, as it created the 'cognitive perspective' on organisational learning (Cook & Yanow, 2001). The usage of the metaphor can relieve us from questioning the validity of the term Organisational Learning; and reification of attributing human characteristics to inanimate objects such as organisations (Kim, 1993). It is not so straight forward though even with the use of language to ascertain that Organisational Learning can be reduced solely to individual learning. Simon, who suggests that all learning takes place inside individual heads and the organisation can only be said to learn by the learning of its members or by acquiring members that possess knowledge new to the organisation cannot evade to ascertain that

Organisational Learning ‘go[es] beyond anything we could infer simply by observing learning process in isolated individuals’ (1991, p.125). The first part of the assertion represents learning in organisations and locates organisational learning in individual human heads, reducing Organisational Learning to individual learning taking place in organisational settings. However the second part of the assertion represents learning by organisations. If the organisation can, through recruitment and dissemination (Popper & Lipshitz, 2000) learn, then this occurs outside human heads hence cannot be reduced to individual learning. Organisations can be said to learn non-metaphorically when individuals participating in teams process organisation-relevant information that can lead to changes in their performance (Ron, Lipshitz & Popper, 2006).

Organisational Learning is the outcome of social construction

The social constructivist approach sees organisational learning as a process through which individual knowledge is transformed into collective knowledge as well as how such socially constructed knowledge influences and it is part of local knowledge. Huysman (2002) notes that this approach puts emphasis on the process through which an organisation constructs knowledge and reconstructs existing knowledge. So when learning is understood to be a social rather than an individual process, is seen as an activity that takes place in the collective and not strictly inside brains. Learning is ‘acquired’ as part of a process of social participation. The emphasis is placed away from the ‘empty vessel’ mentality and situated amongst the exchange of experiences and communication. This moves away from theories of Organisational Learning stemming from individual learning and assumes that learning takes place and is created through conversations and interactions between people (Easterby-Smith, Crossan, Nicolini, 2000). Hence the focus is drawn away from trying to view possible connections in the frontal cortex but seek to understand the construction of structures and models that individuals create to understand the world around them, even the ones that have been already constructed by others for them.

An application of this perspective in the organisational realm was the work of Lave and Wenger (1991) in their Communities of Practice as groups that are informally set up by people who share expertise in their area and who share their experiences and knowledge in creative ways that allow for new approaches to problem solving. Those

who participate in such communities learn together (Wenger and Snyder, 2000) through the process of resolving problems that are directly related to their work and thus the knowledge generated in such communities can be viewed as systematically improving organisational effectiveness. The setting for learning also has taken on an additional gravity as contextual factors such as social and physical circumstances as well as the histories and social relations of the people involved in the communities are the raw material that learners use to construct their understandings (Brown & Duguid, 1991). Antonacopoulou (2006) sees similarities with Simon's (1991) view that what an individual learns in an organisation depends in what is already known by other members and the contextual information present in organisational environments. However in her study she finds that at times organisational members are not affecting the organisation as much as it affects them. When in a study of managers and their learning in an organisation, she found that managerial learning is greatly affected by how organisations view learning (also in Nag, Corley, Gioia, 2007). Organisational practices affect learning and this is evident in *how* people learn in an organisation. What is interesting here is that by analysing their practices she can infer the preferred way organisations learn. Also that individual learning identity reflects organisational learning or lack of. For example the learnt identity of being a bank manager affects considerably the perceived nature and approach to learning itself.

The importance of group learning as an outlet for the individual to construct understanding of their own thoughts and as a way of the organisation to pass on its objectives, has been used as measuring unit in organisational learning (Easterby-Smith, 1997). As part of their cyclical multi-level model Crossan, Lane & White (1999), affirm that 'insight and innovative ideas occur to individuals – not organisation' (p.524). However they suggest that since organisation learning creates a link between cognition and action; it traces such action within group sharing and creation of common meanings all the way through to organisational knowledge. Such models view institutionalisation of learning as being part of norms, procedures, routines and rules (Hedberg, 1981, March, 1991, Lundberg, 1995).

At the same time, the community is also a term that requires further definition. Some believe that a community that creates Organisational Learning is the top management team (Daft & Weick, 1984). Such teams are encountered throughout the literature as they clearly make decisions on organisational strategy and goals. They are easily identifiable thus as the interpreters of data and information gathered in their community. It would be surely enough to dismiss the rest of the construction of understandings throughout the organisation and eliminate those who are excluded from communities of practice and decision making groups as non-relevant.

Organisational Learning is about change

Fiol and Lyles, write that Organisational Learning is about improving actions through better knowledge and understanding (1985). And although the authors recognise that individuals learn and this contributes to the Organisational Learning definition, Organisational Learning is more than adding the learning of each employee. This is a common perception in the literature that is important to note here, about the change from individual, psychology-generated learning, to seeing Organisational Learning – but not being quite clear how to go about explaining it or researching it. Others have made similar comments (DeGeus, 1988). For the authors, any learning that takes place can be 'seen' in 'associations, cognitive systems and memories'. These are then shared by organisational members. However the authors also see organisations or their settings as not always conducive to learning and they suggest that we should be looking for certain conditions; one such condition is a culture conducive to learning, along with having flexible strategies and innovation-encouraging structure. However, the confusion of what to call 'learning' remains. As other system-based theories, where observing change in the system can be viewed as the response to an external environmental stimulus, Fiol & Lyles caution over the difference between what they call 'unreflective change' (1985, p.808) and change–making where learning was used – as they define it, in this case responding to environmental stimulus with an understanding of the effects this will have. So seeing organisations change should not be equated with them learning.

So what is learning? According to Fiol & Lyles (1985) it is 'the development of insights, knowledge and associations between past actions, the effectiveness of those

actions and the future actions' (p.811). However the authors say that research should be using employees' statements and their actions to determine learning but be aware that it is the behaviour and cognition of individuals that would indicate this learning and not their action-taking or change. In other words, the authors view Organisational Learning though the individual-learning theories lens and this transpires in their understanding of the phenomenon. Separating cognition and action-taking seems quite a hard task as it is not possible to see let alone evaluate what happens in people's brains.

Huber (1991) is insistent that learning is not always the result of external factors or that it creates visible changes. Learning can be unconscious and unintentional and learning might not result in expanding one's effectiveness or 'potential effectiveness' (p.89). The author also warns that learning has a sinister side and we should be aware that at times 'entities can incorrectly learn and they can learn that which is incorrect' (p.89). What he means is that we view learning as the ultimate goal but not all learning is the same and the process by which we get there also needs to be evaluated. For Huber, we can 'see' learning in the change of behaviour.

Vince (2001) talks about organisations as being 'establishments' (p.1326). An establishment is formed though an organisation's history, habit but also through the act of organising. He explains Organisational Learning in the same terms, as the process of reflecting upon the establishment critically and this process can lead to 'shifts in organizational design and interpretations of organizing and managing' (p.1330). The establishment according to Vince is a fixed position of organisations; it constrains individual behaviour and organisational structure, a situation limiting learning and change. For him, Organisational Learning is visible only through transforming this establishment. Learning thus encompasses the realisation that the way things are, no longer satisfies the needs of the organisation and a change is desirable. This means challenging the status quo and this can be an uncomfortable state to be in.

Organisational Learning as a 'Cultural Perspective'

Cook and Yanow (2001) with this work, proposed an argument that had an important impact in the evolution of the field of Organisational Learning. They make their

proposition by suggesting what Organisational Learning is not. That it is not a cognitive experience as we would understand it in individuals. This is a major part of their explanation and they go on to evaluate the other end of the spectrum and create argument for why it is improper to use it in analysing Organisational Learning. A lot of what they say is actually the result of a comparison between their explanation and the cognitive perspective. Their work though does not side with the theme developed above on the learning of collectives. Although they note the focus needs to be removed from the individual and be refocused on the collective, this is not to be taken as the aggregate knowledge of many individuals. What they do propose is a cultural perspective, an anthropological view of learning. This allows a researcher in the field of organisational learning to go from reading and examining the individual and the groups such as the Communities of Practice to 'seeing culturally' (p.408).

Cook and Yanow (2001) have created what they call the third perspective, the cultural perspective of organisational learning. As they viewed the literature up to the point of their published thesis on culture, it was as all a consequence of, as they called it the 'cognitive perspective on organisational learning' (p.400). The cognitive perspective encompasses two schools; one that views Organisational Learning as the learning done by individuals in an organisation; and the second, applying onto the organisation theories of individual learning and treating the organisation as if it is an individual. For the authors the cognitive perspective falls short of their understanding of what Organisational Learning is: 'learning is understood to be done by the organization as a whole, not by the individuals in it, and where the organization is not understood as if it were an individual' (p.400). This interpretation of the phenomenon requires hence a different perspective in examining it. Cook and Yanow use the collective in a different sense than what we saw previously. They explain Organisational Learning as the point when a 'group acquires the know-how associated with its ability to carry out its collective activities' (p.403).

The authors agree with the use of the word learning but are clear about its remit; for them the process of acquiring knowledge by an organisation is different from what an individual does. They use culture as a means of seeing a collective learn as it

‘allows us to begin with the empirical observation that a group of people can and does act collectively – and can do so in ways that suggest learning’ (p.404).

By understanding organisations as cultural entities as defined by Cook & Yanow (2001), we can draw inferences about the learning that happens there. It allows us to shift our attention from cognition and what goes on inside individual heads to ‘what goes on in practices of groups’ (Weick & Westley, 1996, p.442). These practices are essential in the cultural perspective and are made visible and tangible through the artefactual expressions of social systems; the material objects produced by a group, the routines followed by groups – both formal and informal, the language used – words, phrases, vocabularies (Cook & Yanow, 2001, Yanow, 2000). Yanow (2000) succinctly describes what to focus on while using the ‘interpretive cultural perspective’

> Collectives;
> And their acts (including interactions)
> And the objects that are the focus of these acts
> And the language used in these acts
> Together with site-specific meanings of these various artefacts to the actors in the situation as well as the site-(or ‘field’) based set of interpretive methods designed to access and analyse these data (p.251)

Boreham and Morgan (2004) combine the cultural with social context and view employee participation in them as the generator of organisation learning. As individuals engage in social practices they are constantly transforming them and are transformed by them in a process that utilises ‘dialogue and relational practices’ (p.308). Dialogue is the means of exchanging messages and relational practices explain how social structure is created. Practices have been viewed as the externalisation of accepted ways of behaving in a certain community (Cangelosi & Dill, 1965). These practices when reproduced by communities produce organisational learning or at the very least they are a demonstration of that. As employees come together in the context of their work, and although they carry with them different subjectivities from differing perspectives they engage with these practices and coordinate their differences. The coordination is a form of consensus (Fiol, 1994) that is attained because all work-related effort is aimed at achieving

organisational goals (Scott, 1998; Boreham & Morgan, 2004). Creating organisations and collectives of employees that are driven to engage in practices for a common objective gives purpose to organisational learning and it spans it over contextual circumstances (Fiol & Lyles, 1985; Lundberg, 1995; Tsoukas & Vladimirou, 2001; Nag, Corley, Gioia, 2007).

Defining Organisational Learning

In an effort to review the literature on organisational learning, the differing conceptualisations of the term were presented in an attempt to identify the experiential referent for the term (Weick & Westley, 1996). A taxonomy was offered based on a review of relevant literature, combining reviews of organisational learning literature over the past decades (Shrivastava, 1983, Dodgson, 1993, Easterby-Smith, 1997, Easterby-Smith, Crossan & Nicolini, 2000). The various images of learning that can be said to be organisational evolved from the perception that learning is a capacity fit for humans and several strands in the literature emanate from that, as well as the observation that organisational learning is always more than the sum of its individual employees' learning (Fiol & Lyles, 1985, De Geus, 1988, Kim, 1993).

Both of these attempts to explain the phenomenon act as precursors to a much more integrated understanding of the workings of social interaction in the workplace. Social constructionist perspective of Organisational Learning puts emphasis on the processes though which organisations and their members construct and reconstruct their environment and create/recreate knowledge (Brown & Duguid, 1991; Cook & Yanow, 2001; Gherardi & Nicolini, 2000; Lave & Wenger, 1991, Huysman, 2002). This approach gives equal power to both agent and structure (Giddens, 1984) over the formation of their working environment, the capacity for improvement and change and the motivation to exist in harmony with each other as the stakes are the same for both (Boreham, 2008).

The definition of the term used in the thesis is that 'organizational learning means the process of improving actions through better knowledge and understanding' (Fiol & Lyles, 1985, p.803).

What this definition offers this study is the subtlety with which it deals issues such as

change and how it addressed the issue of the experiential referent mentioned above. More specifically the use of ‘process’, ‘improved’ and ‘better’ request a more subtle look towards the potential of organisational learning and removes the focus from perceptible change. Change has long been connected with learning and the assumption remains that lack of observable change in practices, routines and standard operating procedures will signify lack of learning. That leaves out much of interest (Cook & Yanow, 2001) of what is unseen especially in instances which might be considered mundane such as decision-making at the micro level (in routines and everyday practices).

Definitions of organisational learning

> 'We must be careful not to adopt too strict a definition of organizational learning, or we will define our topic out of existence' (Simon, 1991, p.125)

Author(s)	Definition
Kim, 1993	Organisational learning is defined as increasing an organisation's capacity to take effective action
Vince, 2001	…organizations are learning when the 'establishment' that is being created through the very process of organizing can be identified and critically reflected upon
Fiol & Lyles, 1985	Organizational learning means the process of improving actions through better knowledge and understanding
Cangelosi & Dill, 1965	…organizational learning must be viewed as a series of interactions between adaptation at the individual or subgroup level and adaptation at the organizational level
Huber, 1991	An entity learns if, through its processing of information, the range of its potential behaviors is changed
Gherardi, 2000a	…is a system of representation of an organization *as if* it were a web of knowledge transmission, acquisition, creation, play and subversion
Cook & Yanow, 2001	…refers to the capacity of an organization to learn how to do what it does, where what it learns is possessed not by individual members of the organization but by the aggregate itself …the acquiring, sustaining and changing, through collective actions, of the meanings embedded in the organization's cultural artifacts (the means through which all organizational action is carried out)
Weick & Westley, 1996	Organisational learning is an oxymoron: to learn is to disorganize and increase variety…to organize is to forget and reduce variety
Weick, 1991	…organizational learning occurs when groups of people give the same response to different stimuli
Crossan, Lane & White, 1999	Organisational learning involves a tension between exploration and exploitation; it is multilevel; the levels are linked by social and psychological processes and cognition affects action (and vice versa)
Simon, 1991	…an organization learns in only two ways: (a) by the learning of its members, or (b) by ingesting new members who have knowledge the organization didn't previously have
Popper & Lipshitz, 2000	…how newly acquired insights and skills produce changes in norms and standard operating procedures
Lundberg, 1995	Organizations do learn when routines are altered by individuals or when individuals change their beliefs

Table 1: Definitions of Organisational Learning

Organisational Knowledge

Introduction

The new economy of the 21st century is increasingly being hailed as the 'knowledge economy', and knowledge has been viewed as an asset to be valued, developed and managed (Bogdanowicz & Bailey, 2002).

Today's information saturated society recognises knowledge as the key to competitive advantage and organizational success. In this section the literature on organisational knowledge is explored.

The word 'knowledge' as a term has been broadly conceived (Merton, 1957) to refer to an assortment of ideas and thoughts. In the organisational tradition however it has been considered as a competitive advantage (Prahalad & Hamel, 1990; Inkpen, 1996; Pemberton & Stonehouse, 2000; Nonaka, Toyama & Nagata, 2000; Bogdanowicz & Bailey, 2002;), as taking the form of tacit and explicit (Polanyi, 1967; Nonaka, 1991; Collins, 1993; Pemberton & Stonehouse, 2000; Bollinger & Smith, 2001), as being beyond just information (Albino, Garavelli & Schiuma, 1999; Nonaka, Toyama & Nagata, 2000), as residing in both individual brains (Grant, 1996; Lam, 2000; Davenport & Prusak, 2000) and in artefacts (McInerney, 2002, Hargadon & Fanelli, 2002) and as a construct; context-specific creation of a group of individuals (Tsoukas, 2001; Tsoukas & Mylonopoulos, 2004; Yanow, 2004).

In this study knowledge is used to describe that which is acquired in the process of learning. This section of the literature review will begin with examining the various conceptualisations of knowledge in organisations followed by a discussion of the role and types of knowledge assets that can be found in an organisation and how the strategic management of these assets can lead to a competitive advantage.

Knowledge in the organisation

Davenport and Prusak (2000, p.10) proclaim that 'knowledge is what makes organizations go'. On closer inspection this requires us to take a hard look at those individuals both singular and in aggregate that form the organisation and explore their interactions within a specific context – to visualise somehow the 'go'.

Within organisations knowledge is said to exist on the individual, group and

organisational levels (Roth, 2003). The individual is seen as the carrier and creator of knowledge (Grant, 1996, Davenport & Prusak, 2000; Tsoukas 2001; Bogdanowicz & Bailey, 2002; Hargadon & Fanelli, 2002) within the organisation and this is not an unfamiliar association as we have seen in the literature of organisational learning, memory and practice. Humans have the brain – they form the thought, the knowledge, and that cannot be taken away from them. As Nonaka (1991, p.97) states 'new knowledge always begins with the individual'.

It can become however organisational through the mitigating circumstances they engage with in their groups; groups that taken together form the organisation as an entity. Other views see organisational knowledge as the interplay between tacit and explicit knowledge a view popularised by Nonaka (1991), and the artefact perspective – where knowledge is made explicit by being projected onto artefacts (including documents, routines, processes, practices, procedures and norms) (Davenport & Prusak, 2000; Lam, 2000).

Nonaka (1991) speaks of expressing personal tacit knowledge in order to transform the organisation; Tsoukas (1996) refers to individuals as having both local knowledge as well as from outside the organisation thus making it difficult to assess its quantity and quality. Bogdanowicz and Bailey take a dissociative view towards knowledge, considering it an object that 'until it is acted upon…has no real value' (2002, p.126). These thoughts on the individual-knowledge relationship are open-ended in nature. Individuals express themselves, and this can have far reaching consequences apart from making known that which was hidden.

Hence some suggest, that knowledge might not be something that people 'have', it is not an object that can be transferred from person to person or from person to artefact (McInerney, 2002); rather it should be considered as 'knowing is something that they do' (Blackler, 1995, p.1035). Knowledge in organisations can be viewed as 'socially embedded' (Lam, 2000, p.488), rooted in mechanisms and routines (Blackler, 1995; Davenport & Prusak, 2000; Sharkie, 2003; Roth, 2003), themselves influenced by societal institutions.

Organisations wanting to make knowledge organisational could have as their goal to

capture what everyone working inside them knows so as to be able to craft that into something that all can access with the intent that all should have the same knowledge (Bollinger & Smith, 2001). This is one of the ways to understand organisational knowledge where the impetus falls on not on what goes on inside people's minds and neurons, but on the social processes that allow learning to occur and knowledge to be internalised. Lam suggests to view knowledge in organisations apart from a 'stock' (2000, p.491) (meaning in the form of an artefact), but as 'flow' (p.491). Because knowledge is not something static but it exists between, rather than within people, it can be viewed in a positive, more fluid and evolving way.

And this takes place in teams and work groups because they provide 'a shared context where individuals can interact […] and engage in [a] constant dialogue' (Nonaka, 1991, p.104). Such opportunities for communication are essential spaces for people to express tacitly held opinions and knowledge and a chance for them to amplify their own knowledge base (Nonaka, 1994). The attention is on sharing.

When employees participate in actions such as routines, they are imparting with implicit knowledge and are encouraging feedback on their views, confirmation of their beliefs in the actions of others and an alignment of actions and values from those around them (Tsoukas, 1996; Deeds & Decarolis, 1999; Hargadon & Fanelli, 2002). This crystallization is also a process of externalisation (Gao, 2007) because it asks individuals to become vocal about what they know. This is a social process (Nonaka, 1994) that occurs at the collective level, where individual knowledge shades into 'collective knowledge' (p.105).
On the organisational level, knowledge can be traced in documents and repositories (Davenport & Prusak, 2000); embedded in routines hence action (Blackler, 1993; Blackler, 1995; Sharkie, 2003; Roth, 2003) as well as in rules, norms and procedures (Lam, 2000). All which form a 'corpus of generalizations in the form of generic rules' (Tsoukas, 2001). Organisations aim to collect and distribute knowledge amongst all their members to be used in instances of problem-solving and other organisational tasks (Lam, 2000). The process of making the implicit into explicit allows the organisation to harness existing knowledge, and transform it into a form

that can be shared amongst everyone. This process of capturing, organising and disseminating knowledge to help performance (Wagner, 2003) must lie at the heart of a company's activities (Roth, 2003).

This level-type of distinction/blending of/between knowledge types, indicates that 'managing' knowledge within the organisation can be an act of significant value. Management's role is thus to get the levels to interact; to transform tacit into explicit and have people blending into groups so that they can share and create an understanding of what the organisation knows and what it still needs to learn. Tsoukas (1996) comments that knowledge in the organisation is not the sole benefit of top managers, but also for those 'lower down' (p.22) findings ways of connecting and interrelating to each other's knowledge with their own.

A successful organisation is one that is able to create, gather and cross-fertilise knowledge across individuals and groups (Inkpen, 1996) and go beyond applying existing knowledge to the production of goods and services (Grant, 1996) and into creating new organisational knowledge through networking and communicating, sharing and collaboration (Bollinger & Smith, 2001).

What organisations possess, as a form of knowledge; defines the kinds of skills and competencies they exhibit (Albino, Garavelli & Schiuma, 1998) such that it allows them to do certain tasks over others. This 'self-knowledge' (Nonaka, 1991, p.97) defines the organisation and reflects its culture (Bollinger & Smith, 2001). Emerges thus as a shared understanding of what the organisation stands for, its purpose and dictates the strategies it takes to achieve this purpose.

Nonaka (1991) sees the organisation as a 'living organism' (p.97) and this alludes to the individuals that constitute it as the drivers of knowledge.

Knowledge types

Organisations contain a mixture of knowledge types with different types dominating over others (Lam, 2000).

Organisational knowledge has been regarded as being tacit and explicit (Polanyi, 1967; Collins, 1993; Pemberton & Stonehouse, 2000; Lam, 2000; Bollinger & Smith, 2001; McInerney, 2002; Bogdanowicz & Bailey, 2002; Sharkie, 2003; Roth, 2003; Yanow, 2004); as being both individual and social (Spender, 1996, Lam, 2000; Hargadon & Fanelli, 2002); separated into information and know-how (Zander & Kogut, 1995); multi-faceted and complex, situated (Blackler, 1995, Gherardi & Nicolini, 2000) and abstract, distributed (Tsoukas, 1996), physical and mental, developing/emergent (Tsoukas, 1996) and static, verbal (Blacker, 1995), dynamic and provisional/incomplete (Tsoukas, 1996; Gherardi & Nicolini, 2000; Tsoukas, 2001), contextual and local (Spender, 1996; Gherardi & Nicolini, 2000; Roth, 2003; Yanow, 2004), not an object but a process (McInerney, 2002) and as residing in artefacts (McInerney, 2002; Hargadon & Fanelli, 2002).

Collins (1993) created a taxonomy where knowledge can be: symbol-type knowledge, embodied, embrained and encultured, with Blackler (1995) adding embedded.

Tacit and Explicit knowledge

Polanyi (1967, p.4) observes that ‘we can know more than we can tell’; thus indicating that knowledge originates from individuals and is cerebral in nature and what is spoken is not exhaustive.

Tacit knowledge is individual (Nonaka, 1991; 1994; Inkpen, 1996; Tsoukas, 1996; Nonaka, Toyama & Nagata, 2000; Lam, 2000; Bollinger & Smith, 2001; McInerney, 2002). Tacit knowledge is made up of subjective insights, intuitions (Nonaka, 1991, Lam, 2000) and hunches, individual mental models and beliefs and perspectives (Nonaka, 1991), consists of technical skills ‘captured in the term ‘know-how’ (Nonaka, 1991, p.98), includes personal beliefs, experiences and values (Inkpen, 1996; Bogdanowicz & Bailey, 2002), is unarticulated and hidden (McInerney, 2002; Lam, 2000).

It also has another perspective alluded to by Polanyi in his focus on the spoken element of thinking and knowing. That knowing and learning in organisations has a corporeal aspect (Strati, 2007) as well. It is beyond the spoken-unspoken dichotomy. This is closely linked with practice, and knowing through practice and action (Nonaka, 1991, 1994; Spender, 1996; Tsoukas, 1996; Lam, 2000). Tacit does not equal unarticulated otherwise the possibility of training others by simply 'do as I say' and not as well 'as I do' would be one-dimensional and untrue. Tacit encompasses individual expertise (McInerney, 2002).

Polanyi (1967) warns of the dangers, which some organisations fall prey to, of eliminating all personal knowledge through formalisation at the expense of tacit. However it is too simplistic to ask organisations not to try and extract tacit knowledge from their employees and make it available to their members as a singular piece of knowledge.

Then if it is difficult to formalise and communicate (Nonaka, 1991) and describe and transfer (Bollinger & Smith, 2001) why are organisations encouraged to engage their employees into a process of transforming the tacit into explicit? The argument why organisations must engage in a form of knowledge management is because of what March had aptly termed 'exploration and exploitation' (1991, p.71) suggesting that employees bring information with them to the organisation but they take some away when they leave (Bogdanowicz & Bailey, 2002). Whether they are leaving the knowledge they help create behind them is a question of how the organisation captures this in some respect.

Organisations are keen to tap into tacit knowledge because they believe that this is a great way to create new knowledge (Nonaka, Toyama & Nagata, 2000; Gao, 2007). This is closely linked with the transformative capacities of knowledge and the power of articulating personal beliefs and visions about your work (Nonaka, 1991). When individuals place claim to new knowledge, they are potentially offering another version of the organisation and the world it fits into.

Organisations draw on individuals' tacit knowledge when they use and implement explicit knowledge (Inkpen, 1996, Bogdanowicz & Bailey, 2002). For example, at

Parkside, they are currently in the process of securing a major contract. In order to do so though, they must pass certain tests as instructed by the client. This involves meeting deadlines and quality standards. The managing director spoke to all Production employees explaining the importance of securing the contract and passing these tests for the future of the company. It would appear that the manager has taken on this pre-contract because he knew that the factory could deliver, although they were not directly engaged in the setting up of the deadlines.

In addition, making the tacit into explicit allows for a 'show of hands' – exposing what the organisation already knows, and what it needs to know. What is its competitive advantage and what capabilities it needs in order to grow and maintain it (Marr, Schiuma & Neely, 2004).

Explicit knowledge is considered to be more formalised in nature and thus easier to communicate and share amongst members of the organisation (Nonaka, 1991). It can be transferrable because it can be stored in a symbolic form (Collins, 1993), such as hard data and codified procedures (Inkpen, 1996; Bollinger & Smith, 2001), hence has the capacity to be stored at a single location in an objective form (Lam, 2000). It is the type of knowledge that can be learned through formal instruction and study (Smith, 2001; Roth, 2003).

Organisational knowledge as a source of competitive advantage

> '…knowledge drives the global economy' (Bogdanowicz & Bailey, 2002, p.125)

Knowledge is an organisation's competitive advantage (Prahalad & Hamel, 1990; Inkpen, 1996; Nonaka, Toyama & Nagata, 2000; Davenport & Prusak, 2000; Bogdanowicz & Bailey, 2002; Marr, Schiuma & Neely, 2004;) and ought to be considered as an asset (Deeds & Decarolis, 1999; Pemberton & Stonehouse, 2000).

As we have seen the focus in the literature has been on how to convert the untapped tacit into explicit and keep that process going to improve on organisational performance and encourage sharing and distribution. The managing of knowledge

assets however, also includes evaluating and sustaining them, as a strategic objective.

A competitive advantage is established when organisations achieve building fasted and cheaper than their competitors their ‘core competencies’ (Prahalad & Hamel, 1990, p.81). Such core competencies can be seen as an organisation’s collective learning; a firm’s knowledge assets (Pemberton & Stonehouse, 2000), such as technology, processes, systems, procedures, structures, products and services. In modern economies where instability and change is rife, organisations need to rely on their competitive advantage; namely their own, identifiable capabilities. But organisational capabilities are based on knowledge (Marr, Schiuma & Neely, 2004). Knowledge that is unique (Sharkie, 2003) because it is strongly based on tacit, internal knowledge which is difficult to imitate and is embedded in routines and processes adjacent to the organisation. Organisations need to be aware of what is their competitive advantage and also what capabilities are necessary, or need to be acquired in order to grow and maintain.

Expanding and building on this knowledge base of tacit and explicit, organisations build up their intellectual capital/knowledge asset and thus enhance their competitive advantage (Bogdanowicz & Bailey, 2002). To use the capital as an asset, it is imperative to create new knowledge through either re-using the already established one through interpretation to become new knowledge (Nonaka, Toyama & Nagata, 2000) and integrating new with current in order to develop even more valuable knowledge and insights in order to improve performance (Sharkie, 2003).
That could be disseminated widely throughout the organisation and embody it into new technologies and products, services and processes and thus improve the existing ones (Nonaka, 1991; Nonaka, Toyama & Nagata, 2000). Failing to generate, capture and disseminate knowledge and use this knowledge to develop the organisation’s capabilities, might account for diminishing performance (Inkpen, 1996; Deeds & Decarolis, 1999).
One way this can be achieved is through ‘translating’ tacit into explicit knowledge.
As we have seen from Sharkie, ‘knowledge held internally is especially strategically valuable because it is tacitly held, specific to the organizational context and therefore

difficult for rivals to copy' (2003, p.29). But such knowledge is 'inside' people's minds, evident in their bodily actions and present in their practices. Hence trying to externalise the internal is an act of interpreting feelings and thoughts. The same goes for those who receive this knowledge and in a way need to make it their own in a tacit form.

Because people, do not receive new knowledge passively, they actively interpret it to fit their own situation and perspective (Nonaka, 1991). Thus what makes sense in one context can change or even lose its meaning when communicated to others in a different context. As a result meaning is always fluid in nature because new knowledge is diffused continually. Gergen (1994, p.62) explains that 'as we are exposed to events from both retrospective and emergent context, our manner of identifying the present action is subject to continuous modification'. And Tsoukas comments on this action (the act of interpreting) 'human action is inherently creative' (Tsoukas, 1996, p.22). This interpretation is a social practice. We learn to think about our organisation by being socialised in it by others and our habits of thinking have been formed by participating through practices.

Knowledge is also under the influence of organisational activities. Actions re/constitute meaning continually (Tsoukas, 1996). As people 'act practically' (Blackler, 1993, p.880) they interpret and negotiate the organisational context.

But these processes need to be evaluated for their effectiveness. Organisations have strategic aims for existing; and knowledge, is not excluded from being judged on an evidence-based approach. Whether it has for example led to new products and services being created, become a core capability and offered a competitive advantage to the organisation and also to what extent have these being achieved. Some believe that knowledge should be evaluated based on the decisions it leads its management to make and the actions it takes as a result (Davenport & Prusak, 2000; Sharkie, 2003) as well as the possible effects of these on performance indicators (such as efficiencies in product development and production).

Definitions of Organisational Knowledge

Author(s)	Definition
Nonaka, 1994	…the process of organizational knowledge creation is initiated by the enlargement of an individual's knowledge within an organization
Grant, 1996	…'that which is known'
Davenport & Prusak, 2000	Knowledge is a fluid mix of framed experiences, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information
Bollinger & Smith, 2001	…the understanding, awareness, or familiarity acquired through study, investigation, observation or experience over the course of time
Tsoukas & Vladimirou, 2001	…is the capability members of an organization have developed to draw distinctions in the process of carrying out their work
Tsoukas, 2001	…what makes knowledge distinctly organizational is its codification in the form of propositional statements underlain by a set of collective understandings
Gao, 2007	Organizational knowledge creation is a process of conceptualizing new perspectives from tacit knowledge shared by its individual composing members

Table 2: Definitions of Organisational Knowledge

Organisational memory

Introduction

The term organisational memory was coined to explain the observation that organisational features survive and persist through time, environmental change and employee turnover suggesting that organisations seem to have the means to retain and transmit information from their past to new members (Stein, 1995). This process has shown resemblances with the human capacity to evolve and grow through memory. Perhaps this likeness has not been beneficial to the field per se because it engages literature and empirical research to make undue comparisons between human capacity to remember and organisational identity survival. It is however a starting point to discover the potential that memory has on improved organisational performance (Olivera, 2000) and learning (Stein, 1995).

Organisational memory has been shown to be beneficial in organisations in: lowering transaction costs (Walsh & Ungson, 1991); accelerate learning (Kim, 1993), create stability in times of change (Van der Bent, Paauwe & Williams, 1999); supporting performance by embedding memory in organisational processes (Ackerman & Mandel, 1995) and interpreting and filtering received information and experience (Moorman & Miner, 1997).

The review on the Organisational Memory literature offers the possibility to see the linkages of memory and learning as it suggests that a great deal of knowledge and information is stored in processes acted on by employees, in artefacts used to stimulate responses and initiate actions as well as routines and their continuous evocation that propagates past organisational decisions.

Defining the term

As with the term organisational learning, so is the term organisational memory referring to the remembering attributed to the whole of the organisation. What the Organisational Learning literature offers us is the opportunity to focus on how organisations acquire knowledge as they gain experience, how this knowledge is embedded in organisational processes such as routines and what the effect of such changes in knowledge has on later performance. Accepting that this learning is not

only what is captured in people's brains but located and stored in the artefacts and practices they have created; is a way of comprehending stability and change in organisations. The Organisational Memory literature supplements this understanding by adding the collaborative role of organisational sharing in the process of acquiring, storing and retrieving organisational memories.

Weick and Westley (1996) had proposed that learning in organisations takes place as a consequence of the storing of knowledge within repositories systems, structures, cultures and artefacts. They proposed viewing organisations primarily as cultures, repository systems and self-designing systems to study organisational learning.

Organisational learning and memory have been linked as inseparable constituent parts of the same process and memory as an essential part of learning and change (Stein, 1995; Ackerman, 1998; Van de Bent, Paauwe & Williams, 1999; Stein & Zwass, 1995). Organisations action many processes throughout their lifespan and maintaining what works by reviewing it for its current effectiveness and relevance (Lukas & Bell, 2000) is a form of learning experience that transforms organisations constantly. The literature focuses on the individuals in the organisation who at the same time are creating and recreating their experiences, are memorising and recalling the past but at the same time attention is placed on the carriers of memory that individuals use.

Walsh and Ungson (1991) amongst others (Stein, 1995; Van de Bent, Paauwe & Williams, 1999; Wexler, 2002; and Li, Zhuang & Ying, 2004 see Table 3) have identified a set of retentional facilities that organisational memory presents. Their set included five storage bins (Individuals, Culture, Transformations, Structures, Ecology) and a sixth external (External Files).

Below I explain the various elements that Organisational Memory literature points out to have usefulness in this project. Attention is set on the features identified as contributing to Organisational Learning such as the retentional capacities of organisations to preserve information and knowledge created within them by individuals and their networks; the artefacts and routines that are the externalisation of memory as well as the repositories of past decisions; and the role memory has in facilitating and/or hindering organisational performance.

The individual as repository of Organisational Memory

Individual employees and their human function to remember retain and retrieve information and knowledge has been crucial in understanding organisations and the learning that takes place within them. Individuals have the capacity to at once create and recreate (Giddens, 1984) their environments and one way that has been possible is through their memories on what has taken place in the past and how it bears on the present (Walsh & Ungson, 1991; Stein, 1995; Stein & Zwass, 1995).

Individuals have been shown to retain the outcome of past decision-making (Walsh & Ungson, 1991), to create schemas or mental models (Walsh & Ungson, 1991; Stein, 1995; Kim, 1993) that interpret experiences, create frames of mind, capture past decisions as response to problems and stimuli, represent categories of information created to organise and process information and represents a person's world view.

However, just as with organisational learning – organisational memory is not simply the sum of all employees' memories (Moorman & Miner, 1997). The linkage here from individual to organisational; the process through which individual knowledge becomes embedded in an organisation's memory and structure can be said to be organisational learning (Kim, 1993). Walsh and Ungson (1991) address this when they speak of a 'supraindividual collectivity' (p.68) achieved through the sharing of information contained in individual schemas and models. This distribution is the beginning of creating a 'shared', thus organisational, memory because shared meanings are established and become the basis for communication exchange and learning (Stein, 1995; Bannon & Kuutti, 1996; Conklin, 1997). This goes some way to explain the distributional nature (Walsh & Ungson, 1991; Moorman & Miner, 1997; Stein & Zwass, 1995) of Organisational Memory as the entirety of organisational knowledge; past and present, is not confined in a singular box. Rather it resides in many 'bins' (see Table 3). This sharing happens as people are involved in communities (Lave & Wenger, 1991) and networks (Olivera, 2000; Mitleton-Kelly, 2003; Antonacopoulou & Chiva, 2007). Ackerman and Halverson (2004) see the interaction between actors and networks as a more pragmatic view of what happens in organisations:

> ‘a network of artifacts and people, of memory and of processing, bound by social arrangements […] describes how memory […] can be both separated from organizational actors, and at the same time, necessarily bound to their actions and understandings’ (p.184)

This collective remembering (Wexler, 2002; Ackerman & Halverson, 2004) is actually the act of locating the information needed, from people’s experiences and the artefacts where it is embedded, and retrieving it for present use. The former, where knowledge stemming from individual experience is sought after, has been addressed as a crucial link in the Organisational Memory process. ‘Long-tenured individuals can facilitate the retrieval of information from organizational memory’ (Walsh & Ungson, 1991, p.78). Such employees are seen as important to organisational maintenance because as new employees enter the network they will bring with them their own experiences (exploitation – March, 1991); but at the same time there is the need to socialise them on organisational culture and knowledge. Those with extensive experience gained through years of working at one organisation can smooth this transition for newcomers. Where there is high turnover of such members of staff; it can be anticipated that such links would be broken (Stein, 1995; Stein & Zwass, 1995) – between the past and the present.

Although memories are distributed throughout the organisation and can be stored in inanimate objects; you still require humans to re/interpret the artefacts, structures and systems. Interpreting the messages in a different context from the one they have been created in (Bannon & Kuutti, 1996) changes the original meaning and at some point can alter the character of the organisation’s culture. It would be futile nevertheless to expect that all these will not change, and organisations cannot keep employees only because of their potential effect on the organisation. No one can guarantee that their memories will be always useful.

For example in an evaluation report drafted by an external auditor a long-term (over 30 years) employee’s experience and knowledge were praised by the author of the report. However as it is near his retirement age, the organisation is already planning his replacement with a mid-twenties trainee. They are confident that his inexperience will not be a problem as the work is structured and directed by the Quality Management System and reinforced by the remaining staff, so that process will prevail above individual shortcoming due to memory insufficiencies.

Routines as repositories

The information stored in a Standard Operating Procedure – the written element of routine. When that is reproduced during the performance of a routine, a certain part of the organisation's background is also recreated.

Cohen and Bacdayan (1994) explain that patterned actions of behaviour are the basis of an organisation's routinized behaviour; which encodes both formal and informal organisational knowledge (Moorman & Miner, 1997). This knowledge consists of lessons learned from past experimentations, reactions to incidents and the decisions made based on them. This embedding of organisational adaptation into routines (Walsh & Ungson, 1991), acts as an efficiency factor by reducing transaction costs and minimizing duplication of resources. For example the setting up of a new routine about Hiring and Interviewing; there has always been hiring taking place in the organisation but by streamlining the process this past knowledge will be encompassed under one, agreed standard procedure.

Procedural memory – the storing of the elements of skills and routines (Moorman & Miner, 1998), is what lies at the heart of organisational routines, including their creation, maintenance and continuous improvement. Whilst the routine is morphing through constant action, it carries forward the ingredients for organisational 'know-how'. The development of routines thus does not mean the end product of a learning process, but the embedding of information into a practice that requires the systematic use of past memory, organisational member's present decisions and actions based on these. In this way they undoubtedly reproduce a segment of the past into each of their new routine enactment.

Artefacts as Organisational Memory repositories

Artefacts such as documents, files and stored data (Kim, 1993), all contain to varying degrees a record of past actions and behaviours (Stein, 1995; Moorman & Miner, 1997; Van der Bent, Paauwe & Williams, 1999; Ackerman & Halverson, 2004). Walsh and Ungson (1991) explain that Organisational Memory consists of mental and structural artefacts and they jointly serve as 'cues' (Bannon & Kuutti, 1996) for re-interpreting past memory into present action in current contexts. Workers do not read a manual every day before they start their work – they have a mental schema on how each task is performed. This is something they learned and they have kept.

When for example they are using a fifty year old piece of equipment, the handling procedure remains the same – but the context, the people and perhaps the use of the end product all have changed.

Such artefactual representations of past learning are essential in the process of maintaining the organisation. Memory does not exist in isolation of those who created it, of the objects- physical and mental that resulted out of past actions. But it is produced by specific people in specific contexts for specific purposes and their survival and endurance is a mark of their relevance today. Ackerman and Halverson (2000) see Organisational Memory as both 'an object and process […] an artifact that holds its state and an artifact that is simultaneously embedded in many organizational and individual processes' (p.64) forming the process of engaging with artefacts and at the same time changing their meanings.

Organisational Learning and Memory

Lundberg (1995) suggests that the consensus in defining the term Organisational Learning, resides on two pillars; cognitive elements such as knowledge and insights shared by organisational members, and repetitive organisational activities such as routines. Individuals are needed to generate the on-going repetition of activities and in that they create further organis*ing*. In order to do so they need to work with their experiences; shared and agreed and with the artefacts that contain knowledge created before they became members of the organisation; in the structures, cultures, systems and (Van der Bent, Paauwe & Williams, 1999).

Organisational memory offers an explanation towards the factors implicated from individual thought to organisational stability. It puts forward the proposition that, like routines, there is memory in the everyday actions of organisational members, and that this repetitive motion can acquire, retain, maintain, retrieve and search (Krippendorff, 1975; Walsh & Ungson, 1991; Stein, 1995) information. Learning exists in all these actions and perhaps is most visible when organisations are taking action to incorporate changes in their organisational process; a motion that requires that they engage the structure, culture, system and artefact. The learning that takes place relates to people's understandings of what they want to do – including their

opinions and beliefs as to the usage and usefulness of the new changes and what will they offer the organisation, the actions they have taken to create a new process or routine and the artefacts they use to bring this to existence.

There are though concerns over the role Organisational Memory plays in organisational learning and whether we should be aware of its adverse consequences on the process of new-knowledge creation. It has been noted that strong memory cues could compromise organisational decision process and obscure an accurate view of the present (Walsh & Ungson, 1991). A company intent on holding on to its identity and the past experiences that shaped it, can obstruct present information and in a way alter its problem definition, generation and evaluation of alternatives and decisions making. The traditional view of 'that's how we do it here' can create barriers to learning (Stein, 1995) and also lead to 'encased learning' (Stein & Zwass, 1995, p.88). Encased learning is the automatic response to a situation from previous organisational recollection of past events before assessing and weighing in the new parameters affecting the organisation at present. Such responses are not contained only in individual minds; they are also in other organisational carriers – culture, structure, rules and systems. These memory carriers are usually based on what has worked in the past, what has been successful and it is difficult to change because they operate unconsciously (Van der Bent, Paauwe & Williams, 1999).

It would be mistaken, however, to assume that even though unconsciously we may recreate some of the memory residing in organisations, that the act of *remembering* as a process with its social interactions does not change the structure of the knowledge-base of organisations over time (Stein, 1995).

On the other hand we cannot assume that organisations remember and store all that has happened in the past nor has all that has been important been kept. This 'forgetting' impairs their capacity to learn due to an inability to embody critical aspects of what they know (Conklin, 1997) which might imply that they have not yet established an Organisational Memory system that would serve to collect and represent their past learning.

Authors	Various conceptualisations of organisational memory retention facilities					
Walsh & Ungson, 1991	Individuals	Culture	Transformations (the logic of input into an output)	Structures	Ecology (physical structure)	External Archives
Stein, 1995	Schema	Scripts	Systems			
Moorman & Miner, 1997		Beliefs, knowledge, frames of reference, models, values and norms, myths, legends and stories	Behavioral routines, procedures & scripts		Physical artifacts	
Stein & Zwass, 1995	Individuals		Processes		Artifacts	External repositories
Van der Bent, Paauwe & Williams, 1999		Culture (world views, ideologies, norms, values, symbols, habits, myths, rituals)	Procedures (SOPs, rules, routines, product creation process)	Structure (comm. channels, methods, techniques, networking, meetings)	Systems (information systems measuring systems, performance indicators)	
Wexler, 2002	Human Intellectual Capital	Relational Intellectual Capital		Structural Intellectual Capital		
Li, Zhuang & Yin, 2004	Managerial (managerial systems)	Cultural (values and norms)	Technical (physical technical systems)			Marketing (external knowledge)

Table 3: Various conceptualisations of organisational memory retention facilities

Definitions of Organisational Memory

Author(s)	Definition
Walsh & Ungson, 1991	…stored information from an organization's history that can be brought to bear on present decisions
Stein, 1995	…involves the encoding of information via suitable representations which later have an effect on the organization as members interpret the stored information in the light of current organizational conditions […] is the means by which knowledge from the past is brought to bear on present activities, thus resulting in higher or lower levels of organizational effectiveness
Moorman & Miner, 1997	…collective beliefs, behavioral routines, or physical artifacts that vary in their content, level, dispersion and accessibility
Ackerman, 1998	...'organizational memory' is organizational knowledge with persistence
Stein & Zwass, 1995	…is the means by which knowledge from the past exerts influence on present organizational activities
Olivera, 2000	Organizational memory systems are sets of knowledge retention devices such as people and documents that collect, store and provide access to the organization's experience
Wexler, 2002	…is an intangible which if successfully managed can bring intellectual capital to the firm or organization
Chang, Choi & Lee, 2004	…a computer supported human interactive mechanism to store and facilitate knowledge for enhancing organizational effectiveness
Kim, 1993	…includes everything that is contained in an organization that is somehow retrievable. Thus storage files of old invoices are part of that memory. So are copies of letters, spread-sheet data stored in computers and the latest strategic plan as well what is in the minds of all organizational members

Table 4: Definitions of Organisational Memory

Organisational Routines

Introduction

In the previous section on organisational learning, change had taken a predominant role as the impetus for learning either from external environmental incidents or internally as the outcome of restructuring. This does not always need to be the case as indicated by March (1981) and Orlikowski (1996) both writing on organisational transformation and the stimulus for change. March explains that we have become accustomed to the headlines portraying dramatic changes in organisations as the result of major transformations. But he informs us that:

> Most change in organizations results neither from extraordinary organizational processes or forces, not from uncommon imagination, persistence or skills, but from relatively stable, *routine* processes that relate organizations to their environment. Change takes place because most of the time most people in an organization do about what they are supposed to do; that, they are intelligently attentive to their environments and their jobs (p.564) [italics added for emphasis]

Shifting the focus from the major to the minor does not limit the importance of actual human performance to adjust, to interpret, to improve in whatever ways that is possible within contextual constrains. Similarly Orlikowski comments:

> Another kind of organizational transformation, one that is enacted more subtly, more slowly, and more smoothly, but no less significantly […] is grounded in *the ongoing practices of organizational actors*, and emerges out of their (tacit and not so tacit) accommodations to and experiments with the everyday contingencies, breakdowns, exceptions, opportunities, and unintended consequences that they encounter (p.65) [italics added for emphasis]

Organisational transformation is seen to be an on-going effort to translate the world by organizational actors through enacting and re-enacting their environments in what Orlikowski calls ‘situated change’ (1996, p.66). Situated change is viewed through Giddens’s structuration theory (1984) where organizations are enacted; they are the product of the on-going agency of organizational members and do not exist apart from such action. These actions reproduce the system or produce alterations in them with persistent adjustments in practices producing changes in the structure. Situated change allows us to see change not as a deliberate, planned or inevitable historical outcome of organising but as a constant outcome of everyday human interaction and activity. Orlikowski sees perceptible change emerging when the variation-laden actions of agents are repeated, shared and sustained

Review of relevant literature

Organisational routines supplement this study by unpacking the organisational elements that would be critical in assessing the learning as it happens in organisations. The literature on the subject contains interesting interpretations such as the ostensive and performative aspect of routine (Pentland & Feldman, 2005), their source of good or bad behaviour for organisational maintenance (Sennett, 1998; Postrel & Rumelt, 1992; Coriat & Dosi, 1995) their role as depositories of tacit knowledge and thus organisational memory (Nooteboom & Bogenrieder, 2002; Nelson & Winter, 1982; Cohen & Bacdayan, 1994) and their relationship with the artefactual representation of organisational member's agency (Howard-Grenville, 2005; Pentland & Feldman, 2005; D'Adderio, 2008, 2011). The focus of this review is to establish the different conceptualisations of organisational routines as it complements the literature on organisational learning using the themes identified above as elements in routines that would support the argument made in this study; that organisational learning is 'conducted' through individuals going about their work.

