QUALITY IMPROVEMENTS AND CHANGE MANAGEMENT IN THE BRITISH NUCLEAR INDUSTRY: A CASE STUDY

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ABSTRACT

PURPOSE: THE PURPOSE OF THE RESEARCH IS TO EXAMINE THE UNDERSTANDINGS OF A CONTEXT SPECIFIC ORGANISATIONAL CHANGE FROM THE EMPLOYEE PERSPECTIVE. THE RESEARCH FOCUSSES PRIMARILY ON UNDERSTANDINGS OF CHANGE, CULTURE AND SUSTAINABILITY.

METHODOLOGY: THE RESEARCH UTILISES A QUALITATIVE CASE STUDY METHODOLOGY, AND INTERPRETATIVE STANDPOINT TO GAIN INSIGHT INTO EMPLOYEE UNDERSTANDINGS OF CHANGE WITHIN A NUCLEAR CONSTRUCTION ENVIRONMENT. 13 SEMI STRUCTURED INTERVIEWS OF EMPLOYEES FROM VARYING LEVELS AND BACKGROUNDS WITHIN THE HOST ORGANISATION PROVIDED THE PRIMARY DATA SOURCE

FINDINGS: OUR MAIN FINDINGS HIGHLIGHT THAT MULTIPLE CULTURES AND POOR COMMUNICATION LEAD TO AMBIGUOUS CHANGE EFFORTS AND UNCERTAINTY, LEADING TO RESISTANCE FROM EMPLOYEES. THE ABOVE FACTORS ALSO PROVIDE A BARRIER TO INSTITUTIONALISED CHANGE

THEORETICAL IMPLICATIONS: THIS RESEARCH HIGHLIGHTS DIFFICULTIES OF EMERGENT STYLE CHANGE, AND MANIUPLATING A SMALL PROPORTION OF AN OVERALL ORGANISATIONAL CULTURE. THE RESEARCH SUGGESTS THAT FROM AN EMPLOYEE PERSPECTIVE MULTIPLE CULTURES PROVIDE AMBIGUITY FOR CHANGE DIRECTION. INDIVIDUAL IDENTITY, AND COMMITMENT.

PRACTICAL IMPLICATIONS: WE FIND THAT IN LINE IN MUCH OTHER LITERATURE COMMUNICATION IS OF VITAL IMPORTANCE FOR INITIATING AND SUSTIAINING CHANGE. THE RESEARCH ALSO HIGHLIGHTS THE SIGNIFICANCE OF FUNCTIONAL ASPECTS FROM THE EMPLOYEE PERSPECTIVE SUCH AS TARGETS, TIMESCALES AND PROCESSES, AND SUPPORTS THE USE OF EMPLOYEE CHAMPIONS FOR SUSTAINING CHANGE

LIMITATIONS: THE CONTEXT STUDIED WAS HIGHLY REGULATED WITH SECURITY AND THIS LIMITED THE AMOUNT OF ACCESS TO THE HOST ORGANISATION

ORIGINIALITY/VALUE: THIS RESEARCH ADDS TO THE SMALL AMOUNT OF LITERATURE EXAMINING CHANGE FROM AN EMPLOYEE PERSPECTIVE, AND PROVIDES EMPIRICAL EVIDENCE TO SUPPORT/CHALLENGE SOME KEY CHANGE THEORIES

ACKNOWLEDGEMENTS: WE WOULD LIKE TO ACKNOWLEDGE AND THANK THE SUPPORT AND EFFORT FROM OUR HOST ORGANISATION AND EVERY VOLUNTEER WHO PARTICIPATED IN THE STUDY. FURTHER WE WOULD LIKE TO THANK PROF. STEFAN SVENINGSSON FOR SUPERVISING THE PROJECT.

CONTENTS

1.1 INTRODUCTION

Although a long studied phenomenon, successful change initiatives and change management still appear to be a somewhat elusive occurrence in both public and private sector organisations (Meaney and Pung, 2008; Ghemawat, 2000). Contemporary organisations face tough challenges to adapt and stay relevant in competitive, ever-changing and demanding environments (Balogun and Hope-Hailey, 2008; Beer and Nohria, 2000). Whilst there are varying reasons for change including improved ways of working (Rugman and Hodgetts, 2001), improved business performance (Balogun and Hope-Hailey, 2008), and socio-political or economic incentives (Wernerheim, 2010), questions regarding the processes and substance of successful change initiatives remain largely unanswered (Dawson, 1994), with failure often attributed to insufficient attention being paid to *soft* cultural and social aspects of change (Heracleous, 2003).

According to Heracleous (2003), an academic dichotomy often exists between *understandings* in the interpretive paradigm and *managing* in the functionalist paradigm, however, effective management requires a deep understanding of the issues, context and background of change as well as the content. Indeed many scholars go on to suggest that change programmes contain many informal sensemaking processes (Ford et al, 2008) that have important implications on the outcome of change projects (Weick, 1995; Homan, 2010; Ford et al, 2008).

From an employee perspective, organisational change can have significant impact either directly or indirectly on their life. Fullan (1997) argues it is therefore important that individuals are able to understand, analyse and influence factors within a change process that may affect them. Even despite limited involvement, those that feel an affect or effect of change are likely to have formulated an opinion with regards to such initiatives (Clarke, 1999). Combined with Ford et al's (2008) argument that resistance is a major barrier to change and reason for failure, provides a strong basis for studying change from an employee perspective.

It has been suggested that in many contexts employees struggle to comprehend difficult and changing environments (Fullan, 1997), and the employees' role in organisational change, including their influence in bringing about change and maintaining change intensity should not be underrated (Dunphy and Stace, 1993). Burnes (2000) suggests a move away from hierarchical and mechanistic change structures to more open, equitable and democratised change processes. However, such

assertions fail to take into account the necessity of formalised change, and rules, regulations and laws governing certain industries.

The main purpose of this research is to explore employee understandings of a large scale culture change within a specific context – the nuclear industry. The change initiative studied was deemed necessary by senior stakeholders and implemented in a top-down manner, going against Burnes' recommendations of open and inclusive change. However, as suggested by one senior figure within the company before the research started, the changes were of paramount importance for the health, safety and security of not only those within the company but citizens worldwide. By adopting an interpretive approach the research seeks to gain insight into the understanding and (un/) acceptance of the change initiative in this manner and context from the employee perspective.

1.2. BACKGROUND – NUCLEAR ARMOURY ORGANISATION (NAO), UK

Nuclear Armoury Organisation (NA0) (pseudonym) has been a central part of the United Kingdom's defence and security network for over 60 years. The organisation manufactures and maintains the warheads for the UKs nuclear capability, covering the entire lifecycle of the warheads, through concept and design, to manufacture and maintenance, and finally disposal.

NAO operates over 2 main sites; Site A and Site B, employing approximately 4,500 staff and over 2000 contractors in a range of disciplines including scientists, engineers, technicians, industry specialists and business and administration experts.

NAO is contracted to the Ministry of Defence (MoD) through a government owned contractor operated agreement, with the government investing £1billion a year into the operation. As the operations are privately managed they are subject to the same regulatory controls that apply to the civil nuclear industry, providing stringent guidelines that must be followed for operations to be legal.

On behalf of the MoD and as the custodian of the physical assets, NAO is responsible for the development of the estates in which they operate, including increasing utilisation of facilities, consolidation of facilities and long term capacity generation. As such a number of projects, including Project X, are currently underway to meet these goals.

1.3. BACKGROUND – BUILDCORP AND PROJECT X

Project X is the first Class 1 nuclear build in the UK for 30 years, with investment of approximately £113million. The project will replace the existing NAO assembly and disassembly facilities at Site B with one facility that will fully incorporate modern environmental and safety standards. The project includes the building of the main process facility as well as all the related support structures including plant buildings, sub-stations, gate-houses, drainage infrastructure and security systems.

The pre stages of the project began in 2009 with the commissioning date due to be during 2017. In mid-2012 the Office for Nuclear Regulation (ONR) provided the green light for the civil engineering and construction phase of the project to begin.

The construction and engineering work is being carried out by a private contractor – BuildCorp (pseudonym). BuildCorp is a leading independent engineering, IT and facilities services company in the UK. Formed in 1921 the company is a family owned business that has grown from a small local company with a handful of employees to having 2500 employees across Europe.

BuildCorp has significant experience in delivering civil engineering projects, including sports stadia, railway stations, manufacturing facilities, and large corporate offices containing forefront technological and environmental considerations. The company's strategic objectives for the period up to 2017 include operational excellence in all construction and engineering projects and the utmost health and safety in construction.

1.4. RESEARCH FORMULATION AND RATIONALE

Although successful in delivering many commercial construction and engineering projects, the advancement into nuclear technology was a strategic decision that shifted away from BuildCorp's traditional strengths and expertise. Indeed being the first Class 1 nuclear build in the UK for over 30 years the venture represented a foray into a specific area of expertise (nuclear <u>construction</u>) that has had an underrepresentation in recent years. As one senior source at BuildCorp noted prior to the main research commencing:

> *"What we have in place at present is a construction company with no real knowledge of nuclear protocols, procedures, processes and all the associated paperwork and certification that goes with a nuclear build. They [sic] have been used to commercially driven projects where the quicker you get things up the more money you make. Quality control is tended as a way of putting things right at the end of the build. This is not the*

nuclear way. The nuclear way is to have all the paperwork in place before you even start the job and you have to prove where every piece of metal, pipe or bolt came from along with supporting documents showing certificates of conformity or traceable standards. Guess what – this has not been done and now there is 3 years worth of back building to have certified - that which they cannot provide reliable traceability for will have to be removed or replaced"

In order to combat the issues arising with quality a large scale culture change initiative has begun in 2014. The changes tackle not only functional and processual issues but are targeting the underlying beliefs and values of those throughout the company, with a move away from cost and speed focus towards issues of quality.

Stringent guidelines and written processes and procedures are being put in place, followed by detailed job specifications that require accountability for the work that is being done. Such practices are complemented by a series of education workshops, communication initiatives and leadership that enforces the need for proper quality planning and accountability throughout. The latter softer aspects of the change initiative are aimed at changing the mentality and culture of the organisation and those within to one where quality control and work being done right first time is of paramount importance and not a process to put things right at the end of a build. The organisation still faces a number of challenges however, which form the basis of the research and both practical and theoretical benefits.

Despite the introduction of a nuclear standard quality system, employees within the organisation have become extremely used to completing commercial projects and the ingrained processes that come with them. The culture within the organisation needs a large change and quickly. The same senior source described the scale of the problem:

"…some of these people could not even spell quality, let alone practice it to a suitable standard. What I am faced with at the moment is trying to put in the foundations when someone has already started building the walls"

With this in mind the aims of this research project were developed in conjunction with the senior management within the organisation.

Whilst there is much literature examining culture changes, the unique context of the situation provides an avenue of research that is unexplored. Taking commercial engineers and construction workers and introducing them into the dynamic and strictly regulated nuclear environment whilst simultaneously changing the underlying culture of an entire division within an organisation that has

been successful in its usual endeavours offers the foundation to explore the sense making that individuals at all levels in this context are experiencing.

In conjunction with the wishes of the organisation the research sets out to explore how the individuals at all levels, from the directors of divisions down to ground level workers, understand and make sense of the changes that are going on around them and how best to institutionalise these changes. As there are very limited number of employees within the company with a nuclear background the research will explore the sense making of strategic culture change towards a new knowledge base and quality orientated culture in the organisational division and wider organisation as a whole, and therefore it is relevant to examine individuals of all levels. The company has also requested this as it is not clear where the current problems with culture change are most pronounced and how the changes are being received at either top level or bottom.

The primary benefits of this study are to provide BuildCorp with insight into employee understanding of the current changes and therefore how to improve the effective management of the change processes and increase the likelihood that changes will be institutionalised. The context of cultural change is difficult for any organisation and this situation has provided a unique background, meaning that currently employee views may be hidden and unrepresented, hindering the success of the culture change process. The research aims to provide feedback and interpretation of a sample of views within the company, to help shed light on the situation.

Simultaneously, the study can be justified by adding to the small but growing amount of literature on organisational change and culture from the employee perspective. The research offers a unique contextual situation, providing access to an environment that has not existed in the UK for the past quarter of a century. Uniquely, BuildCorp is not undergoing a simple transition from one area of expertise to another. As opposed to transitioning the entire organisation and ensuing culture into a new market, BuildCorp is retaining commercial building work as well as completing Project X in the nuclear environment with the possibility of further nuclear contracts. This has seen the creation of a sub culture within the larger existing organisational culture, with staff moving back and forward between projects. This unique context allows us to examine the effects of cultures and sub-cultures within organisations as the key success factors of commercial and nuclear building differ drastically.

As Schein (1997) and Wilson (2001) argue, organisational culture is generally believed to be a shared phenomenon, however, in this scenario the cultures can be considered to be competing and pressurising individuals to conform to opposing norms. Throughout the research we examine not only the challenges in culture change but also an area we feel is under studied in the literature; the

effect on individuals' understanding when they are pressurised to deal with competing cultural demands and norms, and the validity that a new such culture holds with individuals used to the existing culture.

Whilst some authors express concern over the use of case study methodology, alluding to the perceived limited generalizability, reliability, and links to existing literature (Morgan, 1991; Ogawa & Malen, 1991), the aim of this research is not to produce results that can be extrapolated across a wide range of organisations but to induce an insight and conceptualisation into the unique situation that we are faced with. The choice of the BuildCorp and Project X case study is discussed further in the methodology section.

1.5. RESEARCH QUESTIONS

Hence, with the above in mind, the research aims to gain a contextual understanding of the complex issue of quality and organisational culture change from the perspective of the employee. More specifically the research will be guided by the following questions:

- How do the employees perceive the changes that are going on around them?
    - What do employees believe is changing?
    - How do employees understand the change process?
    - How do employees perceive the communication and support they are receiving?
    - What do the employees consider to be a successful change outcome?

- How do employees perceive the sustainability of the change initiative?
    - How important and lasting do the employees perceive the changes will be?
    - What do employees believe will be the effect on other projects within the organisation?

- What effects do multiple cultures have on individual understandings of change from an employee perspective?

1.6. OUTLINE OF RESEARCH

Chapter 2 reviews the literature on change and change management that may be of relevance to this thesis, identifying key trends and arguments from a broad spectrum of research and theory. The

review considers both functionalist viewpoints as well as the more interpretive and critical literature that is available, before positioning ourselves within the literature.

Chapter 3 is devoted to the specific research methodology that will be utilised throughout this research project. Starting with the researchers ontological and epistemological viewpoints the methodology is developed through qualitative research and interpretive standpoints, to moving on to discuss more specific issues such as the use of interviews, data analysis techniques and issues of validity, reliability and ethics.

Chapter 4 presents an analysis of the data gained through conducting semi-structured interviews within our research organisation. The five key themes that are examined; understandings, the change process, transformational aspects of change, culture and change, and sustainability, are split into further subthemes that emerge from the empirical evidence and the key interpretations are highlighted.

Chapter 5 provides a discussion of the obtained results. The empirical evidence is analysed and discussed to provide the reader with our insights. The insights gained are also discussed in relation to existing literature and we build upon the interesting and salient themes discovered through the case.

Chapter 6 finally concludes our research project, highlighting the key points and revisiting the original research questions. The chapter also reviews the project suggesting practical and theoretical benefits of the research, as well as the limitations we conceive the study to have.

2.1. INTRODUCTION TO CHANGE AND CHANGE MANAGEMENT

Whilst it is likely that organisational change has been happening in some form for as long as organisations have existed, the roots of change management as a business discipline can be traced back to the turn of the twentieth century and Frederick Taylor's 1911 book *Scientific Management.* Taylor's ideology saw organisations as machines, with improvement stemming from scientific investigation into cause and effect relationships founded on economic and engineering assumptions of best practice. Taylor's methodology was very processed focus and stripped human factors such as affect and emotion from the change process.

The variety of background disciplines utilised today in change management makes it difficult to trace the exact roots, however, after Taylor's work in the early twentieth century an opposing but equally important idea was developing. Whereas Taylor was heavily focussed on scientific processes many authors at the time were turning to the contributions of psychology and sociology, and the beginnings of *human resourcing*. Fleishman (1953) provided evidence to suggest that whilst training did initially improve outcomes; culture, climate and individual desires had as much of an effect on outcomes, if not more, in the long term. The study illustrated a critical idea that as well as individual differences and systematic factors, contextual variables may have a strong bearing on change outcomes, a point that will be revisited and explored through the research aims of this thesis.

Fleishman's idea that change management may be affected by multiple factors was developed further in the late twentieth century. *Sociotechnical systems* (Trist, 1993) examined the interrelationship between the technical systems in an organisation (e.g. the processes and hardware) and the social systems (e.g. individuals and groups). The theory would consider the interdependencies and effect that a change on one system would have in the other; for example, if a new communication hardware or process is introduced, how will that affect the way individuals communicate and interact. More recently, sociotechnical systems theory has developed into *open systems theory* (Trist, 1993) which also includes considerations of the organisations internal and external environments.

Not limited to open systems however, both branches of human resourcing and sociotechnical systems have aided in the advent of *organisational development (OD).* OD primarily uses an action research approach (Coch and French, 1948). Data is systematically collected and analysed, and an intervention is developed based upon the findings. OD utilises strong humanistic values, ensuring

that individuals and groups have the opportunity to be involved in the change process from the diagnosis to any intervention that may affect them. For this reason, OD initiatives frequently target an aspect of the organisational culture, to aid in reaching as many individuals as possible.