The work of Feldman and Pentland

In this segment, I explore the work of Feldman and Pentland separately to indicate their distinctive approach to organisational routines. This is done with reference to some examples from the case study.

Feldman, 2000

Viewing organisational routines through the actions of the organisational member enacting them (Feldman, 2000) is the way to understand change and learning in organisations. The role of the agent is exalted in this view and creates a version of routines beyond the static and repetitive realm. As the agent reflects and reacts to the outcomes of routines' completion – s/he may decide to change their behaviour and adjust their actions to develop new understandings of what they can do and of the consequences of their actions. What does change might not be the routine as such, but the way it is now accomplished as a result of reflection (Feldman, 2000). For example the routine process of ordering raw material such as copper: if the supplier fails to deliver on time then they will be excluded from the approved suppliers list

and a new supplier will take up the contract. However the production workers will still be working with the same quantity and quality of copper as before – the routine has not changed but the process has been.

This example is just one of many that suggest that organisational routines change continuously without (but not excluding) the need for exogenous input.

If we see action as an element in routines along with ideas and outcomes, we can see the connections amongst them in a cyclical form: ideas produce action and actions produce outcomes, and outcomes produce new ideas (Feldman, 2000). This cyclical view can be projected to the process of organising, organisational routines are enacted by agents who in the process of performing, reflect on what they are doing and as result change a part of that process. For Feldman (2000, p.625) 'a process of change in organizational routines is also a process of organizational learning'.

Feldman & Rafaeli, 2002

How do organisational routines thus create simultaneously stability and adaptation is tackled by Feldman and Rafaeli (2002) through the agency scope. Routine being defined as 'entail[ing] multiple interpersonal interactions with other organizational members' (p.312) - the agents come together to perform the routine and that is the moment where stability and adaptation are emerging: at this time relationships are established that help us understand what needs to be done to complete the routine and also; to realise the organisational goals that are met by completing this routine. For example when a manager is explaining to a Store's assistant that each item that is received in the Stores from a supplier needs to be checked against the invoice (e.g. checking cable length received against cable length ordered/paid) the assistant is learning how to 'check-in goods' but also that by doing it in this manner you can protect the company from paying for something it has not received.

When agents come together in the moment of routine accomplishment they are creating a common understanding about who is involved in this routine from the whole organisation and recognise them and their position thus becoming familiar with each agent's knowledge and status. This requires from routine participants the ability to adapt to other people. As a consequence the routine as a moment in time can create connections amongst the members resulting in networks that facilitate the

exchange of information and the development of shared understandings (Feldman & Rafaeli, 2002). As noted by Orlikowski (1996) ‘change is inherent in every human action’ (p.66).

These shared understandings help organisations maintain a pattern of behaviour (the routine is accomplished) that coordinated the actions of individuals while also adapting to variations (the routine is imbued with new meaning and understanding) in the internal and external environment.

Feldman & Pentland, 2003

In this article the authors establish their common definition of what a routine is; ‘a repetitive, recognizable pattern of interdependent actions, involving multiple actors’ (Feldman & Pentland, 2003, p.96). Also they give us a clearer view of what Feldman (2000) described as change as a result of participant’s reflection. Here they ask that we perceive organisational routines as dual in nature; containing both structure and agency or the abstract and the performance part of a routine. As explained earlier, on the performative aspect, the agent that recreates the routine in the company of other organisational members always brings with him/her an element of differentiation as humans are capable of reflection and action upon past experiences.

While performances vary with each enactment of a routine, routines have the ‘inherent, endogenous capacity to generate and retain novel patterns of actions’ (Feldman & Pentland, 2003, p.112) thus selective variations are retained in the ostensive aspect of a routine. The actors seldom perform a routine in exactly the same way as in each occasion their knowledge had grown to accommodate various other experiences involving perhaps encounters with organisational members, external information and even technological changes.

These variations in performance result in a ‘selective retention’ (p.113) in the ostensive aspect of a routine. Selective retention is the process where the performance as directed by the ostensive aspect of routine is varied by organisational members and such variation in performances can be interpreted by people as the ostensive aspect of a routine. Through this selection of variations, the ostensive part is maintained and modified. If consistent, selective criteria are in place, variation and selective selection can lead to functional adaptation. Hence, actually doing the

routine in the various circumstances in which it is must be performed can bring about change in the routine. The tendency of a routine to change or remain the same depends on the processes of variation, selection, and retention that take place between the ostensive and performative aspects of a routine.

Pentland & Feldman, 2005

In their next collaboration, Pentland and Feldman extended their argument to include artefactual representations of routine; artefacts being 'physical manifestations of organizational routines […] taking many forms from written rules, procedures and forms to the general physical setting' (2005, p.795-6), that codify or prescribe and enable or constrain routines in organisational settings. While routines still maintain their performative and ostensive elements; combined with the artefacts can generate further insights into understanding why companies retain their stability along with change and flexibility or have rigid structures but retain their innovation (Pentland & Feldman, 2005). Artefacts add to our analysis of organisations as an 'ongoing accomplishment' (Feldman, 2000, p.613) because they act as indicators of the ostensive and performative aspects of routines.

To examine the related interactions of the three elements, dyads of combinations are explored. The ostensive and performative parts of routines show interesting variability although one would expect the ostensive to always dictate the performative. Agents performing routines undoubtedly do so in varied ways as exact replication is impossible. But to another extent, the ostensive is limited by this as many performances curb agreed definition of what precisely is a certain routine and how to go about accomplishing it.

The artefact interacting with the performative aspect can became a monitoring device for individual performance. There are situations where monitoring performances has little impact on artefacts such as rules and vice versa. An example is the use of scanners to regulate individual times such as time spent completing tasks on an order sheet. This monitoring has as goal to give live information to the quality management system (both electronic and managers) on the progress of that order. If no one checks or reviews that performance there is little chance of finding out whether the employee needs further training on that process or that the process seems to take longer because of machinery fault.

Under these circumstances the artefact may be very stable when in fact the actual practice is changing quite significantly (Pentland & Feldman, 2005). Performance and artefacts are therefore linked in ways that portray organisational identity. Whether organisations choose to extrapolate literal accounts of their routines (such as Standard Operating Procedures) would probably imply that variety in performance would be compared against the ostensive part; however the opposite might be applicable where an organisation encourages performance variety by allowing only loose routine specifications. This could be for example where the end product is an established outcome thus roles and responsibilities need not be constantly made explicit.

Routines as repositories of memory

Memory in organisations is a substantial theme in literature and has attracted attention in organisational routines when Nelson and Winter (1982) stated that 'routinization of activity in an organization constitutes the most important form of storage of the organization's specific operational knowledge' (p.97). Their argument that organisations remember by doing is salient to the narrative of the literature on routines and perhaps the interest they have attracted recently (especially in the work of Pentland and Feldman). To use an example to explain the remembering by doing; once a load of assembled parts on a trolley arrives inside the Inspection room the message has been transmitted to the Inspection employees that those parts need to be inspected on. At such a moment the employee is both interpreting the loaded trolley as a message for the job of inspection to begin as well as remembering the exact routine of inspecting assembled parts for e.g. a small aircraft. These moments where performances end and begin are also instances of message exchange, messages that are send and received but also responded to (Nelson & Winter, 1982). This conception of memory places contextual knowledge inside people's memories that form their individual skills and routines that would allow the correct interpretation of the messages received. However the key word here is context, as individual memory is only really applicable in the presence of other organisational members and as seen before (Feldman 2000, Feldman & Pentland, 2003); routines are points of contact where information and messages about the organisation are exchanged.

Organisational routines are viewed as an important part of an organisation's memory and repository of its past learning (Kim, 1993) and re-enacting them contributes towards systematic sharing of organisational values and past experiences with newer members of the organisation. As individuals master their part in routine performance their actions become stored as 'procedural memories' (Cohen & Bacdayan, 1994). Procedural memory is important in the functioning of the organisation as it can be recognised as "our way of doing things" (also in Cook & Yanow, 2001; Becker & Zirpoli, 2008).

The memory held in routines can be a supportive factor for decision making and high order tasks (Postrel & Rumelt, 1992) as routine activities are freeing people from being preoccupied with making decisions constantly or evaluating and re-evaluating moments where information is exchanged.

If viewing organisations as 'repositories of knowledge […] embodied in their operational routines' (Coriat & Dosi, 1995, p.24) then when organisational members perform routines they are recreating the elements that characterise the organisation. Notteboom and Bogenrieder (2002) further this view when they see routines as being repositories of experience – experience gained through previous performances of the routine.

Routines and their influence on the organisation

Routines have at times been seen as a source of inertia and inflexibility but also as generators of flexibility and originators of stability in organisations. D'Adderio (2011) describes the latter, especially with the pioneering work of Feldman and Pentland, as the first revolution in the conceptualisation of routines. Sennett (1998) contrasts two separate accounts of routine enactment from the 18th century to indicate the different perceptions and outcomes resulting from observing routine re-enactment. He saw that both perspectives bear merit: 'routine can demean, but it can also protect; routine can decompose labor, but it can also compose life' (Sennett, 1998, p.43). The proponents of routines as inherently degrading human action suggest that it limits people from envisioning the big picture, a different view of the future. Instead they are restricted to the immediate task of completing the routine. On the other hand, Sennett wonders whether 'a life of momentary impulses, of short-

term action, devoid of sustainable routines, a life without habits, is to imagine indeed a mindless existence' (1998, p.44). Routine action is important to working life and we cannot do without it; it serves us best not demonise it as a source of incapacity for the organisation instead view it as a means of regulating our time. The more we practice a repeat operation, the best we can manipulate our time doing it, make variations in our performance and develop new practices.

Despite the first revolution in the field where the agent emerges as not separate from the routine, there have been some representations of routines as inherently good or bad for the organisation. For instance they have been portrayed as sources of power for the organisation (Postrel & Rumelt, 1992) since they eliminate occasions of loss of self-control, reduce the psychic cost of action, focus attention on important tasks and facilitate skill development through repetitive practice – the repetitive nature of work pacifies workers (Sennett, 1998). Meaning that organisations can be reassured that through creating and establishing routine actions in their operations, their employees would have limited opportunities of diverting from their tasks or exhibit deviant behaviour that would threaten the functioning of the organisation. The management retains power over the work of its employees and deviant behaviour is easily spotted as non-routine action.

In addition if organisations use planning as another source to exert power through formalising organisational roles and establishing rules and regulations defining role obligations and enactment (Hage & Aiken, 1969). This can be partially achieved through creating written accounts of job descriptions, communicating organisational charts and issuing rules manuals; all setting out in detail who does what, when, where and why.

Others see routines as a more positive tool that retains the organisation's capabilities in what Cohen and Bacdayan (1994, p.566) called the 'organizational unconscious' – a body of tacit know-how that is the backbone of organisational capabilities. The 'unconscious' remains part and parcel of practice and allows the organisation to function although it might not be represented in the written rules and procedures. In this view competences are the collective property of the routines of an organisation and due to their partial tacitness are often hard to transfer or copy (Coriat & Dosi, 1995).

Understanding organisational routines as an element of organisational identity would envisage looking at them as tools in creating organisational identity and instigating stability. Their nature to capture and store organisational components makes routines the 'carriers of diverse problem-solving procedures and at the same time control and governance devices' (Coriat & Dosi, 1995, p.24).

What could be the other side of the coin of the tacitly-stored organisational information; is whether it can be acting as an organisation's default position and predetermining reactions towards environmental phenomena (Cohen & Bacdayan, 1994). An automated reply can be also a routine – the routine of engaging with a changing world. This routine was created through iterative performances of reaction to specific changes and can be deployed again to tackle a shift in the external world. For example the decision to shift production to the tradition stables (such as small-aircraft parts) with the beginning of the recession in Britain was a default reaction of the company in this study (the recession saw a steep decline in the company-owned and maintained private jets that saw a rise in sales). Instead of exploring emerging markets abroad or re-engineering the production facilities to produce a more varied production line.

The concern is that this reaction can be inappropriate as the set of information is different and the context is altered than when the routine was initially formed. The reaction expected should encompass the new information in an attempt to avoid being dysfunctional in novel circumstances (Nooteboom & Bogenrieder, 2002).

Routines and Organisational Learning

In viewing routines as dualities of ostensive and performative aspects (Feldman & Pentland, 2003, Pentland & Feldman, 2005), learning is another element that is consistent with the literature in both organisational learning and organisational routines. When we see the agent accomplishing a routine we view it as a means of mastering that ability and acquiring the knowledge that was not there before (Cook & Yanow, 2001). The many varied performances of each instantiation of routine iteration are imputed with personal characteristics that create a new version of the routine every time. A change in routines is associated with organisational learning (Nooteboom & Bogenrieder, 2002; Egidi, 1995; Orlikowski, 1996; Feldman, 2000).

The literature suggests that routines have inherent the means to bring about change (Orlikowski, 1996) in their own quiet way that is steady and creates maintenance. The idea of organisational maintenance itself encompasses learning and change – to maintain your business you need to make some adaptations to the environment, create changes in your processing of information; otherwise you cannot move along with the times.

Organisations thus use routines to harness the knowledge inside the organisation and to standardise their procedures. Therefore a process needs to take place where the non-routine behaviour is replaced by routines aiming to create a smoother organisational identity.

Postrel and Rumelt (1992) see this as organisational change, where individuals are 'unlearning old routines and learning new ones' (p.412). A process that can lead to employee resistance – initially, because performing a new routine can lead to a temporary degree of downgrading of your abilities.

Hence the routines themselves are evidence of the 'conflicts which accompanied their emergence and establishment' (Coriat & Dosi, 1995, p.24). Meaning their enactment is the result of decision-making and interaction that happened as a result of their formation. This interaction with other organisational members also seen as a characteristic of organisational routines (Feldman, 2000, Feldman & Pentland, 2003); gives shape to the community(ies) that are an important element of organisational learning (see Crossan, Lane & White, 1999; Brown & Duguid, 1991; Fiol, 1994; Kim, 1993). Communities of individuals with established routines connect new members with organisational routines and can be viewed as a 'collective structure of routines of co-ordinated interaction' (Nooteboom & Bogenrieder, 2002, p.16). Sharing between the group, learning about routines, and performing your part in their completion can become a fruitful socialisation experience for new additions to the group. Learning routines and re-enacting them is a process that can be explained best through the incomplete nature of routines (Egidi, 1995) thus assisting us to understand their constant albeit slow evolution. Incompleteness allows routines to be flexible and facilitates change because agents are able to complete procedures by means of their ability to learn and solve problems. They never completely own all the information as routines are a common effort. They receive information and

exchange knowledge so each instance of routine re-enactment is a move forward in the evolution as more is added each time and so on.

Routines and artefactual representation

In their innovative conceptualisation of routines as ostensive and performative, Feldman and Pentland (2003) showed how each organisational routine is shaped by the agent's actions and subsequently shapes the rules as set to map each routine. Within this framework they then added the combination of ostensive and performative with the uses of artefacts in the workplace.

Artefacts were a major component in Yanow's (2000) approach to the study of organisational learning through the cultural-collective lens. Artefacts are used in ethnography as the products of a culture and are features of studying a culture. People engage in organisational acts that involve artefacts as produced by the organisation – for example the job card (customer order translated in production speak) – and these are the focus of their interaction with one another and the reason for their actions – the production of a cable, the assembling of a part, the packaging of the product. Creating an artefact means embedding it with 'values, beliefs, feelings, and other forms of meaning' (Yanow, 2000, p.252). The meanings individuals transmit to the artefact are created and recreated or altered and that is another element in the organisational learning process. Yanow had observed that the degree of meaning–embodiment of certain artefacts could also include tacit knowledge on organisational information; something used instead of spoken explanatory language.

Pentland and Feldman (2005) saw artefacts further than this perception of organisational learning, into what actually Cook & Yanow (2001) meant by seeing organisational learning 'culturally'. In the micro level, routines may be 'codified or prescribed, as well as enabled and constrained by various artefacts [that may be] written rules, procedures and forms to the general physical setting' (Pentland & Feldman, 2005, p.795-6). While artefact can be the outcome of a routine i.e. the externalisation of a repeated process, it can also set the parameters of the interaction between the ostensive and performative aspects of an organisational routine.

Further in the micro level of organisational change and maintenance through routines, the degree of embeddedness of routines into other organisational structures (Howard-Grenville, 2005) becomes relevant considering that agents recreate structures through routine re-enactment. As mentioned earlier, routines give out organisational characteristics of how things are done in an each organisation. Agents produce and reproduce the structures around them (Giddens, 1984) each time they perform a routine. The argument of the degree of embeddedness is whether the simultaneous enactment of multiple structures can contribute to the persistence of routines by generating multiple often overlapping artefacts. While you are accomplishing a routine you are also invoking the production of other organisational structures; on both instances you are producing artefacts thus that routine has been deeply embedded in these organisational structures. Monthly managers' meeting – routine begs that monthly financial/production/breakage/delays/staff turnover etc. reports are prepared by managers and their teams which galvanises business units to catch up any loose ends or increase productivity to make up their monthly quotas. This routine takes place once a month but has the effect of engaging many structures (information system report handling, production–machinery/employee overtime, managing director's decision–making based on evidence from his line managers) and producing several artefacts (finished products, reports, minutes, decisions). This routine can be difficult to change because it has been so strongly embedded and the expectations generated from routine performance with overlapping and multiple artefacts are rooted in organisational structure.

D'Adderio (2008, 2011) relates her work on routines and artefacts by extending on previous work on embeddedness by looking at the ostensive/performative relationship (Pentland & Feldman, 2005) in relation to artefacts. When rules and procedures are embedded in artefacts they 'constrain interpretation and shape subsequent action' (D'Adderio, 2008, p.783) but the 'combined influence of human agents and material artifacts shapes the course of routines' (D'Adderio, 2011, p.199). Pointing as it were to the rhythmic motion of interactions: the agents have the ability to influence the course of a routine through the use of an artefact affecting whether a procedure is followed, the extent to which it is followed or whether rejected all the way (D'Adderio, 2011).

Organisational Routines – Definitions from the Literature

Author(s)	Definition
Pentland & Rueter, 1994	Routines are […] essentially complex patterns of social action
Coriat & Dosi,1995	Appear to be robust forms of adaptive learning in complex and changing environments
Pluye et al, 2004	Routinization refers on sustainability in organizations
Cohen & Bacdayan, 1994	…multi-actor, interlocking, reciprocally-triggered sequences of actions; patterned sequences of learned behavior involving multiple actors who are linked by relations of communication and/or authority
Abell, Felin & Floss, 2008	…the nature of routines is to internalise externalities
Nooteboom & Bogenrieder, 2002	Habitualized configurations of activity…collective patterns of activity to which several people contribute
Feldman, 2000	…routines as flows of connected ideas, actions, and outcomes
Feldman & Pentland, 2003	An organizational routine is a repetitive, recognizable pattern of interdependent actions, involving multiple actors
Pentland & Feldman, 2005	Routines are continuously emerging systems with internal structures and dynamics
Cohen, 2007	…recurring action patterns
Iannacci & Hatzaras, 2012	Organisational routines are the building blocks of organisation and organising
D'Adderio, 2008	…routines as generative – and continuously emerging – systems characterized by structure and dynamics
Nelson & Winter, 1982	[refers to]…a repetitive pattern of activity in an entire organization, to an individual skill, or, as an adjective, to the smooth uneventful effectiveness of such organizational or individual performance

Table 5: Definitions of Organisational Routines

Organisational Practices

Introduction

There is still not a unified theory of practice (Schatzki, 2005; Blackler & Regan, 2009, Feldman & Orlikowski, 2010) and there are different conceptualisations on the role of agents, structures and change in and through practices (see Table 6). This 'practice turn' (Schatzki, Knorr-Cetina & Von Savigny, 2005) in contemporary social theory has been gathering momentum since the 1970s with the work of theorists such as Foucault, Bourdieu and Giddens. These theorists come from diverse background and positions but are all united in their quest to overcome social theory's dualisms so evident in much of the work in organisational studies. Dualisms such as what Schatzki (2005) calls individualism and societism where those on the individual field attribute too much to individual human abilities and actions overlooking the macro, while societists, overemphasize the social forces undermining the dynamism of the micro.

Studying practices forces us to re-orient the focus on organisational phenomena on what is actually being done in the present (Miettinen, Samra-Fredericks & Yanow, 2009). This theory argues that our everyday actions result in the shaping of social life as we know it (Feldman & Orlikowski, 2010) and would be erroneous to ignore this micro-level specialised theoretical facet, albeit still unclear in its remit. The result of these actions create a continuity of competence (Orlikowski, 2002) observed around us in the people and the structures that are sustained and are successful in their activities. Such competence cannot be assumed or expected; it is achieved by and through practicing. If we make the centre of our attention the communities of practitioners and their subjective viewpoints, as well as the way they construct their world(s) we can 'gain a deeper understanding of how organisations are constructed, how they are changed, how decisions are made and how knowledge is generated' (Geiger, 2009, p.135).

Below I will explore how practices have been conceptualised in the field, the importance of organisation as a context; and the value of human agency in recreating these structures through practicing.

Organisational practices (or shared practices)

Practices have been used in organisational literature to mark a further step in understanding the world of organisations as institutions i.e. their historical sustainability, for practices are part of human existence (Gherardi, 2000b). We all engage in learning, innovation, negotiation, interpretation while working and those are all co-present in practice (Brown & Duguid, 2001). It is to no surprise that the 'practice turn' (Schatzki, Knorr-Cetina & Von Savigny, 2005) occupies a distinct focus on the everyday life and the minute in organisations (Reckwitz, 2002).

Keeping in line with the 'interpretative turn' (Kant, Nietzsche), practice theory uses the term as another way that individuals produce and reproduce their environment through their actions and their practice. Gherardi (2000b, p.215) sees 'practice' as both the 'production of the world and the result of this process'. The motion is cyclical: while past actions have formed the practice; present usage recreates and adds to its current status. This means that the individual organisational members are practic*ing;* their actions are informed by meanings drawn from a particular context (Cook & Brown, 2001; Reckwitz, 2002) which are then brought to bear in the present.

What the field assist us in understanding is an additional variance in how an organisation is held together and what is the balance achieved between stability and change. At times there has been a discussion of tacit learning – that practices encompass a degree of it to the point that the major focus should be how to make that explicit. However Brown and Duguid (2001) infer that through the socialisation of new members in Communities of Practice (Lave & Wenger, 1991) for example, tacit knowledge that is held in the group becomes explicit at some point so that it can be shared. And at other times the term practice implies a repetitive performance needed to result into a habitualised routinised accomplishment (Reckwitz, 2002; Jarzabkowski, 2004). However practices, like other constructivist phenomena, are simultaneously constituted and reconstituted by our actions (Whittington, 2006).

Practices and stability and change

With learning comes change (Fiol & Lyles, 1985; Huber, 1991; Crossan et al, 1995) and there is always the expectation that things will be altered as a result of that; but perhaps the slow pace of incremental changes is substantial enough to encompass the two. The concept of practice has been invoked to explain continuities and commonalities among the activities of social groups (Rouse, 2005).

Practices have been viewed as anchors (Gherardi, 2000b) that are contained in the habitus (Bourdieu, 1977) which encompass all past individual and collective practices and results to be the beacon of organisational know-how. However practices are best understood as the parts of individual action and not as standalone 'artefacts', such as for example the practice of inspection, instead we speak of inspecting a part. This would mean the action taken by an informed individual who has expertise in conducting this practice.

There is another way of seeing how orderliness is created, by breaking the dualism of body and mind; routinised bodily performances (Reckwitz. 2002) are credited for creating a visible order. We teach our bodies to perform routines and accomplish practices even if the conscious reflection on the action is absent.

But we must ask whether the re-enacting of practices by individuals is enough to give us explanation of the patterned social life. When humans create, they will always imbue their actions with new information, even if they are performing routines, which would assume that this change brought about with each individual re-enactment should not allow the creation of patterns. However as Giddens (1984) explains they are using the tools and materials already created by historical structures that came before them. What would it be important to ask is why do people enact the practices that they do, their intentions for doing so and the knowledge they carry with them while enacting each practice. Even the term 'shared practices' used instead of organisational practices can be misleading because it suggests commonalities that are not visible. 'Shared' would mean the different skills, competencies and performances of a collective. The term would indicate a collection of distinct individual

capabilities.

Barnes (2005) suggests that what holds these patterns together and keeps them going is a contextual process:

> What is required to understand a practice…is not individuals oriented primarily by their own habits, nor is it individuals oriented by the same collective object; rather it is human beings oriented to *each other* (p.32) [italics added for emphasis]

Human beings can create practices as a collective not because they are independent individuals who possess the same habit. On the contrary we are interdependent social actors linked by a 'profound mutual susceptibility' (Barnes, 2005, p.32). We constantly modify our habituated individual responses as we interact with each other in order to sustain a shared practice. People want to 'yield' this way; they do not want to destroy but they want to create. So they modify their behaviour in order to fit in other people's expectations and this is what makes practices a great source for patterned behaviour.

Practices are accomplishments achieved by members acting together but they have to be generated at each occasion. They cannot be assumed. The agents are concerned all the time to retain coordination and alignment with each other in order to bring them about. Although when we observe the accomplishment from afar, as the accomplishment of a collective, such as the practice of producing an assembly (that requires the sequencing of several processes, routines and actions) we can assume that as a whole, they are practicing a routine. But as individual members, they have to adjust, listen and behave in ways that require reflection and action; not only a reaction.

Our actions are informed by meaning (Cook & Brown, 1999) dawn from the context in which we work in. So how does then change come about, if we constantly consent? Learning does this. We learn from other people. We learn from people when we are starting out (the trainees in Parkside learn from a master engineer the use of Parkside's machinery – that could take up to several years). But even when the master engineer lets them go as 'trained' (most precisely as trained in the usage of machinery or the making of a part); their learning does not stop there. Later on as they continually participate in the accomplishment of that which they are now ready to do on their own; they still learn from each other. Thus learning what it is and

enacting it are inseparable (Barnes, 2005).

Freeman (2007) suggests that this observed stability stems also from negotiation. He uses the term to denote the process of engaging with each other and each other's interests and ways of thinking. When we negotiate the best mode of action we are engaging in a process of understanding each other and making compromises. Thus we learn about each other schemes and engage in the process of learning about the organisation and its objectives in what it wants us to achieve by performing this practice.

Mutual constitution (Feldman & Orlikowski, 2010) is proposed as the primary reason for this patterned behaviour. Phenomena always exist in relation with each other. This on-going constitutive relationship indicates that social regularities are always in the making that is they are on-going accomplishments reproduced and transformed in every instance of action.

Practices and organisations as the context of learning

Organisations offer the context where the practices are performed and are also part of the structures that are recreated in the process of performing practices. When perceiving organisations as 'systems of practices' (Gherardi, 2000b, p.211) we set the scene where the whole organisation is enacted through its practices and the people who bring them about. When this 'system of practices' is perceived as containing the elements that would elucidate a skilful performance then the presence or absence are understood to be emanating from such situated practices (Orlikowski, 2002). When skilful performance is seen to lie in the dynamic engagement of individuals with the world at hand in a particular time and space, both its presence and absence are understood to be emerging from situated practices (p.270). The focus then is on understanding the conditions (human, social, structural, financial, technological, and infrastructural) that make this possible.

Practice based studies unfold their critical power by arguing that organizations cannot be understood as rational, formal and rather trivial input-output machines. Instead their collective, historically contingent, institutionalized and normative character needs to be emphasized (Geiger, 2009). What we can perceive as the contribution of practice theory to the image of the organisation (Morgan, 1997) is

that organisations are much more than what they appear. For example the organisation in this study is named as an aerospace product manufacturer. But that does not cover the character of the place, or the practice involved in production or planning for these products.

Practices and individual energies

> [] the kinds of patterns and regularities we regard as social practices are nothing more than that which people learn in a rather heterogeneous way, are the best ways or the satisfactory ways to negotiate the paths toward the fulfilment of whatever purposes they might have (Turner, 2005, p.138)

There are no limits to where learning can be used to denote the world around us. We live and we survive as humans due to our capacity to learn, remember and constantly evolve that learning by embedding our experiences continually. In practices we learn through participating in accomplishing a practice (Gherardi, 2000b) where 'learning takes place in the flow of experience' (p.211). When we participate in a practice we acquire knowledge as a result of acting out that practice but we also have the opportunity to change or perpetuate this knowledge – embedded inside the practice. A process that can be described as the production and reproduction of our world as suggested by Giddens in his theory of Structuration. This knowledge is not 'out there' (Feldman & Orlikowski, 2010) and does not represent anything else but the context into which we are learning from. What individuals learn always reflects the social context in which they learn in and in which they put it into practice (Cook & Brown, 1999; Brown and Duguid, 2001). It is neither though 'in here', in a sense. It cannot be contained in human brains, bodies or communities – only. It is the combination of the two that allows the actions and reactions to create something new and in that motion recreate the world that existed beforehand.

Such contextual learning, based on contextual knowledge and experiences is constantly constructed and re-constructed because of the people whose job it is to accomplish tasks. This knowledge is not to be taken as a property (Brown & Duguid, 2001) but as embedded in organisational structures. That way we can accept that it is enacted and re-enacted when people are transforming their world through

practices/routines/processes. So if it is not a property or a stable; it is best to be viewed as ‘knowing enacted in practice’ (Orlikowski, 2002, p.253); that is not a solid malleable product that can be transferred from situation to situation exactly because each situation/context has its own embedded knowledge and the only way to ensure that knowledge is somehow useful or properly applied is in practice. Consider the situation of the bricoleur as explained by Freeman (2007) who studies how practitioners make sense of learning. He suggests that individuals – in that case specialists – select tools to fit their current purposes and accomplish tasks; but that purpose itself is shaped by the tools and materials available. They are beginning to find the purpose for which they were selected and the tools’ properties are beginning to be uncovered in the process of practicing. Individuals do not accumulate learning and deposit it in their minds as such; they are collectors of knowledge that they form in a collage that allows them to link things together and arrive to the practice they are keen to accomplish each given time.

Learning is most probably fluid in its nature, ‘it begins in uncertainty […] but often ends there too’ (Freeman, 2007, p.488). This makes sense in a constructivism epistemology as it accepts that knowing is constituted and reconstituted every day in practice, and thus provisional (Orlikowski, 2002, Geiger, 2009). This provisional character precludes us from treating practicing as something stable or to be expected from individuals continuously. The re-enaction of practices, as the knowing in practice theory tells us would entail provisional knowledge and this nature is to be considered as a positive element. For example in the process of creating a development plan for posts under his supervision; the manager commented that he would only put down what is essential without unrolling every detail of the expected tasks to avoid making it too specific and thus rendering it useless for the forthcoming years as their job would be altered anyway – that is the nature of their industry.

We spoke about the organisation and the contextual knowledge that is enacted; but the individuals who enact it are also experiencing practicing as part of their work; they are important because their practical skills make a difference, and they are not going to be mindlessly reproducing initial conditions (Whittington, 2006). Bourdieu (1977) refers to schemes to denote the memories that enable actors to generate many

practices adapted to changing situations.
But if these schemes have absorbed this learning from past experiences then maybe it is the mind that has accumulated all this information; because the ‘mind is the place of the knowledge and meaning structures’ (Reckwitz, 2002, p.247).

If we are to really break away from the dualisms (in here/out there, stable/fluid) we must consider the common dualism in organisational learning studies on the body and mind (Reckwitz, 2002; Strati, 2007; Geiger, 2009). Knowledge is created in the process of practicing which involves activities of the body and the mind at the same time. Since knowledge resides in practices it cannot be separated from the practicing body and always involves our senses.

Definitions of practice

Author(s)	Definition
Gherardi, 2000b	Practice is a system of activities in which knowing is not separate from doing
Brown & Duguid, 2001	By practice we mean undertaking or engaging fully in a task, job or profession
Reckwitz, 2002	A practice is a routinized way in which bodies are moved, objects are handled, subjects are treated, things are described and he world is understood
Cook & Brown, 1999	…refers to the coordinated activities of individuals and groups in doing their 'real work' as it is informed by a particular organizational or group context
Barnes, 2005	…socially recognized forms of activity, done on the basis of what members learn from others, and capable of being done well or badly, correctly or incorrectly
Turner, 2005	…those nonlinguistic conditions for an activity that are *learned*
Reckwitz, 2002	A practice can be understood as the regular, skilful 'performance' of (human) bodies
Jarzabkowski, 2004	…the way actors interact with the social and physical features of context in the everyday activities that constitute practice
Orlikowski, 2002	…the situated recurrent activities of human agents
Geiger, 2009	…normative constructs which on the one hand define the norms of a particular society or group and on the other hand reproduce these norms through ongoing practicing
Simpson, 2009	…is a dynamic, temporal process that both converges and diverges…it involves human conduct and the exercise of agency
Strati, 2007	The concept of practice emphasizes social and post-social interaction, collective negotiation, the collective construction of the 'legitimacy' of the practice itself within a special within a specific organizational setting
Miettinen, Samra-Fredericks & Yanow, 2009	…practice as taking place simultaneously both locally, being both unique and culturally shared, 'here and now' as well as historically constituent and path-dependent

Table 6: Definitions of Organisational Practices

Chapter Summary

This chapter sets the scene and acts as the background of this research project. The five topics it negotiates are interwoven and the literature reviewed was done so that it reflects the research questions but also the themes that arose from the case study. The aim was to unpack the term ‘organisational learning’ and this purpose continuous with Chapter 3 where a theoretical lens is explored that tries to understand the relationships and debates initiated here. The most enduring debate and the genesis of various conceptualisations is whether organisational learning is the learning of the organisation as a whole (with the implications this carries) or the learning of individuals who make up the organisation. And although this was not the main theme running through this literature review, it raised questions as to the ‘unpacking’ of the term and the possible ramifications it can have when collecting data from the field.

The first segment, on Organisational Learning exposed the various debates and stances taken from authors who specifically address the issue. Such arguments range from the abstract (organising or learning) to the specific (individuals/collectives learn, make decisions, remember and forget). This theme acted as a generator of explanation and understanding and initiated the breaking-down of the term ‘learning’ in the organisational context.

This was followed up in Organisational Knowledge with the aim to see ‘knowledge’ as that which is ‘acquired in the process of learning’ (Wiseman, 2008, p.45). Knowledge was found to be tacit or explicit and viewed as an asset to the organisation capable of acting as a competitive advantage. A sustainable competitive advantage can be derived from the organisation’s ability to sustain development of its knowledge-base and improve continuously by generating new knowledge from within.

While ‘learning’ and ‘knowledge’ were considered as part of a process that organisations can follow to create a visible continuance in their activity, literature on Organisational Memory explored how knowledge and learning can be potentially retained, stored and retrieved in a manner that is relevant to the organisation. The individual, routines and artefacts were identified as possible repositories. However the process of ‘remembering’ has similarities to ‘learning’ and ‘knowing’. This

involved people constructing their experiences and creating meaning, instead of the noun ‘knowledge’ or ‘memory’. However up to here, the literature had not explained what had been noticed in the field, the repetitiveness of working life, the minute that surrounds production line and how that is involved in organisational learning. It had not explained how organisational learning, as translated in the case study, was involved in the creating of stability and change.

Following a review of Organisational Routines and Organisational Practices, further connecting lines were drawn on the ‘map’. These segments began picking out the realities of organisational life and the possibilities that are hidden within the minor and everyday tasks that employees do as a matter-of-fact. Routines and Practices were pivotal in engaging with the other segments that had a more theoretical approach and had their origins in the language used to explain human capacities. Routines opened up the debate on the nature of acting out a routine and the relations that are created when we perform a routine. However Practices helped to shed light on how organisational life is shaped by our everyday actions. Both were key in representing the experiences in the field in conjunction with the more abstract and analytical of the first three.

The following chapter will present the conceptual framework that is used in this study.

Chapter 3: Conceptual framework

Introduction

This section reviews the theoretical and empirical literature related to the Theory of Structuration as developed by Giddens (1976, 1979, 1981 and 1984) as the lens through which to study organisational learning and examine the role it plays in organisational change and stability.

The underlying premise of this study is that organisational members through their learning and experiences have the capacity to transform their practices and that this has a direct effect on their organisation's ability to absorb that information. What the theory of structuration offers us is an opportunity to perceive this as: knowledgeable actors through their learning are able at once to produce and reproduce their environment in a way that shapes and it is shaped by them. With organisational learning been viewed as the acquiring, sustaining and changing of meanings (Cook & Yanow, 2001) and organisational members' acquired insights and skills being able to create changes in norms and standard operating procedures (Popper & Lipshitz, 2000), Giddens theory can assist in shedding further light in the situational factors that combine the two.

Theory Assumptions

Giddens elaborates on what he termed as 'theory of structuration' in a series of publications (1976, 1979, 1981) culminating to the Constitution of Society (1984) where he expands on previous iterations of his discussion and analysis of the major themes of sociological theories such as Marxism, structural functionalism, ethnomethodology and phenomenology (Berends, Boersma & Weggeman, 2003). He develops his argument through discussing the representations of agent (or actor) and society and theory relationship in the formation of social cohesion. What Giddens is offering is the 'way' to view both through what he refers to as a duality of structure. The duality of structure refers to how society and the agents who consist of it have a symbiotic existence where they affect and are affected by each other. The 'duality' is a clear departure (1984, p.xxvii) from the many dualisms that prevail in social theory such as agency/structure, individual/society, major/minor and so on.

In this study the theory of structuration is used as a sensitising device to achieve what Blumer (1954, p.7) notes as ‘a general sense of reference and guidance in approaching empirical instances’. This theory offers a way of directing attention to what is relevant or important (Bryman, 2008) in the field of organisational learning and its connection to the observable phenomenon of organisational stability and change. Taking organisational learning to be the learning of the organisation as a whole (Cook & Yanow, 2001) and not only the learning of the people in it, requires a theoretical framework that can support the view that employees and their organisation have an interdependent relationship and that the organisation as a structure is not constraining individual agency but also enables it. Giddens’s view of the observations around us contributes in accepting that we are influenced by our surroundings but at the same time we influence our world through the duality of structure. In the sections that follow I expand on the Agency and Structure but also offer a set of criticisms towards the theory and make links between using the theory in practice and in studying organisational learning in particular.

Background of the Theory

Giddens explains that in formulating the theory of structuration he had envisioned to create an account of the agent as a knowledgeable and competent member of society without reducing the value of the ‘structural components of the social institutions which outlive us’ (1981.p15). The many conceptualisations of Marxist and functionalist for ‘agent’ and ‘agency’, is that of a mere puppet at the mercy of structural forces unbeknown to them. Instead within this theory; they are empowered and their knowledge respected and that their part in shaping their environment is acknowledged. He extends the idea already used in interpretative sociology that production of society is always a skilled accomplishment of its members (Giddens, 1976) by adding that structures are *also* reproduced.

Giddens signifies the importance of social practices by saying that ‘the basic domain of the study of social sciences according to the theory of structuration [are] social practices ordered across time-space’ (1984, p.2). Social actions consist of social practices as they are organised in a skilled and knowledgeable way by human agents. The value of this amplified attention on practices is crucial for Giddens and he asks

that researchers incorporate in their studies how the routinized practises intersect to transform structures, but also the ways that practices connect social and system integration (1984).

Giddens explains that duality of structure relates to the 'fundamentally recursive character of social life and expresses the mutual dependence of structure and agency' (1979, p.69). It is an important innovation (Giddens is eager to transcend the opposing views between action and institutional theories) in that it suggests that the structural properties of social systems can be viewed as both the medium and the outcome of the practices that constitute social systems (1977, 1981, 1984).

Agency

Giddens's agent (actor) is a fundamental part of his theory as he 'reinvents' agency in social theory. He aims to move away from representations of agents as passive members of society whose future is largely based on fate or 'luck' with minimal contribution on their part to their daily existence. For Giddens 'agency refers to doing' (1984, p.10) and this is important to the rest of his discussion on practices and the knowledge and power of individuals in and through the theory of structuration.

The issue of action is central to the theory of structuration; Giddens sees action as a 'continuous flow of conduct' (1979, p.55; 1984, p.3). It has an undivided quality and cannot be considered as the additive capacity of a combination of intentions or reasons. However actors and their knowledgeability are bounded in action; the flow of action produces unintended consequences and these in their turn may form unacknowledged conditions of action in a feedback loop (1984).

Giddens proposes a 'stratification model' of action (1979, p.56) to take us through three elements of action agents engage with: reflexive monitoring of action, rationalisation of action and motivation of action.

The reflexive monitoring of action refers to the intentional character of human behaviour. Intention, according to Giddens is to be perceived as a process (1979) and is part of human conduct. To be reflexive is to be able to recount the reasons for your actions and that requires that actors draw upon the same stocks of knowledge as are drawn in the production and reproduction of their action (1979).

When talking about the rationalisation of action Giddens refers to the capacity that

agents have to explain the reasons behind their actions. He is however 'uncomfortable' with the idea of articulating such reasoning as he sees 'mutual knowledge' (1979, p.57); the knowledge collected through the interactions with other agents in the instantiations of practices, to be never really expressed explicitly. He does accept however that human beings are purpose agents; that is they have reasoning behind their activities and that are 'able if asked to elaborate discursively upon those reasons (including lying about them)' (1984, p.3).

In motivation of action Giddens talks about the organisation of an actor's wants coupled with conscious and unconscious elements of cognition and emotion (1979). The intentionality behind action is not directly correlated with agency – Giddens sees motives as supplying agents with a set of plans that assist in our practice. But our 'day-to-day conduct is not directly motivated (1984, p.6). The point here is that routinisation is important in that it 'drives a wedge between the potentially explosive content of the unconscious and the reflexive monitoring of action which agents display' (1984, p.xxiii).

The power the agent has under the theory of structuration helps to envision the agent as acquiring knowledge and that through the reproduction of structure, being able to embed that new structure with the knowledge acquired. Giddens is particular about the role he sees assigned to agents in the reproduction of society; social activities do not exist separate from agents, they are 'continually recreated by them via the very means whereby they express themselves as actors' (1984, p.2). Through their actions, actors create and recreate the conditions that make these activities possible.
It is a necessary feature of action that at any point in time the agent 'could have acted otherwise' (1979, p.56 & 1984, p.9). This is important; there is no sense of discussing power or knowledgeability without mention to freewill.

Action may be conceptualised, Giddens suggests, in terms of a stratification model that takes account of the reflexive monitoring of action (including unconscious sources of motivation). Essential to the stratification model is the idea that, while much day-to-day life occurs as a continuous flow of intentional action, many acts have unintended consequences which may become the unacknowledged conditions

of further acts. It is primarily in this way, according to Giddens, that action is linked with structure. For in pursuing some course of action the agent draws upon the rules and resources which comprise structure, thereby reproducing unintentionally the structural conditions of further acts (Thompson, 1989).

Agent's Knowledgeability

The agent in the Theory of Structuration is 'endowed' by knowledgeability – a term coined by Giddens to mean 'everything that actors know (believe) about the circumstances of their action and that of others, drawn upon in the production and reproduction of that action, including tacit as well as discursive knowledge' (1984, p.375). His attribution of knowledge to agents is a way to empower them; he is distancing himself from the disenfranchised attitude of Marxism and functionalism. For Giddens agents have an understanding of their experience and what drives other people's action; at the same time as he endows them with the power to act otherwise (1979, 1981). Their knowledge is integral to the patterning of social life and the operation of society (1979, 1984) and it is not to be taken as separate from the production of structure, rather as involved in its reproduction. Their understanding of what they do while they do it is an inherent quality (Giddens, 1984).

For Giddens knowledge can be 'practical consciousness' or 'discursive consciousness'. Practical consciousness if a fundamental concept to the Theory of Structuration as it is knowledge embodied in what actors 'know how to do'. It refers to the tacit knowledge exhibited by agents in their actions. Discursive refers to knowledge that can be communicated in whatever manner agents are able to do so (Giddens, 1979).

Giddens uses the term 'knowledgeability', to explain his observation that agents are purposeful, knowledgeable individuals who use reasoning for their actions. However the knowledgeability they possess is not without its own limitations because according to the theorist 'social processes […] work behind our back[s]' (1981, p.16) affecting our actions in ways that we are not aware. So human knowledge is inevitably bounded because of what he refers to as the 'flow of action' (Giddens, 1984, p.27). Acting creates consequences which can be unintended and unintended

consequences can form unacknowledged conditions for agents to act within. This does not limit agency but it does create a loop of circumstances that are not at all times within reach.

Similarly he explains knowledgeability in terms of reflexivity. Agency presumes a degree of reflection on actions and the monitoring of acting. This is the implication in the recursive ordering of social practices (Giddens, 1984) because in order for any kind of practice to persevere humans need to actively reflect on their actions and the outcomes thereof. However reflexivity is thus made possible simply because of the continuity of practices. This knowledgeability, as is involved in the re/production of the social world through our practical activities, is indissolubly associated with what actors know about the social world and not separate from it (Giddens, 1984).

Power

Power in Giddens's theory of structuration is elemental in that he has endowed agents with 'free will'. This goes hand in hand with them being knowledgeable members of society hence the argument that the reproduction of society rests upon them critically reflecting and thus transforming their world. Free will then, is not standing opposite power (the argument of the Theory of Structuration is on breaking away from dualisms); power is rooted in the very nature of human agency, what Giddens describes as the 'freedom to act otherwise' (1981, p.4). Power is defined as 'the capabilities that an actor has to influence the events involved in a sequence of interaction depends upon the resources s/he is able to mobilise. Resources being considered as properties of structure (Giddens, 1977). Hence action is intrinsically linked with power (Cassell, 1993).

While action is the intended intervention in events in the world, power refers to the option to intervene so as to alter their course (Cassell, 1993) or to refrain and thus affect the possible outcomes by transformative action. Power is the option to have acted otherwise, but transformative power is the decision to intervene in the sequence of interactions so that you can get the outcome you were hoping for. The exercise of power is not a type of act; rather 'power is instantiated in action, as a regular and routine phenomenon' (Giddens, 1979, p.91). Power and freedom in human society are not opposites; in the contrary, power is rooted in the very nature of human agency, and thus in the 'freedom to act otherwise' (1981, p.4).

It would not seem possible that Giddens could have attributed power in any other way; he sees structures as only existing in human practices, as they are instantiated through human action. Hence, apart from knowledgeability, he also attributes power: a form of transformational, selective and intended to produce outcomes (usually the reproduction of the structural capacities of their world).

Further, power can also refer to 'getting other people to use their agency to do what we want them to do' (1979, p.93). This is a step further, whereas the transformative capacity of power is to get other people to produce the outcomes you expected. This can assist in understanding stability as an organisational phenomenon, whereas the stability of an organisation depends on the agency of others being coordinated and exercised in a way that in aggregate can appear to be, people letting go of their agency, for the benefit of the greater 'cause'. That being also their own agency, so

part of their agency is their knowledge that they will have a job to come back to – so they are willing to be directing their agency towards what their manager expects of them.

But how do we actually get people to apply their agency for other than own gain? Giddens talks about the resources that agents mobilise at each situation and the 'facilities that participants bring to and mobilise as elements of the production of that interaction, thereby influencing its course' (1979, p.93). Power in this form refers to selecting the tools that would be relevant and apply them to the various points of interaction. The case of integrating the new document on Employee Performance offers an example: the quality manager rejected the replacing of the old form with the new on grounds that it would need to confer to quality assurance regulations. However one of the managers decided to only use the new when evaluating employees and encourage all managers to do the same, while only attaching the existing form (blank copy) when filing the employee record. As a result the new form has become part of organisational practice as the other one is no longer being used. In a sense the quality manager has applied his power as the beacon of authority in all matters pertaining to the quality manual even though the managers are the ones carrying out the performance evaluation. However Giddens rejects the notion that some agents yield to others and states that because social systems are regularised practices, then the relations of autonomy and dependence (1979, 1981) present in the social system are invariable reproduced as well. Power relations manifest autonomy and dependence always flowing in both directions, without which either agent would be unable to influence the outcomes of interactions.

This he calls the 'dialectic of control' (1984, p.16). In the case of the organisation used in this study, with its hierarchy and longevity, assumptions about the relations of autonomy and dependence can be made. That regularised relationships are of the top-bottom variety; but all forms of dependence ultimately offer some resources to those that are seemingly subordinate to influence the actions of those above them. Giddens sticks closely to his knowledgeability/empowering notion and the theory of structuration seems to give enhanced capacity to agency over structure. The dialectic of control is crucial to the existence of agency in the Theory of Structuration that if an agent does no participate in it in some way (reciprocity) then s/he cannot be called

an agent (1979).

Giddens maintains that an agent ceases to be an agent when s/he loses his capability to ‘make a difference to pre-existing state of affairs or course of events’ (1984, p.14). With the definition of action being that which ‘involves power in the sense of transformative capacity’ (Giddens, 1984, p.15), meaning having the power to transform any given structure (event or course of affairs), in order to ‘make a difference’. Thus for Giddens power is not a type of act, rather ‘power is part of action’ (1979, p.91) so to be an agent you need to exhibit some form of transformation of your surroundings.

Structure

Giddens's thesis on the creation of the theory of structuration rests upon a discussion of the way agency and structure had been viewed through structuralism and functionalism, where structure appears to have the role of constraining the free will of independent actors in society. However with his proposal of a 'duality of structure' (1976, p.127) he sets his sights on weakening this construct by suggesting that 'structures must not be conceptualized as simply placing constraints upon human agency but as enabling' (1976, p.161). For Giddens social systems as such exist only because they are continually produced and reproduced through the duality of structure; they do not exist outside of human agency. Agents draw upon the rules and resources to create the social system. However structures also generate behaviour by providing these rules and resources to the agent (Layder, 1994).

Structure as both enabling and constraining comes from Giddens's conceptualisation of it as not consisting as a barrier to action but actually as involved in its production (1979). This happens because Giddens has placed the agent central to his argument of duality of structure. He argues that structures 'only exist as the reproduced conduct of situated actors' (1976, p.127) with structure being both the medium and outcome of social reproduction (1977). Because agents draw upon the rules and resources to reproduce the world they become at once the medium of our activity because they enable us to do things and have intentions (Layder, 1994) but simultaneously represent the outcome/consequence of action. By using a given set of rules and resources their value is endorsed as they still are relevant for practice.

These rules and resources that Giddens refers to compose structure and are recursively implicated in social reproduction (Giddens, 1984). They enable people to do things and make a difference in the social world. Rules are defined as knowing 'what one is supposed to do and [what] others are supposed to do' (Giddens, 1977, p.130) in situations where that rules is applicable.

Layder (1994) on the other hand explains resources as the means by which people accomplish tasks in their daily lives. These resources are made up of a range of knowledge and skills that are taken for granted as they have been picked up through a series of life experiences. People draw upon these resources in order to affect the outcome of a process of interaction (Giddens, 1977). Giddens distinguishes between

authoritative resources ‘which derive from the co-ordination of the activity of human agents’ (1984, p.xxxi) and allocative resources that ‘stem from control of material products or of aspects of the material world’ (p.xxxi). The allocation of resources depends on the mediation of authoritative resources. In other words those with the authority to move resources, to store, retrieve and access will determine the allocation of resources within the organisation.

Rules and resources constitute structure (Thompson, 1989). Giddens identified three structural features of social systems: signification, domination and legitimation. (1979). These structural features serve to clarify Giddens’s ‘duality of structure’ by relating the agent knowledgeability to structural features (1984). They are ‘encoded in actors’ stocks of practical knowledge’ (Barley & Tolbert, 1997, p.97) via modalities as shown in Figure 1. Interpretative schemes are shared stocks of knowledge that humans draw on to help them interpret behaviours and events and thus mediate communication. This enables and constrains communication but also reproduces structures of signification (Abou-Zeid, 2007). Resources (facilities) are the means through which power distinctions are produced that govern the way in which actors relate to each other (Bremner, 2011) and norms are those rules that govern sanctioned conduct and define the legitimacy of interaction. Through invoking their usage, agents reproduce structures of legitimation (Abou-Zeid, 2007).

These three modalities explain how the institutional properties of social systems (as indicated in ‘structure’) influence human action by affecting communication, enacting power and by determining what behaviours are sanctioned. At the same time the modalities determine how human action constitutes and reconstitutes social structure as social practices become institutionalised through usage and endure in time and space.

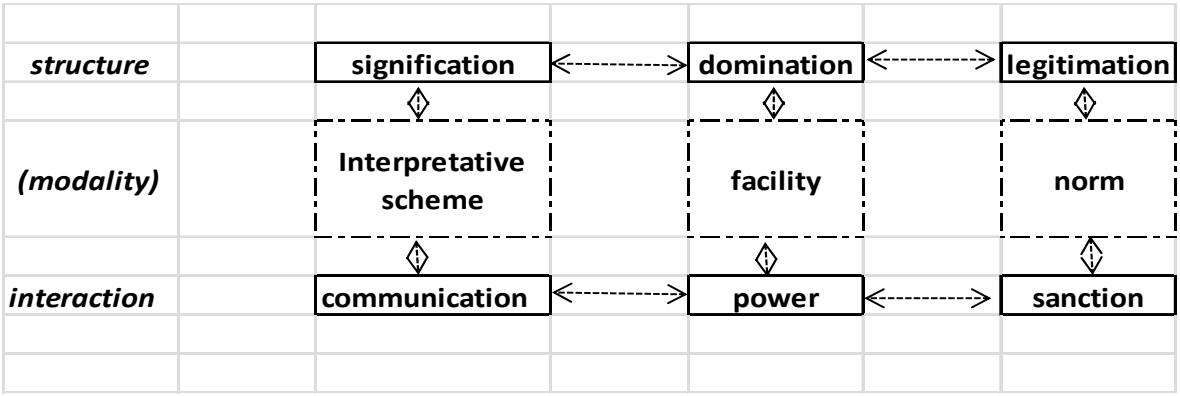

Figure 1: The dimensions of duality of structure: the interaction between social action (communication, power and sanction) and the institutional properties of structure (signification, domination and legitimation) as mediated by the three modalities of structuration (adapted from Giddens, 1984, p.29)

Critique of Structuration theory

The reasons why the theory of structuration was selected to explain the maintenance of organisational activity is that as a whole, the topic renders itself to a discussion representing both organisation/structure and employees/agency and the role of each in continuation of existence (organisation) and learning (change). Incorporating the Theory of Structuration had evolved from the continuous search to define this relationship and represent it in a way that was mutually supportive of each element of the term.

The criticism of Theory of Structuration falls around Giddens's vague nature of explanation (Thompson, 1989; Urry, 1991) of the various constituents of his theory explanation that reduce the empirical value (Gregson, 1989; Bertilsson, 1984, Turner, 1986) it could accord to social science researchers. Similarly others (Archer, 1982) have attempted to show the many variations in the characteristics of both agency and structure that are 'exceptions' to the theory, which Giddens has not considered appropriately. What follows is an exploration of these opinions and their value towards the theory.

The interest surrounding Giddens's Theory of Structuration stems from both the quantity as well as the quality of his writings (Bryant & Jary, 1991). This has attracted discussions on the content and applicability of his proposals for a theory of social science – structuration. The criticism takes shape over the many conceptualisations of Giddens's work (on systems, structure and agency) and the varied implications over research. Hence the critique presented here accompanies the discussion on the previous section and is by no means reflective of critical appreciation over his body of work on the Theory of Structuration.

While Giddens has introduced (1976, 1979 &1981) and later explained (1984) what he suggests the social world is constituted of, and what can be addressed in social science; the criticism remains that he has put forward simplistic ideas about the construction of society.

Starting with 'structure'; Giddens defines structure as rules and resources (1979) and he explains that actors recursively apply these rules and resources to reproduce

structure (the ‘duality of structure’). However some of the critics argue whether this is of limited value; it presupposes that *all* structural features can be conceived in terms of rules and resources (Thompson, 1989). Archer (1982) asks whether Giddens, through the use of this formula has committed himself, and those who use his theory to an ‘enormous coherence of structural properties such that actors’ inescapable use of them embroils everyone in the stable reproduction of social systems’ (p.460). Such a two plus two attitude perhaps is too simple to be taken for granted and it possibly skews some important issues in the production of society by knowledgeable actors. This, as we further discuss in the next section, has implications to the nature of empirical research as well as discussion and explanation of findings.

Mouzelis (1989) puts forward his argument that rules and resources and the people who enact them, can, have a different relationship. Actors do actively distance themselves from rules and resources in order to question them, or devise strategies for their maintenance and/or transformation. This is how progress can be made; otherwise the perpetual loop would mean repetition and not transformation. Then these possible actions of actors cannot be explained through the duality of structure, which as being at the core of the theory, permits for some exceptions.

This, at times simplistic attitude of Giddens, is tied with a generality of his suggested proposition on structure, something that excuses him from bringing to the fore the specifics and the mechanics of the theory (Thompson, 1989). For Urry (1991) Giddens’s value of argument and contribution to social sciences is marred by a lack of properly worked-out positions, especially relating to the impact of agency in the structuring of time and space.

The theory of structuration then is once revealing and concealing; it sheds light to the relationship of agents and the institutions that surround them, but at the same time it is not precise as to the workings of such a relationship.

Being thus not too prescriptive has allowed for some to suggest that in his work, Giddens is favouring the agent over structural properties. Archer sees in the Theory of Structuration a ‘voluntarism bias’ (1982, p.462). She deconstructs the language Giddens uses to explain structure to reveal that he uses ‘social practices’ as the means to define the existence of structure, instead of what she refers to as ‘institutional

operations'. This signals his under-emphasis of the institutional characteristics coupled with an exhalation of actors' knowledgeability, both contributing to underplaying the fact that institutions can constrain us even if we are aware of this but are unable to make changes. This is supported by Mouzelis who views the duality of structure as limiting Giddens to offer an imbalanced synthesis between the 'micro-oriented interpretative and macro-structural sociological traditions' (1989, p.629) as there is evident privileging of the former at the expense of the latter.

Further to the voluntarism bias, is Thompson's (1989) argument that the duality of structure lacks the depth necessary to offer a balanced version between the constraining and enabling qualities of structure. This stems from Giddens's own writings on what constitutes an agent; as someone who has the choice to act differently, and if this option is no longer present then the 'agency' is dissolved. However structural constraints have the capacity to reduce possible options to one – this, says Thompson, sets structure and agency as the 'antagonistic poles of a dualism' (1989, p.73). The effect of structure on agency is to render agents powerless; an individual who has one option actually has no options.

Hence this places question marks over the capacity of the Theory of Structuration to be a 'genuinely critical theory' (Gregson, 1989, p.248) then it needs to address such a distribution of options among individuals and groups of individuals. If certain individuals have access or that structurally, options have been preferentially distributed to them, then 'freedom…is enjoyed by different people in different degrees' (Thompson, 1989, p.74).

The outcome of this discussion is whether the Theory of Structuration is actually lacking on transformation and persisting on maintenance; that is if the range of options available to individuals and groups are differentially distributed and structurally bounded, then through reproducing the structures that enable this discrimination, you are contributing to their diachronically structural embeddedness.

Such views are critical of the proposal posed by Giddens; however it would be restricting the work he has put forward. As Bryant and Jary (1991, p.5) explain Giddens's work needs 'to be seen as part of a larger venture, the critical

appropriation of earlier traditions in order to secure a base upon which to build theoretical constructions of his own'.

It is perhaps because of such an undertaking that those critically evaluating his work on the Theory of Structuration have been able to point out several inadvertencies in his writing, extrapolating misconceptions emerging from them. There is always evident a respect towards a modern social theorist who undertakes such a task, who in the process of proposing a theory is also systematically evaluating sociological work in the field. Such misconceptions are made evident when Giddens connects agency with the transformation of structure whilst not allowing any leeway for what might be replication as suggested by Archer (1982). When not allowing for some action to be irrelevant or inconsequential you can be blinded to the fact that some of our actions actually produce no effect. Either because these actions cancel each other out or because they are too trivial and self-contained and their effects are thus minimal. However some behaviour can and does produce large effects. Such differentiations are not considered by Giddens; he sustains that all action is of some value to the sustainability of the social system. As with agency, so with structure, Giddens does not go into detail over their properties and whether they can be brought to bear differently upon agency. We must ask whether structures can always be affected by agency and to what degree – that is because the Theory of Structuration needs to point us to empirical options and not merely theoretical. Archer (1982) points that some structural properties may change quickly, others can take longer while some are unchangeable independent of the amount of power exerted by agents. 'The key point is that during the time it takes to change something, then that thing continuous to exert constraint' (Archer, 1982, p.461).

It would appear that despite the competent writing on the theory, Giddens is reluctant to give an appropriate account of how human agents are implicated in the structuring of time and space (Urry, 1991) so his theory is in danger of slipping into generalities and inconsistencies without stating propositions (Turner, 1986). There is a failure to incorporate the variations of structure and agency and that the relationship between them can be varied and inconsistent. The Theory of Structuration has limitations and

not everything in society can be put down to the duality of structure (Mouzelis, 1989). Giddens avoids going into this spectrum of possibilities by offering a ‘general notion of structure and his tendency to neglect the *specific* features of *social* structure’ (Thompson, 1989, p.63).

Gregson (1989) finds in Giddens’s work on the Theory of Structuration a lack of considerations of an empirical nature, because as she attributes it, he is chiefly concerned with ontological issues (an ontology of society) in his various conceptualisations of agency and structure. Hence why there is limited consideration of the questions required for empirical work, such as which actors to concentrate on (decision makers, gatekeepers), which skills are used in the reproduction of structures (in-depth knowledge of process, ability to foresee changes); which structures to choose to investigate (long-term instructions, short –term interventions) that bracket time and space; as well as the how to investigate these and the where and when (Gregson, 1989).

Bertilsson (1984) finds that this inability resides in Giddens’s explanation of everything as action, such as structures and institutions, making these terms devoid of empirical content where it would be beneficial to propose more refined categories through which these claims about action and agency can be investigated.
Consequently, a concern over using Theory of Structuration, even as a sensitising device is whether what Giddens is asking us is to see the world according to his interpretation, but not directing us to towards sociological problems per se. Instead as researchers we end up interpreting empirical events using his terminology and definitions (Turner, 1986).

Structuration theory and empirical research

Structuration theory has been applied empirically in areas such as information technology (Orlikowski, 1992), marketing (Peters, Gassenheimer & Johnston, 2009), accounting ethics (Yuthas, Dillard & Rogers, 2004), education (Burridge et al, 2010) and in organisational learning (Berends, Boersma & Weggeman, 2003) and is increasingly used as an alternative approach to studying various organisational phenomena (Pozzebon & Pinsonneault, 2005) such as organisational responses to environmental uncertainty (Staber & Sydow, 2002).

It has been noted that Giddens's work can be difficult to apply because of the complexity of the theory that states general propositions operating in a high level of abstraction (Thomson, 1989) and that it is difficult to apply empirically (Gregson, 1989) as it is not connected easily with a specific research method or methodological approach. However the potential of Structuration theory in improving our understanding of organisational life and phenomena still can be developed and explored further (Pozzebon & Pinsonneault, 2005).

The analysis of organisational learning in this study adopts Giddens's view of organisational structure by focusing on how individual employees exercise agency as learners and carriers of change, to produce lasting changes in the structure that constrains and enables them. In an organisational setting this involves the identification of employees' actions that create and recreate the organisation's norms, rules and culture and how these influence the actions of employees in return - thus engaging in the duality of structure. It has allowed for research in the field to be focused on examining the various influences of social structures on the agents and of agents on structures, by understanding this relationship.

This theory essentially offers a conceptual framework through which the way agents create organisational structures as being both the medium and outcome of organisational design to be understood (Staber & Sydow, 2002). The concept of structure has been explained as a configuration of activities that has an enduring and persistent quality; an organisational structure's dominant feature thus, is its patterned regularity (Ranson, Hinings & Greenwood, 1980).

The concept of structure is used in this study to get at relations of transformation and

mediation, moments that Giddens characterises as ‘circuit switches’ (1984, p.24) where the system is being reproduced under certain conditions.

There is evidence to suggest that using structuration theory would shed light on the stability and change that occurs within organisations. This stems from the definitions that Giddens has given about what structure and ‘visible’ stability are, with both being the creation of agents.

Structure according to Giddens only has a ‘virtual order’ (1984, p.17); that is a social system (for example an organisation) exhibits structural properties because of the bracketing of time-space that happens when agents reproduce social practices. Agents are thus then the creators of systems, institutions and organisations, through a ‘history of negotiations that lead to “shared typifications” or generalized expectations and interpretations of behavior’ (Barley & Tolbert, 1997, p.93). What emerges is a form of patterned relationships and actions stabilised across time and space that eventually take the standing of taken-for-granted, that in return shape future interactions and relationships.

Shaping and being shaped is an iterative process. For example routinized work can be said to lead to system reproduction (Burridge et al, 2010) as routines are the moments of practice where employee and organisation intersect. The agent who produces the routine may also change it or alter it, something that can potentially lead to modification of the system if maintained over time and space. Structuration theory states that agents who participate in routines and practices, although bestowed to the individual by the organisation, the way they are enacted is not predetermined. Structures do not actually determine action (Staber & Sydow, 2002) but rather actors ‘engage’ in structures that they transform in the process of acting through them.

In organisational learning this is evident in the language used in the literature where it is at times ‘tribal’ – the organisation versus the individual and vice versa, privileging the learning of the one over that of the other. With introducing the Theory of Structuration we can view, the term and the phenomenon as an interplay, a relationship of co-construction for both (Boreham, 2008). In the literature, co-construction and change/stability, has been viewed as a process of transforming the

organisation through its practices.

Berends, Boersma & Weggeman (2003) take the view, as suggested by Giddens, that an organisation exists only in the instantiations of practices by agents. Then any change in these practices would subsequently mean an ‘organisational’ change. A change in organisational practices would be brought from within practices, thus the knowledgeable agent who reflects and re-values his/hers actions and chooses to change or alter his/her behaviour, would instigate change in the delivery of practices. Boreham (2008) extends this to include the learning that takes place in small groups and teams that share their knowledge and agree on the organisation’s purposes. When members embed their decisions in the norms, policies and procedures of the organisation, which are then enacted by them and others (non-group members), this, can result in new organisational structures.

What takes place in the groups and teams that Boreham suggests could be a revision of the ‘provinces of meaning, the interpretive schemes’ (Ranson, Hinings & Greenwood, 1980, p.12) of organisational members. These schemes or scripts could be the ‘observable, recurrent activities and patterns of interaction characteristic of a particular setting’ (Barley & Tolbert, 1997, p.98) that allow researchers to understand how actors’ interpretations of organisational actions are related to an organisation’s reproduction or alteration. In situations of change, where a shared frame of meaning (Burridge, et al, 2010) is required to allow the organisation to move forward, organisational members come together and share their scripts/worldviews about the organisation. This process allows for views and perceptions to be changed and new, unified ones to be formed that can drive organisational change as a unit.

Giddens sees the act of agency as being only a part in the equation that creates observed stability and change in institutions. He says that ‘most of history is made “unintentionally” even though all of it is done “intentionally”’ (Giddens speaking to Gregory, 1984, p.129) and that emphasis should also be placed on the unintended consequences of intended action. This, in organisations translates as the unintended effects that planned organisational change produces that affects the organisational structure (Jian, 2007). In organisations, there is a constant flow of intended action, either as daily routines as well as strategic change.

To avoid making inferences, researchers should also seek evidence of institutional change or stability, independent of data from which scripts were derived (Barley & Tolbert, 1997). If scripts change, independent data on the institution should ultimately also provide evidence of change. Such data could be drawn from non-observational sources such as documents (training manuals, legal and anecdotal material) as well as information compiled by external bodies e.g. public and private reports on personnel distribution (Barley & Tolbert, 1997). This data may track changes in institutional parameters and help researchers assess the boundaries of such change.

Chapter Summary

Within this chapter Giddens's Theory of Structuration was presented. A historical account of the theory was attempted in order to develop an understanding of the main tenets of his approach to explaining the relationships surrounding us and the involvement of each one of us in the creation and continuation of the institutions of our modern world. Giddens's definition of what is an 'agency' and what is 'structure' were further elaborated on. Furthermore a critique of the theory and its suggested assumptions was offered but also how structuration as he defined it has been translated and used to understand and do research on the phenomenon of organisational learning. The following chapter will present the methodology used in this study.

Chapter 4: Methodology

Introduction

This chapter outlines the purpose of the study, offers a theoretical background to the research design, gives details of the methods used to answer the research questions and discusses their strengths and limitations.

The research design

My research involves a single case study of a purposefully chosen organisational setting conducted over an eighteen month period from July 2011 to December 2012. The case study used qualitative methods including interviews and observation, supported by documentary evidence and ideas arising from the literature.

Guiding principles

In the organisational learning field there have been many studies using a variety of methodologies including survey (e.g. Schulz, 2001), ethnography (e.g. Boreham, 2008), case study (e.g. Crossan & Berdrow, 2003; Goh, 2003; Holmqvist, 2004; Daghfous, 2004; Berends & Lammers, 2010), participant-observation (e.g. Van der Bent, Paauwe & Williams, 1999), critical-incident (e.g. Lines, 2005) and action research (e.g. Chanal, 2004). This variety demonstrates the varying perspectives of the researchers in the area and the fact that their individual backgrounds and theoretical traditions reflect their chosen methodology.

My interest lies in organisational learning within small/medium enterprises (SME); the proximity between employees and managers, the dynamics of SME to absorb learning and change and the learning relationships that are developed (such as during routine work, knowledge exchange etc.).

This study explores the relationship between organisational learning practices including memory and knowledge, and stability and change, and utilises Structuration Theory's view of the relationship between agent and structure

(employees and organisation). This relationship is at the heart of the debate in organisational learning literature, over the nature of learning – as it happens by individuals inside the organisation or by the organisation as an entity.

Research within the qualitative domain

Qualitative research is an approach (Morgan & Smircich, 1980) beyond and above the methods used to collect data and its appropriateness is contingent on the nature of the phenomena to be studied. However, it is of specific relevance to the study of social relations (Flick, 2002) as it considers the pluralisation of individual opinions and lives. Becker describes these opinions as a 'moving target' (1996, p.59). Moving target because people change their minds frequently, are uncertain about the meanings of things and situations and make vague interpretations of events and of others. A qualitative approach to research compels us to accept the reality of human existence and reasoning, and not impose, stable meanings to things that even those who experience them do not. This tentativeness and reluctance is a human attribute. By virtue of living we are constantly evolving. Considering that we are the agents through whom knowledge is perceived and experienced, it is questionable whether we can achieve any form of knowledge that is independent of our own subjective construction (Morgan & Smircich, 1980). This goes for both participants and researchers involved in the study of human experiences.

What is of particular interest is that qualitative approaches to research are less concerned with 'truths' and their discovery, and are much more aligned with the 'creation of meaning' (Eisner, 1981, p.9). Eisner finds that 'truth', the stronghold of positivistic views in research, actually leads to singularity and monopoly while 'meaning' implies relativism and diversity.

The point of a qualitative approach is not to prove beyond doubt the existence of certain relationships, but rather to describe a system of relationships and show how things hang together (Becker, 1996). As the researcher is the main instrument of data collection (Eisner, 1981), she sees connections, relationships and interdependencies observed by virtue of being in the field. Qualitative research allows the researcher to describe what they experience and what they have chosen to pay attention to.

Thus the focus of the researcher is towards the experiences individuals have and the meaning they attribute to their actions and the actions of others. In the field, a

qualitative approach orients researchers towards analysing cases in their own time-space context by paying a particular interest in people's expressions and activities in their locality (Flick, 2002).

Flick (2002) proposes that qualitative research is made up of the correct choice of methods and theories, the recognition and analysis of different perspectives, the researchers' reflections on their own research as part of the process of knowledge production, and the variety of approaches and methods utilised. These are part and parcel of the qualitative process of data collection with an almost instinctive element of reflexivity on the part of the researcher.

Researcher reflexivity and research ethics

This section is placed early in the Methodology chapter to denote my own personal involvement in the data collection process through providing an account of my background before I embarked on doing organisational research. Thus here I will discuss apart from researcher reflexivity, the issues and tensions around the way the study was set up (issues of access, being a novice researcher, gender, anonymity and participants' expectations from the study) but also talk about the relationships that evolved while in the field (such as constructing the research subject, confidentiality and research ethics). By disclosing my assumptions, personal beliefs, values and biases early in the chapter is to allow readers to understand my positions (Creswell & Miller, 2000) and what has shaped my inquiry into this field and the ways that my own culture, ideology, race, gender, class, language and advocacy (Weick, 2002) has driven, not just the choices in the field but also subsequent data analysis as my presence is evident in the data collected (Weick, 2002).

The reasoning behind doing this at this stage is primarily to leave a clear 'decision trail' (Sandelowski, 1986, p.34) regarding this study from the early stages of making contact to its conclusion and my exit from the organisation. With this, any readers or future researchers in the field of organisational learning within the qualitative domain can follow the progression of events and understand the logic of the decision making (what happened and why) and perhaps fashion their own strategies from the information they get here (Plummer, 2000).

Researcher's reflexivity

But first a few things about how I got interested in organisations and their learning: My educational background is both in business/management and learning as my first degree was in Business Administration with Management but for my Masters I got involved in one specific aspect of management, that of Managing Learning and Development within organisations, large and small. My choice for postgraduate focus emerged from being employed for many years in a large corporation (made up of cluster of companies) in Cyprus (where I am from) that had a centralised Human Resources (HR) function that was based in one of the companies. However because of its proximity to all the corporation's subsidiaries, the Middle Managers were invested with HR powers and liberties on these matters, with the help of a dedicated team from head office's HR. This devolution ultimately became the focus of my Msc Dissertation and I had a first 'close encounter' with collecting 'data' in 2007 when I prepared a questionnaire to ask Middle Managers of their views on the responsibilities bestowed onto them and how they handled this element of managing. Following my Masters I continued working but this time I found work in the UK and continued to live and work here for two years before enrolling on the doctoral programme with Edinburgh University.

As regards my initial proposal for my research plan, that was as a direct result of my employment in 2008 in a Financial Services company. A few months after I started working for them, the financial crisis hit (September 2008) and I was constantly bombarded by national and international (mostly American) media about the impending collapse of, amongst others, the Rulers of the World (Goldman Sachs, AIG and later RBS and HBOS). However, despite these cataclysmic events around me, there were always stories in the news about companies that did protect themselves from approaching doom and also many other news stories about the people working in organisations who either spoke up or of those who listened and took a course of action that allowed them to 'ride the wave' as it were. So a for a long time, and perhaps to counter the gloom, I paid closer attention to those stories and wondered whether employees like me (in lower ranking positions within financial organisations) could actually contribute to the survival of the organisation I worked for (and continued to want to work for, thus invested in its longevity). Mainly this

was because of a general feeling that those higher up the ranks, the decision-makers had led us (hard-working and lower pay with minimal discretion over our workload) down. This formed the basis of my research proposal and it gave me a certain affiliation with the Middle/Line manager whose job contains stresses from both above and below and the managing one's own learning in respect of the learning of their team.

Following my admission on the programme, I did not have the experience of collecting 'data' (I set this in inverted to commas to denote that at this early stage I was not aware of what pertains to 'data') face-to-face and it made for a steep learning curve to actually do so. My plan here is to reveal forgotten choices, expose hidden alternatives and to reveal contingencies and involvements (of myself with members of the organisation) and acknowledge what might remain in the background by being unreflexive (Lynch, 2000). Working within the qualitative domain, a commitment to account for the production of knowledge (Hardy & Clegg, 1997) this project is claiming to offer remains, but also to acknowledge that the phenomenon (that of organisational learning) is also produced by the author, thus the steps need to be made public. Being reflexive in this manner, also exposes how the empirical material presented in the next three chapters have been interpreted, especially as the knowledge produced (the argument in chapter eight) was quite different from what was intended at the start of the research process (Alvesson, 2003) (please see Final Words at the end of the thesis). Creswell and Miller (2000) portray this disclosure from my part as one way to validate research findings. However what I would like to avoid but not waver though from my account, is to avert attention from those who lived this organisation by making myself the point of this study (Weick, 2002) and enter to what Plummer (2000, p.206) calls 'navel gazing', deflecting from what is being argued to who is arguing it, avoiding research becoming 'a little more than the elaborate projections of the researcher's own unconscious needs' (p.206).

Hence I will continue by discussing the tensions inherent in the study historically from getting access to building relationships with the organisational members.

Setting up the case study and Generation of Data

Initially the first contact with the organisation was made through my supervisor who was aware that this specific organisation could offer me some access and from an initial e-mail from him I arranged to have a first meeting with one of the managers of the organisation. Apart from arranging this, my supervisor was not involved further with any further plans or issues that came up but I had discussed with him openly my impressions about the place and the people, particularly in the very early stages. The Manager who I first saw on my visit became my contact thereafter. This meant exchange of e-mails and arrangements for further visits and making contact with potential other organisation members. My overall engagement with the organisation lasted for 18 months and it was most prominent during my second and third year of the research project. This contributed greatly to the selection and understanding of the literature such as routines and practices and early pondering about conceptualisation. Such prolonged engagement in the field has been known to solidify data because researchers can check out data and their hunches and compare interview data with observational data (Creswell & Miller, 2000) but also hear more of participants' 'pluralistic perspectives' (p.128) by understanding the context in which their views are created.

However being a novice researcher having the advantage of being introduced to an organisation and having a person there who as my supervisor put it 'will take care of you' was a major confidence booster but also quite intimidating considering your actions and behaviour would represent you, the university and your supervisor. The difficulty at this stage was learning how to 'conceptualise', meaning how to make sense of the literature on organisational learning and people's organisational lives and asking whether you can make this conceptual move.

On this first visit I was taken on a tour of the organisation and was given on the way many facts about the background and its history and at the end I was left with a very friendly Inspection Assistant for almost an hour till her lunch break. While being with her I helped her inspect parts and components and during that she was talking about her time there and how she started and how she learned to do these jobs.

Here it is important to note that although two female employees did speak with me within this case study, the majority of the organisation consisted of males. It is prudent to say that I was aware of this and on reflection as Gurney (1985) notes, my

gender characteristic could have been a facilitating factor in establishing and maintaining rapport with organisational members because of my 'nonthreatening nature' (p.58). Being a female, doctoral student could have its advantages in a male-dominated environment. At the same time, she also notes how my gender could have done me a disservice by excluding me from certain meetings or discussions where a male researcher could have created a different bond within the same setting.

Notwithstanding this, it possibly played a factor in getting people to speak with me, nonetheless once I arranged to speak with people, usually I requested for half an hour, they chose to speak with me much more and open up and give me details about issues they brought up that they felt were pertinent to my inquiry. I believe that my profession style and an ability to express myself articulately in English (Greek being my mother tongue) and demonstrating research skills and an ability to convey knowledge of my field of interest (Gurney, 1985) would relax their initial inhibition, especially as their interest in participating was gauged by my contact. It also contained what many management researchers found before me, that the occasion to talk about your work and your practice and reflect on your career is not one that comes very often and it can be relished by them. Of course this raises questions about who takes part in research studies and what their motivations for doing so could be but one set of authors believe that some participants are motivated by a desire to make sense of their own experiences and that the opportunity of the study give them the chance to do so (Miller & Boulton, 2007) which could explain the high rate of managers participating.

Following my early visit and after reviewing the organisational chart, I asked my contact whether it would be feasible to ask other colleagues to participate in my study and if they would be willing to speak with me about their learning experiences within the organisation and their work practices, i.e. what it is involved in accomplishing their own jobs. That began a long-term exchange of e-mail over possible availability and schedules of some of the members I had identified from the organisational chart. However the general feeling was that if heads of departments got on board it would be easier to persuade their team members to give me some of their time. This process was slow moving and the open window for formal visits was mainly when 'work was slow' during which time people were catching up and thus

again their time was limited. However I persevered to see people at the organisation because the physical space in which their working lives were unravelling was important even while reflecting on the past.

Conducting the interviews and relating the material as a 'data set' presented ethical considerations that I will explore below to denote how I came to anonymize the case participants as well as the organisation (using a pseudonym).

Informed Consent and Confidentiality

To ensure that each participant was well informed about this research study, a consent form was used that contained information about the study describing the purpose of this study and its goals (see Appendix 1). Additionally it made explicit the intended uses of the data collected and the way they will be stored and retrieved so as to protect the anonymity of those who participated.

Prior to any of the interviews, these were explained to all interviewees and were free to ask any questions about the study, before or during the interview. All interviewees gave their consent to participate in this study which provided me with the permission to audio record our conversations. Interviewees fully understood their rights during the interviews as a number of them asked to disclose information 'off the record' at the end of the interview.

In this study I chose to use confidentiality as a way to protect the information supplied by the research participants from third parties (Bell & Bryman, 2007) and also to present findings in ways that ensure individuals cannot be identified (Wiles et al, 2008). My main concern was to protect the individuals and the organisation from risk, harm and exploitation (Miller & Boulton, 2007) that full disclosure of their details could create. In order to achieve confidentiality, anonymity was used to protect the identity of the individuals and the organisation by concealing their names and other identifying information (Bell & Bryman, 2007).

Yet it is important to explain that complete confidentiality is impossible because the 'purpose of gathering data is to obtain new knowledge, to synthesise this knowledge and to disseminate it' (Wiles et al, 2008, p. 426). By generating information from respondents, analysing and passing it to others (Walford, 2005), researchers contribute to the learning community that they inhabit. The author contents thus that

it is not confidentiality that is the problem but the anonymity of the people associated with the information. Nespor (2000) for instance is wary of the prevalence of pseudonyms as a place anonymization technique, concerned that researchers can be led to 'unreflectively produce representations of the world that obscures or ignore the connections linking places, writers, participants and readers' (p.555). What is as stake here, is research that instead of aiming to 'enlarge spheres of autonomy, freedoms and choice' (Plummer, 2000, p.228), becomes 'complicit in the political projects of dominant groups and organizations to produce spaces to serve their own ends...and diminishes the sphere of public discourse and contenstation' (Nespor, 2000, p.554).

Being 'complicit' may be part of co-producing and participating in this research project, and a relinquishment I made to respect the needs of the study and the requirements of the people and their organisational lives. The historical and political contingencies that formed the organisation have been seen through the interpretations and experiences of employees and how they perceived that politics, history, geography and culture affect their practices. Additionally I use interpretive commentary (Creswell & Miller, 2000) throughout the presentation of the findings to connote context and flow of interaction and include interview samples (see Appendix D) to anchor the interview quotes. This is helpful to mediate the link between activities separated in time and space can form a shared world (Nespor, 2000).

Case study research method

A case study is a form of social science inquiry that investigates a contemporary phenomenon in-depth and within its real-life context (Yin, 2009). It is especially pertinent to the study of phenomena that are otherwise indistinguishable from their context and thus the researcher is able to retain the holistic and meaningful characteristics of events as they take place in real time. The researcher is the one that 'constructs' the case out of naturally occurring social situations (Hammersley & Gomm, 2000) and this 'bracketing' process of time and space is considered to be the primary object of study in the social sciences (Giddens, 1989).

Usually case study refers to research investigating a single case in considerable depth (Hammersley & Gomm, 2000) with the aim of generalising across a larger set of units (Gerring, 2004). Robert Stake (2008) sees the singularity of one case study as a strength that allows for depth and understanding to emerge about the particularities and complexities of the specific case. Yin (2009) encourages research to be comparative with at least two studies to be used. However the concern over comparisons is that the original aims and case characteristics might be overlooked over a focus on analysis and comparison, rather than exploring the research questions and theory (May, 2011).

Case study is a research method ideally suited to answering 'how' and 'why' questions (Yin, 2009) and is especially useful in research of an exploratory nature (Gerring, 2004) as it aims to extend understanding and experience (Stake, 2000). The emphasis is on personal experience and the different meanings individuals attach to events as well as their actions (May, 2011), so the case study is particularly suited to highlighting the contestability of different knowledge claims through the explicit acknowledgement of different perspectives on a single event. It has been viewed as an important method within the qualitative organisational research domain (Dopson, 2003).

One of its strengths is that it enables both researcher and audience of the case study analysis to experience vicariously social processes in different cultural settings than their own (Dopson, 2003), exposing us to people and places that would otherwise remained invisible (Stocker, 1991). In this capacity, case studies bring us closer to the complexities of the social world through their ability to uncover patterns of interactions, shed light on the interdependencies between people and groups and assist in our understanding of the unanticipated outcomes of change thus prompting us to have new insights and questions (Dopson, 2003). Its ability to explain the 'unexplained variance' (Stoecker, 1991, p.94), that is, the particularities and distinctiveness of each social context, helps the consumers of case study findings in the 'forming of questions rather than in the finding of answers' (Donmoyer, 2000, p.51-2), thus encouraging further examination and challenging stereotypical beliefs. As it is not possible to study society as a whole, the case study offers a 'vantage

point' (May, 2011, p.221) from which to draw broader conclusions. It also tends to cope with the fact that, as it investigates real-life events, there will be more variables of interest than data points (Yin, 2009), and although this has been one of its criticisms (the difficulty of summarizing case studies) because it engages with the reality of living situations; nevertheless a good study should read as a narrative in its entirety rather than summarising its parts (Flyvbjerg, 2006).

Sampling

The selection of a case might be based on the grounds that it can extend emergent theory and fill theoretical categories (Eisenhardt, 1989). However there might be other reasons that in qualitative research fulfil other rationales. Sometimes the research site is selected for its convenience of access (Payne & Williams, 2005), with the informants from whom data is collected chosen in an opportunistic way. Access is a particular consideration in case study considering the practicalities of location, research funding and time span of the project but more importantly 'social location' (May, 2011, p.233). Social location, unlike physical, refers to the networks that can be created with people in certain cases over others and the importance of taking this into account when considering possible sites.

However since all research entails sampling, simply because it is not possible to study all cases at once, Stake (2008) suggests we select a case from which we can learn the most, what he calls an 'intrinsic case study' (p.122). It is intrinsic because the study is undertaken so as to better understand *this* case and not because it might be representative of a set of cases nor that it is illustrative of a particular trait or problem. Whether the selection is a conscious and deliberate decision or a self-evident choice (May, 2011), it is important to recognise that the case is a construct created by the researcher (Stoecker, 1991). When we speak of a phenomenon, such as in this case I say that organisational learning is a phenomenon; although this is actually a slice of social life, that I have constituted it, as a 'topic of investigation' (Giddens, 1976, p.161) through drawing upon my knowledge of it. The researcher thus uses theoretical propositions and makes theoretical choices (Yin, 2009) prior to entering the field and is guided by these choices in both data collection and analysis. In doing so, there have been some concerns raised about case study containing a bias

towards the verification of the researcher's preconceived notions; although research findings show that actually the case study contains greater bias toward falsification of these preconceptions (Flyvbjerg, 2006).

Sources of data within case study

In the qualitative case study, the researcher is expected to spend extended time on site coming into direct contact with the activities and operations of the case (Stake, 2008), thus being able to reflect on experiences and revise descriptions and meanings of what is going on. This does not mean 'going native'; it means getting to know this new environment, being able to find your way about the case. However these descriptions generated through the researcher ought to be mediated according to Giddens (1976); they need to be then transformed into categories of social-scientific discourse. The methods used for data collection can help us to encapsulate complex meanings as described by the case's members so that we can produce a 'descriptive narrative' (Stake, 2008, p.128) for our readers who can then draw their own conclusions. Others see the purpose of research methods employed in case study as having a moral undertone; the researcher has a ‘moral obligation’ (Stoecker, 1991, p.100) to inform those who are living the case with our findings and be useful and helpful, taking into consideration the time we have taken up asking questions and interviewing people. So our choice of methods ought to consider how best to collect data that would also be of use to the participants.

Attention should be placed on studying the 'day-to-day' practices (Giddens, 1989, p.298) as the seemingly trivial and mundane features of what people do is actually the foundation for institutional sustainability. Describing and interpreting the activities of the case must be done with reference to the contexts that affect them (Stake, 2008) as knowledge is only context-dependent (Flyvbjerg, 2006). People in a social process share, change, bend and enrich their understandings as knowledge is a social construct and is not a unidimensional phenomenon but takes many forms. Thus we must be aware that the form used to represent knowledge can affect what can be said (Eisner, 1981).

So when doing case study it is suggested that multiple methods of data collection be utilised (Dopson, 2003) to ensure that rich descriptions are obtained (May, 2011). In

addition a major advantage of using multiple sources of evidence is the development of 'converging lines of inquiry, a process of triangulation and corroboration' (Yin, 2009, p.116) as any findings and conclusions are more likely to be convincing and accurate if based on several sources of information. These sources include archives and documentation, interviews, direct and participant observations, artefacts and questionnaires (Eisenhardt, 1989; Yin, 2009).

The use of the various sources is highly complementary and a flexibility is necessary when in the field because as Stake notes: 'in many case studies there are no clear stages, issue development continuous to the end of the study' (2008, p.132). If a new data collection opportunity arises or a new line of thinking emerges during research, adjustment can be made to data collection instruments such as addition of questions to an interview protocol, what Eisnehardt calls 'controlled opportunism' (1989, p.539). As each case is unique, a pre-planned design needs to be able to react to late-emerging issues and questions can become tailored to ensure we collect the idiosyncratic ways that people respond to us (Stoecker, 1991).

Interviews are one of the most important sources of case study information and take the form of guided conversations over structured queries (Yin, 2009). As the focus is on the empirical study of human activity, when a researcher has not observed or been part of that activity then she needs to ask those who did experience it (Stake, 2008). Considering the individuals as knowledgeable agents who reflect on their actions and the actions of others, it is through the medium of language (Giddens, 1976) that we can establish their thought processes and world views. As observers of their daily lives and as researchers we describe how they interpret the events they participate in, but whether we are accurate about it we can find out what people think they are doing, the meanings they give to objects, events and people by talking to them (Becker, 1996). This can take the form of in-depth or focused interview (Yin, 2009) but also through watching and listening as they go about their business. In-depth interviewing refers to asking key respondents about facts of a matter and their opinions and insights that may become the basis for further inquiry. The focused interview most commonly follows a set of questions and lasts for a short period of time, unlike the in-depth which can be repeated.

Observations can be direct or participatory in form. The premise of observation in case study is that all social research presumes an 'ethnographic moment' (Giddens speaking to Gregory, 1984, p.129). This refers to the moment that all research considers some kind of ethnography of the individuals involved in the context which is being abstracted by researchers. This involves their characteristics, their behaviour, their views and their opinions.

Yin (2009) considers observations as providing additional information about the topic and he considers it as an outcome of conducting the study in its natural setting. Another form is that of participant observation where the researcher may actually participate in the events being studied and assume a role within the case. The possible benefits of taking a participatory role is that it increases access to events or groups that were otherwise restricted and also to being able to gain 'inside' knowledge about the case instead of being the outsider (Yin, 2009). However being a more active than a passive observer can raise the possibility of bias since as a researcher you may assume an advocacy role (Stoecker, 1991) as you tend to become a supporter of the organisation you are studying and thus changing the focus of the observation and data collection (Yin, 2009).

Documents are helpful in corroborating evidence from other sources (Yin, 2009) and help to build up a picture of the case. Documents can include all sources of written data about the case, its history and its people; minutes from meetings and advertising material, internal manuals and external reports. They assist in cross-checking facts and can be used to make inferences about events and behaviours.

The data collection should be done in accordance with data analysis and not in isolation as it allows researchers to practice a flexible data collection process (Eisenhardt, 1989). Emphasis is also placed during both processes on the researcher being sensitive to their membership in the social world that they study and how we affect and are affected by this participation.

The challenges of qualitative single case study: quality and rigour in case study research

The judgement of quality and rigour in qualitative research is a source of much debate. I will explore this debate and consider theoretical concepts relating to the use of case study and the actions I have taken to ensure that it is compliant. I will also discuss the issues of validity and reliability, but also the possibility of generalizability in the social sciences and in case studies in particular.

Validity in case study research is determined by examining the internal, external and construct validity of our research. Although internal validity is not considered for exploratory studies, such as the one conducted here, external refers to the domain to which a study's findings can be generalised (Yin, 2009). Construct validity involves establishing the correct operational measures for the concepts being studied (Yin, 2009) and requires that purposeful methods of data collection and appropriate theory are considered when conducting a case study, making decisions clear and relevant. Others however have seen 'validity' as a term inherited or projected onto the social sciences from its positivistic background. It can be conceptualised as the 'product of the persuasiveness of a personal vision' (Eisner, 1981, p.6); attention being paid to the extent to which it informs us and the way it shapes our conception of the world. Another element is to look to those participating in the research study, those that supplied us with their thoughts and their understandings, and ask them to determine how valid our analysis is (Stoecker, 1991). But also ask ourselves and become aware and self-conscious of our involvement in the process to seek 'validity' (Stake, 2008).

Reliability in accordance with the case study is to do with demonstrating that the operations of the study can be replicated with the same results; the emphasis is on doing the same study over again and not on replicating the results of one study by doing another (Yin, 2009). This is to be made possible through the researcher presenting rich descriptions of case study and making as many steps as operational as possible by clearly presenting the research design, the methods and the data set (Dopson, 2003).