As highlighted by the above discussion, a century on from the advent of scientific management, and change management scholars have only broadened the range of factors that need to be considered in change initiatives, with little consensus as to the nature and reality of effective change and change management. As Stickland (1998) highlights contemporary ideas of change come with many names and forms; from innovation and development, through to transformation, metamorphosis and revolution, to name just a few.

Although today a general idea of change is a relatively understood and accepted phenomenon, there is no one universal definition of change that encompasses all the ideas (Hughes, 2006), and it is unlikely there ever will be one (Dunphy, 1996). At a simple level, Bartol and Martin (1994) suggest that change can be considered as 'any alteration of the status quo'. For this reason change can be considered a highly contextual occurrence, leading to Dawson (2003) to assert that there never can be one universal theory of change as it requires unknown and differing contexts and times.

With the above in mind, Hughes (2006) posits that contemporary change management revolves around *attending* to the processes involved in change at the individual, group and organisational levels. Hughes stresses the preference for the term *attending* as opposed to *managing* as this acknowledges that aspects of change may be hidden and emergent as well as planned, and that there are a range of approaches that may be involved in such processes. The nature and approaches to change are discussed further in the following subsections.

Fincham and Rhodes (2005) suggest that a large part of the change management process will encompass human aspects and ways of overcoming resistance, involving all employees in the change process as opposed to just focussing on one change manager. As Weiss (2001) notes, organisational change inevitably involves a redistribution of power, information and resources amongst other factors. This stance invariably moves the literature into the schools of interpretive and critical perspectives as well. Interpretive research and perspectives examine how individuals make sense of these changes and the meaning that they place on what is happening, whereas the critical perspective focuses primarily on the effects that change may have on individuals' rights, dignity and health.

Not limited to individual level however, many scholars address change issues from a multiple levels perspective (e.g. Hughes, 2006; Cummings and Worley, 2005; Burke, 2002; Burnes, 2004), with common levels resembling; individual, group and organisational perspectives.

Organisational level perspectives are common amongst the academic literature (Hughes, 2006). Aspects of change such as strategy and culture are considered to provide a strong foundation for shaping not only processes but behaviour, and are discussed further later in this review.

Individual level change is also highly emphasised, and provides an important input into both the critical and interpretive perspectives of change (Hughes, 2006). Authors such as Morrison (1994) and Cummings (2004) argue that organisational change results from changing individual perspectives and behaviours. Again, individual perspective viewpoints are discussed in more detail later in this review.

Crucially, authors such as Purcell (1987) and Hughes (2006) argue that change management is not a dichotomy of either individualism or collectivism. They argue that a deeper understanding of individuals' perceptions and understandings, feelings and beliefs, will only advance knowledge of change management, whilst acknowledging the considerable effect of groups, norms, culture and society upon individuals.

As such, Burnes (2004) and Sutherland (2001) have noted that change management may not be a clear and distinct discipline, but rather one that draws from a multitude of social science backgrounds, with particular relevance being derived from disciplines such as psychology, sociology, strategy, management and economics (Hughes, 2006). The rest of this review is dedicated to discussing key trends and contemporary arguments in the change management literature that have relevance to this thesis and the research aims of understanding change from an individual perspective.

2.2. REASONS FOR CHANGE AND TOTAL QUALITY MANAGEMENT

It is important to examine reasons for change in this review as it is relevant for one area of the following research; specifically, do employees understand why the organisation is changing? Reviewing the literature available on reasons for change will assist in highlighting any knowledge gaps that employees may have when discussing their own understandings of change and the change management process.

Authors such as Dawson (2003) and Burke (2002) have sought to classify change based upon characteristics such as scale, politics, temporal elements, scope and nature. With many classifications of change based upon contextual factors it follows that a myriad of unique and varying reasons for change exist for organisations.

For change to be initiated Tichy (1983) suggests that a trigger or driving force must be present, although there is much debate as to how important and relative potential triggers are (Dawson, 2003). Patton and McCalman (2000) suggested government legislation, advances in process or technology, consumer requirement and supply chain activity amongst others, as potential triggers for change. Factors that may well be considered pertinent in the case of BuildCorp.

Not limited to external factors, Daft (1995) also suggests that internal factors such as strategy, goals and culture can all provide reason to change. As Hughes (2006) reaffirms, each organisation has its own unique causes and contexts of change developed over time. In the case of BuildCorp, improving the quality of work can be considered to be a driving force behind change.

Dawson (2003) suggests that quality management has been highly prevalent in change initiatives post 1980. Total Quality Management (TQM) was ranked as the third most popular management technique in 1993 (Rigby and Bilodeau, 2007), however has recently seen a decline in popularity (ibid.).

TQM has three core principles; customer orientation, process orientation, and continuous improvement (Wilkinson et al, 1997). According to Collins (2000), total quality management is a set of *"policies, processes and tools designed to ensure that products (and, more recently, services) are 'built right first time"*, an organisational goal of BuildCorp with regards to the current change initiative. TQM does not follow an explicit theory and each time it is replicated it may vary. The essential ingredients of a TQM initiative combine values and principles with processes, techniques and tools.

Brah et al (2002), Hanson and Eriksson (2002) and Hendricks and Singhal (2001) suggest that a successful TQM implementation can be measured in terms of economic and performance success, through reduced waste or defects, increased productivity and profits, and increased employee and customer satisfaction, all issues that were perceived to be benefits by employees' in our analysis at BuildCorp.

Despite its relative ongoing popularity, many authors claim a large percentage of TQM initiatives fail. Bak (1992) suggests that the failure rate may be as high as 80%, whilst several studies including that of Elmuti at al (1996) claim that of those that are successful benefits may only be in the region of 20-

30%. Redman and Grieves (1999) cites the following reasons; a lack of synergy between quality management and everyday business practices, lack of managerial commitment, problems in adapting HR processes, the effects of recession and restructuring, and poor implementation. However, this is just a small list of factors that have been examined and blamed (Mosadeghrad, 2014).

2.3. APPROACHES TO CHANGE

Hayes (2002) differentiates between deterministic and voluntarist views of change management. Determinist scholars suggest that managers have a limited influence on the initiation and process of change due to determining forces outside of the organisation and their control. This contrasts with the voluntarism school notion of managerialism which suggests that management plays a large part in change. Within the managerialist literature Senior (2002) suggests that approaches to change are typically classified in one of three ways; the rate of occurrence; how change arises; or the scale of change. Each of these characteristics is reviewed with consideration to BuildCorp below, however as Guimaraes and Armstrong (1998) highlight, there is little empirical evidence to support the theories on approaches to change.

Early approaches to change management suggested that stability was a key factor for a change initiative to be successful (Rieley and Clarkson, 2001). Luecke (2003) argued that individuals have a need for routines and that too much change would be detrimental to performance. However, more recently, Burnes (2004) argues that for organisations to be successful they must seek individuals that are flexible and willing to adapt and change, even if continuous.

Whilst many authors use varying terminology, the rate of occurrence is commonly differentiated in nature between *continuous change and episodic change*. Grundy (1993) defines episodic change as a rapid change in either 'strategy, structure, or culture, or all three', with Senior (2002) suggesting that the causes of this can be either internal or external. In the case of BuildCorp, a large episodic change has arisen due to the problems faced in meeting client requirements.

Many authors have recently criticised episodic change, suggesting that the benefits do not last (Bond, 1999; Grundy, 1993). Leucke (2003) suggests that this type of change fosters defensive behaviours, complacency and an inward focus that requires another episodic change to fix, in a cyclical pattern. Instead, Leucke suggests that continuous small changes where people respond to both the internal and external environment is preferential. Further, Burnes (2004) suggests that

continuous change can be implemented slowly via departments or operations as opposed to episodic change which frequently targets organisation wide characteristics.

Hayes second classification, how change arises, centres on the debate as to whether change is most successful as a *planned or emergent* phenomenon. Burnes (2004) separates planned change from emergent by establishing that planned change arises from the direction set internally in the company, it is not enforced upon an organisation nor materialises by accident, therefore a strategic change. Emergent change may however arise from experimentation or adaptation, small scale incremental changes, or simply from an environment that fosters change (Burnes, 1996).

Strategic change is a sometimes contentious issue (Hughes, 2006), with De Wit and Meyer (2004) raising the question of what is meant by strategic change? In answer to their own question, De Wit and Meyer suggest that fundamentally strategic change should have an impact on the way a firm does business or is organised as opposed operational changes which are aimed at maintaining business position. The current changes at BuildCorp can be considered to fit into this strategic bracket; the company has entered a new market that has seen them requiring new skills, processes and knowledge that have not traditionally been associated with their core strengths.

Classical approaches of strategic change place emphasis on top management drawing up a plan for senior managers to implement. In line with the debate as to whether strategy is planned or emergent, scholars argue about the nature of change initiatives. Genus (1998) questions how plannable a strategic change is, with Eccles and Nohria (1992) suggesting that strategy is a constantly emerging phenomenon as people interpret, reinterpret and respond to their perception of the organisational identity and purpose.

The concept of a planned strategic change originated with Kurt Lewin in the 1950s. The n-step models of planned change that are highly prevalent in the literature, starting with Lewin's (1951) 3 step model of unfreeze, move, refreeze, support planned change as a process of going through intended steps or phases in sequence, as the process is initiated and monitored by a change agent. As Hayes (2002) states, strategic change is essentially a process designed to make something happen, and change managers should attend to not only the whole change process but each step along the way.

Despite having a long and established history, and being deemed by many authors of being highly effective (Bamford and Forrester, 2003), the planned approach to change has come under much criticism, including for many reasons that we can perceive in the BuildCorp case.

Firstly, Burnes (1996) and Senior (2002) contend that emphasis in planned strategic change, especially those using n-step models, is on small scale and incremental changes. This approach is therefore not useful in scenarios that require large, rapid, organisation wide, or transformational changes; the scenario we are faced with at BuildCorp according to the statements made by the quality manager.

Secondly, Burnes (1996) and Wilson (1992) question whether organisations can move from one state to another in a pre-planned manner without being affected by the external environment. Wilson goes on to suggest that by laying out timetables, objectives or methods in advance the change process then becomes dependent on those senior sources initiating them, who may not be fully aware in advance of the consequences of their actions. Throughout our own interviews and analysis with employees of BuildCorp it became clear that some employees questioned whether senior managers were aware of what was required of them and taking the right action, and that the client as part of the external environment had a large effect on the change process.

Finally, critics of planned change challenge the presumption that all stakeholders have the same desires and are on board with the change and pulling in the same direction (Bamford and Forrester, 2003). Hatch (1997) and Pettigrew (1980) note that planned change tends to ignore the role of power, politics and conflict in organisational change, advocating top-down management driven approaches that ignore situations that require participation, understanding and bottom up approaches to change (Dawson, 1994). Again, as suggested by the quality manager at BuildCorp in our prelude to the study, developing understanding and fostering commitment to the change is an important outcome in this case; and as brought up by the employees in our analysis politics and conflict, including with the client, are ever present.

In response to the criticisms of planned change approaches, Burnes (1996) proposes the use of bottom-up, continuous learning, emergent models of change. Emergent views of change see change as an unpredictable and dynamic process that is shaped by a range of interdependent variables (Hughes, 2006). For this reason it is difficult for senior managers to effectively identify and implement beneficial change (Kanter et al, 1992), and responsibility for change has to be devolved (Wilson, 1992).

The emergent approaches stresses that change should not be perceived as a linear process, but rather open-ended and adaptive (Burnes, 1996; Dawson, 1994). For this reason, success is less dependent upon detailed plans and analyses but rather emphasis should be placed upon understandings and interpretations of the complexities involved (Burnes, 1996). The ability of an

organisation to learn and adapt may influence the relative success of any change initiative (Dawson, 1994; Wilson, 1992) and change managers could focus on change readiness and facilitation to improve the likelihood of success (Burnes, 1996).

Several proponents of emergent change processes also suggest sequential change management models. Kotter's (1996) popular model suggests eight steps in the change process, including; developing a sense for change, creating a vision, communicating for buy-in, empowering employees, and anchoring changes in the new culture.

Dunphy and Stace (1993) take the discussion one step further theorising a *contingency model* that is essentially situational based in order to achieve an optimum fit within the context. The model suggests a best fit approach for each unique organisation or setting as opposed to for all. Dunphy and Stace highlight that the internal and external environments of all organisations are not identical and therefore an identical approach is not conducive. The contingency model of change is generally perceived to fit between planned and emergent approaches, however has also been criticised for being too determinist and assuming that managers do not have control over many variables (Burnes, 1996).

In conjunction with approaches to change, Palmer, Dunford and Akin (2006) posit six images of managing change around the axes of images of managing and images of outcome. They suggest that managers can either attempt to control behaviour through transactional and processual controls, or shape behaviours through increasing the understanding and participation of those involved in the change. Morgan (1997) suggest that such images or frames of organisations and organisational life affect individuals understandings, interpretations and perceptions of what is happening, whether we are aware of them or not (Palmer et al, 2006).

Conjunctively with either controlling or shaping behaviour, Palmer et al suggest that the image of change manager is also dependent upon whether the outcome is planned, emergent or in between, leading back to the core argument about the nature of change. Each approach change management can be effective and the key challenge for organisations is to find one, like the approach to change, that fits their particular context and situation (Burnes, 1996).

2.4. CULTURAL CHANGE

The benefits of engaging with culture only gained widespread recognition in change management literature post 1980s (Hughes, 2006), when literature discussed the benefits of using culture to aid

change. Hodgetts (1991) perceived that managers could practice effective and normative control, as well as enhanced employee commitment through the use of cultural management. Similarly, Brown (1998) identified that engaging with culture could bring further potential benefits of conflict reduction, reduced uncertainty and higher motivation.

However, many authors are still sceptical about the benefits of engaging with culture and suggest that research has failed to deliver on its promises (Frost et al, 1991). Furthermore, and as is more appropriate for this thesis, changing an undesired corporate culture to a desired one is a difficult and tiresome exercise. In the case of BuildCorp, the organisation is trying to change the culture within the organisation to one with more of an emphasis on quality and accountability. The literature reviewed below discusses changing corporate cultures.

Culture changes attempt to change the way that employees think and feel about their work (Salaman and Asch, 2003). As such, the focus is on explicit attempts to change the culture (Hughes, 2006) and not on changes that occur gradually and naturally without conscious design.

Although Porras and Robertson (1992) state that maintaining a lasting culture change is difficult as most organisations consist of more than one culture, thereby making organisation wide change difficult, Morgan and Sturdy (2000) offer a simplified outlook on a culture change programme; firstly, existing shared values and norms within the organisation must be identified; second, the desired culture must be envisioned and shared; finally, the gap between the two should be identified and closed.

Authors such as Sathe (1985) and Weiss (2001) also offer generalised guidelines for managers seeking to change culture, although Hughes (2006) suggests that such prescriptions are frequently just informed suggestions as opposed to empirically developed and tested theories.

Although not prescribing any steps, Cho et al (2013) establish a clear link between developing and fostering a culture of learning within organisations and service quality. A factor that may well be considered in our case of attempting to improve quality.

The idea that culture can be forcefully changed, or even used for change at all has also been questioned. Quirke (1995) suggests that culture is a force for stability and for maintaining the status quo, a mediator to the threat of change as opposed to a force for change management. This effect is particularly relevant in organisations with 'strong cultures' (Robbins, 2005), with Brown (1998) suggesting that 'strong' is often used synonymously with the ideas of consistent cultures. Mintzberg (1998) suggests that this consistency often discourages change on an organisational level, in favour of maintaining consensus and tradition.

Indeed, Wankhade and Brinkman (2014) examined the attempts at culture change in the UK ambulance service and suggested that this left its members both confused and hindered as to what the core values and mission of the service were. The case highlights the need to judge the success of culture change initiatives not only on their ability to reach planned outcomes but also on the consideration of any undesired side effects.

Authors such as Panchal and Cartwright (2001) express similar concern. Following culture changes due to mergers the authors reported elevated stress levels and a series of dysfunctional individual outcomes due to the destabilising effects the changes were having.

2.5. TRANSFORMATIONAL AND SENSEMAKING APPROACHES TO CHANGE

George and Jones (2001) state that organisations can only act and change through their members, therefore any collective organisational change that occurs is as a result of an amalgamation of individual changes in organisational members.

Often management literature ignores the difficult questions of why and how individuals change (Hughes, 2006), although an understanding of the psychology involved in change processes may aid in understanding about the inertia or inability to change that exists in some organisations (George and Jones, 2001).

Whilst there is much literature and many textbooks examining the effect that individual traits and characteristics may have on individuals' abilities and willingness to change, Hughes (2006) warns that by recognising such individuality authors face the danger of over-emphasising such factors at the expense of social factors that also shape behaviour and attitudes.

One aspect of individual difference that is of importance in change management, and particularly relevant for this thesis, is perception. Perception is a mental process of selecting, structuring, storing and interpreting information, to make sense and give meaning to what is happening (Rollinson, 2005). Perception is unique to individuals and can alter the change process drastically. For example, Hughes (2006) suggests that upon 100 individuals hearing the same change message it would be impossible that they would all interpret it in the same way, meaning that there is likely to be a mixture of positive and negative responses and individuals' pulling in different directions. This discussion holds particular relevance to communicating change discussed later.

Taken a step further, individual perception combined with contextual information is how individuals go through a sense making process. Sense making is a key process in individual understanding and

commitment to change. The sense making process combines not only individual awareness, but the other sources of information, such as the organisational communication, opportunities for involvement and learning, and support from management. Sense making is also a critical foundation for interpretative research and the characteristics of transformational change and sense making are reviewed below.