The nature of generalisations in the social sciences

Generalisation is about claiming that what is the case in one place or time will be the same in a different time and place (Payne & Williams, 2005) and needs to be explicitly discussed in every study. At the same time, the debate revolves around the possibility of generalising in social sciences; whether it is a misnomer and cannot be considered at all in the study of human affairs; or whether social scientists must attend to it in some way in their work and to what extent findings can be thus considered 'generalisable' to other (in this instance) case studies.

Most case study research, it has been suggested, must be directed towards drawing general conclusions (Gomm, Hammersley & Foster, 2000). The nature of such generalisation is the belief that the 'general resides in the particular' (Eisner, 1981, p.7). The knowledge and insights collected through the particular can be subsequently applied in other situations encountered later; conveying a belief that such insights can be useful beyond the situation in which they arose. If generalisation is to be a possibility (May, 2011) then the conditions for this to happen have to be expressed. The extent of the grounds for generalisation depend both on the characteristics of what is being studied and on the similarities of the research site to which generalisation is to be projected (Payne & Williams, 2005) and both need to be described in-depth to allow for an understanding of the similarities and differenced between the two contexts (Schofield, 2007).

The ability to generalise has been, however, contested and it has been suggested that generalizability in the sense of producing laws that have universal appeal is not a useful goal for qualitative research (Schofield, 2007) as local conditions make it impossible to generalise (Lincoln & Guba, 2000). The purpose of qualitative research is to suggest possibilities and not direct action (Donmoyer, 2000), considering that we study social life that is in constant flux. Whatever conclusions arise from it can only be said to be true under certain conditions and circumstances.

In the case study research domain, rejecting generalizability is not to been seen as an easy way out, rather it is the definition implied in the term that makes it inapplicable. Generalizability is seen as depending on the use of longitudinal information, comparing competing explanations and giving precise descriptions (Stoecker, 1991); however in a single case study where a probability sampling has not been applied there is no 'scientific' (p.88) basis for generalising beyond the case itself. At best

broader conclusions can be drawn from the case (May, 2011) while the emphasis should be to 'develop a theory of the idiosyncratic than a theory of the general' (Stoecker, 1991, p.96). The intent is primarily to make an impact by informing those who are involved in the study. As Schofield (2007) explains; the aim is not to produce a standardised set of results that can be reproduced; rather to produce 'a coherent and illuminating description […] consistent with detailed study of that situation' (p.183). Besides, in the study of human affairs there exists only context-dependent knowledge, which is considered more valuable than the search for predictive theories (Flyvbjerg, 2006) as it is acknowledged that human beings can only achieve knowledge that is dependent on their own subjective construction (Morgan & Smircich, 1980), making generalisations about the social world impossible (May, 2011).

Outside the confines of the two poles, others argue for a subtler form called moderatum generalisations (Payne & Williams, 2005); an intermediate form of generalisation which can result in modest and pragmatic conclusions drawn from personal experience. The authors suggest that they can actually resemble the everyday generalisations we make that allow us to have a 'semblance of order and consistency […] making everyday life possible' (p.295). As such they are open to change and can be confirmed or denied through further evidence. Alongside this, is the specific angle suggested by some authors, of giving qualitative research generalisations a targeted approach. For Yin (2009) the case study aims at 'analytic generalisation' (p.43) where the results are generalised to a broader theory in order to expand it. The case is not to be considered as a sample as in statistical generalisation; rather it is acknowledged that it is part of a wider universe, but it has not been chosen primarily to represent that universe (Payne & Williams, 2005).

On another level, Schofield (2007) suggests that research should be designed with generalizability in mind, especially in the form of studying the present (studying the current so that feedback can be provided for improvement), the present-future (considering the current trends and what they suggest the future needs might be so as to illuminate them) and the future (studying the exceptional or ideal to establish what are the elements there).

Whatever the argument and discussion for or against generalisation in qualitative research, within single case study analysis there is the view that formal generalisations are overvalued in terms of their necessity to scientific development, whereas the 'force of example' (Flyvbjerg, 2006, p.228) seems undervalued. It still perseveres, though, and it sets a tone for evaluating research in the social sciences. Although this discussion is on-going, some suggest that the punishment should fit the crime; as the methods employed should be appropriate to the subject studied, so the criteria and examinations used must be appropriate to those research methods (Flick, 1992). Triangulation has been put forward as an alternative criterion to reliability and validity, although it is by no means the only way to evaluate qualitative analyses (also reflexivity and representativeness). Triangulation takes into account that subjective knowledge is a part of the social, local and institutional context (Flick, 1992). Thus by engaging different perspectives we get different versions of the phenomenon we study because we accept that research is actually dealing with different versions of the world (Goodman, 1978) and not a single reality against which our findings can be verified or falsified. The 'versions' gathered can be interpreted, compared and complemented, as they provide us with multiple measures of the same phenomenon (Yin, 2009). It is a position the researcher assumes ensuring that their sense of situation, observation and reporting correspond to the given situation. It is a way of teasing out what deserves to be called experiential knowledge from what is opinion and preference (Stake, 2008).

Conducting the research

Choosing the sample case

My case is an established aerospace production company that is a representative case study. In representative cases the objective is to capture the circumstances and conditions of an everyday situation where the lessons learned are assumed to be informative about the experiences of the average person/institution (Yin, 2009). The choice of case was made taking into account the questions that I sought to answer and the parameters of the population I was studying. I therefore sought an established

organisation with both production and offices where learning and practice are intertwined and the learners/agents can be drawn from a range of groups; from newcomers to long-term employees and from specialised to non-skilled; an organisation of a size, structure and population likely to make the findings of relevance to other organisations with similar features.

The organisation that was to become the sample case was introduced to me through my supervisor’s contacts at the university's Business School. The initial visit took place in July 2011 with the person who became my contact at the organisation. This first visit was to be the start of a long-term exposure to the organisation and its people, its practices and its ambitions and hopes for the future. That summer I began talking to people about the work they do, tried to understand the relationships in the organisational chart, got used to the terminology and specialised language referring to both the aerospace industry and relevant to this organisation, got some background information and history on its current business design and its evolution, and got a sense of their plans for the future and what they were striving for. What arose from this initial 'induction' period was that the organisation found itself at a crossroad; the supply and demand of the market was pushing their business model to one extreme while they were also pulled to the more traditional clientele that was their bread and butter. A story was repeated to me signifying the changing tempo of the times: their business flourished at the height of the boom with private corporate small aircraft and the subsequent industry that surrounded this to cater its needs. With the dwindling of the banking sector in 2008, so the repeat orders for specialised parts and components also dwindled. This made them re-evaluate their dependence on the financial booms for a more sustainable business plan.

I saw this as a theme from the literature on organisational learning and began to make connections with what I was experiencing and what I had read. I began asking more questions from the literature and subsequently more questions from the individuals at the organisation.

My contact with the organisation lasted up to 18 months which included planned visits and planned interviews. This long-term exposure with the organisation happened as part of the conceptualisation and understanding of the terms (learning, knowing, remembering, practicing and routinisation) from the literature and the

development of the case as a design. As I reflected on each visit, every conversation and reading, and on writing my review of the literature I began an iterative process that became a major element throughout the course of data collection. Upon visiting, observing and talking I would return to the literature and ask what I needed to understand both in the field and in reviewing further. This at times moved at different speeds; the opportunities for visits and interviews were based on the availability of the people and access was always negotiated and re-negotiated. Due to the varying working cycles I was dependent on my contact for identifying possible available windows. In the time between visits I would listen to and transcribe the formal and informal interviews I had with individuals and bring in more literature to 'explain' what I had encountered. This was particularly the case for extending the literature to include organisational routines and practices.

While on a visit on April 2012, my contact commented on the organisation having recently undergone an external review of its practices to receive an ISO aerospace-related upgrade. A report resulted from this review which noted the advantages of the organisation and made some comments on things that could be improved. To me this was an unexpected event that had the possibility of giving the case study further depth on two levels: it proved that the organisation was able to work as a unit to keep standards at an industry-approved level and, to 'learn' and make improvements that allowed it to get the upgrade. In addition it created the conditions for observable real-life mobility of people and processes to improve on the insufficiencies noted by the assessors that they would expect to see upon their next visit (yearly basis). The importance of this ISO certification was that by achieving it the company could be listed as an approved supplier without the buyer/customer having to investigate the legitimacy of their production practices. Also, some major companies only do business with approved suppliers – something that would mean significant losses if for any reason the company did not have it. Having an outsider evaluate them was also seen as an opportunity to take stock and receive independent feedback from industry experts; as it turned out they had received a lot of praise – a validation of keeping up high standards. There was also mention in this report that upon the next visit 'training, awareness and competency' would be also reviewed, in addition to current expectations of strict engineering and process-led practices. This went

beyond the realm of training records kept for the people working in the manufacturing section. It involved an understanding of what is involved in 'work'; the commitment needed to be made by all employees on quality standard improvement and maintenance, engaging with error reports and committing to resolving them and line management taking responsibility for the learning and development of their staff, i.e. the more subtle skills of management practices.

My contact at the organisation explained that the accreditation will not fall through because the training records are not great, but engaging with the process could save the organisation time and money. I saw this as an external impetus on the organisation to 'force' improvements and changes that would not have otherwise taken place, a situation that would be of particular interest to the case study and the elements of my research questions.

Parkside Company – Profile

Site synopsis

Parkside is a UK based company that has been in operation since 1876. It employs 53 employees who operate in one facility with both offices and shop floor (production department) in a single unit. It is part of a cluster of companies owned by a parent company specialising in the supply of technical plastic products with shares quoted on the London Stock Exchange.

It is locally managed with a hierarchical organisational structure. Parkside has four main departments including Sales, Production, Quality Assurance and Planning (includes Procurement and Store & Dispatch) that are uniquely connected in a circular arrangement/fashion.

The Sales team deals with all customer enquiries and provides the Planning team with all incoming orders. Their role is one of liaising with current customers and ensuring that timely communication on all aspects of the production process is shared; as well as obtaining further business for the company. The Planning team is responsible for accumulating information from within the business and production side and providing accurate data to customers such as completion dates, delivery times and resource management – including raw material and staff. For Production,

the elements of workforce and machine capacity are crucial to meet customer orders and maintain flow: input of materials and output of parts and components. The Procurement aspect encompasses mainly the task of ordering and supplying the company with all raw materials necessary to complete customer order up to several months ahead and also with any tooling needed or machinery fixing that occurs. Within the Quality Assurance operate two units; the Inspection and Technical Quality Assurance that deal with all product quality requirements and inspect all parts and components entering and leaving the business. The Store and Dispatch team provide raw materials and parts/components to the shop floor for further processing and also send out finished products to the customer.

Parkside operates in a heavily regulated industry where industry standards are continuously revised and revisited. Companies that have accreditations and certifications can maintain their status as competent players; as it forms part of their identity – their acquisition of ISO for example allows them to get orders without the need to promote themselves to prospective customers as they automatically go on to a register of approved makers of specific parts and components. These issues have urged the business to be more proactive in such matters so as to be able to keep its current clientele and attract further business. At Parkside, this is translated as an unvarying commitment to improving on system management procedures and allowing their operating processes to be open for audit from certification teams; thus making their work transparent. One of the ways by which they accomplish this is by continuing to improve on their current standards. In this instance it is their application for re-certification for the latest version of the AS9100 series, the AS9100C (for an explanation of the AS9100 Certificate please see Appendix C).

Routines in Parkside

Parkside operates a high level of automated functions and has routines that involve the company from Customer orders to Purchasing materials. Their operation in the aerospace industry has pushed for further routinisation of their activities and there is a common belief that if procedures are followed; then better results will be gained from that. For a sample of a working day in Parkside with the routines this entails, please see Table 9.

Initial findings indicated that amongst the routines there is a high element of innovation and creativity. As mentioned above, their operations need to be transparent as they are subjected to various audits throughout the year and their production levels, delivery times and customer satisfaction ratings keeps them on the Approved Suppliers register in several continents. In the meantime, between audits and checks; they do identify areas for improvement.

Take for example the process-routine of buying raw materials from non-accredited suppliers. This is a repetitive operation involving three functions (Procurement, Quality Assurance and Stores) and requires paperwork that adheres to business regulations. However, to speed this up, there have been initial plans to set a bar; orders from the same supplier that are repeated (over twice) are to be reviewed and sent to the accredited and approved list. Routines such as this are common throughout, and as the business aims to become leaner, a lot of routines are under review at several points in the year.

Another observation on routines at the management level is the identification that it can offer a significant degree of competitive advantage to the business, as it can improve the production process. An example is the requirement from production employees to chart the maximum and minimum spread of a cable (the minimum and maximum it can be stretched at). If followed, this routine minimizes the need to complete (for 100% of production) a full inspection of end product by quality assurance employees.

Data collection within the case study

Interviews

The interviews conducted took the shape of semi-structured interviews and informal conversations. They were conducted over a period of 18 months with sampling being informed as I got to know the organisation and its various groups better. Initially the individuals were introduced to me through my contact. He had the capacity to ask colleagues to participate in the study and take time off their work to speak with me on a topic already related to them through him.

Interviews were conducted face-to-face at the organisation and lasted approximately

40 minutes each. All interviewees were explained the purpose of the study and that the information they shared was to be recorded but only used for the purposes of this study. Interviews were audio-recorded and transcribed word-for-word. Transcription and analysis where possible took place concurrently. This was useful especially during the very early stages where people were suggesting that I explore certain themes or speak to certain people who had more background information. Additionally thus questions could be modified in light of emerging findings.

As I began spending more time at the organisation engaging with its particular issues I began following a semi-structured topic guide designed to cover the research questions (Appendix 2). The guide was influenced initially by the literature on organisational learning and sought to explore the nature of learning of the individuals – on the basis of how they learned to do their particular job and being socialised in this organisation. I was then trying to trace their experiences with the possibility that individual learning could be 'transformed' into organisational learning and vice versa. Their responses led me into considering *how* this was manifested (routines, practices and memory). Participants included the manager of the planning department and four members of that team including stores and dispatch, the sales manager and procurement manager, an inspection assistant and an inspection trainee and the production manager

Documents

Documents were reviewed for their relevance to the study and for their capacity to inform my understanding of the organisation and the work that people were doing on site. I was exposed to many sets of printouts and documents in order to be explained the 'chain of custody' as set by their Quality Assurance Manual for the processes involved in their practices that could be reviewed by an external body. The documents included the Quality Manual, the ISO accreditation report, employee training records, managers' meetings minutes, memos and updates shared among management staff, a published book on the history of the organisation and several typed updates and printouts of the various stages from customer order to shipping out the end product. Below is a table indicating the documents collected that supported this case study.

Documents supporting the case study research		
Subject of document	Number of documents	Dated from:
Quality Management Assurance Manual	1	18/05/12
Managers' Meeting – Minutes	4	29/03/12, 23/04/12, 31/05/2012, 21/08/12
Induction Manual	1	August 2009
Company History – Hardback book	1	1962
Company History - Annex	1	September 2009
Training records, internal memos and samples of various forms used in the organisation	Various	From 07/10 – 12/12
Assessment Report –ISO recertification	1	24/05/12

Table 7: Documents supporting the case study research

The documents served a dual purpose. First, having the ability to take them with me and review them outside the organisation, I was able to place people and comments much more easily. They contained names and titles, historical and other events, terminology and information that helped me quickly build an image of the organisation and its way of operating. I was then able to communicate better with people based on this understanding.

Second, the information from documents was used to help triangulate data from other sources. For example, did the decisions taken during the monthly managers' meeting match actions to that effect and in what manifestations?

The documents thus became a way to understand the formal communication system of the organisation and separate it from the informal workings that took place in and around decision-making processes.

Observation

Observation occurred at two levels within the case study and at two different time-space points.

The first involved an informal non-participant observation of the organisation's working environment, most prominently during the initial visits. By being present at an alien environment almost everything stands out and especially relationships and behaviours. I noted these observations and reflections while waiting in the conference room, or upon exiting the building. I considered this most appropriate as I did not want to use time allocated for conversing with people or being shown around; most importantly I wanted individuals to be at ease around me rather than considering me as a scanner for their behaviour. This contributed towards further insights into how organisational learning was made 'visible' through personal interactions and work settings, giving a closer appreciation of the organisation's relations (with each other, customers and an outsider).

The second was when the opportunity arose to observe and contribute when, after the April 2012 ISO certification; the management team had decided to act upon the reviewer's suggestions. The line managers were asked to improve on the existing Learning & Development practices for their teams. My contact at the organisation shared with me this outcome of the recent managers' meeting, and I asked if I could see both the minutes of that meeting and the documents that he used for Learning & Development issues in his department. This initiated a discussion between the two of us about what a better version of these documents could be, based on the needs of his team and the future needs of the organisation.

After that we exchanged some prototypes of updated versions of these forms. While keeping many of the existing features (as was required by the Quality Assurance Manual), some new additions were included to reflect the relevant aspects of his department. This 'exercise' showed to him that in terms of Learning & Development there could be more customised forms and practices that would benefit other departments (instead of the ‘one-size-fits-all’ provided to all managers through the Quality Manual), and he was keen to have at least one other department (Production) involved. The process of engaging others was the process I began observing (in a meeting between the two managers) and following to see what the outcome would

be. This provided the opportunity to see the types of communications between the organisation, elements of learning as creation from within and the possibility of changing. It emerged as situation, but evolved as an unfolding organisational story – one of the many that run in the organisational learning experience. These are themes that will be discussed further in the following chapters.

Handling the Data

Approach to analysis of case study findings

In qualitative studies it is good practice to overlap data analysis with data collection (Eisenhardt, 1989) and in case studies in particular to be aware that issue development can continue till the end of the study, with the writing beginning with some preliminary observations (Stake, 2008) made at several intervals all the way. When beginning the analysis more formally, a good starting point is playing with your data (Yin, 2009). This does not imply misrepresenting people's views and behaviours, as the participants must agree with the meanings and motivations we have attributed to them (Stoecker, 1991). It is however acknowledged that one of the strengths of a qualitative oriented analysis is that liberties in portrayal are accepted (Eisner, 1981); where the researcher can be selective and emphasise what s/he wants to say as they see it. As Becker exclaims, 'the object of any description is not to reproduce the object completely – why bother when we have the object already' (1996, p.64). Doing that might be of no interest; but rather we can pick out the relevant parts and abstract the details from the whole of the data set so that we can answer the questions we have set. Faced with the data, the starting point of analysis is to follow the theoretical propositions that the objectives and design of the case study were based on (Yin, 2009), ensuring that the analysis is informed by the previous studies, literature and findings on the topic (Dopson, 2003). The review of the literature actually structures the results as these propositions have helped to focus our attention on certain data while ignoring other data. This process requires the researcher to ask 'what is this similar to, what does it contradict and why' (Stoecker, 1991, p.102). All possible theoretical perspectives that are relevant to the topic are

weighted and discarded until a valid and useful explanation is built – a process called 'theorizing idiosyncrasy' (Stoecker, 1991, p.102). This activity can be revealing about the extent and which of the general processes suggested by general theories actually hold true; and in so doing begin to explain the 'unexplained variance' (Stoecker, 1991, p.105) and rebuild theory. We begin this process by describing and interpreting the activities and functions of the case study. The activities however cannot be presented in isolation as 'incidents' but the context in which they took place must also be considered (Stake, 2008) if the interpretations of socially shared meanings are to have validity (Eisner, 1981). It is important to acknowledge that individuals are and continue to be influenced by the activities of past generations and past contexts (Dopson, 2003). The individuals in the case exist in a world they inherited both in a tangible and intangible manner. These historical features are an important aspect of the social context the case study method seeks to explore, and they represent important aspects of analysis. Understanding the relationship of the case to its social context (Stoecker, 1991) is an integral part of analysis and synthesis, that is looking at the research findings historically and in the wider system of interdependencies (Dopson, 2003). Yin suggests that 'all empirical research studies […] have a 'story' to tell' (2009, p.130); a 'story' that would capture the wholeness of the case (May, 2011). This is achieved through a detailed write up of the case as the researcher experienced it. A fuller description is useful in that it lets us talk with more assurance about things (Becker, 1996), especially when making conclusions about case study findings and theory. The researcher becomes intimately familiar with the case and its unique patterns can emerge (Eisenhardt, 1989). Through narratives and situational descriptions of case activity, it can also enhance the reader's experience with the case (Stake, 2008). When the researcher's narrative provides opportunity for 'vicarious experience' (p.143) readers can extend their perceptions of happenings.

Reflexivity in qualitative research

Reflexivity is commonly used in qualitative research as a method to 'legitimize, validate, and question research practices and representations' (Pillow, 2003, p.175). It involves turning a critical eye towards oneself (Finlay, 2003) and self-appraising

(Koch & Harrington, 1998) your conduct.

Reflexivity has found a special place within qualitative research because we now accept that the researcher is a central figure who actively 'constructs the collection, selection and interpretation of data' (Finlay, 2003, p.5). Research is considered an 'enterprise in knowledge construction' (Guillemin & Gillam, 2004, p.274), and as a joint product between the participants and the researcher and the relationship that develops between them. This active process of creation thus requires scrutiny, reflection and interrogation of the data and the researcher/participants (Guillemin & Gillam, 2004).

The researcher and her interpretation of events is at the heart of all research practices (Koch & Harrington, 1998) and we must acknowledge that through interpret*ing* and construct*ing* we are driving our projects with our values , interests and histories. We never really 'shed our identities or biographies to become neutral observers' (Moser, 2008, p.384). In addition we are also shaped by the traditions of our field and the on-going debates in our selected research area. A reflexive researcher is aware of these potential influences and takes a critical look at her role in the research process, knowing that despite using the participants' views and voices, we must take ownership of our own work (Etherington, 2007).

One way to approach reflexivity is to disclose in our writing the research dilemmas that we encountered and how we chose to resolve them (Etherington, 2007) and incorporate a reflexive account of the research journey by signposting to our readers about what is going on while researching (Koch & Harrington, 1998). By articulating our role in the research process and the end-product, we can engage in a 'symbolic dialogue' (Mauthner & Doucet, 2003, p.424) with the readers of our work meaning that audiences can become more confident in our journey to the analysis of findings by following the process that led us there. Reflexivity is a tool that allows us to include ourselves (Etherington, 2007) in the course of a research project by making transparent the values and beliefs we hold that have influenced the research process; planning, conducting and writing up of outcomes (Guillemin & Gillam, 2004). As social scientists we must move away from claims of neutrality and impartiality and recognise, intra and interpersonally, that we belong to various social categories that position us differently within power structures (Moser, 2008). Reflexivity in research

is thus a process of critical reflection on the kind of knowledge that has been produced from a research study and on how that knowledge was generated (Guillemin & Gillam, 2004).

Reflexivity can then be used as a tool to evaluate the quality and validity of our research by examining the impact of the researcher's position, perspective and presence, by opening up any unconscious motivations and implicit biases in her approach and evaluating the research process, methods and outcomes (Finlay, 2003). An advantage of being reflexive has to do with recognising the limitations of the knowledge that is produced (Guillemin & Gillam, 2004), an awareness that leads us to more rigorous research. However, it is interesting when we refer to 'being unconscious' and 'unaware' when we talk about intentions and perceptions of researchers – some might have been instilled in us as children or be personality traits. The limitation of reflexivity in that sense is the extent to which we can actually be aware of the influences on our research (Mauthner & Doucet, 2003). Mauthner and Doucet assert that it most probably requires a profound level of self-awareness and self-consciousness to be explicit about the perspectives through which we view our world. It is accepted though that the researcher and participants negotiate meanings in social contexts – a different piece of research will inevitably have a different story to tell (Finlay, 2003). The disclosure encouraged through reflexivity is aimed at promoting rich insights through examining personal responses and not to re-create the situations anew. It also acts as an ethical buffer: being reflexive throughout the data collection period means critically examining your interactions with the participants, respecting their autonomy, dignity and privacy, and acknowledging the risks of failing to do so, such as causing them harm (Guillemin & Gillam, 2004).

When it comes to data analysis, these issues need to be considered while doing the analysis. To consider the epistemological, ontological and theoretical assumptions made as well as what personal, interpersonal and emotional influences we had experienced throughout the project (Mauther & Doucet, 2003). Koch and Harrington (1998) consider that as researchers, we not only are influenced by our background when interpreting participants' stories, but our understanding emerges by 'comparing

it to something we already know’ (p.888). Our personal history precedes any encounters with participants and their situations. It would be then considered a part of analysing and not separate from it.

Personal Learning Journey through conducting Qualitative Research

Working within the qualitative domain has been highly rewarding, exhilarating and frustrating at times. As a novice researcher who wants to 'learn about some aspect of the social world and to generate new understandings that can be used' (Rossman & Rallis, 2012, p.4) I knew that apart from collecting 'data' as it were (what the authors call 'representations of reality' p.5), I was expected to enter a process of conceptualising and writing about what I learned while at the same time pursue the (re)designing and conducting of the research project. All these were time-consuming particularly because I had to build up the skills to do the above which was quite challenging.

However it is apparent that within the qualitative social science domain, the researcher is central to the process because of the constant choice-making and reshaping of the research questions due to the opportunity to test your assumptions, assumptions formed through the more isolated early parts of the research project where learning comes primarily from reading. As the process continues and there is a move from early curiosity over a subject towards understanding and building new knowledge, you as a person and a researcher cannot but be transformed as well. And in many cases the participants could be changed too (Rossman & Rallis, 2012). So the exciting and confusing elements are intertwined because you constantly want to retain your position while being driven to many various directions, interpretations and paradigms. While going to the field with a conceptual framework, a schema for understanding the relationships in the field, this can and often is changed, modified and refined and you begin to experience ambiguity as what was once believed as your 'world truth' cannot be hold onto any longer. This was mostly evident in this project with the belief I held that the people and the organisation could be considered as distinct entities but quickly other more intriguing questions were coming forth particularly of the nature of individuals' learning rather than that of the organisation.

While engrossed in the more contextual aspects of the case study the data-collection methods became more apt towards what makes sense to be used in this setting and for these participants, but also to accommodate my own growing knowledge about the organisation.

But grasping this iterative process of going back and forth between the theoretical background of the field you are investigating and your data, and reflecting on both is what constitutes a great part of the social scientist's time. This tedious process of producing sophisticated reasoning that is multifaceted in nature is the outcome of reflecting in and through: the parts – the data, and the whole – what came before your research study. What results from this back and forth exercise is describing and interpreting the social world accepting that the individuals and their context interact in complex and multi-varied ways that cannot be measured and predicted. These interpretations are constructions that acknowledge the interwoven nature of social, political and theoretical elements (Alvesson, Hardy & Harley, 2008) that shape the generation of knowledge.

Interpretations and construction of knowledge from the researcher

These constructions are the result of the researcher being part of the research project, what Plummer (2000, p.206) refers to as the "constructor' of ‘knowledge". Not being the medium through which knowledge just passes to an audience, the personal and social worlds inhabited by the researcher are necessarily exposed and the personal biography as situated in specific socio-political and historical moments (Rossman & Rallis, 2012) is implicated in these constructions. As a researcher I spend significant amount with the organisation employees and within the physical boundaries (the building) of the organisation itself and this did allow me to build trust with them, finding the right gatekeepers to expand recruitment or barring of participants, establishing rapport and making them feel comfortable to disclose information (Creswell & Miller, 2000).

And being so close for this amount of time I need to take into consideration the effects that my personality and presence has had on the investigation (Holland, 1999) of the topic of organisational learning in this case study, myself a subject constructed in and through the research project (Alvesson, Hardy & Harley, 2008) and subjected to and resistant against the controls embedded in the research process (Hardy &

Clegg, 1997). Bell and Bryman (2007) remind that working within management research creates ethical challenges, in particular how senior managers tending to their high status within the organisation can 'define access boundaries' (p.68) and even set expectations for the outcomes of the research study that could benefit them. It is clear to me, that despite knowing that the organisation could 'dictate' directly (by refusing to participate and not having me in their premises) or indirectly (by excluding/including employees) what it considered a legitimate focus for the study, the topic of 'learning' was perceived as non-threatening and as the study unravelled, it was seen as beneficial to have someone else 'review' the status of their training and development processes (perhaps also urged by the ISO re-certification assessment). Being able to offer that on an on-going basis I was appreciative that value of my research (worth and impact) was value for this community (Woolgar, 2000) and not just inherent in itself.

In the process of doing research and becoming a part of an organisation's life, a degree of reflexivity upon roles and relationships gives rise to questioning about involvement with people and the way things unravelled primarily around conducting the research, its design, the questions asked and the analysis of the results (Macfarlane, 2009) but for me also issues of how I might have affected the 'ongoing flow of everyday life' (Rossman & Rallis, 2012, p.9) and be affected by it. This was brought about in particular through reflecting upon the times when people wanted to speak to me 'off the record' and an attempt from their part to say things that I would 'need to know'. Although this happened on two occasions during interviewing, it indicated to me that there was an expectation on the part of the participants that the research could make a difference (Miller & Boulton, 2007) and by speaking privately stopped them from revealing much more during the interview than they would have preferred (viewing the interview as a public act). Looking back, talking with me was a rare opportunity to discuss something that was of significant interest to *them* and in addition the less structured format of a qualitative interview concurs to the positive consequences of being involved in research projects. My impression was that the people who spoke to me, although the issues they brought up were contentious and at times personal, were pleased to have contributed. It seemed that this opportunity to reflect on your learning, your career, practice and engagement with others in the

organisation seemed to be a positive experience for those involved in the research.

Having received people's trust and their openness has been a deeply moving experience to me and doing research inevitably does change you primarily by reshaping my thinking and beliefs (Macfarlane, 2009). Principally about the possibility of 'capturing' organisational learning through the fragments of individuals' organisational lives and especially doing so while continually learning about research and consciously making decisions that affect the questions pursued and the direction of the study (Rossman & Rallis, 2012). This emergent nature of qualitative research has been a complex and labour-intensive undertaking, however it being an 'active learning process' (ibid, p.5) can create benefits for the organisation of the case study and the participants themselves. With scientific knowledge being situated (Hardy, Phillips & Clegg, 2001) in a research community and coming from a specific researcher and because it freezes a particular time-space of the social world (Alvesson, Hardy & Harley, 2008) it can affect research subjects by changing the 'understandings, practices, and other elements that characterize the research field' (Hardy, Phillips, Clegg, 2001, p.553).

For all these, it would still be relevant to say that aside from being part of producing research and generating knowledge in the hope that you can address some social issues and having perhaps the (de)illusion that for the very least those involved in research will benefit, actually more dilemmas emerged coupled with the acceptance that living with more ambiguity, difficult decisions and change (Plummer, 2000) is the norm in our post-modern society. And this inevitably leads to acknowledging the uncertainty of all empirical material and knowledge claims (Alvesson, 2003) and inviting others to assess the adequacy of our work, its trustworthiness and critique it (Rossman & Rallis, 2012).

Thematic network analysis

In approaching the final analysis stage of the data set, the Thematic Networks analysis (Attride-Stirling, 2001) was used to assist in tackling data from interviews, documents and personal observations. While collecting the data from these sources, an initial analysis was done through iteratively reflecting from the data into the literature reviewed and to be reviewed and also what possible avenues to pursue further within the case study.

A thematic network analysis works on two levels; as a thematic approach it 'seeks to unearth the themes salient in a text at different levels' and as a thematic network it aims to 'facilitate the structuring and depiction of these themes' (Attride-Stirling, 2001, p.387). It was important to use a tool that, amongst other features, it enhances the analytic experience by remaining grounded in the data, facilitates and displays ordering, allows systematic and comprehensive coverage of the data set, permits flexibility and allows transparency to others (Spencer, Ritchie & O'Connor, 2003). Particularly because as people, we are meaning-finders (Miles & Huberman, 1994) and we can see order in chaotic events, but as researchers we must ensure that the meanings we find are 'valid, repeatable and right' (p.245).

Analysis **Stage A: Reduction or Breakdown of Text**
Step 1. Code Material
a) Devise a coding framework
b) Dissect text into segments using coding frameworks

Step 2. Identify Themes
a) Abstract themes from coded text segments
b) Refine themes

Step 3. Construct Thematic Networks
a) Arrange themes
b) Select Basic Themes
c) Rearrange into Organizing Themes
d) Deduce Global Themes (s)
e) Illustrate as thematic(s)
f) Verify and refine the network(s)

Analysis **Stage B: Exploration of Text**
Step 4. Describe and Explore Thematic Networks
a) Describe the network
b) Explore the network

Step 5: Summarise Thematic Networks

Analysis **Stage C: Integration of Exploration**
Stage 6: Interpret Patterns

Figure 2: Steps in analyses employing thematic networks (adapted from Attride-Stirling, 2001, p.391)

The Figure 2 above illustrates how to do a thematic network analysis and spells out the steps involved in the three stages. Stage A, 'Reduction or Breakdown of Text', will be discussed in this section. Stage B on 'Exploration of Text' has been followed in the next three chapters, while Stage C on 'Integration of Exploration' will make up the Discussion chapter.

Beginning the analysis, a coding framework was devised to reduce textual data into manageable chunks. The goal of coding is to get from what is unstructured and messy data to ideas about what is going on in the data in an effort to link it with information, topics, concepts and themes (Richards & Morse, 2007). The technique used here aimed at allowing for a focus on some specific characteristics of the data while abstracting directly from it. The framework was based on the theoretical constructs guiding the research questions and on issues that arose from the text. So some codes were 'in vivo concepts' (Spencer, Ritchie & O'Connor, 2003, p.203), codes based on the language terms used by participants, while others were influenced

by the literature, where common sense terms were used because they captured the essence of talk. For a full outline of Stage A, Step 1 – Code Material - see Table 8.

Because coding was done manually, each piece of data was read to extract codes or assign codes that were selected from the literature reviewed. On a separate sheet the codes were recorded and then continuously reviewed and reworked until a final set emerged. This process was then repeated when going through the data set for a second time and placing them under each code. When first doing this the amount of codes was twenty-five, but upon completion were reduced to twenty-two as three were combined under one code-topic. While conducting this step, notes were taken on what issues emerged from what individuals were saying, explaining or indicating about and whether at moments of re-reading it some things begun linking up. Although these memos were not always immediately clear, my thoughts were also placed under each code, as initial reflections.

Before moving to Step 2 – Identify Themes, all the codes were listed with the 'issues discussed' next to each code to indicate clearly what the code was about. This was very helpful in asserting in more words what was included under each code.
At this point the codes were listed in a semi-conclusive state and were not immediately connected to each other as clusters as is evident in Table 8, first row. However before moving on to identify themes, I began shifting these codes around to see if I could see a pattern or patterns emerging. In doing this, some groupings were immediately obvious although others were kept being moved around until; with the use of the 'issues discussed' column I was able to set them in seven clusters. At that moment I was able to view a story emerging from the data although still indistinct in its details.

Following coding and grouping, each datum within the seven clusters was read again so that Basic Themes could be extracted. Basic Themes are 'simple premises characteristic of the data, and on their own they say very little about the text or group of texts as a whole [and] need to be read within the context of other Basic Themes' (Attride-Stirling, 2001, p.389). To assist me in this step I followed Richards's (2005)

suggestion on moving from a detail in the datum, to commenting on it and then to abstracting about it by asking: a. That's interesting, b. Why is it interesting, c. Why am I interested in that.

In going through the data once more, but this time as abstracted from the full text, and re-read within the context of a code was at once agonising and liberating. The former was so because of a concern over too much deconstruction of the text and the meaning that might be lost with that; and the latter was because a story of this project was emerging with preceding chapters now being viewed under a different light. Once all the themes were created for each cluster, a second reading was done to refine them, making them comprehensive and concise, encapsulating the critical elements of each cluster without repetition.

Listing all the themes as Basic Themes was the beginning of Step 3 – Construct Thematic Networks - and the Thematic Networks were already taking shape. Following on from the Basic Themes, a level of abstraction was applied so to set around groups of them, Organising Themes. An Organising Theme summarised a cluster of Basic Themes so that their principal assumptions are more abstracted and more revealing of what goes on in the text (Attride-Stirling, 2001). This generated eight Organising Themes, and although their number did not change, the degree of abstraction in the language got progressively better and more succinct phrasing was used as the Presentation of Findings chapter begun taking shape. By writing about each Global Theme, I had to read the data set once more and this made the Organising Themes sharper. However as I explained above, a 'story' of this case study was beginning to become apparent from Step 1. This was not surprising as the discussions I had with individuals were fed back to a review of relevant literature, literature elements that were thus used to shape up the coding framework. So analysis of data had already begun from the early stages of data collection and many themes were followed up with participants in the duration of the study. Thus when another level of abstraction had taken place in order to create a single network by naming Global Themes, I was able to see a pattern of three Global Themes, each encapsulating the principal metaphors in the text as a whole (as seen in Table 9). A Global Theme is like a 'claim in that it is a concluding final tenet' (Attride-Stirling,

2001, p.39). However, again, the presentation of each theme within the networks was refined systematically as I began pulling together the next chapter. Meanings were not radically altered but articulating each Thematic Network through writing about it gave a stronger grounding through the data. Upon creating the networks with their accompanying Basic and Organising Themes, each Global Theme tells what the texts in the data are about within the context of a given analysis. What is very interesting is the presentation of each network in a non-hierarchical web-like illustration, where the relationships between the Themes are cohesive and supportive of each other.

What is important to note here is the expectations of using the Thematic Networks, as a tool and not as the Analysis itself. That element of research begun with the first pieces of data, observations and exchanges so it was ongoing. However this tool provided a technique for breaking up text and for making explicit the procedures that were employed in going from text to interpretation (Attride-Stirling, 2001). Assisting with illustrating the representation of text it promotes disclosure on the part of the researcher and enhances the understanding of the reader.
What it cannot do is 'aim to discover the beginning of arguments or the end of ratioalisations' (p.388).

From Codes to Themes

Codes	*Issues Discussed*	*Themes Identified*
▪ Principles ▪ Priorities ▪ Standards ▪ Beliefs	• Continuous improvement • Equality • Adaptability/adjustment • Savings • Conformity • Customer satisfaction • Staff development, empowerment • Historical credentials	1. Aerospace industry is ever-changing, with peaks and troughs 2. Customer-centred approach is vital in organisational survival 3. Values direct re/action and assist in identity preservation
▪ Hierarchy ▪ Membership ▪ Discretion	• Chain of command • Decision makers/receivers • Internal recruitment • Favouritism • Upstairs/downstairs • Accountability, oversight • Knowledge repository	4. Management system that is conducive to organisational aims 5. Hierarchy that defines accountability 6. System of checks and balances
▪ Cooperation ▪ Conduct ▪ Sharing	• Security net • Reciprocity • Information exchange, distribution • Proximity • Expectation • In/effective • Inter/intra team	7. Informal communication networks help us be efficient 8. Cooperation forms bonds that hold us together 9. Systematise our interactions to retain knowledge
▪ Facilitators ▪ Constraints ▪ Changeableness	• Compliance • Accreditation • Attracting/retaining • Niche/uniqueness • Complacency • Sector/Industry • Turnover, succession planning • Beginners/Experienced • Invested in • Management style • Time/busy	10. Changing environment has unavoidable consequences 11. Complacency is the enemy of progress 12. Industry standards enable and constrain 13. Qualified employees crucial in skill-base maintenance

Codes	*Issues Discussed*	*Themes Identified*
▪ Information ▪ Devices ▪ Evidence	• Soft/hardware • Job Card • Adequacy • Dependability • Access • Traceability, chain of custody • Invaluable • Uniqueness • Intricate • Historical • Documents, archives, minutes • Certificates, forms, records • Manuals, QMS • Drawings • Transparency • Decision-making tools	14. Accurate information for improved performance 15. Evidence-based decision-making 16. Recording the organisation's functions enhances openness
▪ Learning ▪ Competency ▪ Expertise	• In-house training • Pairing • Instruction • Evaluation, feedback • Note taking • Nurture • Efficiency/effectiveness • Jurisdiction • Mixed skills • Stationary/mobile	17. Preserve experience by passing down knowledge 18. Developing through training and enabling learning
▪ Routine ▪ Innovation ▪ Complexity	• Repetition • Familiarity • Habits (pros/cons) • Variation • Circularity • Shifting priorities • Digression & repercussions thereof • Top down, bottom up	19. Routines enhance knowledge exchange 20. Routinised work enables innovation

Table 8: From Codes to Themes

From Basic to Organising to Global Themes

Themes as Basic Themes	*Organising Themes*	*Global Themes*
1. Ever-changing industry 2. Customer-centred approach 3. Values direct re/action	Stability rests on values	Stability and change are continuous accomplishments
4. Management system that is conducive to organisational aims 5. Hierarchy that defines accountability 6. System of checks and balances	Managing for success	
7. Informal communication networks help us be efficient 8. Cooperation forms bonds that hold us together 9. Systematising our interactions to retain knowledge	Creating rapport	
10. Changing environment has unavoidable consequences 11. Complacency is the enemy of progress	Active and Passive	Cyclical nature of organising
12. Industry standards enable and constrain 13. Qualified employees crucial in skill-base maintenance	Restrictions but not restricted	

Themes as Basic Themes	*Organising Themes*	*Global Themes*
14. Accurate information for improved performance 15. Evidence-based decision-making 16. Recording the organisation's functions enhances openness	Knowledge gathering and utilisation	Knowing is sharing
17. Preservation of experience by passing down knowledge 18. Developing through training and enabling learning	Knowledge preservation and development	
19. Routines enhance knowledge exchange 20. Routinised work enables innovation	Knowledge transfer through routines	

Table 9: From Basic to Organising to Global Themes

Chapter Summary

This chapter has reviewed the methodology chosen for this study, described the research setting and also the way data was collected and analysed. This study uses a single case study methodology to explore the relationship between organisational learning and the stability and change behaviour of an aerospace organisation. Case study approach is a social science inquiry that is particularly suited for studying phenomena within their real life context. This methodology also provides an opportunity to explore the particularities and complexities of a single organisation and offer the possible consumers of research emanating from it to learn about people and places that they might otherwise not come into contact with. This study triangulated data that was collected from interviews and documents in an effort to answer the research questions. This chapter also addressed issues of trustworthiness and generalisation in qualitative social science research and explained the ethical procedures that were followed in the study.

The following three chapters will present the research findings in three interweaved, thematic networks.

Chapter 5: Thematic Network A. 'Stability and change are continuous accomplishments'

This thematic network rests upon the issues that create stability and change simultaneously within the organisation. Figure 3 displays the network and its accompanying themes. What emerged is that the values, management system and creating rapport were seen as the most salient to continuously achieving a balance between stability and change. Values are seen as building blocks and are both inherited and historically placed, as well as tested and evolved into current practices. Management is viewed as the structured way to evoke these values, place them and apply them, while rapport is the means through which to communicate them and ensure that future organisational iterations still contain them. In this sense organisational survival is an on-going achievement.

Basic Themes	***Organising Themes***	***Global Theme***
1. Ever-changing industry 2. Customer-centred approach 3. Values direct re/action	Stability rests on values	Stability and change are continuous accomplishments
4. Management system that is conducive to organisational aims 5. Hierarchy that defines accountability 6. System of checks and balances	Managing for success	
7. Informal communication networks help us be efficient 8. Cooperation forms bonds that hold us together 9. Systematising our interactions to retain knowledge	Creating rapport	

Figure 3: Thematic Network A

Organising theme: Stability rests on Values This organising theme explores what this organisation stands for, what are its values, how they have been shaped by the industry it operates in and how it chooses to enact them in an effort to accomplish survival.

The organisation operates in an **ever-changing industry** and that is another element of its behaviour. It both dictates behaviour and is affected by their participation in it. Being able to understand the external environment is imperative as having your finger on the pulse of what the market wants would enable you to be proactive.

One manager recounted the rationale for building the extension along the factory, which included additional conference rooms and office space:

> This is a new building. The building used to stop just to the stairs. You couldn't come up here. So everybody was over there. [It was build] two or three years ago, when we were really busy, but it more than halved, we lost a lot of business and obviously we build this out of the budget. Cause the budget was great. Now you think we shouldn't have bothered to open this. You cannot predict what is going to happen. (Manager C)

At the same time he was explaining how the parent company have been asking them to move to new industry and serve a totally disparate market in an attempt to diversify:

> They want us to expand to other businesses, would like us to get medical side, medical instruments. That's something I got to look at. (Manager C)

Understanding the way the market is turning can create immediate pre-emptive actions to secure that the organisation remains afloat. A manager at the factory level explains how he uses a system of annualised hours to have permanent staff employed but not working and how this is utilised at different times:

> Annualised hours that were put in place basically lets us take people out on so many days a week. But then the agreement is that if we require them in three months' time then they are obliged and they sign, to come back and work these hours that we have put them off. What we do we put them off, say we put 6 people off say on Monday they get paid for being off. But what happens we have in the accounts system like a banking system. They sort of run to a minus – we have the maximum 40 hours. That is the most we can ever go. That's the agreement with the shop stewards. They've had their wages, but then what they are now tied up to is the minute we want those 40 hours back, which is now, they are obliged to come back and work Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday.

> Where we were five years ago, was lodger cover – but you could not keep them. You could only keep them for so long because the work was decreasing that much. And it is like we are right now on the shop floor. At the moment, for the last six, four months, is annualised hours. We understood and totally took on board that there wasn't enough work in the shop floor to keep everybody there. So you could go into a drastic redundancy set up, dissect it and...if what happened in the last month had not happened [a really big customer order] we couldn't have done it because you would have put some people through the door. (Manager D)

So at this precise moment when a big order has come through and requires more employees at the factory level this manager:

> So we are kind of in that sort of balancing up period, where we've started a

> couple of guys from one of the factories that's closed down. They're certainly showing that they can do aspects of the job. (Manager D)

Besides what changes happen within the industry that have a behavioural impact on achieving stability, that is maintaining their status in this sector, uses up a lot of energy. As a registered ISO approved manufacturer of aerospace components, their certification is constantly being monitored and updated to encompass changing standards and best practices in the industry.

A senior manager involved in the process of renewing the certificate explained that there are always further improvements to be made:

> What they are asking is...they want us to set targets for the company. They want targets on quality, as in customer complaints, we need to reduce that and what we are doing about reducing it. They want us to monitor that on a monthly basis. They want us to monitor anything that we set as a company. And if we fail on that, to make an improvement or maintain it on a monthly basis, they want us to put a corrective action in place. They want us to measure something to do with stock. It's to do with accuracy with the stock check. They want us to check on the 'on-time and full deliveries'. They want us to check the internal quality complaints. So there are all these things that we have to try and make improvements in each of these areas as we go. If we don't, we have to find the corrective action and with that corrective action we can't have the same failings the next month. We need to make sure that the corrective action obliterates any of that fault and we can move on and make the improvements as we go. (Manager A)

Although these are the expectations on the part of the auditing team, the organisation has autonomy in what it chooses to tackle and how to get to an agreed outcome:

> We are allowed to set our own targets. It is the overall improvement – that's what they are aiming for. And what happens is that, for example, if we say that we are going to do 95% on time and full supply to the customer and we fail that ...the CEO has us putting a production report that we do per month. In the managers' meeting that we've got every month, what happens is that we have to put our own targets into the report and if we fail we have to then give a corrective action at that point. How are we going to correct or repair the damage?
>
> Every month we have to get back to them [auditors] with customer satisfaction, supplier delivery performance – for our suppliers. How are they performing? Because obviously it's got a knock on effect directly to everything that happens in here. If material is late then we are late. (Manager A)

Though external auditing is crucial, organisational members have confidence in their

own values, especially work-related values as set by the company's Quality Manual:

> These are our procedures, in the quality manual. Anything in the quality manual as they audit they will be carrying out a check to see if they've been carried out. (Manager A)

A manager responsible for one of the aspects to be measured recounted a procedure that is followed regarding suppliers as set through the Quality Manual:

> The purchase worksheet will come up and I'll check this. If it is not on the approved suppliers list I will go for a non-approved supplier. Then I have to raise a 1234 Form. That form allows me to purchase. The 1234 Form goes to Quality to [be] signed.
> [Is that because it doesn't have all its accreditation?] That is correct. They are not on the approved suppliers list. (Manager B)

Within the same node, on how values contribute to the stability/change duality, a clear focus on **satisfying customer needs**, emerged. This, as mentioned above, is also one of the measurable components of audits both internal and internal and is the focus of many discussions, decisions, actions and reflections. It denotes how employees understand their role in relation to others outside the organisation, but also how the organisation safeguards this in its procedures.

In the formal document of the organisation, the Quality Manual this excerpt explains their position:

> Customer Satisfaction: As one of the measurements of the performance of the quality management system [the company] monitors information relating to customer perception as to whether the organization has met customer requirements. [The company] collects feedback from customers using one or more of the following methods to monitor and measure customer satisfaction: a. corrective action requests, b. customer complaints, c. customer provided performance data, c. on time delivery, e. product conformity. [The company] has developed and implements a plan for customer satisfaction improvement that addresses deficiencies identified by the above evaluations, and assesses the effectiveness of the results.

A manager that has daily contact with customers explains how this actually takes place:

> [What do you feel is the bottom line for the clients?] Deliveries. That's what they're looking for. Customers are looking for their parts on time. Now, the

> quality...quality and delivery are the most important things. Cause obviously, if the quality is not right, they're going to get rejected back anyway, even though they're on time. But the quality has to be right but the delivery has to be on. Especially new business. Cause if you gain new business, nine times out of ten you got that new business because their other suppliers failed. So they took that back and gave it to you. So if you fail on the first time, then they'll say 'you're just as bad as the other one, we're going to go somewhere else'. (Manager C)

He continues to talk about how 'word-of-mouth' is crucial in their industry and reputation is highly prized:

> At the end of the day our customer also has a customer who is going to be on to them [to receive order on time]. The company I'm talking about is called [name of customer] who supplies [a major aeroplane manufacturer]. If [they] are asking why parts are late and they tell them it is because of [us] we'll get a bad reputation. And you don't want that in the aviation industry. Cause it is a very small, not a small industry, a small community. We've had orders before saying 'we want *you* to do this because we heard you're good'. We have a good relationship with [major aeroplane manufacturer]. And we don't want to tarnish that. But it is easy to do that. So reputation is very important. [emphasis in interview] (Manager C)

This reputation is what allows them to get their foot through the door and gain more business:

> Most people in our industry have heard of us, they know what we do. A lot of companies I've visited thought we were solely one-ship-band. We were only doing one part. What I've been doing I've been targeting customers who I can see purchase our parts somewhere else. I know companies who historically order from [us] and they only maybe order the same part all the time, they don't vary off that part. (Manager C)

Understanding how the customer perceives them and end-product use is critical in being competitive in price and in product type. Hence great care is taken in monitoring the expenses going into the product price. Two managers with the two largest teams discussed how this is a constant issue for them:

> The ideal scenario is to have these core people [highly experienced and competent] spread all over the shop floor, but it won't allow you because you wouldn't be paying everybody in the shop that core pay. So what you have is you have it skilled down...otherwise your overheads become vastly increased. (Manager D)

> You can't keep extra people in employment to cover for someone possibly leaving. You need to run your company as efficiently as possible and if somebody leaves; then okay, that has a massive effect if you're really efficient that will have an effect. But what happens is you need to put someone else in place and train them as quickly as possible to get up to speed again. (Manager A)

He continues:

> We cannot run top heavy because what happens our overheads they are shot into our machinery, our machinery are determined by our overheads and all the costs that are involved up here [admin offices]. So what happens, if we put extra costs up here, the machinery goes up and we're less competitive. We have to minimize the overheads. If I could [have] someone out of here [admin offices] tomorrow to lower overheads I would do that. Then we would be far more competitive. And maybe that would happen. So rates would go down. And that's where we need to be. So we can't be thinking on the back of our minds 'oh he might leave, we need to make sure [that we have someone to replace him]'. I think we are smart enough to know that we have cover in every area. (Manager A)

This ‘dialogue’, between organisation and customer, is constant and it involves the physical presence of customer representatives in the facilities, thus direct feedback:

A member of the team responsible for welcoming them on the premises says:

> One of the big ones that we've been having problems with all the time is the internal maintenance of machinery. It is important for any customer to know that you are maintaining your machinery. Because if they give you a big contract and your machines are falling to pieces what are the chances of completing that contract. So they want that, that's part of your process. They check your machines on a regular basis. (Manager A)

A review of the minutes of the Managers' Meeting revealed that within the space of two months three visits were organised by various customers.

In order to make improvements on any issues arising with customers sometimes individual employees will contact a customer with good news:

> Say we had a part in stock and it is not due until the end of July, I can call and say 'can you change the date to the 25th of May?', a week early. If you send something beyond that we get penalised for our deliveries. [Customer's name] have got a rank. If you deliver within that time scale you're going to get the top. If you are out that, you're going to be sitting in the bottom. (Team member 1A)

With the customer being the final judge for what the organisation delivers, internally, there is a long standing tradition on what priorities the organisation has and how to go about achieving its targets. **Values directing action and reaction** are set in place to enhance the best qualities internally and surface the best practices so that all can benefit.

Particular attention is placed on the process of continuous improvement. This is

meant to include anything from feedback from customers, remedial action all the way to listening to staff members' concerns over possible obstacles in manufacturing. As the Quality Manual points out in a section on company objectives:

> In a global environment, competitiveness, continuous product improvements and customer satisfaction are synonymous with success. The objectives of Parkside are to manufacture and deliver a diverse range of products that satisfy customer requirements whilst striving to continuously improve product quality, employee skills, operating efficiency and performance.

And then the manual explains how to go about achieving these objectives through utilising its management team in the annual Management Review:

> Top management shall review the QMS [Quality Management System] annually to ensure its continuing suitability, adequacy and effectiveness. This review shall include assessing opportunities for improvement and the need for changes to the QMS, including the quality policy and objectives. Records (management review meeting minutes) are maintained.
>
> Review input: Items that will appear on the agenda include: a. results of internal, customer and regulatory audits, b. customer feedback, c. process performance and product conformity, d. status of preventive and corrective actions, e. follow up actions from previous management reviews, f. recommendations for improvement, g. review of quality objectives and quality policy, h. changes that could affect the quality management system.
>
> Review output: The following items will appear in the meeting minutes: a. an improvement of the effectiveness of the quality management system and its processes, b. improvement of the product related to customer requirements, c. resource needs.

The point on 'internal, customer and regulatory audits' is best portrayed by a comment made in reaction to the impending ISO re-certification:

> [Quality Assurance Manager] will go through and check as a matter-of-course. As the auditors within the company, should audit each department for each procedure to make sure it’s been maintained. What we normally have is a technical audit where we start with the customer's audit and we go through to the dispatch note. [He] does that quite regularly. He would check as he goes through different procedures to see that everybody is adhering to the procedures and making sure that everything is going as it should. (Manager A)

This is supported by sections of the Quality Manual:

> Internal audit: Parkside conducts internal audits at planned intervals to determine whether the quality management system: a. conforms to the planned arrangements, to the requirements of EN9100 and to the quality management

> system requirements established by Parkside, b. is effectively implemented and maintained.

An internal audit carried out on a section of the factory resulted in some corrective action being taken. The manager responsible for that department recalls:

> [Quality Assurance Manager] recently audited the [department] and I was there at the time. We had a lot of new staff so I was down there for the audit. And he picked up on two or three things that he wasn't happy about. So what we do is we get time to put the corrective action in place and make sure the procedures are put in place. It can be the case, every time that somebody did an audit they found some procedures not being carried out. So what happens is that...it is the case for the manager in that area to make sure that it is corrected and the procedures are put in place again. The training is carried out again. (Manager A)

This manager gave an example of what could be picked up on an internal audit and how immediate remedial action was taken:

> We had a case recently where a guy in the [department] they were getting components in, maybe two or three thousand components. And the customer wanted, say we had 2500 in stock and the customer asked us 'we want 2450'. So what they would do is; the guy would take 50 components from the batch and send the 2450. Without counting. He only counted the 50 out. So this quantity was wrong. So my corrective action was; I explained to them: 'you must count the batch out. You are the last person to touch it, you counted it'. And they said to me 'the [other department] counted it'. And I say 'I don't care, they can make mistakes as well. It is up to you'. So I gave them both a memo. Not just the guy that counted them. I gave both the guys a memo stating – 'you count the batch'. If there is 101 in a batch, and you send me 100, you don't count the 1 out. You count the 100 and take what is left. (Manager A)

On the issue of preventative and corrective actions taken to supplement the on-going accomplishment of the organisation as a committed entity to improvement, the Quality Manual explicitly states that:

> Improvement: Continual improvement: Parkside continually improves the effectiveness of the quality management system through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventative actions and management review. Parkside monitors the implementation of improvement activities and evaluates the effectiveness of the results
> Corrective action: Parkside takes action to eliminate the cause(s) of nonconformities in order to prevent recurrence in accordance with Quality Assurance Procedure 14 – Corrective Preventative action. Corrective actions are appropriate to the effects of the nonconformities encountered.
> Preventative action: Parkside determines action to eliminate the causes of potential nonconformities in order to prevent their occurrence in accordance with Quality Assurance Procedure 14 – Corrective Preventative action. Preventative actions are appropriate to the effects of the potential problems.

This can be visualised with an example on the internal fault procedure given by a member of the management team:

> We have a form, whereby the person that finds the fault, ticks what the fault is. Because what we are trying to do is pin point where most of the faults are coming from. So what we intended doing was we had a kind of chart and it said like e.g. sharp edges on a component. If it was sharp edges and that was maybe two or three failures because of that, what happened was that, we would be able to...once we recorded the data we could look at the data and maybe run a graph or something and it would show you that's the point that we have to...you know, try and do some work on'. (Manager A)

People around the organisation are encouraged to speak up and share any ideas for improvements. Apart from auditing and discovering any wrong-doings after the fact, people are empowered to be pre-emptive. The Quality Manual puts this rather clearly:

> Empowerment: all employees are empowered to submit requests for corrective or preventative action to affect and improve Parkside and its processes and their own experience at Parkside. All employees are empowered to stop production when nonconformities are encountered.

Sure enough this is the case at the manufacturing level, as explained by the manager:

> When some of the new stuff comes in we tend to sort of dissect it. The dissection can sometimes stop at management. But I've seen quite repeatedly the dissection fall right to the shop floor. And before we try and dip into the problematic area of not being able to do the job the guys [core people] have a process in place that when the cards are printed they put them all to sort of cast an eye-over. And if they see any misdemeanours or any problems they have the chance to come back and really it is myself that sits with them, and how they're thinking, and how they're going to get to the end product and what they're going to buy what they need. So there are a lot of times where the guys, the core guys, have come back with totally different ideas of what everybody else thinks and a lot of the times, yes, it is an improvement. (Manager D)

Enabled through the values of the organisation to become part of its success, employees of all ranks continuously bring forward issues pertaining to improvements and cost savings. An employee who checks end-product against specifications recalled on how a problem she encountered and the remedial action taken to resolve it became part of the organisation's practice:

> We had inspected [customer name] cables. And I don't know what happened but one time I inspected and the length was wrong [for the whole batch]. There was

> a mistake, I don't know what happened. And then we changed the inspection [process]. We did...when I get the first off cable, I inspect it and the other inspector inspects it as well. So for that kind of cable we do double inspection. Because it just happened and we have a really big customer and we don't want to lose them so we do that double [checking]. Only for that customer. Cause we don't want to send the wrong cables to them. The boss thought it is the best way; when we do that type of cable, double check. Because you know sometimes we have mistakes as well, so we've changed that. But it never happened again. (Team member 1E)

A manager who is not an internal auditor commended on the wealth of knowledge inside the organisation by reflecting on his own practice:

> I think a lot of the times we don't bother asking our people, the guys that are doing the job, what is the best way to fix it. To stop it from happening again. We just go and put in place, as managers, we go and put in place our ideas. And they're may not always be right. (Manager A)

He adds that the purpose of corrective action is not to reprimand. He concentrates on a situation where a member of the team completely missed a procedure repeatedly:

> You have to do an investigation and obviously find out what's happened. But in doing that investigation you think, one, you'll give them that much of a fright that they make sure they do it next time. So there would be no neglect. And secondly if it is bad training, we can address that at the time and correct that and put that into the training so that if somebody else is given the job at a later stage, those details are in there. They know that, so they don't make that mistake. The idea of any corrective action is to make sure...that the particular problem doesn't occur in any facet, [in] any work that you are doing. (Manager A)

So the statements in the Quality Manual reflect what takes place in daily life and perhaps what the manual states is what people are expected to follow:

> Measurement, Analysis & Improvement: Parkside plans and implements the monitoring, measurement, analysis and improvement processes needed: a. to demonstrate conformity to product requirements, b. to ensure conformity of the quality management system, c. to continually improve the effectiveness of the quality management system.

The latter explains the close relationship between current practices and updating the manual to reflect that:

> During management review, Parkside's management determines and provides the resources needed to implement and maintain the quality management system and continually improve its effectiveness. Resources needed to enhance customer satisfaction by meeting customer requirements are also determined and provided.

In an instance where organisational values direct actions, is the example of contract review; ensuring that all orders are thoroughly evaluated against all possibilities. The manager in charge explains:

> We put it through contract review. It is a procedure where Sales checks the order when it comes in; it has the correct part number, the correct price, quantity, is the price correctly recorded, release requirements etc. So if there is a problem we have to go back to customer then and there. We have the contract review stamp. It is a box, so you got Sales, Manufacturing, and Quality. It gets passed from Sales to Quality and they will check it for Quality Requirements...are we capable of releasing it. Then they sign and it goes back to [manager's name] who looks at the Production side, looks at material, looks at how it's made and can we do it. Then he stamps it and then we generate the internal paperwork. (Manager C)

This commitment is part and parcel of what 'we stand for'. For example being proactive and trying to save money for the company:

> I try and bulk the materials together, take all my steel and my aluminium and try and bulk it. Just to keep the costs down a bit. And also saves on carriage as well. If there's two or three within a week, I'll pull them through the same delivery again to avoid carriage costs. I try and bulk as much as possible. (Manager B)

Continuous improvement also refers to the skills and capabilities of teams and the possibility of improving that systematically. The theme of improvement permeates and in the way people think and act and it is beyond a systematic procedure of the Quality Manual. The manager of the largest group of employees contrasts with other organisations' practices on meetings and finds that their practice is insufficient:

> It is like those places you hear of, that have meetings every Mondays. The only ones that have a meeting every Monday is us – the Management side of it. (Manager D)

At the time of my research the management team were asked to improve on their training records to set up a procedure ready for the ISO re-certification audit. So there was a realisation that their current practices could be greatly improved:

> As far as training is concerned I think like everybody else we can be much better.

> You don't take somebody on to sack them. You bring them to do the job. And then if they can't do the job...the problem we have here, like many companies is we take people on and we hang on to them even though they can't do the job...in

> here we need to actually decide much quicker whether somebody should go for the job and then get rid of them if they aren't. Or move them on.
>
> [on setting up Job Descriptions for all the posts in his team] that's a starting point where we should be. Because if we know what the job is going to be and then that person ticks all the boxes, that's me going down the list of requirements. (Manager A)

At the same time this manager talks about his interpretation of the values of the organisation regarding work ethic in his team and the standards he hold for himself:

> Everybody is contributing to it. Everybody contributes to good deliveries and everybody contributes to bad deliveries. It's just how it is. But it is everybody's responsibility and until we measure things we will never know where we are going wrong.
>
> What it comes down to is discipline. It is like a school. If you want your children to behave you need to show them exactly what they need to be doing. If they don't know where the line is drawn they can cross it whenever they want. So from my point of view they need to know – no late-ism, no absenteeism, no mobile phones.
>
> The first rule for me is that, if somebody comes in and they work that's fine. The second thing is they have to learn the job. And if they can't learn the job then that's no good. But the first thing is they have to work. I can't do anything else unless they work – if they don't then they're no good to me. They go.
>
> When I take anybody on, the first thing I say is you need to be here on time, you need to be here every day and you need to work. If they're not doing the right things, that's my problem. And I need to show them that. But if they work they'll learn the work. Cause there's nothing hard here to do. Anybody can do my work. But if somebody works hard at it, then they'll learn it really well. (Manager A)

His insistence on these values became evident when he had elaborated on a recent incident revolving a team member being late for work:

> [He] was late the other week twice within a month and if you are late two or three times in a month you get a letter. It is standard practice. We have a strict discipline procedure for lateness. We have to go through two or three different steps. (Manager A)

And he explains the consequences on the whole organisation as a result of one employee being seen to trespass expected behaviour:

> If I allow [him] to be late, as an example, then the rest might see that as an opportunity for them to do the same. The easiest way to do that is to draw the line and nobody can cross that line. That's all they need to know. The rules are

there, they're written down. They are aware. And the same with attendance. And it is also the same with efficiency and their effectiveness.

In here we are working for Production...we need to work in the same manner as they do in the shop floor. Because their rules apply to us as well. So if these guys are coming in, and they have to be in at 6 o'clock in the morning and they are late. What happens if they are a key holder and the two key holders are late, or don't turn up. Everybody is standing out[side] the door and they can't get in. So are you going to penalise key holders for being late only or everybody is treated the same. When you have a deadline to meet in production and we can't afford to be off or be late or be anything like that, we need them to be there because basically our efficiencies and everything are measured [through] Production [and] is critical that we give them support to do their job. Because predominately we are a manufacturing company, so we have to live by the same rules as them, so that's really why we do it. And I am for enforcing these rules. (Manager A)

Organising theme: Managing for Success This organising theme pertains to the fundamental role of management in interpreting values and setting parameters around the organisation, acting as a custodian for its past, future and present. It is not presenting itself as something separate from its employees; on the contrary there is a strong egalitarian attitude here. Hence it is a form of hierarchical management system that has been adapted for the needs of this organisation thus **conducive to organisational aims.**

The company is part of a cluster of businesses, however the owners communicate directly only through the CEO of the company:

[Our CEO] has a meeting with them once a month. And obviously, he is the manager and he is on the Board. That's where the liaising goes through. It's not something that they would come directly to the managers internally. They don't hold a hammer over your head and say, you know, 'do that and do that'. It is left for [our CEO] to deal; he gives the orders, if you want to call it that. (Manager C)

This approach allows the organisation to establish a unique identity. The case of internal promotion is telling of what values are highlighted to all staff members as important. But simultaneously the line that is pursued in order to create a group of people sharing the same focus for the future:

There was the sudden death of [colleague whose job I applied] and there was obviously a position available and I thought well, 'I'll try for that'. So I spoke

> with [my then Manager] first of all and he says 'I'll speak to the CEO about that' and then I was fortunate enough to get the job. My experience was virtually zero. (Manager C)

However a background on where he is coming from sheds light as to what he is bringing in this position:

> I know the product, that's bonus for me. If I was walking in a new company, I wouldn't, never...it would be impossible. But it is because of the experience I've gained in production side and knowing what we can do, knowing what are our capabilities.
>
> I started eight years ago […] I was doing buying material, buying manufacturing components, buying consumables, tools. I did that for two years, just over two years. Then I moved into the stores department, which was before we had a department of store and we had a department of dispatch, so we joined together both and there was me in charge of both. I helped putting them together. Before I came here I was in a company [name]. I was an inventory supervisor. So I suggested 'why not look at this and join together', having store and dispatch on the same team".
>
> This was for three years. And then [manager's name] lost a couple of people and he says...he was looking for someone else. At the time we were quite quiet and maybe there was no need to have myself down at the stores. They thought if we get you besides [manager's name] and we make one of the stores person up to supervisory role and he can control some but not everything and you can be still head of this but be up here [in the administrative offices]. So that's when I came back upstairs and worked at the Planning. (Manager C)

Retaining experience is the job of all managers and especially more so as you go up the hierarchy ladder:

> You know you don't get many jobs that don't have a bit of pressure involved at this level. And the CEO has to recognise that and he has to say 'he needs a wee bit more money' or 'maybe he needs a bit more time to himself' and speak to him. He, [CEO] that's part of his job. He doesn't want people leaving or retiring early because you will just have to replace them. And that's a big job for him. If you can keep somebody there's much less expense. You're keeping that experience as well. (Manager A)

The CEO is also considered as the overseer of efficiency in all departments. This incident points to the relationship that exists amongst the management team. The manager is recalling the time that he and his employees received this verbal warning from the CEO:

> He said to me yesterday 'the [work of this department] is a disgrace. If you have people in this department who can't do their job you know what you need to do.

> They'll not be here'. The two people that work for me were sitting there at the time. So they know what his thoughts are. They know what I'm going to have to do if they can't do the job. He is just telling [me], he is reiterating what my responsibility is toward them. He's telling me 'you know what the situation is if they can't do the job or anybody in [your] department can't do their job, you're not going to be here'. He is sanctioning me and probably making it easier because he is enlightened them to the fact that something is going to give. (Manager A)

This warning was not considered as direct intervention, rather as a welcomed aid to speed up decision making. This manager later had to let one of his employees go upon the end of his three month probation period.

At other times his experience and knowledge is actively sought out and this helps to view how a manager, at any level, is not a figure head who resides in the ivory tower. It is their knowledge that allows them to occupy such positions.

The employee responsible for raw material purchasing shared this:

> Because of the raw materials the cost, particularly steel and bronze, copper that sort of material, they fluctuate. Especially copper and you struggle to get a fixed deal on copper because of the way it's going up and down. The supplier won't take the risk [to give us a fixed deal, fixed price]. Sometimes the CEO will say [to me] 'we can't afford to do that'. (Manager B)

In the managers' meeting minutes the following were noted:

> The CEO suggested that the [statistical monitoring] should be more rigorously monitored, this was agreed.
>
> Need to manage rather than fire fight. [It was agreed by] ALL.

There are of course disagreements about the way he does his managing:

> The mentality comes from the CEO – that we have a budget [to meet] but the biggest problem with that mentality is been pushed to the shop floor and they understand that we have to make the budget because the biggest requirement is to satisfy the shareholders. But what he [CEO] forgets and loses sight of is that is not how you keep a business. You keep a business by keeping your customers and keeping them happy. So we need to hit the budget but the way we hit budget is we hit the delivery dates on time. We are aiming at the financial target and we're not getting the target for the customer. We need to change mentality. It is not the people. It is the management. It must be the management that changes and there's one man who can control that, the [CEO]. The guy at the top. It must come from him. You won't get change unless he drives it. (Manager A)

Despite frictions and differences, the organisational chart is 'respected' as the best possible way to run the organisation because such **hierarchy defines accountability**. Being accountable is a direct result of awareness of your responsibility towards and for others. But also for the knowledge and experience accumulated within some positions in the organisation and the people who occupy them.

Below are some comments employees made about how they view their relationship with their managers.

An employee being for five years with the organisation:

> If I have a problem then I need to go see my manager. [He] is the person and we need to ask him and tell him that this is the problem and [he] is the person who tells you what you need to do. (Team member 1E)

An employee employed for eighteen months:

> I always go back and ask him how I'm getting on. And he's saying keep doing what you are doing, coming in time, just get my head down do what I should be doing and I'll be fine. The only thing he doesn't want me to do, is do things off my own back. A couple of times I've gone and done that and it's come for the worst, it's come for the best...so I need to watch that. Anything, I sort of ask for help if I'm not sure.
>
> He is the only person I report [to]. If I go to somebody else and they tell me to do that and I go and do that and then [he] would say 'why did you do that, I never told you. They're not your boss, you should have asked me'. (Team member 1A)

And a person working for eight years but new at this post:

> The important decisions, the decisions that affect the business, I always go through with [my manager]. If there was someone on the phone, and they were to cancel their order then it would go through to [him]. 99% of the decisions I make myself but would always, being in [this position] for only five months, you know, I always check with him what I'm doing, whether it is going to...have an impact on [the company].
>
> I would discuss with him. I'm looking at going to Ireland this month. I try if I'm going away to visit at least 2 [customers]. So I always tie up with [him]. If I'm visiting somebody in Ireland, they have an inquiry with us, we're just about to get the order [I'll ask] 'is that okay?'. And if he thought 'that's just a waste of time', he would just say it. If he thought I was going the wrong direction he would say [so]. (Manager C)

A middle manager explains his responsibilities and what accountability means for him:

> If I have an issue with someone I have to fix it. I've had to lay off people before. As a manager, [the CEO] expects all his managers to do the hiring and the

> firing. As far as I am concerned, in my job...I don't waiver. If I make a decision...if that guy doesn't help, if he can't round what I'm showing him, then he is not good to me. And it is not the first time. Numerous times in the past I have fired people. You've got to. It's a horrible side of the job but you've got to. (Manager A)

So for example once he had to let a person go under unsavoury circumstances. However the rationale remains a constant, the person was not efficient:

> There was a guy who worked here in [department] and he wasn't doing the job. I went out and said 'just finish up, you can leave now'. And that was it. I've done that a few times. I had another guy that was always late. And I warned him so I said to the guy who was in charge [of that section] 'don't let him start; send him right up the stairs'. I said 'listen you can just leave'. He was on his knees begging me to keep his job and I had to tell him 'up you get and out. I'll come with you' – and I take him to the door. I had to push him through the door and say 'you're no good to me'. (Manager A)

His commitment to efficiency rests on the principle that:

> It's a horrible situation to be in, for me and for him. But something has to give. It is not a charity. (Manager A)

When referring to letting one of the team members go because he has not picked up the pace of his productivity.

Of at times such over-familiarity and the unclear boundaries of responsibility and where it ultimately lies can cause friction. As the hiring of that particular employee was deemed to be a failure, a reflection on his initial perceptions of the then candidate emerged and an explanation as to why, although he had doubts, he selected him to be part of his team:

> He [my manager] was the one who highlighted the CV. He said, 'look at that guy'. And I was suspicious at the time because I said 'it looks good, he's done everything'. But my worry was that he had been in and out of jobs many many jobs in the space of his working career. And that to me rings an alarm bell. If someone's been in a job for a long time, that tells me he can do it, they've been of some use. If they've been from job to job, initially until they find where exactly they want to be, if they like that job or not. But then once they get the job you would expect them to stay there for at least five or six years. And that didn't appear on that CV. And that told me something. (Manager A)

In another recent example, the same middle manager points out that, receiving orders and instructions is part of doing his job. Even though he disagrees, he nonetheless:

> Because he's [CEO] known me, and worked with me, he can speak to me and say what he wants and we have a relationship where he is...as far as I am concerned, he is the boss. I give him that respect and that is correct. That's exactly the way it should be, he's my boss.
>
> I will take criticism any day of the week from him. Provided that criticism is valid. If I find out there is a problem with what he is saying to me, yes, I'll tell him. I'm not going to sit there and take criticism for no reason.
>
> He can say to me 'how long has that been on your desk?'. And I'll say, 'two or three days'. Because I have to prioritise, I can't do everything. So where do I go from there. I need to have the ability to prioritise my work. And if he wants me to prioritise in a certain manner, then I'll do that. But he has to understand that if I'm doing that, I can't be doing something else. My day is filled up with work. I can juggle things around but it means some jobs I am not going to get to. Not right away, and they will be put on the back burner for two or three days where the other one was. That's where I am at. And he needs to understand that. (Manager A)

Being hierarchical and engaging in a command and control exercise of power, is too singular an approach to the values this organisation reflects in its choice of management and it would not be conducive to where it wants to be in the future. A strong **system of checks and balances** ensures that all levels of employees participate in their organisation's stability and change. As mentioned above, they are 'constitutionally' empowered to do so by the Quality Manual.

For instance they have a monthly Managers' meeting. At a first glance, the agenda for the meeting seems to have many repetitions of the same points. I ask the manager whose name is initialled next to the point:

> [The managers' meeting minutes, there are always the same things coming up on the agenda like things from last year]. What tends to happen is that if a minute is not actioned, if there is an action point from the last meeting, is left on there and there's a date on it from when it was put in. And it rolls on and on until something is done. Until we have a satisfactory end to the problem.
>
> What normally will happen is that [the CEO] will say 'this is wrong, but it was on there last month' and he will say to me possibly 'When are you going to have this complete?'. And I'll say 'it will be finished by the end of this month' and he'll say 'okay put end of the month' [on the typed up minutes]. And if it fails then he'll say 'right you've failed; why?, okay then next month it must be complete'. And then if you don't do it you get into trouble, obviously. Obviously...it is very important point, anything that's raised in the minutes it is usually of some importance and we have to action it as soon as possible.
>
> [The CEO] sits with that list and goes through that on a weekly basis or every

> two weeks. And he writes down who is responsible for each part. If I have given him an answer on a big customer he'll put my name next to that. And then he'll know that I gave him these answers and he'll go 'right why did that not happen, why did that not move and go through?'. We need to give him a reasonable explanation as to why certain things failed. Because ultimately we do, this is [my department, my responsibility]. (Manager A)

Another way strongly visible is the creation of 'safety nets' all around the production process. An interviewee spoke of such safety nets as an outcome of experience and trust on the 'kind' of people working here:

> The expectations of them are to catch any misdemeanours there [at the administrative level, before it reaches production]. If they don't then you're hoping that the guys in the shop floor will catch it. And it's not been the first time that it's come through here...it's come through the second level and it's only when the guys come to manufacture it in the shop floor then they'll come to me and say 'this isn't going to work'. And from there to come back to me through the process [through the chain of command]. And sometimes it just stops the job dead in its tracks till one of us has decided that this is the way is going to be made now, you then got to go and change all the drawings.

> Because a lot of the times when it is heard at a level through the shop floor a lot of the times you cannot actually progress with the job until that sort of idea is put forward. There's a lot of the time [where] the situation is forced on them and they're on there and sometimes it is a case where you don't have a lot of time with some jobs; where the guys will just start on with them. As they progress through the different operations of the job, they can clock that there was something else that could be improved on that and very quickly they will come back up telling that they will change this and that and everything is in a lot for the next time you do the job. If it is an improvement, then it's basically re-moulded and re-modified. It becomes part of the process. So this happens on a very regular basis. And again it will only be the core people that will come back with that. Because again it is these guys that have the knowledge to think that bit further, than you're stuck doing it this way. They're always looking...there's one or two always looking to try and change and better and benefit. (Manager D)

In other forms of checks and balances, the employees at the shop floor are also under a separate employment regime. They have different pay agreement and a much shorter notice period:

> The people on the shop floor don't get paid [if they call in sick]. They're off, they get nothing. It [sick pay] is part of their salary agreement. But they're on hourly rate. [The reason is] if I've got people saying 'I can't be bothered coming in today, I'm just going to take tomorrow off'. (Manager A)

Organising theme: Creating rapport In this theme, how employees create a sense of community through projecting their organisational values, interpret and take ownership is explored. Being a *continuous* accomplishment, stability and change rest on redefining the values, interpreting and de-constructing them from the messages they receive from their managers and the documents given to them.

In defining rapport with each other, one of the most essential factors was how **efficient informal communication** is.

The Employee Manual states:

> Employee communications: Good communications are vital to the success of our company and to the good relationships with all concerned. Good communication promotes better understanding between us, Day to Day communication with your Supervisor, Manager and colleagues is obviously an important part but there are other channels of communication such as the Notice Board and company Newsletter. Check regularly for any new notices, which may affect your employment.

As a one-site organisation, the interactions are always immediate and the aim is to exchange information to ensure that all are 'on board' about issues arising both at the manufacturing and administrative level. A manager notes that the monthly Managers' meeting is not the only place where he receives information from:

> On a weekly basis we have a meeting on Monday morning at 9'clock and all the managers are there and we go through, just everybody gets to raise points that are of some importance. If we have something coming up, just as an example, a machine has broken down, we chase that and everybody is aware that we have that problem. On Monday [we hear] what the intake was for that week and any costs that have been incurred by the company, any changes in the stock. So make sure that everyone knows what's going on for that week and what's needed that week. (Manager A)

Another interviewee expressed his perception of why the physical closeness plays a factor in picking up on any issues arising within the company:

> To be quite honest is quite close handed communication because we all sort of involved in a day-to-day basis and we're sort of hair-breadth away from the sort of hand-on situation. So you then come into contact with these people almost every hour every day. If there is anything untoward going on usually it surfaces and you got to deal with it. If there is anything they don't want to tell you then there's not really much you can do. (Manager C)

Proximity thus encourages prompt resolution of issues arising within a day. Interviewees noted these instances:

> Most of the time is logging on to your job [the problem arising most frequently]. That's one of the awkward parts. Obviously have to go and see [manager] and get an operation added.

> If I have a problem then I need to go and see my manager. [He] is the person and we need to ask him and tell him that this is the problem and [he] is the person who tells you what you need to do. (Team member 2E)

And as managers, they are making themselves available:

> My job is to make sure that everything here is going okay. If [team member] has got any problems, or other [team members]. Then my job is to liaise with them and see [how to resolve it]. [One member asked me] 'what is this part, do we need it? The system tells me we need it, I don't think we need it'. So he would ask me and then we would decide if we need to change the set-up of the part in the system. Because there's something wrong or it's calling up the wrong part and we need to change that. (Manager A)

Exchanging information quickly and accurately allows all involved to get back to their tasks and complete their jobs without time being wasted waiting for someone to get back to you. The following team members shared the moments that sought immediate feedback on issues arising on the space of a working day:

> Once you get that order you got to keep looking at the 25th May [supplies delivery expected date]. Right [it is] 25th of May, check if the material is in. If not you got to check why it is still not in and get a new date from [person in charge]. (Team member 1A)

> I have a way of monitoring suppliers. There are two factors, quality and delivery. I normally deal with the delivery side. However if there is a quality issue, I'll get [manager] involved and then I will also be in that. (Manager B)

> [She] usually brings down to me...when someone from the shop floor orders something she'll bring me something down to say that when the 'drill bit comes in it's for so and so' so I'll know for when I book in it is for that guy. (Team member 3A)

The efficiencies earned through informal communication networks extend to savings in the training of new employees. Instead of long induction periods and out-house training courses, the organisation puts a lot of faith on the employees being socialised within as soon as possible and learn to find their way to information

sources, thus becoming more independent faster. Although this was not directly related through the interviews, I had made notes on this issue on my first visit. The following excerpts explain what I had then noticed as a pattern, with the following interview excerpts:

> [Employee with 3 weeks experience] I always like to ask more questions then at least you know you are getting [it] right. In a couple of months' time I might be able to go on a whole day without asking any questions and be happy. But for now I always ask if it is [for example] out to break, if the speed is right. I always double check.
> Sometimes you get an awkward job and you spend a couple of minutes per day chasing out on people, trying to ask what's happened. But most jobs you do have to inquiry about stuff. Especially in [our department] because you don't want to inspect something that is wrong. Need to double check. (Team member 2E)

And the more experienced employee who is also in the same department but has not been assigned to train him, but to oversee him, says:

> I would try and help and see how he does [it] to make it a little easier that way and say 'oh that is fine it is maybe better that way [the way you do it]'. Cause sometimes when he is working in the proof loading and I can see that this is maybe wrong way and it doesn't help for him and sometimes I just go there and I tell him 'listen maybe you need to try that side and maybe that helps for you and that's better. [And he says] alight, that's better. (Team member 1E)

A more experienced employee, but new at this position, again is dependent on his colleague for support as he had limited experience of the job before he took over:

> If there is anything that I need help with, anything at all it would be [my immediate manager]. And to [my team member] to an extent because she's been [in this department] for six, or seven years. So she has internal experience, and pricing experience and making up excuses experience so to a level there is help there from [her]. (Manager C)

> Another employee, with eighteen months with the organisation, reflected back on how he learned to do his job:
> Every so often I would go up to [my manager] and ask 'am I doing this right, what can I do to improve it...is there anything I can work on?'. I was getting feedback from [him]. He was always 'if you're not sure about anything come back and ask'. He doesn't care if you come up four or five or six times about the same thing. He just wants you to get it right. After him saying that I've not been bothered with asking for help. It kind of puts you off if they get annoyed at you. If you keep coming back and back and you don't know if you should go back.
>
> There's still stuff I am not sure of, I'll go back and ask. And I think I'll get it and go try again and sometimes it doesn't work and go back again. (Team member 1A)

This informality, with its gains in efficiency and its assistance in creating a network where people can blend their abilities and learn from each other is considered to be forming **bonds that hold the organisation together**. While informality is perhaps not a conscious decision, but the outcome of financial, historical and contextual influences, the result is that an affinity has emerged amongst the employees.

A sense of dependability on fellow colleagues and their experience has been noted in the data as people indicated how others understand the issues and can be relied upon in various circumstances. One interviewee mentioned his overall perception of his team members:

> The guys you see, they'll stay back, if you need a job done at night, if you need a job done in the morning, they'll stay back, they'll come in on short notice on the weekends if you ask them, so there's guys there that will do exactly, everything that you want off them. Providing that you don't sort of turn the tables on them later on, by doing something they don't want. You know...it's hard. But most of the guys in here, if you're stuck, they will come up and do their utmost to get the jobs out of the door. (Manager D)

He also talks about how delegating power to his high-ranking team members can release some of the stress of being overly-controlling of all processes:

> The charge hands we've put in each area over the years and we deem these core people to be able to follow your instructions and then pass on instructions to the people below them. So it's a long process. There's jobs there that people would pick up on six or twelve months [down the line]. The sort of older guys that have been there...they're rolling. And some of the back-up paid jobs that we have here they will [need] a longer period of two to three years before they're up to the level you like them to be at. (Manager D)

Another manager expresses feelings of loss when the bonds of cooperation were unexpectedly broken:

> It was a ball out of the blue when [team member] said that he was leaving cause I was very disappointed that I couldn't have seen that and talked him round it. He made his mind up, he was leaving, and that was it.
>
> I still loved to have kept him and it would have been good to know that he felt that way. I would still say that if I had the chance I would have loved to have him change his mind and have him stay. It would be far better for us. Then I wouldn't have this trying to recruit people. (Manager A)

Another interviewee told of how sharing responsibility is an on-going process where sharing issues sped up problem resolution. Initially he reflected on a case study he was reading where individual managers were acting very defensive:

> What I think it's trying to tell you, is you have to try and work together and get a bond and try and come up with a plan, so everybody is going to interact, you know, recover the situation wholly, and not just say '*I'm* going to try and get my sales up, *I'm* going to try and visit them, *I'm* going to try and make a new brochure and change the website. [Emphasis in interview]. (Manager C)

When he had decided to move himself and his colleague in the open-space administration room he felt that it would give them an added advantage:

> I wanted to go upstairs [administration offices] and be in the same room. I got second thoughts now, but when we had inquiries coming in, we walked upstairs, put it on someone's desk. So it is a bit slicker this way. If someone is on the phone asking questions, you can put them on hold and say 'what about this?'. Things like that. Just makes us a bit slicker I think. (Manager C)

Such camaraderie is evident in everyday interactions that require a level of awareness of organisational goals (such as efficiency and cooperation) and being personally invested in your work and the people who you work with/for. Two team members with varying levels of competency shared this:

> [Five years with the company] My first training was in component side. I had been training there for two or three months. Then I went to cable side. And I stayed there. Sometimes when I'm not busy I help them and I get components and I do them. (Team member 1E)
> [Three weeks with the company] I started on proof loading. But then the next two weeks I was doing other stuff. But then this week I was put back on proof loading. [Is it a rotation?] No, not really. Is just what department is been busier. The cables are busy just now. Then next week the fittings busier. (Team member 2E)

The former says in relation to the latter:

> He helps me, because sometimes some cables are too long when you are working on the proof load so it is many many hours. So when I work there I can't inspect cables so I spend lots of time there. So he helps me. Before he came here [other team member] was at my side and we worked together. But then he went to component side and I stayed alone and then he [trainee] came and he helps me. (Team member 1E)

A manager explains how he operates in his department which he had recently taken over, while his team member has been occupying that job for six years:

> We sort of try and work together. We don't set out who's doing what, who should be doing that. We work together. It is not I say 'you are doing that, I am doing that'.
>
> I get on with most people in here, and they get on well with me. Cause we are such a small office, staff, everybody gets on well together, there's no divide there. (Manager C)

However these bonds are not all inclusive and some feel left behind:

> [How could things be better improved?]I would say communication between departments. It could be because of where I am [not in the open-plan admin room]. I am over here, what's happening...I don't get told. And they forget all about that I'm over here. Even if it [forwarding an e-mail] doesn't have anything to do with me, just hearing about things. I pick up something later on down the line and say 'oh *that's* happened!'. [Emphasis in interview]. (Team member 4A)

This notion of cooperation as a bonding element was a central theme in the context of creating rapport. However, informality and voluntary cooperation alone was not seen to guarantee an ability to enhance the organisation's effectiveness. Something else was required to ensure it became part of organisational consciousness, a way of **systematising interactions and retaining knowledge** within them for other purposes. The ones that are already in place need to be reviewed for 'fit-for-purpose', while a need arose for others to be put in place to transform informal and local practices, into formal and organisation-wide.

The Quality Manual refers to internal communication:

> Top management shall ensure that appropriate communication processes (such as communication boards and company meetings) are established within the organization and that communication takes place regarding the effectiveness of the quality management system.

In a formalised department meeting, a manager explains how useful it is and the exchange of information that takes place, although no minutes are taken and attendance is not obligatory for him or his team:

> We have the Production meeting where everybody has a list of the requirements for this month, everything that has to go out the door. And we have to review every item on that list. [The Sales manager] goes because if anything comes up he has to inform the customer. [The Quality manager] decides sometimes that he wants to go, especially at the end of the month. And all the guys in [my department] go as well, cause even with our side of things the other [team

> members] need to know what is going on as well and they all have their responsibilities for different orders and different customers so they can give us all the information in the meeting. (Manager A)

And a sense of what is being discussed there:

> You may have jobs that have been scrapped. The material can...you know we had the material the other week, it was promised six months ago, and it was due from the supplier. So we are still waiting and is not here yet. And we have always had problems with this supplier. So we are still waiting and this has cost delays to our customers. And if we fail, sometimes it can be re-worked or sometimes it is scrapped and then we have to start again. Or if a job in the shop floor, someone makes a mess of it and it is scrapped or maybe the job cards [paperwork for each order] are not printed quickly enough for them, or the material is not coming early enough. Cause if we get a quick time [delivery date to the customer] on the job you would expect the job card, all the paper work to be completed and the job card for the shop floor to be down in maybe a week. If the material is away it's got a knock-on effect. The [Production manager] is unable to start the work and then finish on time. So that's the type of thing that's been brought up in the meeting. (Manager A)

Such interactions are a constant reminder of the various strands of information intersections and the way it affects individual decision-making. Without it, ignorance is the enemy. So if you are not attending, in this particular case, you cannot get the information from somewhere else.

This is a concern for people because the organisation's safety net is nearing retirement age. Managers and the highly skilled shop floor engineers have to come up with ways to systematise their processes, actions and information-collection to be able to either train someone else over the coming years, or leave a trail of their experience in some form for others to peruse. For example two team members recount these moments:

> There are so many different scenarios for when you book in [incoming goods], sometimes I make notes if it is stock or if it is a tool or sometimes I may not know what it is for so I've obviously got to ask. (Team member 3A)

> [This trainee] doesn't write in his book. The other one, he wrote everything. I remember I said something to him and he just wrote it. He wrote everything in his book. (Team member 1E)

Such optional, selective ways to learning your job has been viewed as temperamental and unreliable. However there are limitations as to how to systematically retain knowledge created and in what form, so that it can be both stable and evolving, thus

appropriate for this company:

> Any person coming in I would do the interview and then I would do the training. I carry the Induction, I bring them in and then I plan the training as well. I know what we need to do, but we need something more formal now.

> The fortunate thing for me is that I am here, in my department and I can keep an eye on it and if anybody needs help I just go on the spot and help them. But as a company, as a whole, we are not good in that department [training]. I said to [my manager], my qualification to train people is zero. I am an engineer; I came through the shop floor. I instructed people and I have experience of instructing people on how to do a job but you know...I don't think anyone in here has had any formal training on teaching skills. (Manager A)

Elsewhere, another manager is setting up a process for on-going trainee evaluations. Establishing a systematic review of skills means that the information is in some shape and form within the organisation and not solely in instances of practice:

> This is what the charge hands have [a form] just over the last year. We've given the charge hands, you see the charge hand signature there, and it is my signature you see underneath. So if we think that they [trainees] have done 'that' and they can do 'that'. It basically lets you know that we have signed that off through not just ourselves [managers]. We have taken the charge hand - the guy that works in the feet of it as well. Then what we do we say 'right bring him in, I want to see him'. The moment it [form] goes through and if there is anything that is in there, for example what you do when it is sort of pushed to set a task and say 'okay, you've done this, you've done that'. We're trying to select two or three jobs. They've done them on their own, no help and see if they can actually achieve [expected end result]. (Manager D)

Summary of Thematic Network A

This thematic network presented data under the Global Theme of 'Stability and Change are Continuous Accomplishments'. What this phrase links together, is the organisation's values, approach to managing these values and how these values emerge and are negotiated amongst members.

Within the first organising theme, on **stability rests on values** issues of organisational values were explored and their impact as shared values bears on the organisation's culture and how it motivates members to behave was introduced. Data indicated that the industry the organisation operates in is always changing and thus in order for themselves to be leaders in the field they need to hold on to their own values and became a stable force amongst the variations. There is an acceptance that their organisation is in constant flux (Tsoukas, 1996) because inherently it continually processes knowledge although this is seen primarily as an opportunity to evolve. One way this is done is by aligning organisational values with individual values and vice versa. Nonaka (1991) explains that organisations have a 'collective sense of identity' (p.97) that can be understood as a shared understanding of what the company stands for, where is it going, what kind of world it wants to live in and how to go about making this 'world' a reality. Individuals who are thus involved in the creation of this shared expectation 'enact sets of generalizations' (Tsoukas & Vladimirou, 2002, p.983) that have historically evolved as collective understandings of how tasks are accomplished. The historical conditions (Gherardi, 2000a; Boreham & Morgan, 2004) that produced organisational practices, have made them thus into the accepted ways of behaving. People also grasp rules by observing regularity in what those around them do (Giddens, 1977)

If they are reproduced unreflectively they can become institutionalised as the governing and accepted ways of doing and performing (Geiger, 2009). Yet people's values and beliefs have a powerful impact on the organisation's knowledge (Davenport & Prusak, 2000) usually done through participation in routines (Lundberg, 1995) and cannot be taken as 'unreflective' simply because they are the result of action. Giddens (1979) defines this relationship of the (re)production of the world through agent's actions, to encompass conscious and unconscious aspects of cognition and emotion explaining that organisational members are motivated to act by more than just 'habit' and expectations. Their behaviour is set within an

organisational culture, a culture that reflects this organisation's knowledge (Bollinger & Smith, 2001) and is evident as the institutionalised aspects of the organisation's activities (Spender, 1996).