Burke (2002) suggests that within an organisation there will be a broad spectrum of acceptance, and as the change process is a dynamic and fluid event so too is the level of acceptance at any given time (Dawson, 2003).Transformational change requires the alterations of values, beliefs and attitudes (Chapman, 2002), the way that individuals make sense of their environment, to foster awareness and acceptance for change. In order to help individuals understand and make sense of the change in the way that they organisation would like managers will often make changes to structure, processes and culture (Head, 1997). Stace and Dunphy (2001) therefore propose the characteristics of transformational change to include; a radical redefinition of the organisations business strategies, an organisation wide cultural renewal, developing and building on employees' work commitment, and employees anticipating and endorsing the changes at hand. These views help to bring together key aspects of change initiatives; strategy, culture, processes and behaviour.

As with the broader literature on organisational change, transformational change as a subset also offers a myriad of models designed to aid in the understanding or implementation of such changes. These models can be broadly categorised as either practitioner models or theoretical models.

Practitioner models of change can generally be considered to offer comprehensive instructions on how to initiate a transformational change. According to Kanter (1989) and Kotter (1995), these models are usually aimed at senior management, and use anecdotes and opinions to make concrete recommendations (Carrol and Hatekenaka, 2001).

Connors and Smith (1999) and Beer and Eisenstat (2000) criticise such models, suggesting that they are often too simplistic in nature and regard change as a linear process of implementation steps, ignoring the social, political and environmental factors that are present in change.

Theoretical models of change take a more comprehensive view of the change process. The models are often based upon literature that analyses a specific area of transformational change, for example, communication, leadership, or learning (Labianca et al, 2000). These theoretical models of change tend to describe the different characteristics of factors of change and reinforce the interrelations that exist between the factors.

Both practitioner and theoretical models have a set of similar steps suggested to be beneficial for transformational change. The first, *the creation of clear goals*, emphasises the need for organisations to not only develop but articulate a clear direction for the organisation to move (Pascale et al, 1997). The long term success of change can be attributed to the understanding of the employees of the goals that the organisation has. Second, *collaboration in the change process,* according to Kotter (1995) organisational visions are usually created by one or a select few high members. However, for the vision to be successfully implemented and accepted both the development and implementation stages should involve a collaboration with all stakeholders. Thirdly, *develop and execute a plan,* plans will be drawn up by senior staff, however must be shared equally between all stakeholders. Kotter (1995) also suggest that during this stage the plan should include short-term wins to continually motivate employees and ensure that their understandings are continually aligned with those of the organisation. Fourth, *communication.* Duck (1993) and Kotter (1995) argue that communication should be an integral part of any change process. Communication should be clear, consistent and frequent from all change agents (Richardson and Denton, 1996; Kitchen and Daly, 2002). Finally, *reinforcing and institutionalising change.* Change agents need to continually articulate and reinforce desired behaviours to support the vision and changes (Kotter, 1995) until changes are institutionalised in the organisational culture (Beer, Eisenstat and Spector (1990).

With so many intricacies involved in transformational change it is widely regarded as largely time consuming (Nadler and Tushman, 1989) and requiring large amounts of coordination and support from management (Jick, 1993; Kotter, 1995). Both the success and rate of change are dependent upon a large number of factors examined in the literature. As previously mentioned however, communication is a highly cited factor in the transformational change literature, a factor that BuildCorp are consciously trying to work with at present, and a commonly cited factor in our analysis, for this reason the literature in this specific area will be reviewed further.

2.6. COMMUNICATION AND CHANGE

Hughes (2006) notes that communication is an easy factor to overlook when considering change, due to its prevalence in everyday organisational life. However, authors such as Barrett (2002) suggest that without effective communication change is impossible and doomed to failure. Robbins (2005) advances the benefits of communication not only on a functional level but defines communication as *'the transference of understanding and meaning'*.

According to Smith (2006), change communication should be regular, timely, honest, clear and interactive. Communication is important in sensemaking and sensegiving, as the social interactive process gives people perspective to work with (Berger and Luckman, 1976). Simoes and Esposito (2014) report in their case study that as the level of dialogue increases the level of resistance decreases as people are better able to make sense of the situation. Prior to that though, Lewis (2000) reports that within the cases she studied, those who use communication to create and disseminate a vision provide employees with a frame to make sense of the changes.

Based upon the work of Covin and Kilman (1990) and a series of 4 case studies, Richardson and Denton (1996) report that non-verbal communication is essential for a change initiative to be successful. Managers must enact the change and demonstrate visible and consistent support, throughout, then focus on key issues such as timely and accurate information to make sure the process is efficient as possible.

At a basic level Balogun and Hope Hailey (2004) suggest that individuals most commonly question what is going to happen to themselves in light of a change initiative. Change agents must therefore transfer and receive messages that provide meaning to individuals who feel they face adversity and have a desire for self-preservation. As Goodman (2001) puts it, the communications challenge for change agents is to motivate employees who have differing priorities from those of the company.

The above discussions highlight that communication is not just a functionalist tool but can aid in delivering perspective and meaning to employees. Further, Manning (1992) suggests that although studying communications offers many problems, for example ambiguities, paradoxes and equivocates, language is a defining aspect of humanity and integral to understanding individuals.

A highly prevalent theme in organisational literature is the communication process. Formal communication networks are often organised into a form labelled as either; the wheel, Y, chain, circle, or channel (Hughes, 2006), and common reference is made to the informal 'grapevine' network (McKenna, 2000). Communications can either flow vertically or laterally (Robbins, 2005), and can occur through a variety of medium (Hayes, 2002).

It is important to consider the communication process when selecting the most appropriate channel. As Hughes (2006) notes, a newsletter may raise awareness of change but a different method e.g. a team meeting may well generate involvement. Semeltzer (1991) also shows the danger of untimely or incomplete information with his study on the organisational grapevine. These backchannels had a vastly negative effect on change as the number of negative rumours crippled the trust and support in management.

Despite this, Hayes (2002) still regards the management of change as a predominantly top-down process, with Balogun and Hope Hailey (2004) suggesting that the timing of the communication process is critical as; employees prefer hearing about change from management as opposed to through informal channels; early communication allows employees time to develop understanding and adjust to the situation; employees prefer honest and even incomplete information as opposed to cover-ups; and, employees tend to learn about changes even if they are not officially announced.

Balgon and Hope Hailey's suggestion of early and honest communication introduces another strong theme in organisational communication research, that of content. Goodman and Truss (2004) define content as the information that is conveyed to employees before, during and after the change initiative and any information that is sought out by the employees.

As Hughes (2006) and Weiss (2001) note, the content of communication will be largely dependent upon context, including who the sender and receiver are, the nature or purpose of the communication, the medium and the likely consequences if the message is sent incorrectly. In much literature there are practical guidelines on what the content should consist of. Galpin (1996) suggests that messages should be linked to the strategic purpose of the change, proactive and honest, and Paton and McCalam (2000) add that they should use an appropriate tone and allow for feedback. Lewis (2000) highlights this case in her 4 case studies of change. Those organisations with little or no provision for feedback were unable to tell how employees were making sense of the changes and ultimately less successful in their endeavours to change.

Despite much advice, there are no set rules on what constitutes good communication content (De Caluwe and Vermaak, 2003) and messages should be tailored to the intended audience (Paton and McCalum, 2000).

Even with offering the opportunity to provide feedback, Morrison and Miliken (2000) suggest that an apparent paradox exists in many organisations, whereby a dominant choice amongst many employees is to withhold their opinions and concerns about organisational problems, a term that they have coined *organisational silence.* Organisational silence is an interesting and apparent problem for researchers and projects, such as this, and has the authors suggest that change agents should transfer some time and effort from communication to managing organisational silence. For change initiatives, and this project, to be successful, a system has to be created that effectively encourages individuals share their views.

2.7. RESISTANCE TO CHANGE

Randall (2004) claims that resistance is a central issue in the difficulties or failures of most change programmes. The classic view on resistance in organisational literature takes a managerialist approach and views resistance as a counterproductive, and even irrational in many cases, behaviour that has to be overcome by change agents (King and Anderson, 2002).

Lines (2004) offers the starting point that resistance from employees may therefore be any behaviour that is acted out that may slow down or stop the change process. Many authors offer explanations for why individuals may display such behaviours, ranging from individualist psychological and systems approaches to collective cultural and organisational approaches (Graetz et al, 2002). Hughes (2006) concludes that within the literature no main consensus exists as to what triggers resistance, and it is unlikely that a single universal explanation will ever suffice.

Commonly, however, Burke (2002) drawing from Hambrick and Cannella (1989) suggests that resistance may fit into one of three categories; blind, political or ideological. Blind resistance encompasses individuals who are afraid of or intolerant to change, political resistance includes the individuals who believe they may lose something if a change is enacted, and ideological resistance comprises of the individuals who oppose change as they feel it contrasts their values, cultures or beliefs.

As well as examining the reasons that individuals may display resistance, authors have sought to classify the types of resisting behaviours that exist. King and Anderson (2002) differentiate between covert and overt resistance, highlighting that behaviours do not have to be visible to cause problems to a change initiative and can encompass the likes of deliberate underperformance and withholding effort. Similarly, Graetz et al (2002), offer active and passive resistance classifications, differentiating those who aggressively challenge change and those who undermine it.

Managing resistance will largely depend on how the change agent perceives the manifestation of resistance. Indeed, resistance literature is often coupled with complimentary literature on power, and French and Raven's (1959) five bases of power offer contrasting management styles for change initiatives. Each style of power or management (legitimate, expert, referent, reward and coercive) has a corresponding form of resistance and much literature identifies ways to minimise such resistance. Dawson (2003) suggests that typically the successful strategies used to overcome resistance involve communication, participation, and support, discussed earlier.

2.8. SUSTAINABILITY

With reference to the work of Nadler (1988), Kotter (1995) and Gerstner (2002), change is said to be sustained when it is no longer seen as "Change" in the mindset of the people of the organisation. Unless the change implemented becomes a part of the genetic make-up of the organisation it cannot be said to be sustained.

Furthermore, there are many barriers which have the potential to either not allow change to be sustained and institutionalised in the organisation or act as catalyst to undo the change implemented altogether. The process of institutionalizing change in an organisation may be a complex one and involve many people, large amounts of organisational resources, and a great deal of time (Gales, Tiernry and Boynton, 1995).

A lack of resources may result in change not being fully implemented or even if implemented not sustained due to inadequate follow up pressure and support from management. Time is also an important barrier when considering sustaining change, as managers are not always certain of how much time can be provided for the change implemented to become embedded in the organisation (Palmer, Dunford and Akin, 2009, p.377).

Additionally, the perception that people's behaviour is a "soft" topic leads to many managers assuming that they can rely on their own instincts as opposed to a thought out and planned approach, an approach that seldom leads to sustainable long term change (Aiken and Keller, 2008). The reshaping of employee attitudes and behaviours however is just as critical to the success of a transformation as the implementation of process changes.

Transformational change initiatives generally lead to more complex, multi-dimensional work, which requires highly skilled employees (Hammer and Clampy1993, Palmar et al, 2009). Hence, according to Palmer et al (2009) the "seeds" for making the change initiative stick must be planted from very early in the change process. For this they suggest following various actions (Palmer et al, 2009, pp. 360-371) for sustaining change **during** the change process, and not just after the implementation of change.

Despite there being evidence suggesting that large amounts of change initiatives are subject to decay there is relatively little empirical evidence to support the theoretical positioning of this, likely because of the expense and difficulties with longitudinal research (Buchanan et al, 2005).

Throughout this chapter we have presented and discussed a broad overview of the literature on change and change management, from the reasons and approaches to change to the outcomes, resistance and sustainability. From this review it is evident that along with the complexities of change as a phenomenon the individual understandings of change vary greatly.

In a broad sense change can either be planned or emergent in nature. Planned change involves large scale, organisation wide transformations to largely alter existing practices and processes. This type of large scale change calls for new behaviours and attitudes from all those involved and is therefore largely time and effort consuming. Emergent change, however, arises from continuous developments and is implemented on a smaller scale, targeting individual issues at a time. This type of change is more common when responding to events in the external environment. We see a mixture of the two types of change in the BuildCorp case as a large organisation wide change is process approach to planned change is enacted, but the organisation has to respond to and adapt to flexible requirements of the client and industry. This type of change more closely resembles what is termed in the literature as contingent change.

Following the interpretive school, change of any kind is understood and made sense of uniquely by individuals, with regards to their perceptions, social interactions and discourses. Thus, for change agents transformational aspects such as communication, learning, involvement and support are a powerful tool for initiating and sustaining change. These highly interlinked factors develop buy in and support from stakeholders of all levels and seek to reduce negative affect and resistance to change. Many studies suggest that stakeholder buy in and support from management are key factors in attaining a successful change outcome. Linked to this much literature supports management developing and supporting a clear vision and providing attainable goals for employees to reach.

Whilst change of any kind can make employees anxious and resistant, studies have unveiled a number of reasons for resistance from blind following, to self-preservation and political manoeuvring. Resistance can often be linked to the perceived level of impact that a change will have and is frequently cited as one of the largest causes of change failure. However, many authors now regard resistance as a legitimate form of feedback that can improve the change process. Thus, for change to be successful change agent must find a way to both minimise and incorporate resistance into the process. Finally, in order to sustain change managers must keep pressure on the change initiative until employees no longer see the process as *change,* but instead the norm.

In this case study we place ourselves within the interpretative school of change management, examining the different understandings that employees have to change in the nuclear environment. The next chapter examines how we develop and carry out our case study.

3.1. THEORETICAL AND PHILOSOPHICAL FOUNDATIONS

There are many theoretical and philosophical considerations to be made when beginning a piece of research such as this, and an appreciation of the many intricacies is necessary to produce quality and cohesive research.

Ontological and epistemological assumptions about the nature and reality of truth form the parameters of the paradigmatical research philosophies, and will influence the manner in which the research is undertaken from design through to analysis and conclusions. Blaikie (2000) suggests that for research to be coherent and cohesive throughout, these assumptions must be closely aligned and linked back to the original research problem.

According to Holloway and Wheeler (1996) considering the underlying assumptions in research will not provide a one best method to the way research should be carried out, as this does not exist, however, it will help to shed light on appropriate methods and considerations. Pollit and Hungler (1991) further suggest that the selection of an appropriate paradigm will rest not only with the researcher's personal preference but be guided by the aims and intended outcomes of the research as well.

3.2. ONTOLOGY AND EPISTEMOLOGY

In social sciences ontology examines the nature of reality and truth. At a high level two theoretical positions can be assumed here - objectivist and subjectivist. Guba and Lincoln (1994) suggest that these ontologies or *worldviews* ask questions about the nature and form of reality and what there is to discover about such reality.

From an objectivist standpoint a reality that is removed from the individuals and is ever-present is assumed to exist (Duberley et al, 2010). Researchers must therefore search for facts or truths that exist somewhere in reality and can be revealed and accessed. In this manner, the social world is much the similar actor as the natural world and natural sciences, filled with laws and objectifiable truth.

Opposing this line of thought and the paradigmatically challenging viewpoint is that of subjectivism. Subjectivism argues that the social world is vastly different from the natural world, and studying the

behaviour of humanity using natural sciences assumptions is inappropriate (Blaikie, 2007). Reality is not seen to exist outside of human interaction, construction or perception. As each social actor is unique there are multiple realities or truths, which are created by unique and differing, actors, contexts and understandings. A different range of methodologies from those that examine the natural world will therefore be necessary to gain insight and understanding into the situation from a particular viewpoint.

Following from basic ontological assumptions about how reality is perceived leads to another pertinent consideration – how can such reality be measured or what constitutes knowledge of reality – considerations of epistemology.

Epistemology considers what constitutes acceptable knowledge of a given reality (Bryman, 2001), the most appropriate ways of enquiring about such reality (Easterby-Smith et al, 2012), and the limits of knowledge (Eriksson and Kovalainen, 2008). Hatch and Cunliffe (2006) highlight how this is highly interdependent with ontology.

If a researcher holds certain ontological beliefs about the nature of reality then it follows that the nature of enquiry into this reality has to be cohesive with what they are searching for. Hence, as there are multiple ontologies, there are also multiple epistemologies, covering a range of objective and subjective standpoints.

Easterby-Smith et al (2012) highlight two high level epistemological standpoints, positivism and social constructivism, which closely follow the objective and subjective ontologies respectively. Positivism suggests that the social world exists independently of individuals and can therefore be measured through objective and quantifiable methods. By developing and testing hypotheses enquiry into the nature of reality should reduce behaviour to its simplest terms and be generalisable to multiple situations through statistical probabilities (ibid.)

Social constructivism challenges this viewpoint and argues that reality is socially constructed and given meaning by social actors in a particular context. There is therefore no absolute truth to be studied (Alvesson and Skoldberg, 2009) and instead researchers focus on increasing a general understanding of a particular situation through interpretations and theoretical abstraction.

3.3. INTERPRETIVE STANDPOINT

In line with the aims of the research – to increase understanding of the perspectives of social actors in a given context – and philosophical considerations about the nature and enquiry of reality, the research carried out fits into an interpretive paradigm.

The interpretive paradigm accepts that there is a fundamental difference between the natural and social worlds. In the social world, actors make sense of a situation based upon their perceptions, experiences and expectations. Meaning is constructed based upon a certain context and reconstructed over time, resulting in many interpretations and no one truth. Social actors act individually within these multiple interpretations and realities. It is therefore the aim of research within the paradigm to discover and understand the multiple realities, interpretations and underlying factors (Denzin et al, 2003).

The research aims and questions of this project specifically take into account the multiple understandings present in the research context, a position that the researchers feel reflects the interpretive ontological assumptions that reality is multiple, contextual and subjective.