The following organising theme on **managing for success** draws on how these values that energise the organisation are also visible in the way it is managed and driven towards meeting its public aim of being an industry leader. It has been noted in the literature that those in charge of the organisation can control the future behaviour of the organisation using the past to make 'rational progress towards a desired future' (Nicolini & Meznar, 1995, p.741) doing this through adopting an accepted and socially accountable behaviour. The case study organisation constructs its identity by transforming its past choices, experiments, inventions and decisions into knowledge that its members can be socialised into. It does so by using a hierarchical system of management. Although this evolved as the best way to operate the business model it carries; it also incorporates many checks and balances along the management ladder in a form of distributed responsibility for organisational success.

In this way, management, can manage learning within the organisation by institutionalising the process of learning (Nicolini & Meznar, 1995) it favours so that it strengthens it common identity. Such an activity, of organising, creating, cascading and using knowledge must lie at the core of an organisation's activity (Roth, 2003) with management coordinating purposeful individuals who use their unique interpretations to resolve the issues that arise in their work (Tsoukas, 1996). Meaning that the best way to run the organisation is actually through managing knowledge and action through practice rather than expecting all members to conform to an expected behaviour that most probably will not suffice to confront the varied circumstances that arise in the workplace.

With the Theory of Structuration we can understand how within organising, behaviours can be modified and adjusted to generate expected outcomes. Organisations wish to generate competence by developing people's capacity to enact 'useful practices' (Orlikowski, 2002, p.253) – those practices that are most beneficial to the organisation's success. They do this by drawing on their power, what Giddens calls 'power as a sub-category of transformative capacity' (1979, p.93) where power is understood as the capability actors have to secure outcomes through the agency of

others. The power relations that are generated as a result of organising moderate how learning happens or does not happen in the organisation (Vince, 2001). However such power relations conceal the reproduced relationship between autonomy and dependence evident in our social interactions (Giddens, 1979); they are never between those dominating and those being dominated but rather an acceptance of roles and behaviours in action. Giddens acknowledges nevertheless that strategically placed actors undertake selective 'information filtering' (1984, p.28) where the conditions that regulate reproduction of the social system can be regulated to either keep things as they are or change them in an effort to steer the organisation towards their desired route. The role and power of those in charge cannot be understated in the case organisation despite recognising the importance of experience and knowledge in decision making. It is evident that management here is aiming to create for their organisation a sustainable competitive advantage from their niche knowledge base. This depends on the speed at which it can generate, capture and disseminate knowledge (Sharkie, 2003) and convert this contextual knowledge into capabilities that cannot be easily copied by competitors. Organisational members' skills and know-how need to be nurtured by managers in order to develop this competitive advantage further.

In the last organising theme, **creating rapport**, themes surrounding the preferred communication way of the organisation in getting its values across members to elicit the type of behaviour that would normalise its values were grouped together. What was brought up in this stream was about the outcome of this engagement for organisational dynamics and the purposiveness of communication channels, cooperation amongst teams and the expression of knowledge. For coordinated action to be achieved in the organisation it is particularly important that apart from those higher up in the hierarchy collecting and managing knowledge; that those lower down the ladder find more and better ways of getting connected and interrelating their knowledge (Tsoukas, 1996). The author suggests viewing the organisation as a 'discursive practice' (p.22) a community and a life form where individuals can come together to share their mental models of common understandings. Making these mental models explicit can actually accelerate individual learning (Kim, 1993). The process of sharing your world view creates a base of shared meaning amongst

members that can contribute to effective coordinated action. Kim (1993) argues that such sharing can ultimately evolve to encompass individuals' current thinking into the organisation's world view. Organisational learning has the capacity to result in associations, cognitive systems and memories (Fiol & Lyles, 1985) that are developed and shared by organisational members in their effort to construct a world that resembles their own assumptions views and aims (D'Adderio, 2008). However just through participating in organisational life and interacting with other members can generate an alignment between what people believe possible and confirmation of their beliefs in the actions of others (Hargadon & Fanelli, 2002) making compromise the outcome rather than imposing a singular, personal perspective. Organisational learning has the positive outcome of building 'widespread understandings of both internal and external circumstances' (Lundberg, 1995, p.13) that cannot be traced to a specific individual and creating instances where employees can negotiate their expectations, views and visions is a great way to bring this together. Giddens (1984) argues that because we monitor the aspects, both social and physical of the contexts in which we operate, forums such as the ones indicated under this organising theme would serve a good starting point for harnessing individual knowledge and perceptions.

Chapter 6: Thematic network B. 'Cyclical nature of Organising'

This thematic network centres on how the values explored in the previous section are exercised and employed to tackle the major issues facing the organisation. Figure 4 displays the network and its accompanying themes. Operating in a changing environment it does not have the luxury to be complacent because there is a real chance that it might distance itself from the core players in the market. Their strength, lying in the uniqueness of the products they manufacture, there is a real pressure to both retain and expand the business cycle, and not only exploit the current product line. Simultaneously to retain the experience of employees and attract new skills that can replace them without interruptions and discontinuity.

Basic Themes	*Organising Themes*	*Global Theme*
10. Changing environment has unavoidable consequences 11. Complacency is the enemy of progress	Active and Passive	Cyclical nature of organising
12. Industry standards enable and constrain 13. Qualified employees crucial in skill-base maintenance	Restrictions but not restricted	

Figure 4: Thematic Network B

Organising theme: Active and Passive This organising theme connects data relating to the external environment and its effects, and the way organisational members understand it and prioritise their response. In this context, actively seeking to mobilise internal assets to engage the market is contrasted to how 'resting on our laurels' can have detrimental effects. Many employees refer to **the changing environment and its unavoidable consequences** by citing what they hear and what they 'sense' is going on outside the organisation.

A manager responsible for customer relations recounts how a meeting with a client reveals how past and present market changes affects them in a dramatic sense:

> I went to this company [customer's name]. [They] used to be really really big customer for us. We did some parts and components for them. Regardless of what the stuff was, they were a big customer. So when three years ago things got quiet in our industry they took more than half of their work back... because they can manufacture the parts themselves as well, but [at the time] because they were so busy they gave us the business. So I think they were third top in

> our customer base. So they were a high volume business for us. So they decided to take the parts back, which you know, can happen if things are quiet, then the first thing the customers will do, they'll take anything back they can manufacture in-house which we would do as well if we were subcontracting work and things were quite, then we would have to take that back. (Manager C)

He continues to say why he is pursuing this customer's business back:

> We need to get ourselves back out there because obviously he [customer's management] was threatening to take the business away elsewhere, and we need to try and get more business from him. Who knows, the business they took back to manufacturing house, might come back here. But if you are performing like that [with delays in delivery] it's not going to come back. (Manager C)

What he perceives is a disparity between what the environment is dictating and how his organisation is reacting:

> We're still fortunate that we're a bit unique, we don't have a lot of competition, but there's more competition than what there was before. People can make assemblies, maybe they don't have our capabilities, maybe they don't have our quality, but you know they can get them. So there are more competitors in machine components which are now the biggest product for us. Machine components are 'up here' [top], while stream lines and the other were 'up here' [used to be top], but obviously they went down. [When you say 'now' and 'then'?] Ten years ago. (Manager C)

A manager dealing with purchasing materials tells of his views on the future and how they have come into being:

> [On supplier contracts] Normally twelve months, some of them, I'll say 80% are twelve months. Going back a few years you were able to get two to three year deals, but now with the way materials are fluctuating they won't go more than twelve months. (Manager B)

The shorter contracts are twinned with problems with delivery and the effect that has on normal processing of production:

> If a supplier comes back and says that...if they have acknowledged the order and everything is fine and they come back and say 'look we got a problem here' then they are in breach of contract. And we are entitled to cancel the order. So there's never really an issue there. If for instance we [procurement] say 'we need to delay this', it can affect everything going down the line. But it can also affect process on the part...various things can change. (Manager B)

A team member shares his understanding of the market leaders that the organisation interacts with it. It leaves little room to manoeuvre and it is shows how cut throat it

can be:

> [Major aeroplane manufacturer] makes demands. If you're not happy with it you don't do business with them. And that's up to you. They have to make sure that the costs are kept down on that aircraft or it's not...they don't have the business, we don't have the business. (Team member 1A)

A manager speaking over the short-sightedness that sometimes exists, attributing this to the fact that they are, at this moment in time, highly profitable, talks about how there is a need to boost efficiency by getting the most of each skilled worker when they are operating a machine:

> The second part [of every manufacturing process] is I've got the sizes and they're all correct, now let's run the process and I'm standing here, the process is running in front of me [the machine is working], I'll just log on the sizes as I go. That's the idea of [statistical control]. And as the size varies, maybe it goes towards the top end of the drawing; they can adjust what they call an offset on the machine. They can adjust the machine. The machine has a screen that says 'reduce the size on this tool' and they can take it down whatever they want and they can bring it back to the level of tolerance. Provided the process is relatively steady and running quite smoothly. But the problem is they're not logging. They've obviously given up again. They're not doing it.
>
> The people in there [shop floor] who are making the job are qualified enough to inspect the work. If they can't inspect the job they can't do the job. So they should be qualified or not more so than anybody in here [final inspection room]. How can you make the job without knowing what you're making? Anybody in there can come and inspect, maybe only their product and maybe they can inspect a range. But they [in final inspection] cannot manufacture anything. They don't know how. So that's the difference.
>
> It's not the fault of anybody in here. What happens is that we have to get far more efficient. We have the ability to manufacture components; the guys there in the machines should be checking every component. If not they should be doing percentage check of what the batch is. And with that evidence coming into [final] inspection, they should be able to do one in ten checks and reduce the rate at which they inspect the components. Yes, some components you can't get away from doing 100%, but the majority of them we can reduce from 100%.
>
> You know there are many companies who don't have a final inspection, even within the aerospace sector. All they do is inspect in the machine floor and...I know one who supplies us. They don't have a final inspection. The guys on the shop floor do the inspection as they do the job. (Manager A)

The issue of impending consequences is starkly pointed by the customer relations manager:

> [Our problem was that] before, the orders would come to us, we didn't need to

> look for orders. Now that was and to some extent we still are very unique. We were this, the only business that could manufacture a lot of this stuff. That's changed, that's changed. Before we didn't have to look for business, because these orders were coming flying, but the environment has changed. Customers are obviously buying less because of the money problems, secondly there's a lot of competition. (Manager C)

While the environmental forces were seen to contain elements of uncertainty and opportunity, the data indicated how there were different levels of urgency in the organisation and the reasons why some employees were more eager to set things into motion, preventing a possible breakdown between 'out there' and 'in here'. The binary active/passive denotes how, in the data this urgency surfaces. Because the organisation is highly successful and thus incremental change might be sufficient to some but not to others who see no reason to be **complacent as that inhibits progress**.

This complacency rests in particular on the success of the product lines. A lot of energy is being spent on ensuring that production runs, even if that is not done smoothly. A senior manager talks about how dependent they all are on repeat business:

> It is very strange in this company because if you go to any other company their salesman goes out and he targets different customers. [For us] the majority of the orders that come in are repeat orders and orders from established customers. They know the product and they know that we are the only ones that do it. We get an order, once or twice from a company in USA. That comes in automatically. We don't have to go and get that order. We wait for these orders to come in. We don't chase these things. They come in. We've had people from New Zealand and Australia come to us for streamlines because we're the only company from all the companies in the world who do it. (Manager A)

He continues:

> This company has a niche market in three or four products. And when you are in a niche market... [for] this company the orders come in automatically for two or three products. People don't know where else to go, they come to us. So we get the cable orders, blading and the stream line wires. They are all products that nobody else does. We get the job orders automatically. People will just phone us up and say 'we've got an order for you – there's [x amount of thousand pounds] worth of orders. If you take that as success; [is due] to the history of this company. The fact that we were in these markets and we have a niche. I would say it is down to the product. (Manager A)

Such reliance on the certain products has allowed for periods of prolonged stability

resulting in strong relationships between employees who have been together for decades. An interviewee finds this has a created a set mentality such as 'set in our ways', something that he considers as a hindrance:

> Things could be better. But there are a lot of people in here who have been here for many years way back when [our company] was [he points outside the window to the expanse, indicating to the distant past when the company had many more units than the single that it is today]. I've worked in places like that years and years ago, the old engineering works [of this city] and it was, not like a holiday camp...it was slow moving. And there are a lot of people in here still like that. They'll not move with the times. And that causes problems as well. (Manager B)

Such problems involve resisting trying new things, for example the following passage revolves around the possible venturing of the organisation into manufacturing a new product for a client. It involved four different managers: the one who brought the order in, the one who priced and calculated the delivery date, the one who was to approve its manufacturing and one who was to set production in motion. It was recounted to me by one interviewee to show how limited the interest is in absorbing new work, even if it is significantly profitable:

> It is something new and we got a quote in [gave the customer our price] and we trebled the price. Once we quoted it, we just trebled the price and they were happy with the price. So for a year they sat there and [this manager] and [that manager] didn't do anything with it. We did then [decided to do something about it] but [one of the managers] said 'we can't really do them; we've got problems' and this and that. I brought him samples, I brought some sample material, we tried and he said he was happy. They gave us drawings, we made our own drawings up, we invested money in getting drawings and then we started making them. And [then the manager] came away and said 'we can't really do them'.
>
> What's the point of me looking at new stuff if this is what's going to happen? Where's the support? (Manager A)

What the data has indicated, as a response to this, is that people are constantly engaged in a situation where their attention is only focused on today's work and not on possible prospects or shortcomings in the future. This possibly obscures any inefficiencies or ineptitudes because as this interviewee puts it:

> We work towards end of the month because we have to hit the budget, because head office [parent company] will be like 'what you're up to? Can you not control the business'. So we hit the budget and we move on to the next month. (Manager A)

The data signified a mentality geared towards the above strategy. Below, two separate interviewees, a manager and a team member share how they understand this mentality being the source of many problems when they are trying to complete their tasks. Their views converge in that the generation of this mentality can be traced to expediency of results rather than absorbing a general perspective of the position of the organisation in the general scheme of things.

The first manager explains how customers demand faster delivery times and how agreeing to do this in order to show increased sales for that month, can lead into a backlog of problems for another department:

> One of the inquiries [customer asking for price and delivery time] could come in January. Maybe the leap time then was two weeks, but it was a quiet time then, we could do it in two weeks. Customer comes back in July, wants to place an order, puts two week delivery in it, then by now we had more orders in, more business, we're busy in that department, we can't do it in two weeks". (Manager C)

> [the manager] would come to me and say 'look, we've got a part there and that's the long leap time – what's the situation with that?' [long leap time: maximum time that the tool can be sent from supplier, thus the production of the order would be 'delayed']. I'll maybe phone, cause as I was saying before its gone from six months to twelve months to eighteen months [supplier's contract] but what I have in place with two of the companies that we deal with, I have got material that we use on regular basis for ring fencing, so I've not bought it but I have it ring fenced. It's a standard material so there's no commitment there; if we decide we don't want it then they can easily sell it. I've managed to do that and it's helped quite a lot. If I hadn't done that we would be in real trouble. These things you have to try and do them. And a lot of these people are working in the front end have no idea how this affects the [department]. (Manager B)

The argument put forward by the latter is that the procedure is not followed and this cascades down to all of them in administration. Being responsible for supporting the manufacturing of products, they have become short-sighted because there's little time to plan and hold your own. If there are constant adjustments to delivery times then the process is always hurried and impossible to control, thus each day is spend catching up:

> Everyone is flying off at different angles doing different things. Not what they are supposed to be doing. And it is because at the outset the information is wrong, the information that's been put in the system is wrong.
> I've worked in a few companies and the product – there was a twelve month

> leap time for some of the products and you got more time. The products we are supplying here it's frantic, it's hectic. (Manager B)

They both conclude that this myopic attitude can be redressed and that can mean simply to take a stronger stance on the values that they have beyond achieving measurable results for the parent company. Re-centring on the customer and making honest commitments to them. The same manager spoke of how 'stopping' and reflecting is what's missing:

> Everything is frantic here. Everything is wanted now and that's because we're just – work is just being crammed in constantly and of course it's good to take a step back and look, and say to the customer 'I'm sorry, we can't do that. This *is* the leap time...' 'but we need it in six weeks' [the customer might say] – 'sorry eighteen weeks is the leap time'... [instead of:] 'but we need it in six' – okay we'll take it at six [when] there's no way we can do it in six weeks. If you take it up in six then you're not going to make the leap time and by pushing other things out, other people, other customers are going to lose out.
> There are a lot of things that could be done in here to improve it. But it's hectic and frantic. To make these changes you need to stop [and say] 'this is what we need to do here'. But they won't stop; they just got to keep going. [Emphasis in interview] (Manager B)

The manager also traces the customer as being dissatisfied with this situation, despite what might transpire as 'things being done in the name of customer satisfaction'. For him it is a 'lose-lose' situation and it is not a mentality that can be condoned:

> Things, when were late for reasons; some of the reasons just people not doing their job quickly, you know, not looking at the big picture, looking at specific parts. Every customer has the same importance. You have obviously bigger customers that give you more orders but when you look at the big picture you need to make sure you are concentrating on every customer not just one. And it is very difficult to do that cause you hear about customers with orders of 100 thousand a month and you have customers of one thousand a month – you know what customer you want to keep happy. But this one [smaller order] is also going to be, you know asking questions like 'why are treating us like this'. (Manager C)

In the data, the idea of being 'active' in seeking solutions to difficult issues that always come up is part of the DNA of this organisation. Wanting to lead, they are likely to collide with their shortcomings in the long term. But this is not inevitable because of the likelihood that things will be picked up and reviewed and analysed. So not everybody is complacent and satisfied with the way things are at the moment. Excerpts from interview data show how employees are geared to make a change, even if that is a statement of discontent to their supervisor:

> This company is making money. But it could be making a lot more money. That's my opinion. There's a lot of work out there; we could have a lot more work in here. [Manager B]
>
> I've loved to see certain things happen in this company because there's so many possibilities. We could go forward and we could do things. But at this point in time I don't see that happening.
> It is not the people [that have to make the changes]. It is the management. It must be the management that changes and there's one man who can control that – the guy at the top. It must come from him. You won't get change unless he drives it. [Manager A]
>
> With this project [customer contract] we do many many components. We make a profit on quite a few of the parts we make for them, but we also lose on many parts and we lose big time on them. As a package we make money. We have a price list and the price list – once we got a price in, it is set for four years. We will not change it. What happens is that a lot of the components take time. Okay, they're keeping guys in jobs and all the rest of it and paying for the overheads and everything but we're not making money on them. And when these [this customer has reduced orders for the foreseeable future] stuff goes down, it gives us an opportunity to maybe bring other stuff in that we can make money off. Okay I know it's difficult to get more work in but it can be done. We have to be positive about it. And we might get to a point where we say ‘we don't want the [customer contract] back’. If it is six, eight months down the line and we get decent work in, it could be the case that it doesn't interest us because we weren't making enough money anyway. Anything could happen: we could shut, we could get a big contract, anything. [Manager A]

In this section, data connecting the tumultuous relationship between the need to 'move on' and the need to 'remain the same' was explored. Although never clear cut, this 'conversation' of employees with the environment they find themselves in, and the drive to interpret it with organisational strengths and weaknesses in mind has been shown to be dynamic and engaging. Dynamic because it can create friction over priorities and engaging because it brings organisational forces together (planning and projecting, mobilising staff and machinery and decision making).

Organising theme: Restrictions but not restricted While the drives of the market urge some employees to be visibly more non-complacent, an organisation that operates within this market also has to be compliant. The key is where and how to decide to spend energies; on remaining within the market or remaining in it as a leader. The analysis of the data signified **how industry standards enable and constrain** the organisation and how it learns to work around them to achieve long-term goals.

In one interview, a team member responsible for dispatching finished products abroad, relates the reasons behind strict guidelines:

> This one needs an end-user statement [a statement explaining what the component will be used for by the client] because what it can be used on; they call it weapons of mass destruction. This [statement] is saying that this company will not do this. Any company that buys cables that can be used on an aircraft or anything they think could make a bomb, has to say that they're not going to use that.
>
> The Government comes and checks us every five to ten years. I have to have everything. I have to have the order, the delivery notes. The company has to send that [end-user statement]. The originals are kept in the sales department. They have the original with the original signature and I just get a copy that says it's okay to go. So when the man comes, if he sees it, he can say 'where is the original please?'. (Team member 3A)

The severity is related in an incident that took place in another company within the same Industrial Estate:

> The man that came [to check us], he closed the factory down the road. He closed it. Because they didn't have the proper paperwork statement to prove that such and such. They just couldn't prove it. Cause that's what he said to them. (Team member 3A)

A manager also refers to how bound they are in their daily activities and how inescapable the structure is:

> Because of the quality system none of the people here can sign a job card; none of the people can change a job card without me signing it. My manager can also do that. Because there are restrictions in certain areas in here because the Quality procedure makes us; it pushes us in that direction. We have to have only engineers change job cards. Or the Purchasing guy has to do specific things. I cannot get these other guys to do the Purchasing. (Manager A)

It would be impossible then to be in business without these standards. And although

they require constant supervision both internally and externally, it is equivalent to being in existence in this industry. And although some regulations fall within the health and safety category, and are necessarily followed as such, others are shaped for the organisation and are customised to fit the needs of the organisation.
A manager analyses how this is done with the ISO certification extension:

> They tell us what they're going to audit and they come and they check each and every one of these procedures. They also have set us targets for each individual department – for the running of the company. Well we set the targets; they come and they have to agree with them. Because if it is a target that is unrealistic that is maybe set too low, they have to set the bar at a level that is going to be a challenge but is going to be achievable. And then raise it again the next time. Every month we have to put our target, our results of where we are at [in relation to] the target. Put it into our report and then see it from there. If we don't reach that target, then we have to put a corrective action, explain what's happened and what we're doing to correct it. (Manager A)

Another manager illustrates how the month-to-month reporting and corrective action manifest in his line of work:

> [The ISO] It would be great if it worked but it doesn't work because there are so many anomalies down the line. It starts thin and then it gets wider. It makes it so difficult for me to control. We are on the spot at the moment regarding the deliveries and the monitoring of supplier deliveries. Some suppliers are really really good. I know the suppliers who fail consistently and without even looking at the reports I do sent letters. If they get below a certain percentage then they will be reviewed or removed from the approved suppliers' list, and I've removed three companies for that. (Manager B)

Within this theme, industry restrictions are taken for granted for what they allow the organisation to do and as part of possible restrictions that bound practices to certain standards – something that is welcomed and respected. However within their restrictive role, they also offer the freedom to have a routinised, pre-determined working environment where attention can be focused on other issues. Additionally it was seen as an opportunity to participate in the make-up of these standards and fit organisational aims around them. In this sense the restrictions offer a pathway for attaining these aims because it minimises misuse of organisational time.

Another vein within this theme is the attention paid by organisational members to the pressing need to have **qualified employees** who can understand these constraints and

are able to work around them in the future. The fact that they need to be qualified to do their job is a factor that creates anxiety mainly due to how time consuming it is. Below I adduce some data excerpts from three managers who spoke about impending issues regarding skill-base maintenance and how problematic is at times the planning and implementing of different strategies to do so.

Some data points to the element of specialisation involved in all jobs within the organisation and the time frame that goes with learning to 'do' the job and 'understanding' it. Below a manager recounts the failed attempt of succession planning that had taken place recently. A new employee was taken in who was going to ultimately replace a soon-to-retire manager with 50 years of experience:

> He [Quality Manager] brought a young guy in...what he did was he gave him a job in the Inspection department, checking components, checking cables etc. just learning the product. Which is quite important and then he was going to bring him up into the office and start showing him the ropes here. [Another senior engineer] could do it. He could cover that job. Also [the CEO] can cover his job. They can do all the relevant signing of paperwork etc. and they are qualified enough to do so. But really in order to do his job the way they want it to be done, is they get somebody in that's qualified to a certain level in engineering and then they get a rough idea of what is that we do. What the product is. And then from there they go into the office to learn about procedures and everything else that the Quality Manager does. They want somebody that's had a bid of grounding. They need definitely somebody who's had a little bit of training before they go in and do that job. (Manager A)

Such prerequisite of experience, training and knowledge is essential for anyone working within the industry and it makes attracting qualified potential employees very challenging. If they cannot be found then the company takes the risk of hiring people and spending a few years on their training although they might choose to leave.

Two interviewees talk about how even filling out vacancies requires long term planning and patience. The first discusses how specialised the field has become hindered by employee mobility resulting in a long-term mismatch between supply and demand:

> Sometimes we have advertised in newspapers. It's only if we're really really struggling. We've got a vacancy that's been open for the past two years for a guy in the CNC [computer numerical control]. There's nobody in this area [geographical] that works on these machines and that's a problem we have. That vacancy has been going on for a year and a half. (Manager A)

> We have two or three apprentices down there and trainees. So there's a few people that are coming through but it doesn't happen overnight, it takes time. Because the problem with these machines – it's such a specialised trade to be in that people don't want to let their employees go. We already lost one. That's why we're down. We lost one guy and he went to a company down the road. And the minute you lose somebody it's very hard; it takes time to replace them. We've got another person coming through. His apprenticeship is out next year. But it would take him two or three years after that to actually gain the experience to be able to do everything. (Manager D)

The second interviewee is aware that pay is what drives highly skilled employees to move from company to company:

> In the CNC area is very hard to bring people in to fill these voids, and it is quite a cut-throat business. If you can get the type of machines we've got down there there's quite a vast difference in pay levels in the factories just about the area. The machines that we've got, CNC-wise, where these guys are, there's not a lot of them in the area. And if anyone does have them, the guys operating them are quite highly sought after. (Manager D)

The Sales manager considers how this issue has direct impact on customers as it can translate into delays and inefficiencies. He explains how what happens behind the scenes must not come across to the customer:

> You need to do a lot of justifying cause obviously the customer wants an answer, why you were late, why you're not going to make that date. You run out of excuses to be fair. You can't tell them because of your efficiency levels. Because they'll say 'I'm not going to go back there'. So we got efficiency levels, we got man power. It is very difficult to get employees at the moment. It's difficult to get...I shouldn't say that. It is difficult to get the quality we are looking for. (Manager C)

And attracting this kind of quality is an issue with this organisation. Because the time has come to seriously consider the future make-up of qualified employees, a concern brought over mainly by turnover and retirement. So the strategy to attract potential employees has been under review. One interviewee reflects on how reforms in the hiring stage could improve retaining employees:

> The problem with our company is we don't really have a set pattern. When we bring somebody in we don't have an aptitude test or anything like that. Like bigger companies do. They have a system whereby people are interviewed and they're all looking for different things within that person. And then when we actually take the people on we don't assess them quick enough and also we don't train them quick enough.
>
> What happens is that we started them, we leave them with somebody else and

> then we go away and do our job, and then three or four months later we say 'I wonder how he's doing – I'll go and ask [his supervisor]'. And he says 'he's absolutely rubbish'. Three months have gone, his trial period is over and we've kept him. [And we realise then] 'Oh, we've made a mistake here!'. (Manager A)

Whether the reason why employees choose to leave is because they were not the right match for the job or because they have not been particularly well supervised by their manager is a matter of contention. The data indicated that the most common reason why people left was because of better opportunities elsewhere, however this was not viewed as having a reflection on management approach to employee support and development, rather as a by-product of operating in a highly competitive market.

The manager of the largest and most specialised employee pool indicated that poaching of skilled staff is rife and there are limited actions he can take because of the restrictions in pay and hours he can counter-offer:

> What we've found is that people who have left have gone for more money. There's this guy who's left us a month ago and he went for a lot more money. And what's happened there is, we had taken him on a trainee level and he wasn't a stupid person; academically very good. And we took him in and over the year really shown what he was getting shown and what he was picking up from. And within that year, what he had been trained up on and learned, he was then able to progress in another area in another factory. Almost as a skilled person. We've done it for him [the training] and he's gone and walked into a job. The guy has enough knowledge to get himself in the door and be able to contribute. So they [competitors] must be in the same position as us when we try and employ these people that they are basically taking anybody with any knowledge with these machines. (Manager D)

Asked whether the person was only after the better pay or whether there were any other issues with his employment with this company:

> It was only the money, and the money was drastic. Because we had put him on the trainee programme we were never ever going to [offer him more money]. We couldn't put him on the top rate because he couldn't do it [the work] himself but what we've shown him is almost enough to run the machine. (Manager D)

And this is a trend that hikes at recession times:

> More money and maybe more hours [he was offered]. Maybe we were going through a period of quietness. Things were looking sort of quiet, so they thought 'well, no point in staying here, there's no overtime'. So these guys would jump at the opportunity. (Manager D)

There is a sense that talent leakage is part and parcel of hiring and that eventually things will work out and people will stay, so they will continue to hire until the right person stays in the job long enough to be integral an part of the organisation. A cautionary story in the data is shared by two interviewees who spotted a trend: more training increases the chances of people leaving.

> This guy was quite level headed but what happened was that they put him through his Fault Detection exam, they sent him away for a week and he was away at college in the Midlands. He did a course and then did an exam at the end of it and he passed his exam. This was the first stage to get him into a position where he could start training at doing his job. He did the course, he must've told somebody else that he had this qualification and he got a job elsewhere, on the back of that qualification. So now he is away working somewhere else doing that exactly what he was trained here to do. (Manager A)

Another interviewee talks about a team member who asked him for training time at college. He is interpreting this request as a move towards plans on leaving the organisation:

> One of the young guys, now he's done all his college work and he's applied for us to allow him to go to college an extra day. Chances are, will he be here in a year's two time? - don't know. If he was to stay then that would be to the benefit of the company. (Manager D)

This 'revolving door' approach to hiring has not been of particular importance and did not define the dynamics of teams. Especially in the production side of the organisation where a set of core people acted as the cornerstone of the department. Now the impending retirement of many of these people is coming up, altering the demographics of the team and increasing anxiety over the future sustainability of operations. A direct response is to begin a process of replacement, an easing out from the experienced employees and a tentative hand-over to a younger group. The manager in charge of this overhaul is explaining how this process can be unfolded to become a strength for the organisation and renew it.

> Right now there's a sort of need, if you lost the core people in certain sections today it would leave a hole. So we're kind of in that sort of balancing up period where we've started a couple of guys from one of the factories that's closed down. (Manager D)

This balancing period is now taking shape because:

> There's two guys retiring. One is a charge-hand and we've got another young good guy there at the moment trying to bring him up to the same bar. He's been there close to a year. And he is progressing very well. The guy that's up for retirement is at the age now that can still do the job. The other guy that is coming up for retirement next year – he's going. He's told us he is definitely leaving. So that creates a small hole for us as well. But we can only fill it with the one person just now, cause his training takes up a bit of time. There are certain areas in the shop floor that you don't fill in through the job centre. Very very hard that you just pull one from the job centre. (Manager D)

The reference to the Job Centre is because of a pastime way of doing things that no longer is effective because it is largely based on chance and it is mostly utilised in times of high pressure. It denotes though how past practices need to be abandoned in favour of better results:

> What we used to do was bring people from the Job Centre. We used to go to the Job Centre, we used to get their CVs, we get people in and of the lesser skilled, bottom level skilled basis...if there was anyone who surfaced from that, you could see it very quickly and you could start off from that. Move them to another area or progressively try and train them on something else.
> If you get someone from the Job Centre who has no skills and just wants to become a machine operator – these people are few and far in between in the shop floor and there's maybe one or two just utilised within certain sections of the shop floor. Nine times out of ten if they have contributory skills the chances are they will stay. Realistically going forward, because of the product we have and the knowledge of the product and the changeability of the product, we try to move these individuals up to a certain middle or mediocre skill to try and get them to the stage where they can contribute towards the manufacture and the programming and things like that. So that they can multi-task. They have to get to a level in order for us to pay them. (Manager D)

It now requires a strategic placing of people all around the shop floor and generating feedback about their learning on a faster pace to have a clear idea of what the skill level is at any moment around production. The profile of the person that can pick up on skills is:

> You may be replacing a guy who's been up for retirement with someone who's still in their forties and fifties. So potentially, depending on their retirement age, potentially as we go forward you're going to get another ten or fifteen years out of that person. Rather than trying to bring someone at sixteen or eighteen from school. Which we know just through experience that for some there is no interest. So you try and invest in the sort of middle age person and try and move them forward. (Manager D)

Also other plans involve apprenticeships:

> We've got the apprentices coming through, which is probably the most apprentices we've ever had in the last two or three years. Four or five years back there were a lot of apprentices. But again is keeping them long enough. What you are hoping for is even like the apprentices or the trainees, you're hoping that by the time the person retires in two years' time or a year's time, you've pulled this trainee up. The only problem you've got is if the trainee is not there in a year's time. You could spend a year or two years with a trainee and if he leaves just as you are about to transition – you've had it. (Manager D)

And in his efforts he is recruiting the help of the colleges where apprentices are coming from in an engaged effort of selecting those that exhibit the traits that he is looking for:

> What we've started doing latterly over the past few years is sort of vetting them through the college. And the college is coming to us with someone who is maybe been there a year and maybe a second year. So over the first year they've shown their interest. They want to progress, so we get them in the second year. It then becomes a process of between the second and the fourth year – will they achieve it. The chances are academically, yes. Chances are practically, maybe no. So what you've got to do is sort of go with the gut feeling through the college so it gets the qualification academically. Then what you have to do is mechanically and practically pull them through the core of the shop floor and the guys that they are training with. (Manager D)

Eventually this process would form a new group of employees and renew staff from within seamlessly without disrupting major services:

> What you try and do as far as training is concerned and if the training is working well, you're getting people in that you wanted and the people stay long enough. You then have a sort of time limit as to where you want to push these individuals to what sort of levels you'll like to get them through. What we try and do through the shop floor is try and achieve three individuals for these core skills. So if one person is off on holidays and one person is off ill or whatever, you still have the third person. (Manager D)

Otherwise a possible scenario would be:

> You will then be driven to an agency situation, where you would then have to say 'we need him and him to run them [machines]'. I suppose they'll come to your doorstep Monday morning. Whether they'll be able to do anything you're requiring will be a problem. Again the core [people] would kick-in. (Manager D)

Summary of Thematic Network B

This chapter focused on the second Global Theme on the 'Cyclical nature of Organising' to incorporate within it the various external and internal environmental concerns that the organisation faces seen in light of the previous chapter on the values and priorities this organisation promotes as its main characteristics. Within this theme the issues discussed revolve around how understanding the world the organisation operates in; its demands and expectations, can drive organisational energy towards differing directions and the impact this has on managing tensions and heterogeneous voices. It is imperative that the organisation remains within this environment, but at times it is a 'follower' chasing behind new proposals for improving the industry; and at other times it is a 'leader' – wanting to retain its niche knowledge rather than go mainstream. Various routes available eventually lead to a conflict in deciding the future of the organisation's strategy and with that come numerous tensions and frictions. Even so, the organisation presses on by combining knowing with practising: engaging its members in both accomplishing 'organising' at the same time as it encourages them to imbue their practice with their new ideas.

In the **active and passive** organisational theme, views were presented on what issues the organisation seems to be taking a more proactive approach in resolving them rather than a passive one and what does that mean for the period during which the case study research was taking place. However it is important to understand that the organisation has a common objective, which of becoming a leader in its industry, and having a common objective allows the organisation to learn as an entity (Boreham & Morgan, 2004). This is important to note because it indicates that whatever the forces driving the external environment of which the company is an element of, internally it has its own 'moral compass' that generates individual and organisational action. Practice is the way this organisation deals with the outside world; it unites forces in accomplishing daily routines which themselves play a part in sustaining the organisation. By participating in practices is considered a way to acquire knowledge through action but also an opportunity to change or perpetuate such knowledge (Gherardi, 2000a). The author projects onto practices matters such as work, learning, innovation, communication, negotiation, history, conflict over goals and their interpretation making thus engagement in practices the best possible way for

colleagues to coordinate their different subjectivities with different perspectives and experiences (Boreham & Morgan, 2004) to form together a common goal. Organisational learning itself can be conceived as the development of new and diverse interpretations of events and situations (Fiol, 1994) and of the organisational context (Blackler, 1993) but the question that arises is how action continues to happen even in the face of dissent which is potentially the outcome of this, welcomed, interpretations. One approach is to generate diversity and build consensus (Fiol, 1994) with learning emerging as organisational members simultaneously agree and disagree. Organised action can still occur as long as there is consensus around one dimension and dissent in another. In the preceding segments this was most pronounced with the problem arising around expanding the client base and diversifying the product range. The managers who spoke felt that their ideas were being side-tracked by the aim of meeting budgetary targets, however they were all accepting of the fact that their company needs to respect the parent company's priorities. People interpret what they experience in the organisation, what goes on, what the expectations are and where it all leads to, and organisations themselves adapt their behaviour in light of those experiences (March & Olsen, 1975). This process of effective selection among forms, routines or practices is as essential as the generation of alternative practices (March, 1991) but it would appear that for this organisation, which operates with a relatively routine technology there is more emphasis on efficiency and quantity of clients than on quality of service and staff morale (Hage & Aiken, 1969). Despite acknowledging this, there is literature on both routines and through Structuration theory to indicate that human knowledgeability is highly reflexive (Giddens, 1984), that is agents monitor the ongoing flow of social life and are aware of their own and others' involvement in the continuity of social practices. Their reflexive monitoring can lead to some discomfort with the state they are currently in (Vince, 2001) – the identifiable establishment that our acting and organising has created – and seek to change it. This does not need to be exclusively the prerogative of major interventions but also found in 'practical consciousness', Giddens's (1984) term to denote reflexivity seen in our practices not only through our spoken interactions. Especially salient is organisational routines which manifest an organisation's know-how and distinctive competencies (Blackler, 1993). Feldman

(2000) finds that routines change constantly and it is useful to think of this organisation as generating continuous innovation and neither being active or passive at any time because organisational transformation can be 'situated change' (Orlikowski, 1996, p.66) and not only attributed to new beginnings or major transitions . The positioning of these terms opposite each other is to denote how themes coming from the data can be presented, with the views of interviewees on how and where to spend energies sitting across a wide spectrum of actions that are all ongoing as is the organisation – an ongoing accomplishment (Tsoukas, 2001).

This argument extends to the following organising theme on **being restricted** and how that is overcome by organisational members. For this organisation, routine work is the preferred way to ensure that industry standards are met at all times in an effort to prevent error by suppressing 'considered choice' (Postrel & Rumelt, 1992, p.411). A separate view on routines, views them as practices that through the sustained adjustments (Orlikowski, 1996) of organisational members, can evoke social change. Giddens (1979) uses the 'duality of structure' to explain how the rules and resources (that make up structure) that we draw upon to produce our world are also reconstituted through this interaction. It is primarily accepting the fact that rules cannot cover the richness and variability of routines in practical contexts (Nooteboom & Bogenrieder, 2002) and that many context-dependent variations evident when accomplishing a routine give rise to unintended consequences and unacknowledged conditions (Giddens, 1981) whose meaning needs to be further interpreted and acted upon (Tsoukas, 1996). Within the theory of Structuration, Giddens bestows to agents power to transform their worlds by influencing the events involved in the sequence of interaction (1977). In order to understand how the organisation can seem to be a routinised mechanical world where little autonomy is evident and explain how social regularity persists in light of learning (which implies improvement) it is useful to think of the organisation as a structure that both enables and constrains (Giddens, 1979). The efforts of employees to introduce new ways of working is only made possible because they operate within an environment of given expectations – expectations built up by applying the routines as dictated by the industry, their ISO certification and their own Quality Manual. Giddens refers to the

realm of human agency as 'bounded' (1976, p.160) because although society is constantly (re)produced it is done by actors who are historically located under conditions they have inherited. Using the tools they have inherited they try to build something new thus the social regularities observed are always in the making, they are ongoing accomplishments reproduced in every action (Feldman & Orlikowski, 2010). Focusing on routines and practices can give clues to the realisation of organisational reality through them that again make the restriction/enablement dichotomy redundant as it obscures the intricate and minutiae of individual action. Action emerging from the company's qualified employees whose unique knowledge is embedded in routines and developed from experience (Sharkie, 2003). Because of its tacit nature it became a competitive advantage as it is difficult to imitate because it is specific to this organisation. At times this has been seen as a restriction – that niche knowledge and capabilities have downplayed the need for further development (repeat business on what it is currently offered rather on what it could have been). Nevertheless their intimate understanding of how the work gets done and the constraints on how it has to get done (Yanow, 2004), has allowed them to develop knowledge within a community of practitioners – which can be passed to new community members. Something that benefits the organisation in the long term (e.g. savings in training budget).

Chapter 7: Thematic Network C. 'Knowing is sharing'

This thematic network explores how knowledge in its various manifestations has become the vehicle through which the organisation utilises its stability and change elements (thematic network A) to counter the cycles of instability and uncertainty (thematic network B). Knowledge is harnessed and utilised, preserved and developed and channelled through routines. These organising themes draw on the aspects of organisational life that go deeper into the regular and minute elements of and bring them to the fore to try and make the connections between the other two networks. Figure 5 displays the network and its accompanying themes.

Basic Themes	***Organising Themes***	***Global Theme***
14. Accurate information for improved performance	Knowledge gathering and utilisation	Knowing is sharing
15. Evidence-based decision-making		
16. Recording the organisation's functions enhances openness		
17. Preservation of experience by passing down knowledge	Knowledge preservation and development	
18. Developing through training and enabling learning		
19. Routines enhance knowledge exchange	Knowledge transfer through routines	
20. Routinised work enables innovation		

Figure 5: Thematic Network C

Organising theme: Knowledge gathering and utilisation Information was viewed to be the precursor of knowledge and how accurate information was translated into performance. Information written, on the intranet, spoken and read was circulated around the organisation and performance was relied upon its translation**. Accurate information for improved performance** was insisted upon and continuously sought after. One major piece of information that travels around the whole of the organisation is the 'job card', a bundle of A4 pages that contain the name of the customer, dates of order and for delivery, and most importantly all the steps necessary to manufacture and complete a customer order from raw materials to dispatch. A barcode is printed on the top and all who handle the order must scan the code upon completion of their part in the process using a scanning gun.

These are excerpts from the data from team members who rely on it wholly for what they do in production:

> All the information is on job card. So just follow the job card and you cannot go wrong. It scores all the sizes, how much pressure to put on it, what bases to use, the distance from each end to end.
> Everything you need is on the actual job card. All the information is on the job card. If the job card has the wrong information... [that's how it reaches us]. (Team member 2E)

> Normally if there is a problem with a job or you need help, you look at the job card and whoever has done the last job, you need to go and see him and he will tell you what happened. If he isn't sure then he'll tell you to go and ask one of the bosses. Most of the times it will get sorted when you speak with them. (Team member 1A)

And a manager talks about what happens when the job card is not ready and the causal sequence of events this can trigger:

> The [manager] would say to me 'I've only just got this job card'. Now if he is only just getting the job card, and the job is due a week later, he can't do that job in time. So the problem was a misunderstanding in my department. [A new employee] had just taken over from [the employee who left]. He only raised job cards for a single customer. So we had many other customers and what happened was when it came up that the job was due, we looked and we saw that [the new employee] had only raised job cards for two customers and nothing else. So we were short of many job cards so we had to get them issued quickly. (Manager A)

He also talked over how things affect him and his department when the tables are turned and the job card becomes a bone of contention:

> Things will go wrong; things will be scrapped [during production of an order]. But when that happens the manager doesn't tell me so we don't raise a [new] job card. If it is scrapped and there is no material we have to go and buy more material. He will sit with the job card upstairs and I've told him numerous times 'if there is a job discarded I need to get the job card right away. I need to close that card off and raise a new one [close it on the company's intranet]'. As an example this job was scrapped. I would assume and the system would assume and everybody else, that it is still a work-in-progress. It doesn't tell me in the system that it's scrapped and I'm saying 'well there's nothing on the system, let's just keep going with the other jobs that we have in hand'. Then eventually I find out that the job is scrapped, so I raise another job card and we find out that there's no material so we have to buy material. And then the job's past due because it was sitting there. (Manager A)

So as a different interviewee points about the intranet:

> It is certainly a lot better than the system we had before. But [it] is as good as

> the information is put in. If the information is not 100% then what will happen is it will start small here and big here. (Manager B)

As he puts it, this is because:

> We are not set up properly. For instance when I sent subcontract plating for treatments we give them two weeks leap time [delivery date from date of placing the order]. [But] we want it back in two days or we want it back as soon as possible. If I put two weeks leap time on the order and they come back in three days, they get penalised. They get penalised for delivering early and for delivering late. (Manager B)

And to top it all up, the information has to be manipulated to accommodate inexperienced staff who are not completely on top of the procedures so in order to protect the subcontractors he would:

> We've got new guys in the stores and when the goods come in on the specific date [agreed due date] they may not have booked it in for another day or so. So I've got to give some fluctuation between early and late. (Manager B)

A different attitude is held by another set of team members who perhaps due to the nature of information they are handling, they are quite comfortable with the intranet:

> I think it works quite well. From beginning to end actually. The computer system is very very good. We get all the information from it. We can find exactly where the parts have been. [And] if it is not there, why. You can pick up something you did last month, last year and you can trace it on the system. (Team member 4A)

> Yes [it is useful]. One or two adjustments but we're looking in to it just now. There's nothing really else. The computers are as good as the user. (Team member 1A)

A third interviewee mentions how dependent he is on it so when it fails he has to revert back to manually noting everything:

> [When things do not go well] That's usually the computer system. We get trouble from [internet provider]. We [then] have to do things manually. (Team member 3A)

The accuracy of information that is exchanged and the use of technology that is there to aid it have been viewed through the data as providing a buffer between poor and good performance. Sharing this attitude is essential so that all are aware that accurate information can make the difference between success and failure, as in the case of

the job card where it is essentially a roadmap for each order. However data showed that accuracy is also established through communication and that knowledge can remain hidden or be revealed at different junctions. To those who seek it and are part of creating it, knowledge can also become a **tool for decision-making**.

Managers are making decisions about employees and their future within the organisation, based on information they had collected. The employees themselves have limited access to such information and at times it has been recorded without them being aware of it happening. However an aspect of this process is beginning to be more collaborative as one of the managers explains:

> Once you've made the decision on certain jobs you can either give somebody a window of up to twelve months and say 'look if you are not up to this level' – basically you can put them aside and bring someone else in thinking that the next person would be better than the first person.
>
> What I've done just lately is a sort of graded chart as to where I think the steps are in the increments of learning the jobs and procedures and what I have done is put a window in there as to where you would expect them to be in a year's time. And if we can't get them there in a year's time, where have we got them to - where's our failings? What we have sort of changed lately is the chart. I chart them over a year, two years, three, years four years if it comes to it. (Manager D)

The existing training records are not conducive to adequate decision-making because of their nondescript nature and are thus under scrutiny for fit-for-purpose quality. They have been recently reviewed because of the impending ISO re-certification which will require training records to become streamlined and up to date:

> The general training records are just three folders and basically it is everybody's history since they started here and it is everything that we have added. Basically what we do we take each person, take the individual – it may be only a day's training, a week's training. It may be a skill that we think is going to take quite a bit of time. All we do is sign ‘is on-going'. We sign it as one week or one day or whatever and then we fill in the person's name and the person that's shown them and we sign it. And if there is any change that year it is just a scribble on the bottom. What we have tried to latterly is to stop that. (Manager D)

So if the information is not relevant or detailed enough decisions cannot be made about the capacity of individual employees to contribute and the training needs that are required in the meantime to get them there. He is able to project this knowledge to a hypothetical scenario on increasing the work volume or diversifying the product

line:

> Yes, you cannot make certain products, the Sales cannot sell certain items, or they cannot attract certain items because...I'm not saying you do not have the skill...you don't have *enough* of the skill. Because right now you got the skill to make anything. But you maybe don't have *enough* of these people sitting in your books, so there's no point in saying to somebody we can do that in 8 weeks when we don't have a hope in Hell of producing it in 80 weeks let along 8 weeks. [emphasis in interview] (Manager D)

Another manager is also anxious to create a customised tool for his team unlike the generic one explained above. He was particularly induced to do so by a rather unsavoury experience over a recent firing and what could have prevented this for both parties sooner than the three month probationary period:

> It would be probably best to have a sheet stating the date they start, maybe a fortnight after it, then a month, then six weeks, then eight weeks then right up to three months stage. I can decide what duties they need to know after two weeks, then after the first month and decide from there...are they going to be doing the job or are they going to be leaving. If I go through it with them and they have the evidence in front of them and I'm saying 'no, you've not reached that mark, you need to be here. And if you can't do that after three months; unless I see something positive at the end of that I cannot keep you. So you need to be working harder'. (Manager A)

The tool he is using at the moment is a graded skills matrix. He explain how any number from one to five is indicative of the employee's capability but that he is not aiming to have them all at number five:

> If you put the matrix together you can actually see where your skills are and where you are lacking and you can focus on that. And that is what my intention is. Some people don't have to be trained in other than just to be able to, you know, kind of work. If somebody gets to three then maybe I'll be happy with that because maybe I have lots of 3s and I might have two or three people on 5. And I'll say to myself 'why train somebody else up to 5 and waste my time when I got cover'. (Manager A)

Being able to decide based on evidence is viewed as a method to safeguard the organisation from wrong doing and acts as a buffer between managers and employee. The actions taken to modernise the records echoes the CEO's request mentioned earlier of 'managing rather than fire-fighting'. However the missing link is the input of the actual employee who is mostly unaware of his/hers shortcomings and whether they can be warned over their progress or there lack of. So as part of a wider move to **enhance openness**, the data revealed a move towards forthrightness to outsiders and

insiders.

For example the Quality Manual states clearly what the purpose of a public document is about:

> This Quality Assurance Manual defines how [our] Quality System operates. It provides staff with a Quality Assurance overview, illustrates to customers and public authorities [our] organisational and operational structures (i.e. the entire quality assurance system) and demonstrates compliance with required standards and customer requirements.

And it also states that:

> [The company] maintains all required documentation to effectively sustain its quality management system. Management is responsible for implementation of procedures and records in their areas as required by the quality management system.

Such documentation is circulated amongst employees but is also publicly displayed in common rooms and around work areas. It is meant for organisation-wide consumption so that everyone is aware of for example what the budgetary goals for this month are:

> We work on a month-end cycle. Placed on the shop floor notice board the CEO puts printouts of our targets. For example this month it was well over 'x amount' [the target]. But it's under 'x amount' again [because] we're on a recession. And that's the Sales manager's job – to get the sales up, the orders. (Manager A)

On this board was also the Employee Manual. Although all employees have been given a copy at the start of their employment, this is a quick way to have access to any rules and regulations that might come up during a working day. For instance a manager who had disciplined his employee had explained that any repercussions and possible outcomes of discipline are to be found there:

> It is in the terms and conditions. They get a copy of that, but it is also put on the board. So if they're not given a copy they're told 'it's on the board, you can read it any time'. (Manager A)

This is reiterated by another manager who finds that the Manual serves as a go-to guide for anything that comes up:

> It is information given to them. Sort of general work practices that we deem that

> they need or should read them, should know or have this information that they can keep going back to them and keep referring to them. (Manager D)

In another sense, openness connotes a sense of control. It functions as a means towards transparency, however what is transparent to one is not to someone else as those who do have access can make decisions about others, how they spend their time and how to monitor them.

An employee spoke about how this monitoring takes place and how careful you must be with your time:

> Everything is timed. If you're doing something that is not in your job card that's adding you time. So they [managers] are wondering what you were doing in that time. So you need to ask [your manager] to get another operation on so your time is justified. (Team member 2E)

And others mentioned 'traceability' as the optimal term to explain how this control is manifested:

> It comes in the door and gets booked in the system, [then] everything gets labelled; the quantity, the company that supplies it and add a release note. When you book something you put that release note on the job card so that it can be traced back. It's all about traceability. It all happens with the scanner. It's all computerised. (Team member 3A)

> It would usually tell you something like June 30 [that the items are coming] but they don't always come on June 30. Sometimes they'll be able to chase it up and find out because they've obviously have tracking numbers on them. (Team member 2A)

> It is all in the system. If you check the order it would tell where it is in the factory. (Team member 1A)

But another team member says:

> I don't have access to everything [in the system]. There's only so many things I can access. There's some of those things that I can get into but I'm not allowed to touch. I can't change it. I can print out my purchase orders verified by one of the managers cause that [falls under] financial. (Team member 4A)

Organising theme: Knowledge preservation and development While knowledge has been viewed as handling information and translating it into knowledge-action; data also showed knowledge as the experience and skills of employees in the organisation. In this Organising Theme, organisational knowledge was

conceptualised as the corporeal and verbal transmission of experience amongst organisational members but also as in the intended actions taken to engage newer members through training and nurturing.

In defining knowledge as sharing, one of the most essential factors was how to **preserve knowledge** from something that it is deeply ingrained in practices, into something that has diachronic value beyond those who do it or remember it.

The Quality Manual refers to the need to have an on-going dialogue over the needs available and the future needs of the organisation. It gives the authority to each manager to handle any mismatch between the two and act to maintain a healthy skill-base for each department.

> [The company's] management regularly reviews the knowledge, capabilities and skill needs of the organisation against those available. In any instance where there is a gap between needs and capability, the functional manager will take the necessary steps to acquire needed knowledge, capabilities and/or skills. This may include training and skills development for existing employees or the use of consultants or other outside expertise.

The starting point for this review is the comparison with the expectations of each position with the skills of the current holder. The Quality Manual makes this clear:

> Necessary competencies are spelled out within job descriptions which are maintained for all positions. New hires are selected based upon whether they meet the needs described in these job descriptions. New and existing personnel are provided with orientation and any necessary training in order to meet the requirements of their given responsibilities.

The manager responsible for the most diverse group, skill-wise, went into length over his strategy for preserving knowledge through a system of uniting the old with the new, blending of skills and mixing up age groups.

He relies on a team of established, experienced and highly skilled employees who he refers to as the 'core people'. They are considered experts in their sector within the manufacturing department and are also heavily involved in training new recruits who they keep under their auspices in a master tradesman and apprentice situation.

The core people are:

> Core individuals that we can move them into different areas. They can move around the shop floor. And the lesser flexible people just keep moving in different positions just to follow [their] instructions. (Manager D)

They are, apart from highly mobile, able to adapt quickly and efficiency to change but also have bonded with each other to form a powerful 'tool':

> To achieve the level that the guys that are now ten years and more in service...these guys, to be honest, in this day and age with the sort of technology and tooling and things like that, the guys that have been here all these years are still learning on a month-to-month and year-to-year basis as well.

> There are certain areas of skill that these people knit together and you do need these people in each area, because what you've done, you've driven them into these sections and they've learned everything that's expected of them. And realistically if you take that away it is just like pulling the feet for yourself. (Manager D)

The core people are thus responsible for passing over their knowledge; this is part of the job; as the organisation spent time and money training you, so when the time comes you will be training the next cohort. The manager explains that his strategy is one of close contact between the two groups that would feedback to him on who's worth taking on at the end of the apprenticeship:

> You try and bring individuals in or move individuals in from other areas of the shop floor to go with these guys knowing the sort of background knowledge of the product and from there you deem it to be a good base for training them up to the level of this person who is up for retirement.

> There are some sections within the shop floor that are some old-skilled people and there are some apprentices, trainees going through. So what we do is we try as we get close to the end – the retirement date – for the training side of it, we try and install a new trainee that we can put alongside them.
> What you're hoping is that the apprentices or the trainees, by the time the person retires in two years' time or a year's time you've pulled this trainee up. The only problem you've got is if the trainee is not there in a year's time. You could spend a year or two years with a trainee and if he leaves just as you are about to transition – you've had it. (Manager D)

And the issue of whether trainees will remain in the organisation is a serious one because preservation without remembering is not possible. Another manager speaks of how in production things are beginning to tighten up:

> The charge hands [one level below the core people] are usually the ones who would say: 'these guys are not going to be any good'. And unfortunately even the charge hands he's got...he's been told before [by them] that they are not going to be any good but we've kept some of the guys. Because, it is very difficult to get the skills around here. But certainly the training is probably a big problem in here. (Manager D)

And all training is directed towards fulfilling the needs of the organisation:

> The Company has support systems to ensure continuous process capability and operates a training programme that enables all personnel to understand their responsibilities and perform their functions efficiently and effectively. [Quality Manual]

However in manufacturing, due to the pressures of production, training is often incomplete and inconsistent. The charge-hands are usually highly active and the learning is to take place by doing and through trial and error:

> [Who is responsible if a trainee is not up to par?] It is responsibility [towards the trainee]. The blame can be totally because somebody has been derailed and doing something else. Right now they are all working on one area because we've got this massive job – everybody is in the shop floor working seven days a week, twelve hours a day to try and get it out of the door. (Manager D)

And being 'busy' also means being absorbed into what you are doing:

> The charge hands are working hands on. They can become very deeply involved in some of the work, [into] what's going on about them. And in which case they then have to prepare somebody to carry doing on this bit while they move on to do the next bit. (Manager D)

The 'learning by doing' approach is perceived as having the steepest learning curve as compared with formal education and it is the preferred way to socialise recruits. The intimacy of the relationship between master tradesman and apprentice is evaluated as being essential to the continuation of the organisation. One of the managers makes an impassioned comment over the generic skills that trainees learn at college:

> We bring the apprentices in to learn the machines etc. and they have to learn the basics to begin with. Now, we can send them to the college. They get the grounding, the basic knowledge, the know-how [for example] to cut steel etc. but once it comes to a certain level...we cannot really afford for them to go to college. College is a waste of time. Because our particular field is so specialised here, and the college cannot teach that. They'll be far better and quicker at learning in-house and working on the machines than sitting on their desks learning about theory and the theory not being really relevant to what we are doing. I would recommend that we bring all the boys in full time in here. Not go to college. (Manager A)

So if training is to be set in-house, and the people with the experience and knowledge are preoccupied, a solution has been to preserve knowledge in written forms. This takes the form of manuals and notes, but it also means that each employee needs to

take ownership of their experiences within the organisation and record them in their own way so that they can keep referring back to them.

One manager's anxiety over the lack of sufficient written material has urged him to create a set of hand-outs for his team:

> The problem with this company is that we don't have enough information at hand that is actually text to give to [people]; written information, instructions that we can give to individuals. It's okay for us to explain to somebody how to run a machine. Some of these machines are specialised. Not many companies do that. But with that machine we don't have anything written. What we normally do is give the guys the notes and they can take notes themselves. But there is an element of skill to taking your own notes. Because you need to know what to write in, what's going to be key to you. What's going to make you remember how to do the job. The best way is to break that down every single test and task...the best way to train somebody if you are not going to be there is to have a picture reference. (Manager A)

So he has set out to create visual stimuli for the most important, generic processes in the two teams he is managing. The rationale is that knowledge can be readily accessible and in combination with 'show and tell' create a basis of experience where you can build on and expand on the variations that emerge:

> In the Stores there are many procedures that need to be followed. And sometimes the guys forget. I forget procedures as well and we need things to trigger a reminder for us.
>
> The way training was done at the Stores, I've made up some Instruction Sheets about how to carry out the processes and procedures. And what we do, with the new guy that just started, we give him a task and he did that over and over and over again until it was really second nature to him. And then we moved him on from there. So we got the basic aspects of the job that he did and we covered them and now he's competent, and everything else he is going to start picking up are additional small parts of training. The basis for any training is that they need to know the basics first. And then they can learn the more intricate parts – they get added later on. (Manager A)

The employee himself agrees:

> [My manager] was quite good. He spend half an hour with me and showed me how to issue out the material and gave me a hundred things to issue out and the more you do the faster you learn. Before we move to the next thing, [I spend] two weeks just issuing out – I'm so bored but I just know it all. (Team member 3A)

Furthermore this practice is expanding into creating a 'work-in-progress' manual for using the intranet:

> I started doing for the system...sheets, instructions, that are really helpful for anybody. Once you've done the job it's always handy to be able to look at that. And it'll be great if we could go that step further and continue to do that for all the operations. (Manager A)

One of his employees welcomes this initiative, especially as a referral to using aspects of the intranet:

> [What about a manual?]Anything, obviously anything [would be useful]. When you are starting a new system, any information at all about that system would be good. (Team member 1A)

The same interviewee talks about how he would be able to improve a generic set of guidance rules to fit his needs and create new organisational knowledge himself:

> If [my manager] had created the notes himself or somebody created the notes and said this is how you do this; obviously you can get your notes to put on and that's just like a best corporate work around. If you can do that, if you can find another way of doing it or if you've found a better way or a more preferred way, you can write on the notes and make it to suit yourself. (Team member 1A)

Besides a manual written by managers might not be immediately comprehensible to all because it would contain specialist terminology and, especially to those whose English is not their first language. An employee mentioned how the manual was of no particular use for her when she started:

> Yes, we have a manual. They showed me but when I started here my English was very rubbish. So that was very hard time for me. (Team member 1E)

Within this theme, preserving knowledge acts as a shock absorber in a case of a member leaving the organisation and thus removing themselves from the normal sequence of events. Although this is considered as disturbing of normal activity, is countered through having a shared responsibility towards work. So creating notes is an additional part to sharing your own knowledge with other colleagues and you taking some of theirs. One manager would elaborate on how dependent they are on each other's knowledge:

> If the [Accounts' manager] is off or anything happened to him, then the CEO

> can do the accounts. If the [Quality manager] is off, then [the junior quality manager] is there, he can deal with Quality issues and likewise if [Production manager] is off we have other charge hands in place. And I can go down and tell them which jobs we want. Organisation is not a problem. (Manager A)

But the problem is when a valued member of the team leaves and that learning curve needs to be steeper for those who follow. A comment from the Managers' Meeting reveals what it is really like to have experience and inexperience compared:

> The volume of customers chasing late orders is increased again, at the moment it's difficult to get any feedback or re-prom deliveries. This is due to the fact that Planning/Production have lost key personnel over the last year and it is not easy to replace that experience.
> When can we expect the new employees and purchased parts to start improving our performance?

The manager of one of the mentioned departments is aware that when an employee leaves this unquestionably leaves a hill to climb to replace them:

> From my point of view, as a manager, if you look at what effect it has – people leaving...oh it's a nightmare. We would be farther ahead if [one of my people] hadn't left. I wouldn't be training somebody; he would have his experience [and] be able to do his job. But unfortunately he left and he did give us his one-month notice. [But] even a month is not enough. It is quite an intricate and specialised job; it's difficult to get anybody up to any type of speed. It takes years. (Manager A)

Organisational knowledge is conceived as containing elements of the identity of the organisation that need to be preserved in a mode that allows for modification, interpretation and evolution. The, up to now, limited dependence on written manuals and instructional sheets reveals a preoccupation with communication, exchange and employee co-dependence for knowledge preservation and organisational continuation. This continuation encompasses the knowledge that is **developed through training and enabled through learning** of employees.

Employee training is considered in the data as a weak point in organisational processes and is considered as needing an overhaul primarily because it is of such grave importance. The knowledge that is transmitted through training is taken for granted and as the organisation is relying on it for its future plans, revisions are set into motion to improve assessment and evaluation of its quality and relevance to organisational goals.

For instance, in the Managers' Meeting minutes, an item for the agenda was:

> All new starts to have detailed plan in place, broken down month by month and also level to be attained each year. Targets need to be set and review carried out to ensure that they are met.

The managers are thus themselves aware of the discrepancies in training and the lack of follow up on the progress of new starts. This is not to say that it does not exist, but there is a need, identified throughout the data, to streamline many of the practices. Perhaps this being the outcome of the time period of the data collection which involved the ISO re-certification where training records was to be one of the new additions to be audited.

One employee with three weeks with the organisation gives an indication of why the statement in the minutes is urgent:

> I don't know if I would be getting any training eventually. I'm still on trial. (Team member 2E)

One manager noted how this situation of ambiguity is causing uncertainty for both him and any of his new starts:

> When a person has been taken on I should have milestones for where I want them to be, at a specific length of time.
> They should know that [as well], that is good for them and it is good for me because that way they understand that if they've not met that part of the job by a specific date, then they are in danger of not being here. (Manager A)

He is interested in having a more documented agreement with the employee over expectations and meeting those and any consequences that might result by failing to do so. But in addition, this is to protect employees who can demand training on what they will be assessed on:

> We don't evaluate our training very well. Evaluation is not great here because we don't have any targets set. We don't have any milestones where we give a specific length of time where they would be able to do the job.
> I think it takes a long time to train somebody in some of the practices down here. Maybe longer than it should be. As I say, how long should it take somebody to get to a certain level – we don't know. We don't set targets very well. We should be able to say 'he is a month behind, he is a month ahead, he's

> not going to be good for the job or he's a great asset to the company lets fast track him forward, he could be doing other things for us'.
> We don't assess them very often. On a monthly basis we should be taking somebody aside, five minutes assessing them, saying 'well you're not ready yet, you need to be going forward [if they are on a three month trial] if at the end of those three months you can't do what we want you to do we can't keep you'. (Manager A)

And improper evaluation of the training and employee capabilities is visible in output:

> If Joe Bloggs out there [production] is making a part and he's making one a day where he should be making ten a day, who's checking that. That time you can never get back. The minute I waste an hour, that hour is irrecoverable. I can't get that money back. (Manager A)

In another department, the manager there is creating a procedure for new starts as agreed in the Managers' meeting. He is focusing on creating a decision-making tool where trainees will be evaluated against expected outcomes and any shortcomings in their training redressed on time:

> [This tool] will track the individual realistically from coming in the door. Once they are in, over the trial period of three months we'll sit down with them and have a think if they are able [to progress]. If after the first year you come and assess them you would then pick out their shortfalls – because he is failing where you would have expected them to be. It would need to be like an in-depth [investigation] on that failure. It may be something trivial, it may be something that the guys [core people] never had the time to do or we have not allowed them the time to do it.
>
> The guys that they are working with try and assess them on a month-to-month basis. It is an official tracking of the training records because it is within the audit system. So each October, November and December we issue the training records and have a look to see if there are any individuals who will be, can be or should be moving on. And if there is no change then they may have achieved what we wanted them to achieve so realistically we have employed them to do this job. (Manager D)

But although training is not properly assessed to the degree expected by management, the employees and team members are experiencing learning about their jobs through being socialised in the work environment. An understanding exists that individual managers will 'take care' of their staff and engage with them in more subtle ways involving informal learning opportunities along with formal training.
Within the Quality Manual, particular mention is made to 'support systems':

> To ensure [our] Quality Policy is carried out in a controlled and effective manner, the Company have support systems to ensure continuous process capability and operate a training programme that enables all personnel to understand their responsibilities and perform their functions efficiently and effectively.

Learning is enabled through a support system, defined in the data as a 'safety blanket', an environment circling employees where the aim is towards improvement and support and reliance on others. Below, a manager analyses how he understands 'staff development' with particular mention to an employee who has been with the organisation for a bit over a year. Following this, the employee recalls on the reciprocal conversation he has with his manager about his progress.

The manager:

> [This employee] is a bit more experienced [than his co-worker] but he still struggles. He is very young and there's a maturity aspect that kicks in at times where he doesn't really understand. He is twenty-two years old. It's a lot of responsibility for someone of that age. He needs to be brought up to understand how important the job is. (Manager A)

And to do this, he is paying particular attention to verbal encouragement:

> I encourage him all the time and I motivate him as much as I can. I say 'yes, you're doing well, I'm happy with that'. And he asks me sometimes and I say 'you're doing well, and we want to develop you further'.
>
> We all have individual weaknesses. But what you do, you try to resolve that and help them with these issues to improve where they are weak and not just say 'he is not good at that'. I take people on to make sure that they can develop and do a job for me. (Manager A)

He gives an example, through insights he developed, into why he follows this tactic:

> We've got a guy down here [production] who's really really good, he's top notch. He could probably get a job anywhere and he does all the training down there and he does a lot of the work and he's been training in-house. But he wasn't really brilliant to begin with; he was a good apprentice but he needed experience. It takes a few years to bring somebody through these machines. (Manager A)

And the employee in question speaks of his learning experience as being one where he is allowed to learn how to ‘fly’:

> When I first came in [my manager] said this is the system we use [intranet]. He

> left me on my own devices for the first ten, twenty minutes just to get used to this system and the way it was laid out. He would then show me something and then he would obviously expect me to take notes so he'll show me – he'll go away [and] I'll go away. He'll show me how to do it, [I would then] do it while he was there and then he would just leave notes on my desk to say ‘this is what I want done’. And then I would do it. If I got stuck I would go and see him for help.
>
> When I first started I was asking [him] 'how I'm I doing, I'm I doing okay, is there anything I need to improve on?'. He would let me know, and if I did, I would concentrate on that. (Team member 1A)

Developing apprentices into competent employees who can handle machinery and work interdependently is a much lengthier commitment for the organisation. The approach followed is also one of nurturing and understanding, 'being there' for new starts where ever they are on their training journey. This emanates from a need to create a feeling of community because of a high proportion of employees are being trained who find work elsewhere, as seen in a previous section. By them being members of the community, chances are higher that they decide to stay, even at hard times:

> The youngsters when they come in, it is overwhelming. Because they think it is like a huge shock to them, when they come from the school or college environment into the shop floor. But that bit is up to you to manage...to blend them in. What we did in the past is to sort of gently bring them in until they get sort of welcomed into this harsh world-society.
> We keep saying 'apprentices' but they are young and they are still young when they come to the end of their time [four years of training]. So they are sitting there with the most qualifications you'll ever require for any job but you'll still be looking at them as kids. They're not fully formed. And they'll learn and they will be able to teach other people. (Manager D)

In order to enable them to learn, but also keep the balance of production and the demands on manufacturing, the impetus falls undoubtedly on the core people. They are authorised to train them and to evaluate their progress but obviously simultaneously keep up with production schedules:

> Is just having the core at the end of it. Any mistakes they [trainees] make or anything they do wrong you still have to look at it from the point of view that they are young. Again academically [they are fine], mechanically you're looking at if there's the core, you should be able to manage it. If they stay – that is the problem. (Manager D)

While in the Managers' Meeting minutes, a note about an employee's repeated error and the way that is dealt with reveals an attitude towards supporting and facilitating

learning:

> [The CEO] pointed out that there were seven complaints relating to thread defects, it was decided that the new thread-rolling operator be given extra training by both Inspection staff and [charge hand], training to consist of increasing his awareness of thread specifications and tolerances and use of a shadowgraph.

Elsewhere, in more informal learning situations, the same theme arises: employees enabling the learning of other employees. One employee with five years' experience is explaining that her approach to training others is one of 'discovery learning':

> I think the best way [to learn the job] is when you do that for yourself and alone, and then you find the problems. I think this is maybe the best way and you don't forget again. (Team member 1E)

Her approach stems from her own experience from when she started and the way her predecessor did things:

> I felt that she was that kind of person who learned something and 'we don't change it' because she was doing it for 35 years and [we] 'don't touch it'. And if I thought 'listen this is maybe easier if I do it this way', [she would say] 'no, no, that is not fine'. But maybe my way was ten minutes and her way was half an hour. (Team member 1E)

Denoted in this theme, is that socialising within an organisation's learning culture is as important as receiving intense training. The need to nurture and support employees through their learning curve and see them through from junior apprentice/new start to an independent and contributing member of the organisation is of unparalleled satisfaction. Improvements are centred on improving communication between employees and management, explaining expectations and resolving problems. However a large part of employee development would still rely on them engaging in work practices embedded in routinised work, an expectation that learning will follow working.

Organising theme: Knowledge transfer through routines The need to preserve knowledge through collecting, manipulating, storing and recalling it has been seen as critical to a process of organisational sustainability. However the vehicle through which this process can take place is the enacting of routine practices throughout the organisation. In this Organising Theme, knowledge is conceptualised as being

transferred through routines, which act as the means for learn*ing* to take place, but also for the organisation to achieve everything else it stands for (producing goods, remain a leader in niche market, create profits, sustain a reputation etc.).

The table below pulls together the routines that take place within this organisation one a given day from the accounts of interviewees. Although by no means exhaustive, it summarises the daily lives in the Procurement, Sales, Planning and Stores department:

Routine

<u>Procurement</u>
• Purchasing of raw materials, tools etc.
  • Setting contracts
  o Inter-company contracts within mother company
  • Explore possible suppliers with 'dummy inquiries'
  • Reviewing contracts
  o On Delivery & Quality
  o On Quality reports are sent by Quality Assurance Officer
• Running internal ordering system twice a week
• Maintenance of approved & non-approved supplies
• Ensuring raw materials are in on time
  o If not pursue (call or e-mail)
  o Or, cancel and create new order with other supplier (review that supplier's contract)
  o Sent letters for delays or scrapped material
• Parts and components send to subcontractors for re-work
• Machine maintenance
• Receive logs/complains from Production

<u>Sales</u>
• Receiving Orders directly from Customer (fax, e-mail, call)
  o Contract Review
  o Customer enquiries are logged on to the enquiry log and given unique ID before quotation is raised
  o Once all relevant information has been verified (Correct part number, price, quantity price, release requirements) a price is set and quoted to the customer
  o Upon receipt of a customer order an internal Sales Order can be generated (Information loaded onto the system for production control to incorporate requirements into the overall plan)
• Visiting Customers
  o Reduced-orders customers
  o Major-income customers
• Exploring possibilities in new markets
  o Creating quotes for novel products (parts or assemblies) to send to customers

- Liaising between Parkside and customer
    - On delivery times
    - On possible expansion of business (diversify) of repeat orders

Planning

- Customer Orders
    - Contract Review Stage
    - Involved in setting of delivery time
    - Identifying any additional requirements (machinery or tooling)
- Production process
    - Constant assessment of various activities in the Shop Floor to ensure completion of Customer Orders
- Reporting of faults on machinery

Forward Planning

- Revisiting all customer orders put through by Sales team two months in advance to ensure:
    - Job Cards are raised for every one of them
    - Raw Materials or any additional tool/action required will be in place when Job Card goes 'live' (the order begins to get fulfilled at Production level)
- Reviewing personnel needs
    - Retirement or resignations and preparing for the recruitment & selection process as well as planned holidays and emergencies
    - If specialised trained workers that involves the principal engineer and trainer of Parkside machinery

Stores

- Sending out customer orders
    - Packaging and shipping
    - Pick List is prepared
    - Shipping is through contractual Delivery companies (signing delivery sheets, scanning barcode of bagged parts)
- Depending on the customer different packing and delivery processes:
- Storing material or completed orders
- Sending out or receiving 'further work' parts/components from subcontractors
    - Return to Inspection once they come in
- Receiving completed parts/components/assemblies and any leftover material from Production
    - Logged through scanner gun and on 'stock card'
    - Physically placed in appropriate section in 'bin' (metal automated cabinet)
- Issuing out to Shop Floor/Production raw materials
    - Job Card is checked against current stored material
    - Amount issued to relevant factory worker [scanned and fill in 'stock card']

- Receiving Raw Material
- Check Delivery Note (physically check against material expected)
- Create Stock Card by filling in the information of the material delivered
- Print the barcode (attached at the back of stock card)
- Place inside 'bin' at available slots
- Issuing out Drawing of parts/components/assemblies to Production employees
- Receiving tools order by Procurement/Planning
- Booked in
- Notify person on site that they have arrived

Table 10: Routine practices in Parkside

What routines, such as the ones mentioned above offer, is the opportunity for organisational members to **exchange knowledge**. While learning to do their part of a routine, employees are automatically participating in the routine of another colleague. This enhances the exchange and solidifies their understanding and placing of each routine in the grand scheme of things.

A set of examples extracted from the interview data of three employees, all of whom have been with the organisation for less than eighteen months, are indicative of how both visual and auditory cues elucidate reactions from organisational members, basically urging them to act their part of the routine.

Below an account of the final stages of a job being completed in production is recounted. Two separate departments deal with the end-product. One employee from Inspection and then another from Stores. They use the trolley with the finished products as the indicator for their routine to begin:

> The final job is always Inspection. Everything comes to Inspection, then we inspect it then we will put a stock count, make sure all the numbers [are correct] and then we give it to Stores and he sends them away. (Team member 2E)

Then when it reaches the Store, the employee there begins to prepare the product to be sent away:

> This trolley that when stuff gets made, it gets put on and then it gets in Inspection to get checked first and then put back on the trolley. Then at 3 o' clock [another colleague] – she prepares the purchase orders to get it send away for treatment, she'll being it down to me and then I'll go and locate where it is, put labels on it, bag it, put it in boxes and sent it off. Because of [logistics company] it stays behind the gate and they come up at half three every day. (Team member 3A)

The same happens when products that have been ordered come in and are kept in the Store. In order to pass them to the right person when they have arrived, he needs a piece of paper from another colleague:

> When someone from the shop floor orders something, she'll bring me something down to say that ‘when [e.g.] the drill comes in, it is for so and so', so I know when I book it in it is for that guy. (Team member 3A)

In the administrative office, an employee is preparing Job Cards, the detailed instructional blueprint for each order. His job involves a degree of stop-motion; he prepared the Job Cards but he needs to wait until others see them and make decisions on their content before he is able to action them – to get the process started:

> Once the Cards are raised, they go down to the tooling shed [a room with trays where core engineers pick up the printouts for perusal] to make sure that we got the correct tooling for the job. If not then there is at least another week to get the tool in.
> [They] check the tooling, make sure everything is okay, hand back the Job Card to me, I make sure the material is in stock. If the material is not in stock, I would then go to [Procurement manager]. He orders the material, and when the material comes in it gets booked in [by the Stores employee and then it is visible on the intranet]. When the material comes in, that Job Card goes to the Stores. (Team member 1A)

At the Store, the Job Card initiates the employee there to act by beginning to prepare the raw material for the product to go into production:

> The Job Card comes down; I check that we got the required quantity. If I got it I then go to the location, find the material, get the material out and I then issue it out – issue out the bit of metal to the machines and log the operation. (Team member 3A)

The notion that routines create the conditions where people can exchange individual and organisational knowledge is a central theme throughout the data. In this section, instances were selected to show how people always engage in acting and reacting in work circumstances. However throughout this chapter, people have been seen transmitting messages while going about their work, and a lot of the tacit and explicit knowledge is accessible in this way. Indeed, the knowledge presented in this form emanated from interviewees going over a day's work. In their accounts they would say 'it's the same work every day' although this is easily deceiving because in the data

many comments revolved about how *they* did it differently. How such **routinised work enables innovation** was not immediately obvious:

> [When raw material comes in] it gets moved in to where I can find a free space in the large bin [slang for storage cupboard]. I'm very good [at finding space] cause I got a piece of paper that tells me where's free space. Cause when I open the bin, I can see a space, so I put down D16, so I know for when stock comes in I can put it in there. [Team member 3A]

He also devised a filing system for keeping track of incoming tools, to save time going up and asking who it for is:

> It is something I personally started doing because when the [tools] come in, it doesn't say who it is for, so having me come all the way up the stairs and ask whose it is for. When I get the copies of the invoices I just put them on the wall and when the tools come in I check and see who it for is. (Team member 3A)

The experience of having others not following their own routines, has made one employee completely re-configure his own set of routines. Due to the very close delivery dates given to customers, the raw material needs to be in rather quickly, at times. However suppliers have set their own minimum/maximum delivery dates that are already pre-determined. This employee manipulates that to ensure continuous flow of materials:

> I'll put leap times for the suppliers for raw material and components etc. There will be leap times in the system for thirty or sixty days already build in. Once the contract goes through and the Job Cards are raised, all these leap times should be taken into consideration [But this is not what usually happens]. What I normally do though is I won't go for the dates bang on. I'll bring them in, two weeks or so early. Just to make sure they are here on time. (Manager B)

He is also driven to secure the tightest of leap times (delivery times) from suppliers and discontinue contracts with suppliers who are currently not up to par:

> If I see a supplier persistently failing, what I'll do I'll send a few 'dummy inquiries' out. And see what they come back with. If they come back with descent prices then I will give them a trial order to see how it goes and then cut them [the ones that fail on delivery times] and start using the other supplier. (Manager B)

To innovate could also mean to completely reinvent a routine, alter it to such a degree that it is completely dissimilar to what was taking place before. A manager for example has made way with his predecessor’s minimal customer contact approach

and decided to leave the office and meet customers directly. In his 'engaging-with-the-customer' routine, face-to-face contact prevails:

> You tend to get better information by speaking to someone like this, rather than speaking to them over the telephone or in an e-mail. If you get someone who trusts you and you get on well with, I think you can take it to the next level. It is important to build a relationship with the customer or your contact. (Manager C)

Summary of Thematic Network C

This third part of the presentation of findings explored the Global Theme on 'Knowing is Sharing' titled like this to illustrate how the organisation makes sense of a changing and demanding environment and balances its (re)actions according to its values and priorities.

The issues discussed revolved around how organisational knowledge can be gathered and utilised, preserved and developed but also transferred through routines. The main theme running along these topics is how knowledge, personal and organisational can be transformed so that it can generate new knowledge that makes the organisation more efficient.

In the **gathering and utilising knowledge** organising theme organisational members are considering how to best make use of the knowledge generated in the organisation and how eliciting that from people and practices would benefit the company. As it is accepted that knowledge in a social system is dispersed (Tsoukas, 1996) and that it cannot be concentrated in a single mind and that it is also tacitly held (Giddens, 1979), the organisation aims to create a platform where tacit becomes explicit and where information is translated into knowledge. If accepting that knowledge in the organisation makes part of their knowledge assets, that is core competences, technology, processes, systems, structures, products and services (Pemberton & Stonehouse, 2000) and it defines skills and core competencies (Albine, Garavelli & Schiuma, 1999) then it is essential that ways are devised to diffuse it amongst people and departments. The aim is not to gather all that is known in the organisation so that everyone has the same knowledge but rather to combine the various levels of expertise to create new organisational knowledge (Bollinger & Smith, 2001) and management's role is thus to create a 'field' (Nonaka, 1994, p.22) encouraging networking and communicating to instigate sharing and collaboration. An

organisation that wishes to be successful must be able to create, gather and cross-fertilize knowledge across individuals and units (Inkpen 1996) so that the company can attain deeper levels of understanding and perception that could lead to business astuteness (Bollinger & Smith, 2001). Having this in mind, this theme also suggests that this urgency to collect and converge information is because knowledge in this organisation needs to be looked after and somehow identified and measured. With people leaving the organisation the knowledge they brought with them (through education, training and experience) and the knowledge they created while working here could go with them unless the organisation transforms that into 'organisational' knowledge (Bogdanowicz & Bailey, 2002). The difficulty of transferring 'procedural knowledge' (Cohen & Bacdayan, 1994, p.566) from written or verbal form to inform practice is found to be a precarious affair, especially when improved practices are discovered in one part of the organisation and would benefit other parts if they could easily be communicated.

And if knowledge is prized enough to be gathered then it will need to be **preserved and developed** in ways that promote organisational values. McInerney (2002) sees organisational knowledge not as an object but as a 'collection of processes that allow learning to occur and knowing to be internalized' (p.1010) thus constructing knowledge requires that people participate in organisational processes. What is crucial for this organisation is to understand the conditions that would increase the likelihood of a skilled performance to be enacted (Orlikowski, 2002) and create the human, social, structural, technological and infrastructural conditions that would do so. Additionally, besides the external circumstances, people also develop through learning and experience a 'corpus of generalisations' (Tsoukas, 2001, p.979), a collection of generic rules, what Giddens (1984) calls schemes that help us negotiate routinely the situations of social life. Although they cannot cover all the possible scenarios, they provide the necessary for individuals to negotiate organisational life situations. This organisation makes full use of its understanding of its own strength – the experience and competency of its long term employees and engages them in the development of organisational knowledge through practices. The accumulation of experience in a practice leads to better communication and understanding of relevant knowledge (Zander & Kogut, 1995). Thus by fostering access to and membership in

a community of practice (Brown & Duguid, 1991) what is achieved is that context-specific knowledge can be perpetuated through that practice and at the same time grow because less experienced but new members can interpret it and renew it in their own practices. This new knowledge that is being created in a process of practising (Strati, 2007) is actually 'fabricated' (Gherardi, 2000a, p.219) through production and reproduction. While then, organisational continuity persists, because individual employees know what they are doing and successfully communicate their knowledge to others (Giddens, 1984), new knowledge is constantly created through this sharing and the dissemination of individual experiences (Inkpen, 1996). The interactions that happen in the organisation via in-house training for example, constitutes a great opportunity to accumulate firm-specific skills and values (DeCarolis & Deeds, 1999). The stakes in preserving and developing knowledge are high because managing learning and knowledge are processes that involve change and movement to new levels of cognition and understanding amongst individuals (McInerney, 2002) and failing to do so may decline organisational performance (Inkpen, 1996).

So the organisation chose to **transfer knowledge through its routines** because as a highly routinised establishment it is easiest to use this practice to continuously reform the organisation. With routines being viewed as storing organisational experience (Cohen & Bacdayan, 1994) and as repositories of knowledge (Coriat & Dosi, 1995), organisations can quickly transfer that experience to new situations by socialising members through them. Accepting that learning can be embedded in the social and cultural contexts (Boreham & Morgan, 2004) and in routines, processes, practices and norms (Davenport & Prusak, 2004) organisational knowledge can be transmitted to new and old members through training, orientation, mentoring, ceremonies and stories (Lundberg, 1995). While membership in communities of practice is a favoured practice; learning still needs to be captured, organised, disseminated and used (Wagner, 2003) in some fashion for it help performance, thus the previous organising themes show the efforts made within the organisation to do that and in this organising theme to take it on more practical level of how this could be achieved. Feldman and Rafaeli (2002) argue that during routine action, organisational members establish shared understandings about organisational power and identity, but also how their own individual actions relate to the larger

organisational picture. It is through this constant interpretation and understanding that routines get their 'ongoing accomplishment' (Howard-Grenville, 2005, p.629) status. Being viewed this way, as the opposite of permanent, means that they can be recreated and revised through each enactment and are inherently capable of endogenous change (Feldman & Pentland, 2003). Giddens (1984) uses the 'duality of structure' to resolve the issue of change and continuity; the recursiveness of day to day social life allows for the structural properties of social activity to be constantly recreated out of the processes which constitute them. Organisations continuously act and enact their environment and are transformed through these actions and enactions (Nicolini & Meznar, 1995) and in this process organisational routines and shared beliefs are modified as a matter of institutionalised practice (Lundberg, 1995) resulting in an organisation's knowledge to be continually (re)constituted through its own activities (Tsoukas, 1996).

Chapter 8: Discussion

Introduction

Following on from the presentation of the research findings in the previous chapters, here the key findings are discussed with an aim to explore possible explanations grounded in the literature (Chapter 2) and seen through the theory of Structuration (Chapter 3). The aim of the discussion is to explore what has been learnt from undertaking this research study.

Summary and discussion of the findings

This study asked one research question and one sub-research question:

1. What is the role of organisational learning in observed stability and change behaviour in an organisation, and
    a. In what ways is organisational learning manifested in this context?

The analysis of data indicated that organisation learning is a constant force in organisational life. The incomplete nature of knowledge leads individuals to constantly seek to increase their knowledge, improve their performance and increase their effectiveness. These are amongst the many things that individual employees accomplish in a single day at work. Their continuous interpreting and constructing of knowledge through experiences formed in the organisation or outside of it affect their practice. Their practice of being a manager, an inspector, an engineer or a machine operator. Thus the terms stability and change are not mutually constitutive or exclusive and rather than talking in those terms, organisational transformation through learning appears to be more conducive to what happens in a day in an organisation.

The following are the main findings of the study:

- For organisational learning to said to take place, a common objective is needed to drive collective activity.
- Creative conflict is necessary in organisations because it generates ideas, actions and outcomes.
- Contextual knowledge stems from interpreting and acting upon these interpretations.

Discussion of findings

The key themes that emerged from the data will be discussed with an approach to explain them in the context of the theory of Structuration and the theoretical constructs addressed in the review of relevant literature (Chapter 2), rather than a discussion of all the findings. Echoing the conceptual framework on the relationship between 'agent and structure'; in the organisational setting as 'employee and organisation', this section frames the research findings through the Structuration lens. Organisational learning is seen as the blending of a dualism: organisation as a structure and the learning (as a human capacity) as done by agents. However instead of this dualism, transformation of the organisation through individual learning – a duality, is used to understand how observed stability and change can both be present in organisations. Giddens explains that:

> 'the concept of reproduction has no more special connection to the study of social 'stability' than it has toward that of social 'change'. On the contrary, it helps to cut across the division between 'statics' and 'dynamics' […] every act which contributes to the reproduction of a structure is also an act of production, a novel enterprise, and as such may initiate change by altering that state at the same time as it reproduces it' (Giddens, 1976, p.128).

In the sections below, the cyclical motion of this transformation of the organisation through learning will be explored. First the role of individual learning within organisational context and the socialisation of employees in this context and what that means for the generation of ideas and the acquisition of learning and how their learning affects their interpretation of knowledge. Second the reproduction of the organisation through individuals' efforts in and through practices. Lastly the organisation as a transformed entity forcing the cycle to begin once more will be addressed.

1. *Individual learning within the organisational context: The incomplete nature of knowledge*

The analysis of data suggests that organisational learning is the product of individual learning. Individual employees are constantly learning and constantly pursuing to improve their skills to become more effective and efficient. Their efforts are mitigated by the context in which they operate and the knowledge they construct is always engendered by their socialisation in the organisation in which they operate. While they pursue learning about how to be for example an inspector, a machine operator or a manager, they are still practising their day-to-day duties. Hence the organisation is still functioning and the learning still taking place.

These findings are consistent with literature on the origin of the 'learning' in the term 'organisational learning' as the learning of the individual (Shrivastava, 1983; Nonaka, 1991; Lundberg, 1995; Grant, 1996). The literature suggests that the term may be used as a metaphor (Gherardi, 2000a) to refer to the learning of individuals within the organisation. However the findings of this study suggest that the term encompasses more than just this learning. It is the capacity of individuals to construct knowledge – knowledge that is created with others in a given context that gives rise to individual learning being called organisational.

A suggestion as to how this may take place is the development and sharing of learning outcomes such as associations, cognitive systems and memories (Fiol & Lyles, 1985). Blackler (1995, p.1021) suggests that 'rather than regarding *knowledge* as something that people have, it is suggested that *knowing* is something that they do' [emphasis in original]. Their knowledge has not been discovered; instead it has been fabricated by 'situated practices of knowledge production and reproduction' (Gherardi, 2000b, p.211). Thus knowing is best viewed as an activity that all organisational members engage in, rather than focusing on making individual knowledge explicit (Nonaka, 1991) which would place all knowing in the minds of people away from their practising. The open-endedness of the world is what galvanises us to be constantly involved in new experiences and learning and also what gives the world its 'not-as-yet-formed character' (Tsoukas, 2001, p.989). So

know*ing* (actively constructing knowledge) is inseparable from organis*ing*.

It has been noted in the findings that newcomers for example are eased into their respective jobs as soon as they are hired with limited time spend on their acclimatisation. Becoming part of a team and practising the operations of your job description is the preferred way for this organisation. This approach is seen in the literature as knowledge that exists collectively in networks of individuals (Olivera, 2000), between rather than within individuals (Lam, 2000), and the best way to learn is through participation in these networks (Gherardi, 2000b).

In the data a theme was identified on 'developing and enabling learning' where employees would be expected to learn on the job; an expectation by their managers that competency would pick up in the long term. Manager D noted that some of his most experienced staff "in this day and age with the sort of technology and tooling and things like that, the guys that have been here all these years are still learning on a month-to-month and year-to-year basis as well". The nature of the work, although routine-based and assuming protocol processes, is always developing and no one can assume to have a 'hold on it'. This is a finding previously noted in the literature on routines as emergent accomplishments (Feldman, 2000) better perceived as work in progress. Their incomplete nature (Egidi, 1995) gives rise to learning, as agents pick up the skills as they seek to better accomplish a routine. The perception that organisations can be understood better as being in a state of constant flux (Tsoukas, 1996) helps to see how people would always engage in unending cognitive actions out of which novel practices would emerge. So when employees are learning and working, and when the situation arises when they cannot practice their job because of the provisional nature of knowing (Orlikowski, 2002) and the uncertainty of learning (Freeman, 2007), individuals would seek to tap into the network of people who can help them.

My findings suggest that becoming uncomfortable with the state of your knowledge and seeking to rectify that is something that happens slowly and incrementally. Employees at different stages in their career with the organisation had different understanding of their own knowledge/ignorance and varying degrees of confidence

with which to tackle or accept their situation. The employees with a few months on the job had to depend on their immediate supervisor to project their level of competency. As they were more integrated into the whole, their perceptions of themselves as learners began to grow and the impact of organisational values on their learning widened. Organisations typically use indoctrination, instruction and exemplification (March, 1991) to diffuse organisational knowledge to individuals as a form of embedded knowledge – knowledge embedded in social contexts (Boreham & Morgan, 2004). Socialising employees in formal and informal organisational processes (induction, training in health and safety; using the intranet) would transmit this knowledge (Lundberg, 1995).

But in actual fact this socialisation is the interaction between employees, and the blending of learning and knowing. While employees, of varying degrees of experience, socialise in the process of performing their tasks, the opportunity arises to exchange ideas and understanding and construct knowledge in this way. This is a finding previously noted in the work of Feldman and Rafaeli (2002) about the functions that routine work accomplishes, both at a personal and organisational degree. The authors suggest that instances of routine attainment are opportunities for developing understandings about what needs to be done in order for a routine to be completed but also the wider implications about how such a routine would assist the organisation to achieve its goals. It also serves as a way to coordinate personal subjectivities, perspectives and experiences to achieve a common goal (Boreham & Morgan, 2004), that being for example the ordering of raw materials with the varying opinions about price, quantity and quality.

What employees actually do in such situations is share their mental models (Kim, 1993), their understandings, perceptions, concerns and beliefs so what is 'stored' in one head becomes related to what is 'stored' in other organisational 'heads' (Simon, 1991).

A routine action gives the opportunity to think, learn and talk to one another (Davenport & Prusak, 2000) so that new ideas can emerge since the 'potential for new ideas arising from the stock of knowledge in any firm is practically limitless'

(p.13). In the process of acting out a routine, individual mental models can become explicit (Kim, 1993) and individual knowledge common (Roth, 2003) and thus grow. Whatever perspectives were created based on individual belief, once shared, can become part of organisational members' respective bodies of knowledge (Gao, 2007).