By following these philosophical assumptions we agree to Alvesson and Skoldberg's (2009) claim that different social actors perceive the world around them in different ways and that these interpretations can only be understood in the examined context. Rather than studying objectifiable facts, the researchers involved are part of the study as the interpretations are made within the knowledge base and preconceptions that are held, and therefore this construction of reality is only one of many possible accounts.

In this study we follow Klein and Myers (1999) that in interpretative research knowledge is gained or at least filtered through social structures such as language, consciousness and shared meanings. Specifically, for this research project an interpretive paradigm means concern with:

- The identification of subjective meaning that employees attach to change within the organisation
- The perceptions, feelings or emotions that employees attach to change within the organisation
- Differing constructions, understandings and meanings of change within differing individuals/groups within the organisation

In this respect understanding what people are thinking and feeling through the use of verbal and non-verbal communication is important (Easterby-Smith et al, 2012) and is reflected in the choice of methodology and aforementioned research questions.

3.4. QUALITATIVE RESEARCH

According to Garman (1994) qualitative research is used to 'illuminate, explain and interpret' social phenomena as opposed to verify it. Therefore, qualitative research aids in deeper understanding of a situation, learning how individuals experience and interact with their social world, and the individual meaning that it holds for them (Merriam, 2002). Bryman (1984) therefore suggests that some qualitative methodologies are ideally suited to the interpretive standpoint, as forwarded in this research project.

Qualitative research is carried out in naturalistic settings and attempts to gain knowledge through the deduction of themes that occur throughout (Miles & Huberman, 1994). Taylor and Bogdan (1984) suggest that commonly this rich descriptive data is based upon discourses that occur in both written and spoken language, and that by using a qualitative methodology it is possible to interpret events and perceptions through the eyes of those being studied (Bryman, 1984).

A qualitative methodology is therefore appropriate for use with our research aims, which propose to gain insight into and interpret a contextually unique situation that is complex and understudied in the literature. As Conger (1998) reaffirms, qualitative methodology is useful in providing insight into new and complex phenomena. The cultural ambiguities at BuildCorp offering a prime example of such a scenario, and the qualitative case study methodology, discussed in the next sub-section, was adopted.

Further qualitative research gives us more opportunity to explore the studied phenomena in depth and more scope to be flexible to detecting unexpected phenomena (Conger, 1998). As Griffin and Phoenix (1994) point out, in areas that are understudied, such as our particular research area, the high degree of flexibility allows for a greater chance to learn something new.

As previously mentioned however, qualitative methodologies are criticised by some authors. Clarke (1992) argues that both the reliability and validity of single qualitative case studies can be questioned. The rigour and control that is often employed by quantitative methodologies is not necessarily present, and therefore, Clarke suggests that researchers cannot transfer their findings

between situations with any certainty, nor even know the validity or credibility of their ideas and findings.

Indeed, as researchers we agree with Clarke (1992) that the findings from our qualitative case study may not be transferable across situations, however, argue that in line with Garman (1994) and Miles and Huberman (1994) our aim is not to verify the phenomena we witness but aim to discover new themes and insight. With this in mind, Aammodt (1983) suggests that evaluation of qualitative research should therefore focus on contextual discovery, recurrent patterns (Leininger, 1994) and credibility (Sandelowski, 1986).

3.5. RESEARCH DESIGN AND CASE STUDY METHODOLOGY

Case study methodology is particularly useful in studying contextual and complex phenomena when in depth exploration is required. According to authors such as Yin (1994) and Stake (1995), case studies should provide a complex backdrop, be investigated in their natural setting, and may utilise a variety of exploration methods to capture the complexities of an individual, organisation or scenario.

Both Yin (2003) and Stake (1995) base their approaches and recommendations to case studies on a constructivist paradigm, recognising the importance of multiple constructions of reality. The case study method therefore fits with the qualitative interpretive paradigm of research utilised and research aims set out for this project.

Further, in line with Yin (2003), the use of case study methodology was deemed appropriate as (a) we seek to answer questions pertaining to how and why the phenomenon we are studying manifests itself; (b) We do not seek to manipulate any behaviour; and (c) we incorporate a strong contextual element to the research as we feel the context is important in understanding point (a).

Yin (2003) proposes 3 types of case study; exploratory, explanatory, and descriptive. Exploratory case studies are used in the exploration and evaluation of unusual phenomena where no clear or unilateral outcome is present (ibid). Due to the socially constructed and multiple realities of culture we seek to examine, we propose to conduct exploratory research.

Methodologically case studies allow for triangulation to increase the validity of findings. Denzin (1984) identifies four types of triangulation; triangulation of methods; data sources; investigators; and theories.

Triangulation of data sources concerns the collection of multiple types of data e.g. interview data, documents, and observations. Patton (1990) and Yin (2003) suggest that using multiple data sources increases the credibility of findings as results converge to show a similar picture. The data collection and analysis methods utilised in this project are discussed in the following subsections.

Triangulation of investigators refers to the use of more than one investigator interpreting the same data to reduce bias in findings, and is discussed further in the subsection on reflexivity.

Methodological and theory triangulation concern the use of different approaches and viewpoints to analyse the data in an attempt to increase the credibility and confidence of the findings by not subjecting them as strongly to the biases of one approach.

Throughout the case the research adopts both a basic interpretive perspective and an ethnographic perspective. Tesch (1990) identifies ethnography as the most common type of qualitative method used in social research, particularly that pertaining to education or psychology. Ethnographic research is guided by theory, either an explicit anthropological, psychological, or educational theory, or by an implicit personal theory about the way things work (Fetterman, 1989). In ethnography the researcher must be willing to abandon or modify any theory that does not fit the data, and the exploratory nature of our research may well challenge the implicit theories that we hold.

Hence, ethnographic research typically includes study of a group's history, geography, kinship, structures, rituals, symbols, politics, socialisation systems, and the degree of contact between target and mainstream cultures. Also, the change initiative under study can also be profoundly understood through the basic interpretation of shared beliefs, practices, knowledge and behaviours, we also employ the basic interpretive stance forwarded by Merriam (2002) throughout. This is therefore reflected in the nature of interview questioning discussed in the following section.

3.6. DATA COLLECTION – SEMI STRUCTURED INTERVIEWS

In interpretive research people's understandings, perceptions and meanings are used as a primary data source (Mason, 2011). For this reason it is not essential for the researchers to be entirely immersed in the research setting, and individual and collective understandings can be examined via the interview method.

According to Roulstan (2010) qualitative interviews are a key to understanding the reality in detail and building the data for research. Based upon this assertion, a series of 13 semi structured interviews at BuildCorp were used as the primary method for collection of data. In line with our

research aims of understanding the culture and change process from the views of the employee, the participants were selected from all levels of the organisation to give a broad representative sample, further discussed in subsection 3.8. Although there was scope to conduct further interviews with the organisation, we stopped when we felt that new vistas had ceased to be unveiled in the later interviews.

To complement the research aims and paradigm the interviews were conducted in a neo-positivist approach (Roulston, 2010). This approach meant that a series of 15 open ended questions were prepared in advance, however, the interview was conducted more as a flowing conversation allowing the participant the freedom to discuss what they felt was important. The prepared questions were referred to in the case that the participant felt they had said as much as they were able or willing to in one avenue of conversation.

The questions discussed revolved around 6 key themes; understanding of the changes; history of change and organisational characteristics; understanding of the change process; transformational aspects of the change; organisational culture; and sustainability.

Throughout the first theme, understanding of the changes, participants were encouraged to discuss what they felt was changing and how this may affect them or others, why the changes were occurring, who was responsible for the changes, and what the participant themselves thought would constitute a successful outcome.

The conversation then moved on to the organisational history and characteristics. Here the participants could discuss any previous encounters they may have had with change initiatives, what they consider to be strengths and weaknesses of the organisation, and why they thought the organisation could be successful or may struggle.

In the third section we tried to gain a deeper understanding of the change management process from the employees' point of view. The discussion revolved around their involvement in the change process, understandings of timescales for change, and how they perceive the ongoing changes may affect their daily working routines.

Throughout the transformational section discussion revolved around key themes such as communication, training, understandings of expectations and the bigger picture, and support from management.

The final two sections examined culture and sustainability. Here it was discussed what the organisational culture was perceived to be, whether the individuals' believed the changes would be

sustainable, and the understandings of multiple cultures within the one organisation. We were keen to find out whether the employees themselves thought that the changes that were being made throughout this project would be taken back and used in other BuildCorp projects or whether the existing culture would dominate.

The participants were also free to discuss other themes throughout and on many occasions issues such as morale, fragmented teams, and the relationship with clients arose and were discussed further. If an unscripted issue arose it would be asked as a separate question to all the following participants.

3.7. DATA COLLECTION – DOCUMENTATION AND OBSERVATION

Due to the sensitivity and heavy security restrictions surrounding the information used in Project X, documentation and observations of work were not available. However, the primary interview data was supplemented with published documentation available in the public domain and sourced from webpages related to BuildCorp, NAO, or Project X. These open source materials aided in understanding of the background and context.

3.8. PARTICIPANTS

Access to participants was agreed through a senior member of staff. In line with the research aims of both the company and academic researchers an open invitation email was sent to target groups within the organisation asking for volunteers. The volunteer process with participants being selected from targeted groups allowed the study to benefit from a broad representation (Alvesson, 2011) and minimised the likelihood of participants being selected by researchers through shared biases as the process was conducted in a blind and open manner (ibid.). Throughout the process care was taken to ensure the participants were aware of the commitment that was required from them in terms of time, effort and activity.

The research project utilised 13 volunteers in the structure; 1 senior manager; 2 quality team representatives (also representing the change agents); 6 mid-level staff consisting of both electrical and mechanical engineers, designers and document controllers; 4 site level staff consisting of both electricians and mechanics, and site supervisors. This fulfilled our requirement of a representative sample of the team working on project X for both validity purposes and to meet our research aims of developing an understanding of the overall employee view and not just one segment.

Studies that are meaningfully coherent eloquently interconnect their research design, data collection, and analysis with their theoretical framework and situational goals (Tracy, 2010). Hence, we began by building our data analysis design on our ontological and epistemological standpoint (Easterby-Smith et al, 2002). This further, led us to study the interviews from a social constructionist point of view using the interpretative paradigm. As this paradigm sees people's understandings, perceptions and meanings as a primary data source (Mason, 2011) as previously noted it does not require for the researcher to be totally immersed in the research setting.

Blaikie (2000) states that interviews provide for an 'insider view' of the social actors and the meaning embedded in the language is what constitutes reality. Therefore, we began the data analysis by transcribing all the interviews verbatim to form our data reference. This data generated from the interviews was then thoroughly read independently and then collectively by both researchers from the inductive approach, as the inductive approach facilitates creation of meaning from the interview without any prior theorizing (Alvesson and Skoldberg, 2009).

Ryan and Bernard's (2003) article on techniques to identifying themes guided our process of thematization. We subjected the data to further reading for revelation of thematic categories, as without these there would be nothing to describe, compare and explain (Ryan and Bernard, 2003). The whole reading was done by keeping the focus on the questions which the research was designed around. This study led us to understanding and making sense of the underlying themes, based upon the way each individual answered the questions that we asked them.

Moreover, we then applied the scrutiny technique of similarities and differences as explained by Ryan and Bernard (2003) which is comparable to the constant comparison method of Glaser and Strauss (1967). This step was followed by the processing of data generated from the scrutiny technique. Here, we applied the technique of cutting and sorting (Ryan and Bernard, 2003), wherein we cut everything relevant based on the meaning they fostered and then sorted them into broad categories. We identified themes within these broad categories based on the approach of grounded theory of Glaser and Strauss (1967), with emphasis on expressions and words which were repetitive, homologous or analogous (Ryan and Bernard, 2003, p.7). Fundamentally then, the expressions were all cut and then sorted together on the basis of certain meaning they fostered from the perspective of creating themes which were relevant to the research at hand. This led us to streamlining the entire data into five broad categories. These categories laid the basis for our research analysis.

3.10. REFLECTIVITY AND REFLEXIVITY

Cutliffe (2000) argues that qualitative research is often labelled as a less scientific approach, possibly due to its subjective nature frequently meaning that it may be misunderstood or misinterpreted (Pope and Mays, 1999). Further, Bourdieu (1992) suggests that social sciences are inherently laden with biases and only by becoming reflexively aware of those biases can they free themselves and aspire to practice of a more objective nature. Understanding the concepts of reflexivity and reflection should aid in the quest for good scientific research.

Firstly, reflexivity is creating self-awareness of the way one is. The researcher can do this through introspection and understanding of how others are influenced and affected by themselves. It is finding strategies to question one's own attitudes, thoughts, values, assumptions, prejudices and biases (Alvesson and Sveningsson, 2009). Secondly, reflection is consideration of the events, scenarios and situations outside oneself from as many different perspectives as possible (Ibid.).

Both these elements are of crucial significance to research in a non-positivists paradigm. Throughout our research, these concepts highlighted in simple terms that the researchers cannot be divided from the subjects or objects that are being studied or researched. For this reason, researchers in an interpretative paradigm are conceived of as being a central and important feature of the study, and therefore need to reveal their preconceptions and presuppositions through a reflective process.

Furthermore, being reflective prior to commencing the research process actually leads to the transformation of this reflective process into a reflexive one, whereby the researcher's reflections; influence, change, shape and re-shape the study (Mantzoukas, 2005).

Our research benefited from both reflexivity and reflectivity as we continuously monitored our own actions, values and perceptions, as these impact on the research setting we functioned in, and the way we collected, processed and analysed data. Effectively this was followed by the methods of source criticism (Alvesson and Skoldberg, 2010) and triangulation (Denzin, 1978) to further enhance the reliability and validity our research.

3.11. VALIDITY AND RELIABILITY

According to Alvesson and Skoldberg (2010), the credibility of research can be assessed by criticising its sources with regards to authenticity, bias, distance and dependence. Each of these factors were taken into account when designing and conducting this research project.

Considerations of *authenticity* aim to aid in the gathering of authentic and credible understandings of individuals experiences (Alvesson and Skoldberg, 2010). Hence, we believed that the use of semi structured interviews are the best approach in this context. This approach facilitates exploring the meanings and understandings from the participants' perspective and allows them to guide the conversation in directions that they feel are important and relevant. Simultaneously, the semi structured interview allows for the maintaining of subjectual integrity, allowing the researcher to maintain focus on the topic under study and guide away from vague accounts (Roulstan, 2010).

Further, in order to foster authentic responses the interview setting and conduct was carefully considered. The interviews were carried out in a natural setting for the participants, and participants were reassured that participation was a platform to voice their honest and anonymous opinions without threat of ulterior motive or repercussion.

Alvesson and Skolberg's second consideration, managing *biases and assumptions,* considers the temperamental and emotional features of the researcher, along with all the preconceived opinions and assumptions that characterise the individual.

Abreu (2001) suggests that unbiased, valid, rational and scientific knowledge should exclude the above features. This is one reason that many authors attempt to control for or articulate these biases, if not manage them, for fear that their research may be deemed unscientific. A phenomenon Morse (2003) terms biasphobia.

Throughout our research we made efforts to be reflective and outline our biases and assumptions and use them effectively in designing our research. We treated our biases and assumptions as the basis of overcoming contradictions and improving the validity and reliability of our research.

Paradigmatically, we worked towards articulating or controlling the following biases. (1). The bias towards qualitative research; we strongly felt that quantitative methodologies were not adequate to understand the change initiative holistically, and that social reality is not objective but subjective and therefore qualitative methodology would provide a deeper understanding of the situation. (2). We assumed that certain individuals within the organisation may embellish the truth and not be authentic, therefore we made effort to interview those at all levels within the organisation, facilitating for Denzin's (1978) data source triangulation and Alvesson and Skoldberg's (2010) counter bias. (3). Kaptchuk's (2003) confirmatory bias suggest that researchers accept information that they feel is coherent with their beliefs and disregard other information as unnecessary. To control for this we fell back on Denzin's (1978) investigator triangulation, working as a duo of researchers as opposed to individuals, and having our work reviewed by a separate supervisor.

Finally, Alvesson and Skoldberg's (2010) consideration of *distance* suggests that the more remote the source is from the event in time and space, then the less value it has. However, our research was carried out at the source of work with current employees of BuildCorp. *Dependence* refers to the number of hands the information has passed through from the source in question (ibid). Similarly, in our research, we, the researchers, carried out first hand interviews face to face at the source. All the data was generated and held directly with ourselves.

3.12. ETHICS – CONFIDENTIALITY, ANONYMITY AND WITHDRAWAL

To come closer to being in line with many social science disciplines, business research has seen a recent increase in the interest of ethical standards and practice (Easterby-Smith et al, 2012). Bell and Bryman (2007) collate a list of factors common to a variety of standards board's within the disciplines of business and management. Essentially, the principles cover the protection of participants from harm, stress or negative treatment for taking part in the study, and ensure the accuracy and fairness of what is being reported.

Whilst it is predicted that no harm or distress would arise as a result of the study, a number of steps were taken to ensure that reasonable precautions were made before, during and after the research to protect participants and credibility of reported findings.

As previously noted we recognise that research is a two way process, and in order to get authentic responses that process must be open and filled with trust between both the researchers and participants. Prior to undertaking the research informed consent was gained from participants who were taking part in the study, and each of them continued voluntarily after being fully briefed. As Burns (1997) asserts, to gain informed consent participants must be clear on the nature and purpose of the research and then participate without coercion. From the outset all participants and the organisation were informed of the research aims and procedure and at no times were deceived or hidden from the truth.

Participants and the organisation were also offered confidentiality and anonymity to a reasonable extent. Pseudonyms were used when reporting any findings and data containing easily identifiable links to individuals or sensitive information as used by the company was removed from any document that was to be made public or shared outside of the academic research purpose. Whilst reasonable efforts are made to protect these rights of individual participants, we accept Sarantakos' (2005) caveat that when reporting precise quotes it is not possible to guarantee complete anonymity.

The interviews were conducted in a dignified and respectable manner to reduce any stress or discomfort that the participant might feel and the right to withdraw at any time was reserved for each participant, including the removal of any contribution that they had already made.

3.13. SUMMARY

The research is based upon a social constructivist paradigm and carried out in an interpretive manner. Taking the basic idea that reality is multiple and created by individual's perceptions, understandings, interactions and discourses, we seek to interpret differences within these understandings within our research setting.

To fulfil the above we carry out a qualitative case study of individuals at BuildCorp, an engineering and construction company that has recently entered into the field of nuclear construction. A series of 13 semi structured interviews based around key themes of understandings, the change process, transformational aspects, culture, and sustainability, acted as the primary source of data for the study.

The 13 participants were sourced from all levels and different departments of the organisation, allowing us to answer our original research questions pertaining to differences in understandings across the organisation as a whole. As well as this we were able to contribute to the literature on understandings of change within an organisation with multiple cultures.

Both researchers participated in the research and analysis of materials to improve the reflective quality of work, whilst maintaining a high standard of ethical conduct.

Based upon our main research questions around understanding and sustainability, we interpreted five major themes guiding our analysis. These themes are interconnected to each other as represented in figure 1. BuildCorp aims to increase understanding about the change initiative to facilitate the desired change and increase the likelihood of the sustainability of quality culture at Project X, as indicated by the large white arrow in the figure. These two key themes are discussed with regards to present understanding around the change and belief of sustainability from the employees' point of view, with the other themes discussed as either bridges or barriers to change. Moreover, these interrelations between the different themes form the basis of our sections on analysis and discussion.
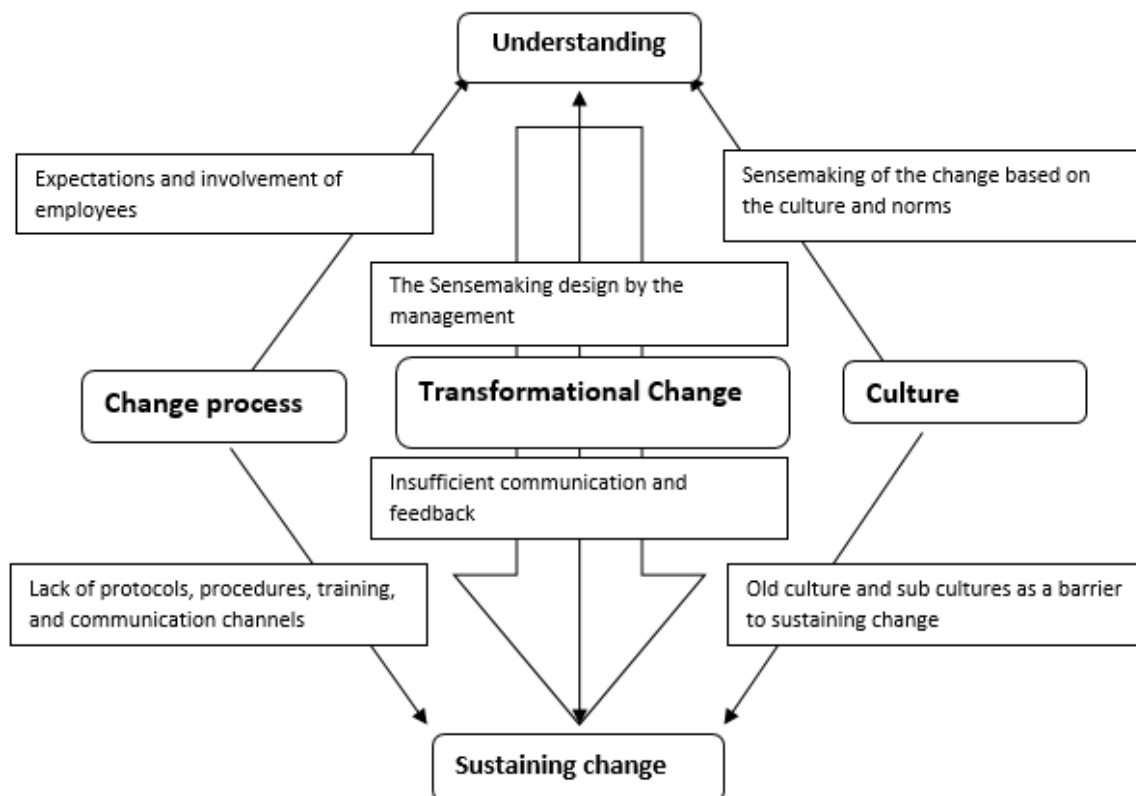

Figure 1: Interconnections of 5 key themes

4.1. UNDERSTANDING

Throughout the grand theme of *understanding* we present our interpretations of how individuals within BuildCorp make sense of the changes that are going on around them. To gain these insights, and answer the first research question of both ourselves and the organisation, individuals were encouraged to discuss what they understood to be changing, why these changes were occurring and what would constitute a successful outcome.

The theme of understanding is further divided into three sub-themes that were strongly prevalent and naturally occurring throughout the research stage; the 'normal job'; internal and external drivers of change; and completeness of change. The sub-themes are all highly interdependent, although within the organisation we find individuals of different levels, departments, groups, or length of service differing greatly in how they understand the changes occurring at BuildCorp.

4.1.1. THE 'NORMAL JOB'

As highlighted in our pre-discussions to this project with the quality manager at Project X, the background of the organisation lies within commercial building and engineering. Similarly, many of the employees on Project X have only a commercial background with no previous nuclear experience or awareness. In absence of a full understanding of the nature of the role, requirements and context, we find that employees often refer back to their previously held knowledge and make comparisons to what they frequently refer to as a '*normal job'*:

> *"The quality that is to be expected is definitely higher than you would expect on a* ***normal job***, *and they inspect your work a lot more thoroughly than they would do* ***normally***. *They check for any small things that just wouldn't be picked up on a* ***normal job*** *[…] it's a lot more thorough than a* ***normal job"***

> *~ Electrician A*

Interestingly, we find that despite the company priding itself on quality (sourced from the company website), a large proportion of the staff acknowledge that quality on a 'normal job' is not a key issue:

> *"…people will try and cut corners, especially if you're on a price or trying to meet a time deadline. You cut corners to meet that deadline so you make more money.*

Here you can't do that. You have to do a proper job from the start, you can't just be thinking that will do."

<div align="right">*~ Electrician A*</div>

Despite the project having currently run for multiple years and widespread acknowledgment that the project is different to the historical endeavours of both the organisation and majority of employees, there is still a profound resentment amongst a number of employees for the changes that are occurring. The stringent procedures and rules that govern the nuclear industry, and the client, form the basis of this resentment. Even though employees recognise that they are in a different environment they have been unable to shake the strong ingrained culture and focus on costs and time that they have brought with them:

"The system can be quite onerous and time consuming. It just seems to go on and on, and when you've found one fault there will be another one and another one. By the time we've made a change and gone back in again then there is another fault and they've found something else wrong. We would have had it built by now doing it our way"

<div align="right">*~ Engineer C*</div>

Throughout the project BuildCorp has had to redo much work due to issues of quality. Although at a more senior level there appears to be an acceptance that the work may not be of standard, coinciding with an increased understanding of the nuclear environment, lower down the hierarchy we find an increase in the number of people willing to fall back upon the sentiment of this would be brilliant quality on a normal job. Indeed, one individual discussed the site staff's mentality that criticisms against their work, primarily by the client, were just 'BuildCorp Bashing' and unjust (Construction supervisor A).

4.1.2. INTERNAL AND EXTERNAL DRIVERS OF CHANGE

In light of the above, we also found distinct trends when considering why the changes were occurring, and what would constitute a successful outcome to the changes. Individuals who discussed the strong commercial values of the wider BuildCorp culture commonly cite substandard quality as per the clients or nuclear industries requirements as the driving forces behind change:

"I guess it is being done now because BuildCorp have been told by NAO that they need to make changes, they need to pull up their socks, they need to get things running more efficiently and they need to be getting it right the first time and not the second or third time. So I think it is probably driven from the client and BuildCorp has obviously picked that up and is trying to run with it"

~ Technical author A

In line with this, these individuals envisage success as a range of functional factors from getting the amounts of defects down, saving the company money by not having to redo work, and an improved relationship with the client:

"Obviously on the simplest note that would be for this project to be somewhere close to the timescale. It will never be completed on time to the original timescale, maybe a year late or two years late, something like that would be quite successful […] so it would really be a case of it working to the least amount of cost and time"

~ Technical author A

"Ultimately, I suppose that the improvements would be that we are getting along better with NAO, I don't think that our relationship with NAO our client is particularly brilliant at the moment, so that should noticeably improve if we up our game"

~ Mechanical engineer B

The second distinct trend we observed is those individuals who see change resulting as an internal result of the organisational goals. In these cases individuals recognise the ambition of BuildCorp to develop their portfolio and to win further nuclear work. We find that these individuals discuss the client less in negative terms and instead focus on long term gains for themselves and the company, with the company strategy being the driving force behind change.

Individuals in this category talk more positively and supporting of the change, discussing the benefits of the improving quality for the present and future projects. One individual discussed how people are really proud of the standard that they are achieving and how he feels the changes are 'bringing

out the best in people' (Electrician B). Indeed, the key change agent in this scenario, the quality manager, discusses success as an internal phenomenon, in terms of people taking increased personal responsibility:

> *"Success would be the actual people adopting quality as a way of working rather than expecting someone else to be correcting their fault. If they actually took pride in their work and responsibility [...] showing that they were putting effort into their work rather than just throwing it in and hoping that someone else is going to tell them what the problem is"*
>
> *~ Quality Manager*

We consider those in the second category as having a better understanding of what we believe to be the bigger picture as they do not see this as just an isolated project but as part of a grander scheme. However, throughout discussions it became apparent that almost all individuals considered themselves to be on board with the change but suggested closer scrutiny of others. Individuals who had been at BuildCorp for lengthy parts of their careers often mentioned that they felt they had to work as role models to the younger and more junior member of staff, helping them to come to terms with the change. Conversely, the newer additions to BuildCorp or Project X frequently made criticisms of those they felt had become set in their ways and resistant to change. New additions at a more senior level may help to shed more light on the situation, suggesting that they were 'under no illusion' as to why they and other new additions had been brought in and that was to facilitate the change (Document controller B).

4.1.3. COMPLETENESS OF CHANGE

Similarly, we find a large difference in understanding of the present situation between the site staff and those in management positions. Those working on site and furthest away from the change agency tend to perceive the change as completed and successful:

> *"Obviously it's been a very steep learning curve since we've been here, but I think we're up to pace now, and I think what we're doing now is pretty much spot on with what NAO expect us to be doing"*
>
> *~ Electrician A*

However, those closer to the change agency describe the situation as having some way to go yet:

"The changes are a work in progress – the more we look into what has been done and what we have to do the more we find the supporting procedures are not there to support the work. What we are doing is being more pro-active and looking ahead and communicating more with the workforce in advance to head off perceived problems"

~ Quality manager

This, however, is not a criticism limited to those junior level staff who are distant from the change agency. Many site staff did question whether or not the senior managers understood the project they were taking on when they accepted it, and again whether or not they are currently fully aware of the client's expectations. Concurrently, the quality manager had similar thoughts:

"Again the more senior managers around are not nuclear conscious. So they can understand what I am trying to do, but sometimes it conflicts with their interest where they are trying to cut corners where they can't. It is the ingrained mentality of commercialism, the time to get things done in a normal construction project is quickly and getting it done takes precedence but in this kind of project it is the safety, and quality, and security that are higher on the agenda than actually the commercial time and cost. I am just getting them to understand that now"

~ Quality manager

In sum, we find a large proportion of staff compare the work that they are doing with a normal job. Although they recognise that there are different expectations of them on this project an uncertainty of what this is coupled with a lack of role models and guidance for the situation frequently sees them referring back to their existing knowledge.

With reference to a normal job, the majority of staff see an increase in quality on this project, this in turn leads to a number of staff considering that the changes have been completed and successful, however those closest to the change agency perceive some way to go. The strong commercial mentality that is highly prevalent in other BuildCorp projects has been transferred to this project at all levels, and the company is slowly starting working to orient the culture in a different direction and develop employees understanding and commitment to change.

We find a difference between those we consider to have a better understanding of the *bigger picture*, and those who consider this project to be a one off isolated event. Those who assess the bigger picture more frequently internalise and accept the changes, considering long term outcomes, compared to the externalising nature and frequent complaints about the clients and requirements of those who don't. Individuals who are newer to the project more frequently fit into the category of those understanding the bigger picture.

Finally, we find an understanding of the requirements amongst employees at all levels to be on the increase. The majority of employees recognise themselves as accepting of the change but question whether others have developed an understanding. Most frequently, it is questioned whether individuals who have been at BuildCorp for a long time and have developed a strong commercial mentality are willing and able to change.

4.2. CHANGE PROCESS

Throughout the theme of *change process,* participants were asked to talk about aspects of the change such as involvement, timescales, and how the changes were affecting their daily routines at present. Again, three key subthemes materialised; individual involvement in change; expertise and change management; and the growing team size on the project. Once again, we highlight and interpret these key subthemes that were the most discussed.

4.2.1. INVOLVEMENT

Many employees, particularly those who have been working on the project for a while, feel a lack of involvement in the change process. The initiative is frequently described as being a top down process that is driven through the hierarchy of BuildCorp:

> *"To be honest it's the quality people higher up and then it gets passed down the line to us. The middle guys drive us a bit but I wouldn't say we're involved in any decisions"*
>
> *~ Mechanical engineer B*

Again however, we find that those individuals who were newer to the project and aware that they were being brought in to facilitate the change, and who had a better understanding of the bigger picture were taking a more proactive role and feeling more involved:

> *"Absolutely, I was brought here when there was an issue and as part of the solution to that issue […] From that point of view I understand there is a big change and I communicate everything down from my end to my team, as to what's happening and why we are having to change. You see we haven't done anything like this in the past, so we need to give them a reason why we need to do it differently in the future. I have been looking around for the wider picture, just contemplating again on what we are doing, why and then how we will move it forward"*

> *~ Document controller B*

For those who did not feel involved in the change, or perceive the need for further change, there was commonly a lack of clarity or understanding as to what was currently happening or what the organisation was aiming to achieve. Although many people discussed the lack of guidance, guidelines and procedures, this is currently being addressed by the organisation who are working to put these in place. Further though we found that those on the edge of involvement identified the need for a greater awareness and understanding of where the change was going, what was expected of them, specific targets for them to aim to achieve, and far greater communication and support from some areas of management (see section 4.3.).

4.2.2. PERSONAL SKILLS, AWARENESS AND CHANGE MANAGEMENT SKILLS

Due to this lack of awareness of both what is occurring and expectations, and the uncertainty that this brings, individuals were often supporting of change as a top down process, favouring strong management and guidance:

> *"I would suggest that this comes from the top down, and that's the only way this is going to work"*

> *~ Document controller B*

As well as stronger management there was widespread support for practices that would increase individuals' understanding of the issues, as discussed by one member of the site staff:

> "They complied a booklet of pictures of stuff that they were happy with and not happy with. Called a meeting with all the lads in this room and basically went through everything with us that he was happy with and not happy with. So if any issues could be dealt with like that is a pretty good idea I thought. Very productive. Spent some time with the camera and then could feedback and **_we could see why_** he wasn't happy"

> *~ Electrician A*

An interesting conundrum arises, however, at a more senior level. We found individuals were usually confident that they had the required skills and are now aware of the expectations, however, expressed a feeling that improvements would come with experience. BuildCorp however cannot afford for mistakes to be made whilst individuals gain the necessary experience (or risk being kicked off the project), and the individuals cannot gain the experience without trialling and developing themselves, as previously mentioned they are in a unique situation in the country with no example to follow:

> "The first thing I would think when I am given a document to review is what am I reviewing it against, and the answer is nobody seems to know. It's down to my judgment of what how to review it, what I think is a benchmark rather than maybe to look at the specifications […] there's no guidance or benchmark to review against. […] Bear in mind this is the first project of its kind in 30 years. It's a learning curve for everybody. For the guys out in the construction site to everybody in here. This is kind of the first, the first prototype of getting it right, of stamping in our processes in place and getting in. I think we will only keep improving throughout this project and into the next one and at the moment where we don't have the skilled workers or we don't have many who have worked on this kind of project before, because obviously one has not been done for a long time. So by the next project you have people who have five years experience working on a nuclear QC 1 project so yes it's only going to improve."

> *~ Technical author A*

4.2.3. GROWING TEAM SIZE AND A LACK OF INTEGRATION

One issue highlighted by employees of all levels was the growth in team size as a result of the change process. Individuals repeatedly noted that they were unaware of what other teams on the project were doing. As stated by Mechanical engineer B this makes it difficult not only to understand fully what is going on around, but difficult to find the correct person to deal with any issues or enquiries:

> "We've had a little introduction to some key members, in different departments, different teams but not everyone, I wouldn't know what everyone in here does. We have asked for some clarification on that, because when you go and ask some people because you expect that they're going to be doing something and then they say no that's someone else's job or that's your job or you know. Well that needs a bit of a clarification to get that one sorted out"

Individuals are also integrated poorly when they first arrive, often leading to recurrence of problems that have previously arisen, as people make the same mistakes. Mechanical engineer A suggests the benefits of proper integration:

> "It's all stuff we've sort of picked up as the job has gone along but if someone new comes to the job it would take them months to pick it up. But if you just sat down with them for a day and did all the workshops then it would speed that up massively"

Finally, with the growth in team size, people are also unaware of their own job roles and may be feeling some concern, as explained by Engineer C:

> "There does seem to be a lot more people coming in, and filling similar roles too. I think you have guys in here who have been here for a while seeing them come in and think well if that's what they're doing then what exactly is my job role then."