My research findings reinforce the idea that what is learned in organisations is related to the context individuals operate in (Brown & Duguid, 1991; Lundberg, 1995; Spender, 1996; Nag, Corley & Gioia, 2007). The insistence of the managers interviewed to have their employees working rather than studying or participating in external training with the explicit purpose of absorbing the experience of older staff that were either leaving or retiring is an example of this. The learning is directly linked with what is already known or believed by other members and also to the kind of information present at each historical time (Simon, 1991). Individual employees also absorb habits of thinking from their socialisation (Tsoukas, 1996) into organisational practices, sort of mediated thinking processes that uses the language and mechanisms individuals were exposed to. However as people actively engage in constructing their learning from their experiences, there is a strong element of interpretation of the knowledge they are being exposed to so that it fits into their own situation and perspective (Nonaka, 1991). Any information received (e.g. during meetings, verbal or written) is given meaning through interpretation to become knowledge (Nonaka, Toyama & Nagata, 2000). The act of interpreting is a crucial element of learning especially as it concerns building up new and diverse interpretations about the environment, events and situations (Daft & Weick, 1984; Fiol, 1994). A change in the meanings and contexts of existing knowledge can lead to new knowledge creation (Nonaka, Toyama & Nagata, 2000).

2. *Organisational transformation through practices*

The case study has suggested that individual learning is transforming the organisation through day-to-day practices. Instead of focusing on the major changes, a sort of storm (a metaphor for instigated change) and the calm after the storm (as stability), the research findings have suggested that every day, people produce and reproduce their world anew with elements of their learning visible in their actions. Practising routines is a very discernible way how this could be possible and conveys a view of organising as a practical accomplishment (Gherardi, 2000b).

Data analysis indicated that practising and knowing are closely related. Employees explained how going about their work and picking up experiences as they go is an essential part of the character of their organisation. Cost considerations elevate the 'doing' (Nelson & Winter, 1982) over the creating of learning and memory storages as separate actions. In one instance Manager C explained that a crash course in Marketing coupled with customer visits was the preferred mode to get him up to speed with the job. In other settings, employees were encouraged to translate their learning experiences: the occasions where a deviation was noted, the instances where an experienced member gave advice or when mistakes were made. This was usually done in the form of writing in a personal handbook or as printouts of examples. The findings overlap with ideas of knowing as not being separate from doing (Gherardi, 2000b), in what Giddens (1984, p.xxiii) phrased as 'practical consciousness'. Practical consciousness goes some way in explaining the knowledgeability of agents about what they do and why they do it. In practising their tasks they exhibit knowledge or knowhow not just mentally but also corporeally (Geiger, 2009).

These findings support previous work on viewing knowing as enacted in practice (Orlikowski, 2002). As with learning being constructed amongst individuals, knowing is viewed as being part of action (Cook & Brown, 1999) and not as something that is used in action or as necessary to it. The routines that make up the daily lives of the case study participants are a visual representation of this idea because the repetition of practices can give some insight into how an organisation

can be transformed through the enacted knowledge of individuals.

It relates back to the notion that as knowledge is incomplete and learning continuous, routines are consequently to be seen as works in progress and not finished products (Feldman, 2000). They emerge daily through the practices of individuals. My findings suggest that the process of emergence or reproduction is one that is imbued with additional knowledge acquired daily. This learning is implicated in the process of change, subtle change enacted through routines. Barnes (2005) proposes that learning is part and parcel of participation in practices and continues even after employees become competent in their tasks and independent of their manager. Several cases of this were mentioned in the data about the importance of allowing employees to 'grow' in their jobs. This was especially evident was in the Production department and the end of an apprentice's four year training scheme that would allow them to work independently of a Master engineer, but also in Planning where it is acceptable to work for a long time with limited understanding about how different parts of the organisation work – an understanding that it is expected to come with prolonged service and perhaps even job-rotation. The learning that takes place through participating in practices can create some discomfort with the state we are currently in and initiate a desire in us to change this state (Vince, 2001). While the conceptions of the activities we engage in change (Blackler, 1993), the way we practice routines changes as well. Even this minor alteration can be called organisational change because it involves new knowledge introduced into the existing way work is accomplished (Neg, Corley & Gioia, 2007). But whether organisational changes such a change in routines can be viewed as organisational learning (Nooteboom & Bogenrieder, 2002) is not automatically assumed (Fiol & Lyles, 1985).

However, although learning can change practising a routine, there is still an element of continuation that gives organisational life its patterned shape, what Cohen calls 'patterns-in-variety' (2007, p.782). Due to the natural fluctuations of the organisational environment, each routine performance is different but simultaneously the pattern is recurring even though there is substantial variety to the action making any two instantiations dissimilar. The suggestion from my research is that this pattern has the same 'emergent' quality as the routines that compose it. It cannot be taken for

granted and must be actively created by individuals in their daily practices. Individual employees by acting either reproduce or alter existing organisational properties but through 'sustained adjustments' (Orlikowski, 1996, p.66) social change can be enacted. What they actually reproduce through a routine is the practical knowledge or 'habitus...the historical product of previous and collective practices' (Gherardi, 2000b, p.216). The habitus creates, according to the Gherardi 'historical anchors' (p.217) that ensures the correctness of practices and their constancy over time. Although the explicit rules used in the Training Manual and Quality Assurance Manual are not sufficient to capture the richness and variability of routines evident in practice, any change or deviation from canonical rules is still context dependent (Nooteboom & Bogenrieder, 2002). Employees would use the tools available to them to perform their tasks, shaped by their previous application (Freeman, 2007), tools selected for a certain purpose but even that purpose is being shaped by the tools and materials available.

Thus a degree of stability is apparent due to the fact that contextual characteristics are shaping individual behaviour. Individuals act within a socially constructed context (Blackler, 1993; Tsoukas, 2001) and inevitably they would use their own knowledge, knowledge they have acquired through education, training and experience (Bogdanowicz & Bailey, 2002) to interpret and negotiate that context. But being knowledgeable individuals their interpretations can change and individual judgement over matters can lead to the emergence of novelty. Data from the organisation studied pointed to the strong sense of identity-through-values; where values were evident in making decisions, choosing prospective employees, generating alternatives to problems and even reacting to environmental movements. These values are not static though, they are 'living documents' whose meaning shifts as individuals participate in practising them. Apart from being a way to acquire knowledge, such participation can change or perpetuate such knowledge (Gherardi, 2000b).

It is the degree of change that gives organisations the distinctive pattern of stability.

March (1981) points to the ‘minor’ that is change that takes place constantly because knowledgeable individuals perform their duties through routine processes. So instead of pointing to change and stability as if they are interchangeable, 'organisational transformation' (Orlikowski, 1996, p.65) can better describe such subtle organisational renewal. When engaging in routines, employees are involved in a cycle where their ideas produce action, action produce outcomes and outcomes produce new ideas (Feldman, 2000). Developing new understanding of what can be done and the consequences of actions can result in adjusting our actions. Adjustment could be, doing different things or the same thing differently (Feldman, 2000), but the routine cannot be said to have changed, rather how it is been accomplished.

3. *How collectively we shape the society in which we live, but then that same society forces change back upon us as individuals*

The data from the study showed that organisational learning can have a transformative effect on organisations, as it is channelled through individual practices. Individual employees act as a collective, focusing their energies on satisfying organisational goals and objectives which drives their learning. Their continuous learning affects how individuals perform their practices and this in turn can be called organisational transformation. The transformed organisation requires from agents to pursue learning about its changes, updates and new requirements. This is part of organisational life and it is an unintentional consequence (Giddens speaking to Gregory, 1984) of collective action.
Once changes are set into motion they cannot be traced back to a single person, rather they have become organisational in the sense that they are practised in a given context, by a group of individuals who share a given set of background knowledge.

The findings of this study are consistent with research findings on how the shared understandings developed between individuals can generate collective action. Boreham and Morgan (2004) argue that if an organisation is to learn as an entity, a common objective to its activities is essential so as to 'behave' as a unitary entity. A

common purpose such as the manufacturing of high quality cables and components can drive conversations and interactions about best practice and engage individuals to be driven to contribute to such an organisational goal. This has been observed taking place during routine work (Feldman & Rafaeli, 2002), where the authors noted that the connections established can enable people to develop shared understandings (Lam, 2000). Because learning can be said to take place in the flow of experience (Gherardi, 2000b), interacting with others in routine work can help individuals learn the best ways to negotiate the paths toward the fulfilment of a purpose (Turner, 2005) i.e. an organisational goal or value. What is observed as collective action, although individual energy has been spend, is human beings oriented towards each other (Barnes, 2005) as interdependent social agents that respond to messages originating from other members as well as from the environment (Nelson & Winter, 1982). They learn from and adapt to other people in their interactions with them (Feldman & Rafaeli, 2002).

These shared understandings help organisations maintain a pattern of behaviour; as such understandings generate coordinated actions amongst individuals (Feldman & Rafaeli, 2002). But this collective form of coordinated cognition and action (Nicolini & Meznar, 1995) can be continuously transformed as individuals apply their unique interpretations to the local circumstances that confront them (Tsoukas, 1996). Employees constantly come into contact with internal and external environmental variations which they decipher according to previous experiences and understandings. They draw upon the rules and resources (Giddens, 1979) offered to them through their participation in the organisational setting which they take part in. to make their interpretations. But when they produce their world through their agency as 'historically located actors' (Giddens, 1976, p.160) and under conditions that they have not chosen these rules and resources are also reconstituted and their meaning has been altered in the instance of application. My finding that collective action can be transformed through individual interpretations underscores the suggestion that organisational learning can be understood as the improvement of actions through better knowledge and understanding (Fiol & Lyles, 1985). Ron, Lipshitz and Popper (2006) had concluded from their study that although individuals

are the ones who acquire knowledge and can act, the output of their actions includes changes at the organisational level such as making an impact on the ideas and practices that characterise an organisation (Vince, 2001). If learning can transform the individual, then it can also transform the social practices individuals participate in (Boreham & Morgan, 2004).

The organisation as a whole can be transformed through individual actions in an incremental way; taking the organisation as being a historical being (Cohen, 2007) action serves a more consequential purpose where today's actions can be both 'today's consumption and tomorrow's skilled capabilities' (p.777). When Giddens offers the addition of a duality in the understanding of continuity of institutions, the interactions between agent and structure can become communicating vessels instead of opposing entities. Under duality of structure (Giddens, 1984) the structural properties of a social system such as an organisation, can be both the medium and the outcome of practices and structure is not viewed as a barrier to action but as being involved in its production (Giddens, 1979). When we act, we draw from mutual knowledge or background knowledge (Cassell, 1993); knowledge constructed at the collective level that is taken for granted and remains mostly unarticulated. But once acted on, it comes to the foreground because it is constantly actualised and modified by members through their interactions. Organisations, through their members, continuously act and enact their environments and through their actions and enactions are transformed (Nicolini & Meznar, 1995). This structure that individuals beckon upon is not external to their actions and cannot be viewed as a constraining or enabling capability (Giddens, 1984) but as the medium through which to practice and the outcome of practising.

While it can be said that all organisations learn (Kim, 1993) and the learning is continuous (Nicolini & Meznar, 1995), the transformation can be continuous as well. Data from the case study indicate that continuity from one day to the next is itself energy-laden and completely consuming for the individuals who run the company. Because their actions seem to be focused on maintaining the organisation – the visible observation that the organisation is the 'same' each day - it does not exclude

change on a spectrum range. Organisations as enacted forms of action inescapably are transformed through organisational members' agency (Orlikowski, 1996).

The suggestion from my research is that even small changes, happening from inconsistencies in knowledge and as the outcome of learning, can be implicated to the transformation of the organisation and that change and stability are two faces of the same coin. My findings overlap with ideas from previous work suggesting that in everyday organisational life rule-bound action and novelty are present (Tsoukas, 1996) as is innovation, learning conflict, interpretation of organisational goals and negotiation (Gherardi, 2000b) giving employees the opportunity to follow rules but do so in a contingent manner. In their efforts to 'keep the company going', the employees of this organisation reproduce the structural properties of their world simultaneously as they are reproducing the conditions that make such action possible (Giddens, 1984). But as each act of reproduction is also an act of production, it inherently contains novelty. As a result there is continual shift in meaning as new knowledge is diffused in the organisation (Nonaka, 1991). My findings reinforce ideas that changes in routines can transform the organisation (Feldman, 2000); if routines are changed, the meaning of a job is altered and altered jobs can have structural effects on the organisation. Orlikowski (1996) finds that any, sustained adjustments in organisational practices, can be termed social change. Her research led her to infer that change can be realised through the 'ongoing variations' (p.89) emerging from the improvisations and slippages of everyday activity. This argument, that organisations are themselves an 'ongoing accomplishment' is evident in the literature (Feldman, 2000; Orlikowski, 2002; Feldman & Orlikowski, 2010). It is on-going because organisations continually constitute and reconstitute their knowledge through their activities (Tsoukas, 1996) and whatever regularities emerge are always in the making reproduced and transformed in every instance of action (Feldman & Orlikowski, 2010) and cannot be taken for granted.

Other research suggests that rather than being on-going and continuous,

organisational transformation through learning requires more piecemeal means. Organisations and their members are necessitated to engage in 'cognitive' processes such as reflecting upon the establishment that has been created through their actions, identifying it and transforming it (Vince, 2001). This 'establishment' is considered as limiting organisational progress because it is beginning to confine the organisation to certain behaviour. Once reflected upon, it can be assessed and altered to become fit-for-purpose once more. March (1991) also considers how the blending of exploitation/exploration within an organisation is a matter of planning and not something that occurs naturally. An organisation would need to consciously decide how much energy to spend in exploring new possibilities over exploiting given capabilities. Walsh and Ungson (1991) also suggest that organisations depend heavily on the memory of employees with long length of service, something that is unsustainable in the long term because fewer new members would want to join such establishment. This can render the organisation unable to acquire information, rather more inclined to retrieve from the memory of its existing employees. What these views have in common is that they separate the knowing from the doing into knowledge that exists 'out there' and 'in here' (Feldman & Orlikowski, 2010). That is, what can be projected onto artefacts and systems, with what is embedded in human brains, bodies and communities; inevitably leading to a dualism over the cognitive and the practical aspects of knowing.

Chapter Summary

The main findings of the study have been discussed with an emphasis on explaining them through the medium of the theory of structuration and by reflecting on the literature reviewed to examine what has been learnt. In particular the discussion focused on the research question about the involvement of organisational learning in observed stability and change behaviour in the organisation studied. This resulted in the development of an argument around organisational transformation through learning and how possibly either stability or change can be viewed as part of the 'on-going transformation of the organisation through learning as it is demonstrated through practices'. In order to unpack this; the discussion centred on first, the individuals as the carriers of knowledge and creators of learning and the context that affects both these functions. Second how individual energies around the organisation have the capacity to instigate transformation in and through their practices was considered. The issue of practising, as the means through which learning can be continuously enacted was presented and also how routine work can be implicated in this process. Finally the result of individual actions - a transformed organisation and its effects on the individual, were examined as the potential of an unending learning loop for organisations.

The following chapter will take the findings as discussed here and explore their implications for theory and practice, review some of the limitations of the study and offer some suggestions for future research.

Chapter 9: Conclusion

Introduction

This research study set out to explore organisational learning and its involvement in stability and change processes in an organisation. The study examined organisational functions and actions and recorded employees' perceptions about such actions and individual involvement in them. Following a thematic network analysis and using Giddens' Structuration Theory (1984) as a sensitising device to make sense of the data collected, this study concluded that organisational learning is implicated in the transformation of organisations through employees' practices.

Implications for Theory

This study found that organisational learning, as created and sustained by individuals whose actions are centred on a common goal, can create conditions of stability and change through their everyday practices. This study utilised Giddens's Structuration Theory (1984) to understand the term 'organisational learning' as a possible researchable topic. That is it asked/explored what is learning that can be said to be organisational. What the theory on structuration has provided is a rationale behind individual actions and institutional longevity. In organisations this longevity is characterised by an enduring configuration of activities that give organisational structure its patterned regularity (Ranson, Hinings & Greenwood, 1980).

What this study contributes to the utilisation of Structuration Theory in the study of organisational learning is extending understanding on what Giddens calls a fundamental concept of structuration theory, that of routinisation (1984). The research with Parkside showed that practices as routinised behaviour, are consequential in producing the 'structural contours of social life' (Feldman & Orlikowski, 2010, p.4). This finding is a variation of the discussion in the field about sustained changes that come from employees being deliberately involved in change processes that pertain to organisational purposes and how to better achieve these (Boreham, 2008). A 'cause and effect' approach has been avoided; instead the

findings provide insights into the everyday actions, knowledge and understanding of people as they go about their work. This is deeply ingrained in Giddens's attitude towards knowledgeability of agents and the power they have over their actions as it is mediated through their practices.

This study contributes new knowledge about the role that practices play in the way learning is implicated in organisational stability and change. This supports the proposition of Berends, Boersma and Weggeman (2003) that organisational learning consists of changing organisational practices through the development of knowledge. Any change in the activities of the organisation, major or minor, is made up of changes in the recurring practices of individuals. While such change might be imperceptible, it is always present as employees develop further their understanding of how best to accomplish their tasks. However through the processes of social production/creation and social reproduction/replication the observed stability, which is best described as the patterns of actions and interactions that become standardised over time (Orlikowski, 1992), form the observable structure that can be called organisational stability.

For Giddens, individuals create meaning and social reality from within social settings (Layder, 1994), so they use the tools that they have been given or they have found already predetermined for them by their use through others. They do not invent the world but neither do they simply 'carry it forward'. Individual actions during the reproduction stage are imbued with our personalities, styles of behaviour and experiences we have picked up during our lives. So although we draw from pre-existing structures as means to act, thus we produce a social reality that is similar to the one before action, our act of creation inevitably produces anew the organisation.

This is a position emerging from the study, that the employees of this organisation are driven by the beliefs and the values they hold as much the organisation drives them (also in Antonacopoulou, 2006; Boreham, 2008). While individuals participate in organisational practices, these practices do not pre-determine action rather they are constantly transformed in the process of acting through them (Staber & Sydow, 2002). Employees of this organisation actively reconstruct those aspects of their

working environment that have impacted on their work. They possess the power to transform, to a certain extent, the circumstances that they find themselves in and make a difference, however indiscernible it might be for those used to equating organisational change with major events.

The use of structuration theory as a sensitising device also promotes duality over dualism, that is viewing 'organisational learning' in the workplace as a unitary act rather than elevating the organisation over the individual or the individual over the organisation. The value of structuration theory to increase our understanding of organisational life has significant potential (Pozzebon & Pinsonneault, 2005) because it deals with both the creation and maintenance of ideas and structures but also with change and continuity (Staber & Sydow, 2002). Continuous examination of the processes through which structures are built and enacted (Yuthas, Dillard & Rogers, 2004) should be the aim of the intersection of structuration theory and organisational learning instead of focusing on the individuals or the structures per se.

Implications for Practice

The discussion of the findings has given rise to some implications for managers and human resource practitioners for improving learning in the workplace.

Management can utilise the idea of socialising individuals amongst groups to blend learning and practising rather than separating the two. This can mean dual responsibilities for experienced staff as they are both to be attending their own duties at the same time as they supervise someone else's learning and they need to be supported in this role. A shared responsibility between managers and senior staff members can improve on the continuity of practice in the organisation. This is best achieved through engaging people in communities. In a community people can get connected with each other and interrelate their knowledge by creating common understandings (Tsoukas, 1996). This reinforces the idea that in communities, individuals learn how to practice (Brown & Duguid, 1991) which takes precedence over learning *about* practice. The investment on development of the employee base is

long term and the possible outcome is a more independent individual who can, over time, give back to the community s/he joined as a novice. What such participation propagates is not for all members to have the same knowledge but rather to combine their varying degrees of expertise and create new organisational knowledge (Bollinger & Smith, 2001). In creating communities, management can offer a safe space for encouraging sharing and collaboration. Knowledge, as an intangible asset of the organisation, has the capacity to increase with use because ideas breed new ideas (Davenport & Prusak, 2000).

Another implication for practitioners is the practice identified in this case study of learning-on-the-job and the various benefits this brought to the organisation. Although to an extent this practice has evolved for the organisation from necessity, it nonetheless works because it generates content-specific results. By connecting knowing and doing through practice (Gherardi, 2000b), an organisation is determining its approach to learning. Even when apprentices complete the required years of their training, they still learn as part of their participation in that practice itself (Barnes, 2005). This allows for practices to change, for learning to be progressive and simultaneously for individuals to be implicated in the organisation's identity survival. As a consequence of this, any 'best practices' formed in communities cannot be considered as organisational best practices and transferred from team to team (Orlikowski, 2002).

In addition, managers and decision-makers could take the ideas of learning-as-practice and the continuous knowing that happens in their organisations through their members and reflect on what that says about their company's priorities on learning and development, the preferred way of socialising new recruits and the possible effects this has had on forming an identity for the organisation. Antonacopoulou (2006) in her work suggests that how employees learn can reflect the route to learning promoted by the organisation but also denotes the resources made available and the directions about how to learn.

When an organisation is facing difficulties with the end result of its efforts to develop its members and their effectiveness being deemed inconsequential to the

organisation, then the onus should be relieved from the individual and directed towards any systemic issues and misplaced priorities. This approach can have significant implications on 'organisational unlearning' (Wang & Ahmed, 2003) where any insistence on existing beliefs and methods that inhibit learning need to be modified or redrawn. This need not be a drastic reengineering of the whole approach to learning and development since practices affect and are affected by the individuals who use them (Nag, Corley & Gioia, 2007).

Lastly understanding how learning happens in the workplace and how it can affect the organisation as a whole can help to advise decision making on how to best foster and sustain learning processes. It can lead to the designing of learning workplaces and environments (Easterby-Smith, Crossan & Nicolini, 2000) so that different kinds of knowledge and experience can best be coordinated. It is noted that the management/employee divide is better seen as a duality rather than a dualism and not as a top-bottom relationship in which employees are disenfranchised. There are however opportunities that management can generate so that employees can participate in change initiation (Jian, 2007) such as creating communication events where dialogue and negotiation are emphasised and support groups in their efforts to implement change.

Limitations

This study, as in all research, is not without its limitations. Some of the methodological limitations have been discussed in Chapter 4. The main limitations include, first, the fact that these findings are based on a single case study which limits their generalizability, second, that this study had interviewed individuals mostly coming from the administration levels of the organisation and had less access to members of staff who worked in the manufacturing/production aspects of the business, and third, that I used a pre-determined sensitising device of structuration theory to both approach relationships at the organisation and analyse the data within its confines and using its given language.

As regards generalizability, this has been addressed under the ‘nature of generalisations in the social sciences’ section in Chapter 4. Generalisations in the social sciences are a contested area but cannot be excluded completely from a discussion about the possible implications of social science research and their possible transferability.

The limited access I had to individual employees within the manufacturing department is a reality of doing empirical work on a busy site where production deadlines and cost concerns overrun any pre-agreed meetings. Also, the production employees which included master engineers and mechanics and their less experienced apprentices and assistants are governed by a dramatically different working and pay environment. That of non-salaried employees. Their work is timed and any moments they ‘clock off’ they cannot claim as worked time. While the number of employees that agreed to make the time for an interview was not high, I was able to cover a range of positions at Parkside from almost all the managers to a newly employed untrained inspection assistant. This range of positions helped to paint a picture around what ‘learning’ means for different employees at different career points and of varying experience within the organisation. Their learning experiences with the organisation, their interpretations of organisational structures and discussions with their managers, their input into the working life of the organisation, all helped to convey a sense of the context in which learning takes place and is created. I was able to use multiple individuals from across the organisation to create a better understanding of what it means to be a team member, make decisions and receive instructions but also behave in acceptable and at times expected ways.

The use of Giddens’s (1984) theory of Structuration as a sensitising device has been explored at length in Chapter 3 where criticism of the theory he proposed was offered. And although within those confines that Giddens places for researchers, his idea is that Structuration is a way of breaking free from the dualisms that are evident in the social sciences. What he has offered in this study is a way of ‘seeing’ the world and explaining it through his ‘language’, meaning the relationship between

employees and the organisation (as agents and the structure they create), the knowledge expressed through practice (agents' knowledgeability about their work) and the interactions between them (the act of structuration).

Future Research

This research study has identified some issues regarding organisational learning; its implications to change and stability processes as it has further our understanding about employees and their input into this process. What has arisen though is a set of possible avenues that could be followed by further research. Some of the issues that come out from the analysis that are above and beyond the scope of this study could be pursued to further our understanding on the various strands within the organisational learning field. For example there is a big discussion on the issues of power in organisations and the implications of the way it is exercised, by whom and to what end and thus how that affects learning and its various strands. Also it is important to focus on some of the cases that arose where learning failed or where failure could be attributed to learning or its lack: the cases for the revolving door of employees, the consistent failure to meet deadlines and delivery dates and also the failure to pursue individual ideas.

In the organisation studied, like all organisations, failure is a common issue. It takes place at various levels and it affects individuals and their practice at varying degrees. Examining the effects of failure can reveal unrecognised relationships and provide insights about organisational dynamics (Nag, Corley & Gioia, 2007). In this case study, observed failure instances were identified as being linked to a variety of systemic issues such as time given to new employees to pick up their skills or providing a more concrete training programme. However there were other 'types' of failure, such as securing new kinds of clientele, resistance to expansion of production line or inability to persuade others of new approaches to manufacturing procedures. Examining failure as learning that takes place but perhaps learning that cannot be applied or contradicts existing norms would provide some insight into how power relations operate in a small organisation.

A further issue that has been noted from this piece of research is how such power relations affect and are affected by learning and knowing as it might conflict between shareholders' goals, economic pressures, institutionalised professional interests and political agents (Easterby-Smith, Crossan & Nicolini, 2000). While this study has paid closer attention to learning as a social phenomenon affected by contextual meanings, attending to the 'political dynamics' (Lawrence et al, 2005, p.181) of organisational learning would improve perceptions on possible barriers to its success (Schilling & Kluge, 2009). It can also enable us to better understand why some kinds of knowledge might be more privileged over others (Tsoukas & Mylonopoulos, 2004).

In order to explore power in social relationships, the actions of those in charge, i.e. the company's CEO, can be studied to add another dimension to understanding a particular body of knowledge as it evolved in the organisation. Nicolini and Meznar (1995) find that those in charge can act to construe organisational identity by transforming change, past choices and experiments into rational knowledge in an effort to control the organisation's future. Giddens calls this 'selective information filtering' (1984, p.28) where strategically placed actors seek to regulate the overall conditions of system reproduction to keep things as they are or to change them.

So thus another avenue of future research would be the examination of personal beliefs and values and how they impact on organisational knowledge (Davenport & Prusak, 2000). Apart from focusing on their actions and the possible outcomes from their practices, looking at what drives individual behaviour would extend insights into what drives their behaviour. This could be achieved by prolonged periods of time spend with employees. With a longer-term perspective the opportunity to 'see' actors' frames of meaning, the product of their structuring and how structures have been constituted (Ranson, Hinings & Greenwood, 1980) becomes more apparent than in the short term.

In addition, it would be interesting to examine – in the long term – why and how organisational practices continue to be practised and how they are changed or

mended (Geiger, 2009) but also which practices survive and why. This relates back to the systems of knowing and doing in organisations (Blackler, 1995) and how they are changing, and research would begin to explain how organisations need to respond to such changes. One way of approaching this would be to explore the similarities between organisations; that is what processes between organisations are similar and why they work or fail in some organisations over others. In other words, understanding how coherent action emerges over time (Tsoukas, 1996).

Final words

This thesis has attempted to join the efforts of established researchers and authors on how best to understand organisational life, study it and offer some explanation to those who experience it (work in organisations, write about organisation, trying to come up with solutions about organisations) about how to help it improve. And although the word 'organisation' might force a false sense of abstraction, the aim was to contribute to the individuals who strive every day for a better working environment and an improved working life for themselves and their colleagues.

The route this thesis took to achieve this was to investigate how learning (that can be defined as 'organisational') is involved in an organisation's capacity to 'balance' stability and change. I place the word balance in inverted commas to indicate what I have learned through conducting this study: that stability and change are part of a spectrum of colours; i.e. individuals in organisations are much preoccupied with many issues all at once. To 'balance' something (a decision or an action) requires that you consciously decide to move things towards a certain end.

Similarly, learning, this elusive term, had reverted my understanding of 'organisational learning' to 180 degrees because during the initial stages of the study, I was sure that organisations can learn, despite not having any indication that they do. In essence, the relationship proposed by Giddens of a world where agents produce and reproduce their word remained hidden, at that time. In comprehending the relationship that exists between humans and the world they have created (and to an extent, inherited), the hidden became visible. The reality of organisations being created through the actions of their employees and the continuing impact this has for an observed 'stability' or 'change' was revealing.

It revealed that learning is a human act; but that yes, it can be called organisational as well. It does not refer to the organisation as an abstract entity but as involved in this unfolding, this improvement. It becomes the physical and metaphorical space where people think and act, and these cannot help but be mitigated through their membership in ‘this’ organisation (rather than any other organisation).

So if ‘organisational learning’ exists, then its implication into any organisational function (such as stabilising or changing) is implicitly assumed.

But the contributing elements of this thesis are that it exposes the daily actions that are imbued with constant learning, in effect it proposes that these actions are necessarily implicated in the stability and change of organisations. That the people who enact them contribute to its transformation and that their experiences, learning and practising is directly associated with its maintenance.

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Appendices

Appendix A: Consent Form

Consent Form for Interview

1. **Title of Research Project**

Organisational learning and its role in stability and change in a SME in Scotland.

2. **Details of Project**

This project has been funded by the Leventis Foundation Postgraduate Scholarship Fund. The research will explore if there is any relation between an organisation's efforts to bring change and stability to its functions with an ability to learn as an entity and in what ways is that possible. If this is the case, this study will identify the factors that contribute to an organisation blending its continuous learning with its efforts to change and stabilise.

3. **Correspondence Details**

For further information about this research project or for any concerns over your interview data, please contact:

Katerina Apostolou, PhD Candidate, School of Education, University of Edinburgh, Scotland, EH8 8AQ

Tel: 44 (0) 131 651 6353, e-mail: k.apostolou@sms.ed.ac.uk

4. **Confidentiality**

Interview transcripts and records will be held in confidence and any personal information will not be identified (such as name and position). They will not be used other than for the purposes described above and third parties will not be allowed to access them. If you request so, a copy of the transcribed interview can be made available to you so that you can comment and edit as you see fit by contacting me through the e-mail address above.

5. **Consent**

I voluntarily agree to participate and to the use of my data for the purposes specified above. I can withdraw consent at any time by contacting the researcher.

TICK HERE:
DATE.....

Note: Your contact details are kept separately from your interview data

Name of interviewee.....

Signature.....

.

Email/phone.....

.

Signature of

researcher.....

Appendix B: Interview Guide

I. Introduction

I am conducting a research study (as part of my doctoral studies in the University of Edinburgh) on how employee learning and practising can lead to organisational transformation. The goal of this interview is to extend my understanding on what tasks are involved in your working day/week/month and your individual experiences with learning how to accomplish these tasks.

All interviews will be kept confidential; nothing will be released without your approval. If you have any questions regarding the study, please feel free to contact me, Katerina Apostolou at k.apostolou@sms.ed.ac.uk

II. Background

How long have you been with this organisation, and in what capacities?

What was your background before coming to this organisation?

III. Historic Perspective

1. Can you please provide a description of what is involved in your working day?
2. Can you recall how you went about (and who was involved) learning how to perform the tasks associated with your position?

a. Sub-questions to stimulate interviewee*

*What is the nature of the meetings in which you attend? (team, managers', Quality assurance etc). What is discussed there (e.g. what decisions are made there) and what is your input?

*Can you discuss any instances where the decisions taken in these meetings had an impact on:

*organisational functions;

*routines and practices;

*organisational beliefs, values and norms;

*people and relationships;

And how what is discussed trickles down to the rest of the organisation and is realised?

*Who usually do you report to, and who reports to you?

*Who do you go for help?

*How is the intranet utilised in helping you accomplish your routines?

*How do you find that the new requirements of the AS9100 affect your work?

*Can you discuss any instances where things go wrong (i.e. there is a recurring issue with delays in delivery dates), and what you believe is predominately the reason(s).

IV. Wrap-up

Are there any other areas that we have not covered that you feel are important?
If you were to suggest an improvement to an area within the organisation what would that be, and who would be involved in making it a reality?

Thank you kindly for your time.

*Sub-questions with an asterisk (*) were not asked verbatim but were used as a list of questions to be explored with the interviewees.

Appendix C: AS9100 ISO Certification

AS9100 Certification

The AS9100 is the quality management standard specifically written for the aerospace industry. It had long been considered by some entities, such as the Federal Aviation Administration (FAA), that the ISO 9000 series of standards were inadequate in terms of ensuring quality and safety in the high risk aerospace industry. AS9000 was first published in August 1997 and was written with input from a number of large aerospace prime contractors including Lockheed Martin, Northrop Grumman and GE Aircrafts Engineers and was written against the clauses of ISO 90001:1994. In late 1999 the first revision of AS9100 was published by The Society of Automotive Engineers (SAE International) with input from the American Aerospace Quality Group (AAQG) and support from the International Aerospace Quality Group (IAQG) and the Society of British Aerospace Companies (SBAC). The current version of AS9100 – AS9100C aligns the standard with ISO 9001:2008 and has extra requirements regarding Regulatory Compliance and the following aerospace-sector specific requirements:

- Configuration management
- Design phase, design verification, validation and testing processes
- Reliability, maintainability and safety
- Approval and review of subcontractor performance
- Verification of purchased product
- Product identification through the product's life cycle
- Product documentation
- Control of production process changes
- Control of production equipment, tools and numerical control machine programmes
- Control of work performed outside the supplier's facilities
- Special processes
- Inspection and testing procedures
- Methods, resources and recording
- Corrective action
- Expansion of the internal audit requirements in ISO: 9001:2000
- First article inspection
- Servicing, including collecting and analysing data, delivery, investigation and reporting control of technical documentation

- Review of disposition of non-conforming product

The auditing team spent four days (April 2012) at the business site and assessed three processes: Sales, Purchasing and Manufacture/Production. The auditors reviewed several sales orders, production works from beginning to end and tracked the process of purchasing and storing goods/raw materials. A detailed report was produced with reference to all of the above and included a list of items that will be evaluated upon the next auditing visit.

Appendix D: Interview Transcript Excerpts

Interview 'raw' data – Sample 1 'Manager C'

How long have you been working with this company?
I started here August 2004. I came and joined Planning and Purchasing Department. Basically I was doing Purchasing; buying material, buying manufacturing components, buying consumables, tools. You've seen what we do, we make parts…raw materials, tooling, raw materials. Anything that needing purchasing goes through myself and […] at the time, he was my boss. I did that for two years, just over two years. Then I moved into the stores department, which was before we had a department of store and we had a department of dispatch, so we joined together both and there was me in charge of both.

I helped putting them together.

Before I came here I was in a company out in […]. It was an enclosure company, made electrical enclosures…this was my job previously. I was an inventory supervisor. So I suggested 'why not look at this and join both together', having store and dispatch on the same team.

I could see that two departments bringing them together would help. Whether it helped or not I don't know.

This was for three years. And then […] lost a couple of people and he says…he was looking for someone else. At that time we were quite quiet and maybe there was no need to have myself down at the stores. They thought if we get you up besides […] at the Planning and we make one of the stores person's up to a supervisory role and he can control some but not everything and you can be still head of this but be up here (upstairs at the 'offices'). So that's when I came back upstairs and worked with […] at the Planning and making sure that parts were going through the factory, parts were on time, dealing with customer progressing – people asking where the stuff is basically why is it late. So sort of liaising with Sales a bit more. Getting information for Sales. I was doing the quotes for vintage parts. Vintage parts are wires. And then obviously, obviously, there's was the sudden death of […] who was the Sales manager; and there was obviously a position available and I thought well, 'I'll try for that', so I spoke to […] first of all and he says I'll speak to […] about that and then I was fortunate enough to get the job. My Sales experience was virtually zero.

Can you explain what your actions are when you get some unfavourable feedback directly from customers?

Things when were late for reasons and some of the reasons just people not doing their job quickly, you know, not looking at the big picture, looking at specific parts. Every customer has the same importance. You have obviously bigger customers that give you more orders but when you look at the big picture you need to make sure you are concentrating on every customer not just one. And it is very difficult to do that cause you hear about customers with orders of 100 thousand a month and you have customer of one thousand a month, you know what customer you want to keep happy. But this one is also going to be you know asking questions like 'why are you treating us like this'. So after the meeting you know I had to come back and I had to get everyone on how it looked, need to get everyone put together a recovery plan. We need to get ourselves back out there because obviously he was threatening to take the business away elsewhere, and 2, we need to try and get more business from him. Who knows the business they took back to manufacturing house, might come back here. But if you are performing like that it's not going to come back. So from then we managed to recover that we managed to get things back up and to build it up to where it should be.

I'm just wondering if you are finding that culture might be the issue here.

Yes, the problem is culture but the [our] problem before was the order would come to us, we didn't need to look for orders. Now that is - that was, and to some extent we still are very unique. We were this, the only business that could manufacture a lot of these stuff. That's changed, that's changed. So before the sales guy who was before, and I started we didn't have to look for business, because these orders were coming flying and (**the environment has changed**) yes it's changed. Customers are obviously buying less because of the money problems, secondly there's a lot of competition.

There is a sense here that you provide a unique product.

People can make cable assemblies, maybe they don't have our capabilities, maybe they don't have our quality, but you know they can get them. So there are more competitors in machine components which is now the biggest product for us. Machine components. You know, machine components are 'up here' cable and stream lines and the other but before cables were 'up here' but obviously they went down. Machine components were up here but they went up.

When you are saying now and then, what timeline are you meaning?

Ten years ago. But even maybe; you know when I first started six-seven years ago the biggest business was cable assemblies but that's came down and machine components was rising. Now it is the highest.

What is *your* strategy for increasing business volume?
To target the customer; what I've been doing, I've been targeting customers who I can see purchase our parts somewhere else. You know, I know companies who historically order from [us] and they only maybe order the same part all the time they don't vary off that part.
I'll be looking at customers who've been purchasing you know different parts, you know, cables components and I'll also look at customers who I can see, have…I'll look at their website and say they are using our competitors, let's make an appointment.

Who do you usually consult with?
[CEO] mainly. I would discuss with [him]. I'm looking at going to Ireland this month. I try if I'm going away to visit at least 2. So I always tie up with [him]. If you think you are close to getting an order I try and visit them, I try and make contact you find that people would be quite happy to see you. By reading an e-mail or in telephone conversation you can sort of feel if it sort of worthwhile.

Is it with [CEO] that you make these decisions?
The important decisions, the decisions that affect the business, I always go through with [him]. If there was someone on the phone, and they were to cancel their order then it would go through to [him]. 99% of decisions I make myself but would always, being in Sales for only 5 months you know I always check with him what I'm doing, whether it is going to be, have an impact on [our company].

So when you know that there is a problem that needs to be resolved…how would you follow that up and see if it has been resolved?
I took a call from a customer who I travelled down to, I think it was June. First order from them new business, [x amount] order. It was not finished so the customer came on asked so I sent an e-mail to everybody saying 'look I have meeting today at 2 o'clock to discuss this order and how are we going to resolve it' so I got everybody together, everybody who was involved in a recovery plan and say we have to get something in place to try and recover this, and how are going to get through as quickly as possible to meet the customers' requirements. At the end of the day, our customer also has a customer who is going to be on to them. If you get, the company I'm talking about is called […] who supply […]. If […] are asking why the parts are late and they tell them it is because of us, we'll get a bad reputation. And you don't want that in the our industry. Cause it is very small, not a small industry, a small community. We've had orders before, saying 'we want you to do this because we heard you're good'. We have a very good relationship with them. And we don't want to tarnish that. But it is easy to do that. So reputation is very important.

I was wondering whether you see any connections with the training and the problems you encounter in the field

I know the product. I can gain experience by meeting customers.

It is something you can only get experience by doing that you have to gain that experience by going out there and dealing with various situations, whether it be an unhappy customers, or a new customer you haven't met before. You tend to get a good, get better information by speaking to someone over the telephone like this, rather than speaking to them over the telephone or in an e-mail. If you get someone who trusts you and you get on well with, I think you can take it to the next level. Without going too far, but you can take it to the next level and try and get business from them. But if you meet someone and they make you feel that they want you out of the door in five minutes, then you think 'you're not going to get business here'. So it's quite important to build a relationship with customer, or your contact. It may not be obviously the manager or the …it may be a purchaser. But you need to try and hit it off with them and you can only do that by having good performance.

What do you feel is the bottom line for the clients; what do they most complain about?

Deliveries. That's what they're looking for. Customers are looking for their parts on time. Now, the quality, quality and delivery are most important things. Cause obviously, if the quality is not right, they're going to get rejected back anyway. Even though they're on time. But the quality has to be right but the delivery has to be on. Especially new business. Cause if you gain new business, 9 times out of 10 you got that new business because their other suppliers failed. So they took that back and gave it to yourself. So if you fail on the first time, then they'll say you're just as bad as the other one, we're going to go somewhere else.

Interview ‘raw’ data – Sample 2 ‘Team member 1E’

Interview 2

How long have you been working here?
Almost five years

Where did your training first start?
My first training was in Component side. I had been training there a couple weeks or months I can’t remember, maybe 2 or 3 months. Then I went to Cable side. And I stayed there. Sometimes when I’m not really busy I help them and I get some components and I do them.

How many people work with you?
Five. They work shifts
The components side work day shift and back shift so when we day shift then we next week we back shift. I’m working day time; I start 7.45 and finish 4.30.

The factory is still open. But the people who work on the shop floor because they do back shift. Because the factory closes at 10 in the evening. But most people work day shift.

Can you tell me what do you do in a day?
Proof loading machine – I’m working there sometimes when I have a cable

What is […] doing?
[He] does that at the moment, cause he helps me, because sometimes some cables are too long when you are working on the proof load so it is many many hours. So when I work there I can’t inspect cables so I spend lots of time there. So he helps me.

When I don’t work on the proof loading, I inspect cables.
First it is the proof loading
The second one when I start inspecting cables I’m using technical drawings. I’m measuring them. I’m checking every components in the cable as the drawing shows and I put pall mark, and I print labels and pack them and I take them to the store.

So when do you consider a cable to be ready to be sent to the warehouse? You mentioned the drawings and how you need to check everything against that…
Yes. You must definitely check everything shown on the drawing. So I need to check every part and because I have a job card and a drawing so I can use them and I need to check everything, the components and the cable. I measure them, I check the cable length and I need check the components, end of the components because the boys are

swaging them and I need to check the diameter of for example, the screw end or ball end I need on some cable to put on identification tags and then you carry the part number. I use the vibrating reeve, I put the part number, maybe issue number, date code and my stamp number. And some cables I need to paint because when they have been swaged, it depends what kind of component. Because sometimes we have stainless steel type components – those we do not paint them. That's very special stuff we do not paint that.

What happens if there is a problem with either the product or the job card?
If I have a problem then I need to go and see my manager. [He] is the person and we need to ask him and tell him that this is the problem and [he] is the person who tells you what you need to do.

I was wondering what is a good day at work for you?
I think the good is when I can do my work without problems and I don't need to rush and I'm happy when I do my job and things are normal.

So what would a problem be, that you need to go to [your manager]?
Sometimes for example, when I check cable length, and we have a tolerance, like plus and minus tolerance, sometimes when the cable is over tolerance and I'm not sure if it is okay or not. I want to make sure so I definitely go to [him] and ask him 'what do you think, because this is a little bit longer over the tolerance'. And he says okay re-send it.
Definitely he is the person and I need to see him.
Or sometimes when a job card or drawing doesn't show and we need [to know] for cable proof load and I'm not confident, and I see [him] and I say 'have a look' because I haven't got much information about this cable, can you please tell me, I need to do proof loading on that' and he tells us.

Sometimes something is scratched in the components and if it visible and I think it is not so good and I take it to [him] and he checks and says it is okay you can send it.

So he knows everything?
Yes. He is the […] manager. So he is our boss. So it is no good when he doesn't know! He has experience. He's been here 47 years.

Okay sometimes I'm feeling definitely OK. But I'm feeling definitely better if I ask him. So I'm all the time just ask him if I have any problems. It is maybe I solved those problems 2 or 3 years ago but just to make sure, I'm definitely feeling better if I ask him.

If you can remember back to when you started learning your job in Inspection; Was there any kind of document you were asked to read explaining how things are done in the department? Was there anything written?
Yes we have a manual. They showed me, but when I started here my English was very very rubbish. So that was very hard time for me.

So did they ask you to sit next to somebody? How did you learn to do this job?
Yes. In my side, the cable side, there was this old lady and she had a very very big experience and she taught me and showed me everything.

How long did that last?
She left the company 6 months after I started and I stayed in that side alone, and I did everything alone so after a couple of months.

I saw you have a booklet with notes in it. Is that her notes?
Yes. When she told me information and I put everything on my book because I learned everything, you know in a second language not just in your mother tongue. If they had taught me in my own language it would have been easier but I wish!

Now that […] is here, are you using the same way [to teach him]? How does he learn from you?
But his job title is not Inspector. He is just Quality Assistant. He does measuring some components and he helps on the proof loading but he doesn't inspect. Because that is not his job title.

So what is according to you the best way to learn how to do Inspection?
I think maybe the better way is when you do that for yourself and alone and then you find the problems. I think this is maybe the best and you don't forget again.

You had mentioned the lady that taught you this job.
Sometimes I felt, that she was that kind of the person who learned something and we don't change it because she was doing it for 35 years and 'don't touch it'. And if I thought, 'listen it is maybe easier if I do it this way' [she would say] 'no no that is not fine'. But maybe [my way] was 10 minutes and her way half an hour.

That's why I asked that if you were to teach someone now…
Yes, I would try and help and how he does to make it a little bit easier that way and say 'oh that is fine it is maybe better that way [his way]'.

Cause sometimes when he is working in the proof loading and I can see that this is maybe the wrong way and it doesn't help for him and sometimes I just go there and I tell him 'listen maybe you need to try that side and maybe that helps for you and

that's better'. [And he says] 'alright that's better'.

Yeah, because your work is so much about detail and you cannot always bring that back from memory.
Sometimes we have problems. And sometimes some of the drawings are very bad (illegible) and sometimes some part mark identification it is really really hard on a drawing to…you can't really read that, and I need to ask [my manager] sometimes. When I see an identification mark and I'm like 'what is that, I don't know? , I go to [my manager] and ask him to explain what is that and he can check that. And then I put that in my book and next time I don't need to run to his office and I can learn if I put it in my book next time I do that [job].

I'll also like to ask you about any changes that were done and you were asked to change your ways. In the years you've been here.
We had inspected [named cables]. And I don't know what's happened but one time I inspected and the length was wrong. There was a mistake, I don't know what happened. And then we changed the inspection [process]. We did for example, when I get the first off cable, I inspect it and the other inspector inspects it as well. So for that kind of cable we do double inspection [for the 1st cable].
Because it just happened and we have a really big customer and we don't want to lose them so we do that double [checking]. Only for that customer. Cause we don't want to send the wrong cables to them. I remember we do for [names cable] double check.

Is that the customer asking you to do that or …
Only on this component. The boss thought it is the best way; when we do that type of cable, double check. Because you know sometimes we have mistakes as well, so we've changed that.
I think it is better. I like it because when I feel that I am tired or just a little…I don't know…and I can…
But it never happened again. Wrong length…that is just that time. I don't know what's happened

So when something happens it is not your responsibility to find who or what…you take it to [your manager] and he investigates.
Sometimes when a customer has rejected something and they send back for [him]. But sometimes they don't explain what's wrong and [he] needs to find out what's wrong. It is really strange.