To summarise, due to the uncertainty surrounding the change at present we find a lot of individuals to be disconnected from the change. There is a large support for strong management and an increase in communication and guidance. Individuals express a desire for greater clarity and targets with regards to the change.

Those newer to the team express taking a more proactive role in the change process, whereas others desire practices that enable them to develop a deeper understanding of the context. Often individuals express the need for experience and awareness over any training needs.

A largely commented on issue is the growth in team size as a result of the change process. Individuals do not feel that proper integration occurs when new additions join the team, resulting in confusion and sometimes concern over what job roles are.

4.3. TRANSFORMATIONAL ASPECTS OF CHANGE

As discussed in the previous section, there appears to be a lack of common understandings amongst varying employees of BuildCorp. Commonly, managers use transformational aspects of change such as communication, involvement, and training initiatives to aid in the sensegiving process, and create a sense of shared understanding. Throughout this section we interpret how the employees at BuildCorp perceive their attempts to utilise these aspects of change, enabling us further discuss reasons behind the disjointed understandings and ways to improve the change process.

4.3.1. COMMUNICATION

Each individual interviewed cited communication as being a major issue with the change initiative. There were multiple interpretations for why communication was poor, but most significantly that there is not enough communication from the management and that the information was not timely enough:

> "It's inefficient, but it's getting better, but then we've got a massive team here so it wasn't as good at first and now it is getting a lot better yeah. We want the correct processes to be communicated, we've been promised the process charts for months but never had any for years. It's to make sure we follow the correct processes because if we drop one of them out then the whole circle breaks down. This stuff needs to be communicated quicker, so when someone higher up gets the information from the client to pass it

through quicker, which would then improve on the time as well as the technical quality."

<div align="right">

~Mechanical Engineer A

</div>

On the other hand, wherever communication was provided it was often considered to be in pockets and fragmented:

"There is no point changing something or finding another way of doing things if only half of you know why. The project team, only half of them are aware of what is actually going on. So communication is the key, so that everybody is aware of how we are going to change or what we are going to do and when we are going to do it. Rather than be talking to pockets of people changing their process and not communicating to the other parts. So, I don't think it's been communicated that well really."

<div align="right">

~Maintenance engineer A

</div>

Furthermore, the communication is considered to be irrelevant at times as it is not specific to the requirements of the teams at work, as explained by Electrical Engineer A, who considers this project to be the worst project as far as communication is considered. He is also overt about the lack of proper, simple communication and channels, and design for communication on the organisational level:

"[…] Poorly. It is our biggest failing I would say. As a company, not just on this project. This project is the worst one that I have come across. This job has been the worst that I have been on for communication. As a company I don't think that we are good at communication at all. I think simple. Very, very simple, well that would cover it. Something that could start at the top of the company and perhaps get added to make it look regional as it comes down the food chain. Absolutely, it doesn't need to be dramatic. We tend to get a huge email that lands every now and then, roughly every quarter perhaps,

with the list of everybody who has joined the company, which is crazy. It should be more regional and then at the project level, then I think it would be beneficial."

Also, the lack of formal communication and channels has led to individuals feeling left outside of the change, and perceiving that nothing is changing due to the fact that nobody is aware of what is meant to be different:

"You can literally go without talking for weeks here, not talking to people. I could come in for a month and not speak to anybody, do a good days work not speak to anyone and go home. I am not aware of anything that's changing. You can go home for a day and come back, it makes no difference nothing has changed because communication is poor and no one is aware of it."

~Electrical Engineer A

Although the company has initiated some activities to overcome the communication gaps and design feedback avenues, it is considered a superficial effort on part of the management and the lower level employees feel that the feedback is not taken seriously enough. As discussed by Mechanical engineer A:

"We have a team meeting each week and nothing gets done about what's said, but you get promised the same things each week. So it depends who you go to, really. Some people are obviously too busy to worry about whatever gets said."

Similarly, the senior level quality manager who is in charge of the change initiative acknowledges that the feedback mechanism is not efficient and functioning at par. He also feels that it is not just the top management which are responsible for the failings, but the entire organisation is lacking the ability to communicate effectively:

"Absolutely dismal, there is no top to bottom there is no side to side, everyone is doing their own thing and really they are just muddling through. It is only when there is a major problem that they start asking questions."

Another critical facet of communication divulged by another mid-level member was that certain individuals feel the top management is not completely open with communicating important details with the concerned employees:

"I think they should tell the truth. I am not saying that as workers we don't know what is going on out there, but all you actually want is when you ask a question you get an honest answer. That's all."

~ Project Engineer A

4.3.2. SUPPORT FROM THE TOP

Employees also discussed that there is a need for firm support from the management for the change initiative. The middle to the top management needs to be more involved in the change initiative and lead the change process with more commitment:

"The people have to be empowered by the company and whoever is in charge here running the show. Whether it is [names 3 managers], they need to delegate the power, say right this is going to happen and you are going to implement it. They have the final word really so that's the biggest problem here. At the end of the day even quality manager is challenged with what he wants. So you know if he feels that he has got the backing from them the top then he will be firm in what he does, but if you have people who are here for three years and not doing as he says then he is not gonna be happy with it and will become a bit shaky and feel now am I going to get the powers above that is supporting you."

~Document controller A

The employees feel that there needs to be empowerment of people at all levels to push the change further down the hierarchy. This means delegation of authority and power according to the senior staff, who feel challenged at every step of the implementation process.

4.3.3. COMPETENCE

Another aspect of transformational change is the high level of learning and training to supplement the change initiative and to develop the necessary skill set for sustaining the change in the long run. At BuildCorp the training has been considered to be implemented by some individuals, whereas others feel that at present training may be lacking.

The top management acknowledges that there is still the need to implement the right training modules and they will be in place once the processes have been identified. However, there are some who feel that training is not such an important issue in this case, as the employees seem to be confident about their competence to perform tasks. The most important aspect of training cited was raising awareness and changing mindset as opposed to skill sets.

> *"Yes everybody on this project is more than capable of doing what they are doing, it's just changing their mindset to do it in a different order not throw it in and do the paperwork after."*
>
> *~ Technical Author A*

Due to the low level of awareness, individuals lack understanding of the actual requirements of the project.   Individuals hold a belief of being competent enough and not requiring training, yet failing to understand why there is so much rejection of tasks performed. Again perceiving that greater awareness will rectify this situation:

> *"Our management has misunderstood or misinterpreted our employer's requirements. You'd guess that we hadn't taken it on board properly from the top and at a fairly senior level. We've just been told that we need to improve. So we've got to have more of an understanding, I think that's the main thing that we've got to have a better understanding of the clients overall requirements."*
>
> *~ Mechanical Engineer B*

The literature on transformational change and sense making discusses how significant communication is in terms of bringing about the necessary understanding of the change at hand. However at BuildCorp the communication is not perceived to be at the required level, lacking in quality, quantity and timeliness.

Individuals also suggest that the top management is not fully engaged in disseminating the bigger picture behind the change. This has led to some employees to question whether the top management is in control of the change, and express a desire for stronger top down management.

Individuals at BuildCorp routinely believe themselves to be capable of carrying out the job at hand, however, the above factors coupled with the lack of training, procedures and protocols is thus leading to low level of awareness of the change initiative at BuildCorp. It is here that employees feel they are lacking. Frequently employees express that if they had a greater awareness of expectations then they would possess the required competencies and knowledge and this would move the organisation closer to its desired state.

4.4 CULTURE

Culture is expressed in behaviour and can be seen in actions, events and other material artefacts. Commonly though, culture does not refer to these exterior elements but the meanings and beliefs these have for the people in the organisation. The theme of culture was widely discussed by individuals at BuildCorp, often expressing the ambiguity of culture that existed. This in turn has helped to blur the understandings discussed in section 4.1., as individuals do not what values, norms, and beliefs to conform to. Throughout this section we highlight the many key themes and ambiguities that were offered by individuals within the case, and take particular note of the multiple cultures and distinct groups that exist.

The culture at BuildCorp is distinct in terms of material practices (production, localization), symbolic expressions and values. This provides for a specific social identity for the employees (Alvesson and Sveningsson, 2008):

"I think that the values and the beliefs in terms of BuildCorp are the same here as they were on the other sites in BuildCorp. At BuildCorp in general, the people are very professional and they seem to hold the same values, trying to get things right and trying to work with each other. And so yes, I think overall there are good values here on this project as far as BuildCorp are concerned."

~Technical Author

The employees see their organisation in positive light. They believe that their organisation has a culture of not giving up in hard times, as explained by Electrical Engineer A;

"I think there's a lot of respect for the company both internally and externally. I think that affects some peoples work because we all know we are working for a top class company. BuildCorp just demonstrates who they are and the way they are. The last job required lot of money to fix some problems any other company would have left it, they would have just walked away. But BuildCorp is not one of them, we are still there we are trying to solve the problem. Of course it's costing a lot of money, but that's BuildCorp they get respect for not leaving in bad circumstances, they will demonstrate dedication. They have got a reputation to do it."

However there is also the sense among some that this is more due to the client than the organisation:

"There is a lot of talk about bringing quality management into the procedures and in the project. It has been done now because the BuildCorp have been told by the NAO that they need to make changes they need to pull up their socks, they need to get things running more efficiently they need to be getting it right the first time and not the second and the third time, so it think it is probably driven from the client."

~ Technical Author

At BuildCorp, the employees believe that it is all about giving the client what they are expecting. Relationships with the suppliers, the contractors, the subcontractors, safety and other project team members are always top of the list.

4.4.1. COMMERCIAL (COST FOCUSSED) CULTURE

The commercial cost focus culture which is governing the attitude and behaviour of the site staff. This culture can be seen in the way the site staff conducts and practices the operations on a daily basis. The main focus is to complete tasks on time, and within the provided budget with little emphasis on quality.

> *"They can understand what I am trying to do but sometimes it conflicts with their interest. They are trying to cut corners where they can't, as it is the ingrained mentality of commercialism to get things done in time a normal construction project and getting it done fast takes precedence but in this kind of project it is the safety, and quality which takes precedence. Safety, security and quality are actually higher on the agenda than actually the commercial and the time. I am just getting them to understand that."*
>
> *~Quality Manager*

In light of this cost focus, some employees believe that the company acts in a manner of taking from the employees and not in giving back to them especially due to the budget constraints.

> *"So they just always want you to give and they're constantly just taking. When I first started as an apprentice the values here were we're giving you all this training, so you would give something back but now that you're actually working it seems to be take, take, take and that's all. The team here is good I imagine they are being pushed from above, and I imagine the climate doesn't help because there's probably no budget there to use."*
>
> *~Mechanical Engineer A*

The quality manager who is responsible for the cultural change initiative feels that it is good that the company as a whole has recognized that there has to be a cultural change and that quality plays an important part in the work that is being done. He discusses that it has to be something that is built into everything that they do, and people must take personal

responsibility and not think that it is someone else's responsibility. Further, he also feels that the obsession and culture of commercialism is a key reason behind the increasing cost input and that with proper planning this could be prevented:

> *"There have been several occasions where we have had to go back and redo work. That costs us twice as much in time and resources and materials. If they would have actually spent more time on the prior preparing and planning and then do it properly then although the time frame might be three weeks instead of maybe two weeks. It is better to do it in 3 weeks than go back strip it all out and redo it which takes another 2 weeks and if it is still not right then go back strip out and then redo it all over again."*

> *~Quality Manager*

4.4.2. THE OLD GUARD AND THE NEW GUARD

There are also beliefs that the 'old guard' at BuildCorp is the major reason for the commercial culture being ingrained into the system, as a lot of people are stuck in their old ways:

> *"I have got an instance where one of the guys sent me a form and said that we have used this form for two years. I said to him but it is wrong, and he actually said to me I know it is wrong. Then I said to him if you know it is wrong then why use it? He said that we have always used it. So it is getting away from this, just because you have always done it doesn't mean you have to. Challenge it if it is wrong. Change it and do the right thing."*

> *~ Quality Manager*

Similarly, the newer recruits feel that the older generation should be retrained with the new approach to make this cultural change a success.

> *"Lot of lads have been doing things here for 25 years. So they have been stuck in the old ways of back in the 70s and 80s. Things have changed since then. People have created a habit so they will stick to it, so I think maybe a refreshers or more*

workshops on new initiatives, new creative ways of thinking, or different kind of equipment or something, or tools or techniques."

Despite mentioning that the younger guys may need to be kept an eye on, the older employees also have a positive feeling about the new recruits being able to bring in the cultural shift within the company. They feel that the younger employees would put some positive pressure on the older employees to outperform their abilities to portrait a good image of change:

"I'm one of the more experienced older people so the younger lads generally look up to the older guys to follow an example of what they're doing. So, yeah, you need to raise your game really, so that the youngsters don't copy what you're putting in that could maybe be not quite as good, so you need to up your game so they copy what you're doing."

~ Electrician A

4.4.3. CULTURAL FLUX

Project X is also unique in the way that there is a cultural flux at play which is the combination of more than one culture at the workplace. The commercial culture at BuildCorp which is targeted for cultural change is not only considered to be a decision of the top management but is also considered by some employees to be forced upon them by NAO. They believe that NAO has high quality culture which is being pushed upon BuildCorp by them due to this Project X.

"I think health and safety is a big thing only because of the client that we are working with, otherwise I don't think it would be. I think it would be even worse than a lot of other companies, if it wasn't for the client."

~ Document Controller

Further, there is also a belief the hiring of subcontractors is weakening the organisation's push for a more quality oriented culture:

> *"So the subcontractors are really not going to work on quality that much. They move around to other jobs or companies, and then it will be us who will be left responsible for their quality here. I mean it's cheap to employ subcontract labour but it's not going to be to the quality of our people working here. Anyway, I feel that they will go down the cheaper route. I can see us going off and getting the cheaper labour. I don't see why they have to. I would recommend they don't and I think they will know that in the long run. I think it's a lot safer to use our guys. I personally find that they are a lot safer as they know what's expected of them and what standards to have."*

> ~ Electrician B

Leading to a cultural dilution and further weakening of the quality focus at project X. This cultural dilution is also leading to the lack of clarity regarding the culture.

4.4.4. ATTITUDES

Despite the favour for BuildCorp staff, another attribute that was noticeable in the analysis was that many employees felt that the attitude was one of the issues in the lack of dissemination of change in the organisation:

> *"I think they have the competencies. People are competent enough, but people are lazy. They don't do it as there is no check in place or there is no systems in place to make sure."*

> *~ Electrician A*

The problems with attitude were most frequently attributed to the older employees, hence, the changes were more generally perceived to be a learning curve for the younger generation more so than the older employees.

"You see young guys will embrace it, the others will stick around and get it to a degree."

~Document controller

The attitude was overall considered to be very naive towards the change at hand and as stated above it gave a sense of the employees being lazy towards Project X. This attitude is eventually leading to lack of accomplishments, as the employees are not performing the tasks in the required way.

4.4.5 MORALE

The morale of the employees also was highlighted as a key consideration at this point of change. Some felt that the morale was already low in the organisation before the initiation of the change programme. Additionally, others felt that the morale was low due to the constant surveillance at the site by the NAO and the negative feedback that was provided for the entire job. Some of the senior staff considered the morale to be low due to the lack of nuclear experience and this was supplemented by the incomplete training, and uncertain processes. While most others felt that the communication and lack of firm support from the management led to this decline in morale which was again negatively affecting the change process:

"I think they need to improve the morale of people because if you're just constantly pushing everyone it's just going to get down. Give people a bit of positive feedback once in a while because it seems at BuildCorp when I sit in on the team meetings each week it's just negative, so then everyone goes out of there thinking well we're doing a rubbish job, so if you just give some positive feedback every now and then it gets everyone's heads up and they'll be willing to give you more."

~ Mechanical Engineer A

Overall, employees generally perceive that the old culture is all about giving the client what the client is expecting. However, at Project X the client, NAO, is expecting quality to be central to the project which contradicts many of the other old cultural values and norms.

The top management, being aware of the bigger picture, consider the quality culture to be the future for the company. However, at the same time the new intended culture of quality differs greatly to the prior culture, and is seen as prohibiting the *'normal job'* practices of cost and time focus. This has led to a conflict of cultural practices and behaviours at Project X.

On this basis, the old culture at BuildCorp can be considered to be distinct in terms of material practices, symbolic expressions and values, from that of the new desired culture. Moreover, at BuildCorp the present culture of commercialism has existed and been supported for a long time and is predominantly what people identify themselves with at the workplace.

The challenge to this identity from both the attempted cultural change, micro-cultures and the client's expectations has led to a decrease in morale and simultaneous ambiguities and misunderstandings as to what the present and future cultures should be.

Finally, there are distinct groupings of individuals, which we interpret as the old guard vs the new guard, the office staff vs the site staff, and the management team vs the subordinates. Each grouping has different values, norms, and presently understandings of the changes at BuildCorp, further exacerbating the cultural ambiguities.

4.5. SUSTAINABILITY

Another key aim of this research was to discover employee perceptions on the sustainability of the changes that are currently being implemented. Again, highly linking to the other factors, we found a range of understandings that follow and strongly link to the general trends laid out by the previous sections, e.g. those who see the 'bigger picture' being more willing to institutionalise changes vs those who do not. The key findings pertaining to sustainability are laid out below.

4.5.1. AN ISOLATED ONE-OFF PROJECT VS. ORGANISATION WIDE GOAL

Despite the difficulties in coming to terms with the stringent new requirements almost all the employees interviewed expressed a certain level of pride in the level of work that they were producing. There was, nevertheless, distinct uncertainty as to whether the quality levels produced

would be replicated on future assignments. Once again, a large amount of the time employees referred back to the notion of a 'normal job' and commercial targets, including discussing the support that they would receive from management to replicate the quality:

"You'd like to think that the quality would be rolled out onto another job, because like I say it's really really good, but I know as well as you do that the pressures of getting jobs finished tend to make you cut corners a little bit. The pressures of getting the job done I think probably would make you revert back to working a little bit like you used to […] I think the site manager would definitely be pressuring you, saying you've got a week to do this, that's your target, get in and do it"

~ Electrician A

Additionally, linking to the trends we found in the bigger picture understanding (section 4.1.) many individuals still view this project as an isolated occurrence, contending that they may well never have to replicate such quality again:

"I think this environment is a bit of a one off […] So there is learning here that you could take and use in other areas of the company if you wanted to but it might just hamper other projects. So as long as they could be stripped down a little bit to speed them up"

~ Mechanical Engineer B

Once again, however, the long term organisational goals differ somewhat from this perspective:

"Yes the changes will be sustainable for the length of this project, they have to be, there is no dipping in standard in this project. The goal is a cultural change more than anything else. They have got to take on health and safety and those quality standards on board and then have to live, breathe, walk and talk quality not just pay it a lip service. And that has to be looked at running across the board. Initially we started off a course on nuclear side of things to bring the people to this behavioural standard because the quality is ingrained in what we do and then why should it be only nuclear, shouldn't we be actually striving higher standards for everyone? So the whole of the engineering staff will be training again with focuses on quality. We don't just want to raise the bar high for nuclear we want to have it high for the

company. So after the nuclear we do plan to run it through to the rest of the company. This is for everyone, you got to have the buy in from the senior managers, but everyone from top to bottom has to breathe this whole new culture"

~ Quality manager

4.5.2. EXPERIENCE, ABILITY AND ATTITUDE

As previously noted, a number of individuals have described the current situation as a 'learning curve', suggesting that come future projects the knowledge gained will have remained within the company.   The theme of 'experience' resonates highly amongst a number of individuals, who suggest that the relative uniqueness of the project means that it will take time for people to adapt and become accepting.

A number of individuals express their belief that everyone currently involved with the project is more than capable of performing to the required standard, although it was considered that people's attitudes and willingness to change may be a barrier to sustainability:

"[…] a barrier to the sustainability of this change is probably the attitude of the people on the engineering side [...] Everybody on this project is more than capable of doing what they are doing, it's just changing their mind set to do it in a different order not throw it in and do the paperwork after. Making sure they are doing that even when they aren't being watched."

~ Technical author A

Countering this, one individual describes a key success factor of BuildCorp as a whole as 'putting the right people in the right place' (Engineer C). A point that is developed further by the quality manager, who goes on to suggest that in order to sustain the changes that are being implemented he would be looking to transition out those who are unable to come to terms with it:

"We can only educate the people to a certain degree, and if they are actually not willing enough to take it on board then you have to switch them out. I mean there are some people who will and won't be suitable for this kind of work, people who are flexible and can adapt to changing situations, and there are those who can't adapt to new situations. This for 99% of the people is a new situation. I think now 3 years into the project they are beginning to find that there are certain people who can't adapt. I am not saying they can't do the job but really they should be moved from

this position on the nuclear site and people who can adapt to the changing and stringent requirement should be moved in"

To sum up, individuals at BuildCorp expressed pride in the level of work that they were carrying out at present. However, the existing culture of the wider organisation is still pervasive into people's mentality at present, and therefore a number of individuals see this as a one-off isolated project, which they will neither need to nor be encouraged to repeat in future.

To counter this, BuildCorp intends to retrain and refocus the entire organisation, as well as maintaining pressure on individuals to keep their standards up on this project. In order to facilitate a more conducive culture for sustaining the change, the quality manager suggests that individuals must be flexible and willing to change otherwise they should be transitioned into other areas of the business. This is somewhat similar to other people's beliefs within the organisation, that everyone is technically capable of fulfilling the role in which they are in, however individual attitudes and willingness may be a barrier to sustaining the change.

5.1. UNCERTAINTY, THE 'NORMAL JOB', AND LOCUS OF CONTROL

5.1.1. UNCERTAINTY AND THE 'NORMAL JOB'

Throughout the case each individual had differing interpretations as to what changes were occurring, the desired outcomes and the process that the organisation was taking. As well as leading to multiple interpretations of the situation (and therefore disjointed direction of effort), this has led to a great deal of uncertainty amongst employees as to what is expected of them.

Successful organisational change occurs when employees have a purpose, plan, and role to play in the change initiative (Bridges, 2003). For this reason, organisational and individual understandings must be in alignment. Individuals must understand what it is the organisation wants from them, it must be achievable, and organisations should develop commitment to this cause.

With the above in mind, how employees make sense of a situation can act as the precursor for either support or resistance to a change (Armenakis, 1993). We find in the BuildCorp case that both individual and group awareness and control are lacking.

Uncertainty is not an uncommon occurrence within organisational life. In sense-making literature information seeking plays a key role in both individual and organisational success. Primarily within BuildCorp, and at all levels, we witness *task uncertainty* (Hanser and Muchinsky, 1978). Individuals lack task specific knowledge in absence of experience, guidance and protocols.

Usually, individuals will seek task specific information from a superior informational source, most commonly reported as being an immediate supervisor (Ashford and Cummings, 1983). However, in this case, the supervisors are also not perceived to have adequate knowledge and there are very limited role models with nuclear experience within the organisation. In lieu of this, we identify individuals going through a behaviour or sense-making regression to a state of reference that they are comfortable with.

There are numerous examples of employees at BuildCorp making sense of the job by comparing or making reference to the notion of a '*normal job'*. BuildCorp has built a strong and reputable culture on commercial aspects and individuals coming from this culture frequently regress to this state of knowledge and behaviour in absence of context specific knowledge, or at least use it as a comparison point even though the contexts differ vastly.

This is compounded by individuals carrying out incorrect procedures <u>knowingly</u>, because 'that is the way it has always been done', and they are unwilling to challenge this behaviour. We see this type of blind following as a manifestation of herd behaviour. Hirshleifer and Teoh (2003) depict herd behaviour as an alignment or similarity in behaviour to a collective conduct. Individuals may follow the herd when they perceive themselves to have limited information (Devenow and Welch, 1996), and are therefore unwilling to challenge the norms that exist.

Site staff also express a level of *performance uncertainty* (Millar and Jablin, 1991). They discuss being constantly watched by the client and feelings of uncertainty about how their work will be perceived. Again, we find that in light of uncertainty these individuals frequently make reference back to a *normal job*, comparing their work to the standards that are usually required on other projects.

5.1.2. LOCUS OF CONTROL

Coming into this project the company's lack of nuclear experience meant that standardised formal procedures were not present. This has made it difficult for existing members to share one understanding of the situation, as well as for new comers to make sense of the context and changes. As awareness is increasing, and standardised processes and protocols are drawn up, we are finding peoples interpretations are converging. We find that people are generally accepting across the board of the need for stringent quality guidelines, however with variances in perceptions amongst different groups with regards to how to achieve this and how far along the change process is.

The further away from the change agency, the more complete the employees believe the change to be. Commonly, individuals at site level would express their belief that the change outcomes had been reached and that the situation was now in line with both the organisation and clients wishes. Those closer to the change agency, and in more senior positions, took a different stance, believing that the changes were a work in progress and still had some way to go. Communication is commonly cited as a reason why these two understandings differ.

As well as communication, staff at site level perceive they have less control over the change process and outcomes. By using a highly externalised locus of control (Rotter, 1966) these individuals perceive that the change is being driven by the client and that despite their best efforts the client and external environment are the problem in reaching the goal. The findings of authors such as Martin et al (2005) suggest that individuals with externalised locus of control are likely to show less

commitment to events such as change, and our findings support that, suggesting a level of compliance as opposed to commitment.

In line with Singh and Amish (2012) we witness an increasingly internalised locus of control with rise in occupational level, and a similar increase in commitment to the change causes. These individuals believe that they can make a difference and take a more proactive role in the change, whether that be improving their own communication or making suggestions to improve the process. Along with this, and to be expected, these individuals refrain from discussing the client in negative terms but instead make sense of the situation based upon what they perceive the company can do themselves to improve the process or outcomes.

Based upon a level of uncertainty and externalised locus of control, we find those furthest from the change agency prefer strong top down management as the implementation process of the change, most likely as a way of deferring responsibility in light of these factors. Those who engage more with the change however express greater satisfaction in the events occurring, discussing the bigger picture and long term outcomes, as opposed to isolated one off events.

5.2. A LACK OF COMMUNICATION PROTOCOLS

Second order transformational change at BuildCorp is an anticipatory, proactive, frame bending change (Palmer et al, 2009). At BuildCorp the transformational change demonstrates the two basic elements of such change which are, a present state where everything is understood by trial and error and the future state, which will require drastically different culture and practices from the present state. These elements have led to the creation of some structural and functional issues which need to be addressed for the future state to be achieved.

Firstly, there is a lack of communication from the top and mid-level management to the lower level employees, as they have overlooked the significance of communication (Hughes, 2006). This has further been compounded by the issue of task uncertainty at BuildCorp as discussed previously.

Change demands credible communication for sustainability, and this can only be achieved if the top management has the necessary capabilities to communicate effectively. Ulrich describes such capabilities as rapid learning or ability of an organisation to generate and generalize ideas with impact, to create and disseminate ideas with speed and rapidly transfer knowledge through amongst others; technology, forums, and best practice studies workshops (Ulrich, 1996: pp.194-195). However, at BuildCorp there were several issues regarding communication which are found to be in

coherence with the popular literature on communication. Additionally there are also idiosyncratic issues to this change initiative at Project X.

There are no specific channels or protocols devised for effective communication. Further, there is no formal involvement from top management in the communication process, this has led to a failure in creating a sense of urgency and support at all levels with regards to the change (Kotter, 1996).

Adding to this, individuals perceive multiple communication gaps, such as the gap between top management and mid-level staff, the gap between the office staff and the site staff and the gap between BuildCorp and NAO. Further, there were many individuals who cited Project X as the first project at BuildCorp where there is a physical divide between different departments, due to the strict security on site; some employees even used the metaphor of "Dark Side" to describe the NAO site, an areas that most employees were not allowed access to. This again led to a communication gap between the office and the site staff, as most of the office staff were not even allowed to enter the site at NAO.

Furthermore, there were also certain idiosyncratic issues with communication in this context. Firstly, there are certain certifications to be obtained by the employees before they can access documents at Project X. Unless the employees have obtained these certifications they are not allowed to access certain physical information. This creates a hindrance to what Covin and Kilman (1990) recommend; full, timely and accurate information, further complicating the communication process at Project X.

Secondly, the prerequisite of having a good learning base to support the communication strategy of change is not in place at BuildCorp, as this is the first project of its kind. The aforementioned lack of nuclear background can only be overcome by an effective learning strategy. However, there is a strong belief in the employees at BuildCorp, that they already have the competence required, but lack the awareness for this project. However, many individuals feel this to be an isolated and one off project, and without the support, drive and communication from management are unwilling to prioritise this awareness over the ingrained commercial mentality.

5.3. CULTURE – AMBIGUITY IN THE DRIVER'S SEAT

Anthony (1994) states that a cultural change that is not reinforced by material changes in structure, reward systems, guidelines and policy is likely to be seen as unreal and any adjustment to be temporary.

5.3.1. INSTRUMENTAL COMPLIANCE

At BuildCorp this is applicable in its factual sense, as the management of the organisation intends to bring about a cultural change at the organisational level based on this single Project X. However, three years into the change process there are still not any formal policies, procedures and protocols in place (although this is now being addressed). Moreover, there is minimal involvement of the management in supporting the desired outcome. This is again preceded by the lack of planning of the cultural change and also the lack of communication on what the 'bigger picture' behind the change is, as pointed out by the Quality Manager. This has led to a belief amongst the supervisor to mid-level staff that the top management is too busy to be involved in the transformation process, leading to people in senior positions at a present state of only "instrumental compliance" (Ogbonna and Wilkinson, 2003) or "malicious compliance" (Palmar et al, 2009).

5.3.2. MYSTIFIED INTERPRETATIONS

There are multiple interpretations regarding the actual cause of change. The top management looks upon this change as dawn of new era of quality standards across the entire organisation. However, the management at BuildCorp has not been able to provide what Smircich and Morgan (1982) call 'leadership as management of meaning'. Therefore, this has led to the onsite staff's interpretation of the change as a temporary and one off project, and that they will be reassigned to their 'normal jobs' after this project. Hence initially, many individuals were not willing to prioritise the quality culture over the commercial culture and continued to cut corners as they generally may on other projects which are bound by their commercial nature, thus leading to the higher rejection rate on this project than any other project they had executed previously.

5.3.3. PARADOXICAL BELIEFS

Another significant revelation was the paradoxical belief in the abilities of individuals on this project. The further away we went from the top management, the more intense was the belief that the individuals had the competence to perform tasks efficiently. Moreover, in spite of many employees acknowledging that this is first of a kind project for BuildCorp and that none of the employees were from the nuclear background or had any significant experience of the same, they still believed that they had the competence to perform the tasks efficiently and did not require any further training. The top management strongly believed that these are early days for the new culture and that the

training modules, procedures for tasks, protocols for job performance were still being developed and would be implemented to facilitate the change at hand, as they understood the bigger picture. On the contrary the lower level staff appeared unaware of the bigger picture and felt that they are nearing the end of Project X and would not require any training, procedures or protocols to improve performance as they would have to redeem their old culture of commercialism once they move back to other projects. This unwillingness towards quality culture, leads to a pseudo acceptance of the change which is temporary and not really what is intended by the top management, similar to findings of Ogbonna and Harris (1998) as cited in Alvesson and Sveningsson (2009).

5.3.4. OLD GUARD AND NEW GUARD CONFLICT

This pseudo acceptance may also be attributed to the attitude that the old culture has embedded in the employees who have being exposed to it for long a time, mostly the 'old guard' of the company. The employees who have been associated with BuildCorp before this project were reported as having a lazy attitude towards change. They are less willing to accept the standards which they believe to have been forced on them by the new culture. However, the new recruits specifically hired for this project are very receptive of the quality standards and consider it to be of great value in the long term. The recruitment of newer and more receptive staff is also encouraged by some senior staff responsible for the quality culture. This is similar to the ideas of the grand technocratic project (Alvesson and Sveningsson, 2009), and that if required BuildCorp should (and is) also considering "People swapping", wherein the old employees who are having the desired skill set but lacking the attitude to change should be taken out of this project and replaced with other employees either from within the company or with new hires, to facilitate the transcending of the new culture throughout BuildCorp.

5.3.5. CULTURAL POLARIZATION

However, our analysis also suggested that at BuildCorp there is a lot of ambiguity regarding the actual culture of the organisation, at least partly due to the existence of sub cultures which emanate from cultural polarization arising out of the divide between the old guard and new guard and also the sub culture that is arises from sub-contractors. The sub-contractors are considered by some employees as one of the major reasons for the failure of quality culture. The subcontractors are considered by some employees to be producing lower quality output at site, due to their tendency to complete the projects with an extreme cost focus and their ability to move on regardless of the

effects on output. As they partake in multiple projects at multiple sites in tandem, the employees of these sub-contractors are either less aware of the BuildCorp standards or they are not motivated enough to produce the high standard of work required by their employer. Hence, they are also an important factor behind the slow assimilation of quality culture in the organisation and resultant fragmented, ambiguous and heterogeneous culture (Martin, 2002) as shown in figure 2 below.

The figure depicts the current situation at BuildCorp. Presently, the existing culture is larger and overbearing on the new desired culture, which is also being encroached by micro-cultures belonging to further sub-factions or sub-contractors. These multiple cultures are what produce ambiguities for individuals involved. Further, the arrows depict the movements of people within the company and project, leading to the creation of old guards and new guards, and ideas transferring between areas of the company (although not always in the direction the organisation would like).

Finally, there is ambiguity regarding the onus of this cultural change. Some employees believe that the top management is responsible for the change initiative while others believe that the client NAO is forcing unnecessary quality standards on BuildCorp which is leading to the changes taking place. This dubiousness of responsibility and lack of effective leadership by the top management coupled with the lack of dominant culture, direction and conflict of the old guard and the new guard is leading to a situation of ambiguous culture at BuildCorp which is resulting in a weakened morale at workplace and disbelief in the sustainability of this quality focus in the future projects of BuildCorp.
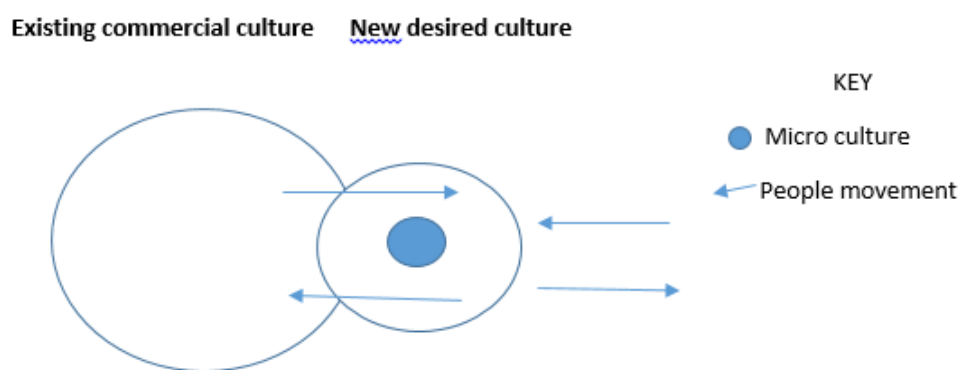

Figure 2; Cultural Ambiguity at BuildCorp

5.4. SUSTAINABILITY OF CHANGE – INERTIA OF COMMERCIALSIM

Sustainability of change is said to be achieved when the new culture is baked into the organisation, or is considered to be "the way we do things around here" (Kotter, 1995). However, on Project X at

BuildCorp it is contrasting, as the commercial culture or the old culture is still what people want to follow as they believe it to be "the way the things are done and will be done in the future". This means that the process of preparing and aligning the organisation around the given cultural change hasn't been fruitful thus far, as BuildCorp so far has not been able to bring about any thoughtful, focused, and well-led change management approach which can bring an organisational alignment towards quality culture.

5.4.1. BARRIERS AND THE STATE OF OBLIVION

Moreover, this has led to an oblivious state towards the new culture for some, due to the lack of proper communication. As discussed earlier, some people are unwilling to accept the new culture due to multiple barriers. These barriers are diverse in nature, the most significant barriers which we could interpret are as follows; firstly, the attitude of the people who are involved in Project X is not uniform, the old guard is competent but resistant towards change, mostly due to the factors as discussed by Palmer et al (2009, pp. 162-196) which comes across as a lazy attitude. This added with the lack of training modules poses as a barrier to change. The new guard, however, is more receptive of the new culture than, and equally as competent as the old guard. This therefore this may result in the long term sustainability of the change initiative as these individuals should theoretically be the future of the company.

5.4.2. FAILURE TO COMPLY WITH BEST PRACTICE

Secondly, we found that the recommendations cited by Palmer and Dunford (1997) in Palmer et al (2009, pp. 89-90), were not effectively implemented during the change initiative. This has led to; the inability of the management to *delayering,* leading to complexities with communication and feedback; No *networking and alliances* being built between any external agencies such as a consulting firm and BuildCorp, for facilitating the buying in of change initiative; issues with *outsourcing and short term staffing* of the subcontractors. These subcontractors have lower quality standards than BuildCorp, leading to further reduction in the standard produced at Project X, and further deteriorating the cultural transition. Adding to this, the organisational *disaggregation* into smaller project based units, is not favouring the change. On the contrary it is very difficult for the Project X as a prototype with only small number of employees to sustain the quality culture across the entire organisation.

5.4.3. EMPLOYEE INVOLVEMENT

Further, Employee Involvement (EI) is considered to increase workers' input into decisions that affect their well-being and organisational performance (Glew, O'Leary-Kelly, Griffin, & Van Fleet, 1995). However at BuildCorp, the **empowerment** of employees has not really been achieved, instead the mid-level employees feel that their authority has been constantly challenged. Hence the midlevel staffs are expecting the top management to become more firm and supportive of this change and empower the midlevel employees to channel it to the lower level staff efficiently.

Finally, *the increase of the internal and the external boundaries,* at Project X it has happened for the first time that all the employees have been separated physically to the extent that the office staff is not allowed to even visit the site staff and they have minimal interaction. Also there is a very strict and regimented process for accessing the documents involved in the Project X. The employees have to undergo certain level of training and acquire certifications to access the documents on Project X. Adding to this; the security on this project is very high as compared to any other project being a nuclear class 1 build. Hence, the employees require a certain security clearance on daily basis to enter and exit the work site. This further deters communication on project X and acts a structural barrier to sustaining the culture in future, as many documents and other relevant details are maintained under security by the client on "The Darker Side" of the site. Thus the accessibility to the physical data is restricted. Moreover, on Project X there is no provision made by NAO for BuildCorp to utilize servers for maintaining and streamlining processes, unlike the other projects BuildCorp has been involved in so far.

Additionally, this myriad of factors has led to a negative environment at Project X and reduced employee morale. This is another barrier to sustaining change, as it is resulting in constant decline in motivation of the individuals at Project X and leading to disbelief of any further change as having any future benefit for the organisation. Based on Carlisle and Murphy (1996) BuildCorp requires skilled managers who can organize and provide a motivating environment, communicate effectively, address employees' questions, generate creative ideas, prioritize ideas, direct personnel practices, plan employees' actions, commit employees to action, and provide follow-up to overcome motivational problems. However, presently staff perceive there to be only a number of skilled managers at their disposal to overcome this barrier, and a number of managers who are unsupportive.

Time has been another factor which is acting as a barrier for sustaining change, as Project X has already completed three years since inception and the entire organisation is not certain about how long it will take to be completed. The employees under the old culture are more used to having time

oriented projects with specified deadlines, but on Project X the timescale is not specified by NAO. This uncertainty of timescale is frustrating for the employees involved in Project X, as they have to perform tasks which are not the *normal job* tasks under extreme supervision by the client in a negative environment with no defined set of procedures and protocols.

6.1. MAIN FINDINGS

6.1.1. UNCERTAINTY AND AMBIGUITY HINDERS ACCEPTANCE AND COMMITMENT

In situations where there is uncertainty, be it task or performance, or ambiguity in culture, direction or understandings, individuals become less accepting and more resistant to change. Individuals are pulled in multiple directions by varying sources, without being fully aware of outcomes and this results in the desire to avoid change and stay at a comfortable state.

6.1.2. COMMUNICATION IS VITAL FOR ACHIEVING DESIRED OUTCOMES

Without clear and consistent top down communication, individuals are left to make sense of changes on their own, leading to multiple interpretations, many of which differ from the desired organisational outcome.

Communication is also vital to people's identity, involvement and morale, these factors we perceive to also have an effect on willingness to change. In these cases, communication does not merely have to be top down, but also bottom up and laterally in order to create a sense of organisational belonging and therefore commitment to the organisational change goals.

6.1.3. CULTURAL AMBIGUITIES HINDER CHANGE

People may associate themselves with varying cultures, and the culture being followed may not necessarily be one that is beneficial to the organisational change. Therefore, having multiple or ambiguous cultures acts as a barrier to effective and sustained change. Individuals may witness those cultures that are not part of the change and regress or reassociate themselves with such cultures. Organisations must be aware that the dominant culture may not be conducive to change in smaller areas of the organisation.

6.1.4. SUSTAINABILITY

We find that the above factors may all have large detrimental effects on sustainability. These factors create ambiguities and multiple orientations of pull, causing disjointed directional effort. We perceive that having strong sustainability champions throughout the organisational hierarchy and not just at the top will beneficial in encouraging others to push for institutionalised change.

6.2. THEORETICAL CONTRIBUTIONS

6.2.1. THE EFFECTS OF MULTIPLE CULTURES ON CHANGE AND SUSTAINABILITY

Throughout the existing literature that examines the relationship between culture and organisational change, scholars frequently argue for their dichotomous standpoint that culture can either be manipulated to aid in sensegiving and facilitate change (Hodgetts, 1991; Brown, 1998), or that conversely culture is a force for stability and a barrier to change (Quirke, 1995; Mintzberg, 1998). Our qualitative and interpretative research has sought not to take or prove one of these standpoints but to witness the effects that multiple cultures within one organisation has on the understanding of change.

Indeed, we witness both the positive and negative effects of culture when examining this phenomenon, and argue that multiple cultures produce ambiguity, uncertainty and disjointed direction of effort towards change, if not properly managed (similar to Wankhade and Brinkman, 2014).

In this case we find individuals assign themselves to one set of cultural norms, dependent on a range of possible factors; their personal or professional identity; their perceived control over the situation or less uncertainty; their preference for one culture or set of outcomes (or self-preservation); understanding of the situation or long term outlook.

Our research suggests that those closest to multiple cultures perceived higher levels of ambiguity in changes, lower commitment to change, less understandings in line with those of the organisation/senior sources, and were generally more skeptical about the need, process and long-term outcomes of change. These effects were, however, less pronounced in what we term 'new guard', those who have been initiated into one of the strong and existing cultures more recently.

We feel this point builds upon the existing literature within emergent change. Principally in emergent change (Burnes, 1996), organisations can initiate a change starting with one project,

department, or other grouping within the organisation, before distributing the changes throughout larger parts or the entire organisation. Our research highlights the difficulties in this approach. Individuals that are part of the change may look to areas that are not and identify themselves with other cultures for a number of reasons. This effect may weaken the initiation, driving force and sustainability of the intended changes. Burnes (1996) further suggests that emergent change should focus on understandings and interpretations of the complexities of change, however, we see fostering multiple cultures as creating ambiguity and blurring these understandings.

5.2.2. COMMITMENT TO CHANGE – TEMPORARY COMMITMENT AND PRIDE

Throughout the case we witness a phenomenon which we term *temporary commitment.* A number of individuals at BuildCorp express and demonstrate commitment to the changes at hand, however, express their likely regression when the project ends. We do not however see this as merely a form of compliance (Ogbonna and Wilkinson, 2003). The individuals discuss their pride in what they have achieved in light of the changes and a desire to maintain this, however, they express cynicism that in the long run their superiors, clients and alternate cultures will welcome this, and perceive that this will force them to revert back to old ways.

This however, differs from other forms of compliance that exist in the literature. Pride is meaning that individuals are buying into the vision that is being set, and given the right opportunity and support would like to see this carry on. Even despite the apparent cynicism that the changes will be welcomed in what the future may hold for these individuals, a number of them suggest that they will take away and use many lessons from the change, although perhaps on a smaller scale.

The finding highlights a number of the important factors for the sustainability of change. They offer support to the suggestion that management support is key to institutionalising changes (Kotter, 1995; Beer, Eisenstat and Spector, 1990). Further though, we posit *pride* as a key factor towards institutionalising change. Pride may act as an important component in an individual's identity, and therefore increase the likelihood that people want to be associated with such changes. In this case we witness pride in the outcomes of the changes, the level of work that is being produced. We theorise that this causes individuals a sense of both personal and professional pride and therefore these individuals become more committed to the change.

6.2.3. ISOLATION, IDENTITY AND MORALE

Individuals in the BuildCorp case often discuss the feeling of isolation on the project. The tight security on the project means that the project to a degree is isolated from the rest of the organisation, teams are isolated from one another or certain information, and individuals are physically isolated from the outside world.

This isolation challenges an individual's identity, causing a deterioration in morale. In turn we witness a well-documented effect that with lower morale comes lower support for change (Kotter, 1995). In order to maintain morale, we interpret individuals within the case expressing a desire for smaller incremental changes that challenge their identity less, and greater awareness of the bigger picture as opposed to 'working in a bubble'.

This idea supports many key theories for change; a vision should be developed and shared (Pascale et al, 1997); individuals should be able to get involved in the change (Kotter, 1995); and short wins should be utilised (Kotter, 1995). Additionally, we feel that we offer empirical evidence to add to the debate on whether people or processes should be changed first in a change initiative. The nuclear environment has strict rules and regulations to follow, however, we witness that when individuals are not ready to change they find ways to disregard these new procedures, whether it be claiming ignorance or citing that is the way that they have always done something before.

6.2.4. REPLACING INFORMATION SHARING IN NECESSARY SITUATIONS

The change literature is full of suggestions about how organisations should communicate. Our findings support that employees would like as much relevant information as possible and as quickly as possible (Smith, 2006; Richardson and Denton, 1996). From the employee perspective this helps them to do their job, and therefore reduces the likelihood that they will face management later telling them that they have done something wrong, when from their point of view it was something management omitted to tell them.

This case also gave us an opportunity to examine a context where communication and information sharing in some instances had to be partial and fragmented due to security reasons. We find that despite the desire for fuller and timelier information, employees were somewhat accepting of the situation due to an understanding of the security risks. In these instances employees were happy for communication to be replaced with strong top down management and guidance. In absence of being able to see certain documentation, individuals wanted clear guidance on how to perform, and

a show of support from management that they were working towards helping the individuals performing the tasks.

Our analysis suggests that although this is not favoured by employees and full communication is the best possible situation, being open and supportive can maintain a change initiative even in information restricted scenarios.

6.3. PRACTICAL IMPLICATIONS

Alvesson (2013) states that research should be conducted from the perspective of making it of value to a larger audience and should not be targeted only at the sub tribe. In this regard we believe that we do have something interesting to say from our research at BuildCorp (Bartunek et al, 2006; Alvesson, 2013). We believe these practical implications to be of value in future efforts to understanding change management in a more detailed way.

6.3.1. COMMUNICATION REVISITED

There were several instances in our research where we felt that failings of change at BuildCorp was all about communication. The employees themselves most commonly cited communication as the shortcoming of the initiative. As previously discussed, we interpret communication at BuildCorp to be missing from all directions whether top down, down to top or laterally between departments. This is one of the major reasons for the new culture not being understood in its true sense. There is a lot of ambiguity among the employees across Project X, between the actual direction and demand of the change initiative and the required direction and demand. This is leading to a situation of perplexity among all employees and cultural division between the old guard and the new guard.

Further, there is a very stringent mechanism of isolation of employees from each other due to the high security requirement of the Class 1 build. This is resulting due to the physical barriers between employees on site and in office. This is concurrently adding to the predicament of ineffective communication.

Hence, we believe the top management in collaboration with the employees should design better communication strategies, including channels, hierarchies, and agendas, and implement these at first instance. This would reduce the uncertainty and also result in better dissemination of the actual *Bigger Picture* behind the change initiative.

6.3.2. CHANGE PROCESS: TARGETS, TIMESCALES AND MODELS

The inability to build the necessary processes to support the new culture is also one of the significant points for improvement at BuildCorp. A good change management strategy always rests on the structure that follows. If this structure is missing or is fractured then there could be unintended consequences, as in the case of BuildCorp. The uniqueness of this build has proven to be bane and a boon at the same time for BuildCorp. They are gaining the new knowledge on vistas they wish to explore in the future, but they are losing out on time and resources at Project X.

Project X is proving to be an unintended high investment for BuildCorp. The organisation has failed to design the necessary structural skeleton to support the quality culture at Project X. This has led to substandard (according to quality standards of NAO) functioning, as it is based on inadequate processes, protocols and modules to support change in practice. Although understanding this BuildCorp has initiated the designing process to improve quality standards, it will take some time before they are ready for routine use. Until then the improper functioning and high rejection rate could prevail at throughout the project.

Thus BuildCorp should invest more time and resources behind building the structural design for the new culture. We recommend this structure to have firstly, well defined targets and short term wins (Kotter, 1995). Secondly, to have an underlying model for this change which would outline the whole quality change initiative process such as the Malcolm-Baldrige model for quality. And thirdly, planning and preparing an overall well defined timescale for the change initiative implementation. Although we are aware that cultural changes cannot be ordinarily predicted based on time, but we consider having timelines for the stages until process implementation would help the cause and later the culture adoption into the routine can be fortified and supplemented with training and learning modules in sync with the change initiative.

6.3.3. SUSTAINABILITY CHAMPIONS

Successful change always requires a very high level of commitment from the employees at all levels of the organisation and cannot be achieved without the right people in the right place to champion the cause. At BuildCorp however, the employees are all integrated together without any division or segregation on the basis of cultural preference. This is resulting in the inability to create the blue print for sustaining the new culture within Project X and further dissemination of it to the entire organisation.

Hence in order to overcome resistance through various barriers to the new culture it is imperative to identify employees who are more receptive of the new culture. These employees who have the right attitude, morale, motivation and knowledge are an asset to the change initiative and these individuals should be recognized as the "Sustainability Champions". These employees should be redeployed at crucial segments in the hierarchy as facilitators of the change initiative. This should also be supported by an appropriate reward strategy whether monetary or non-monetary in nature, as this would act as a catalyst for encouraging positive practice, until the culture became more accepted and ingrained. We accept however that rewards are not suitable as a method on their own, as this would merely foster further compliance as opposed to commitment.

Moreover, we also find the need for every step taken from here on in the change initiative to be profoundly documented by BuildCorp. As these documents would act as a manuscript for future endeavours in the nuclear sector and reduce the start-up time accordingly.

6.4. LIMITATIONS

As with any case study we aimed to develop a full contextual exploration of the situation we were faced with. Our research was limited by the access that was available to the situation however. Despite the host organisation providing us with access and being supportive throughout, access to documentation and observations were severely limited due to security restrictions. This meant that despite individuals within the study being given permission to provide open and honest answers, many phenomena may remain unobserved. It also meant that as observers we had less preconceptions, or awareness with which to base our interpretations on. Participants within the study were however happy to clarify any issues, during or after, that they brought up.

6.5. FUTURE RESEARCH

Based on empirical analysis, besides identifying the major themes discussed in this research, there were certain subthemes which were also discovered such as power, politics and gender. However, as these were not discussed by the participants in detail we could not consider them for our research thesis. Also our paradigmatic standpoint of interpretative study also did not advocate for further exploration and analysis on these themes. Hence, we consider that there is a scope for further research on this subject matter from the critical perspective. Secondly, based on our review of literature and a posteriori knowledge we understand that there is little or no empirical research on the effect of micro cultures on the implementation of change management process and its subsequent sustainability. Therefore, a study of the same could be conducted to understand the interplay of micro cultures and their effects on organisational change.

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