CRANFIELD UNIVERSITY

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INTERACTIONS BETWEEN THE CONTENT, CONTEXT AND,
PROCESS OF ORGANIZATIONAL CHANGE: A SYSTEMATIC
LITERATURE REVIEW

SCHOOL OF MANAGEMENT
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Supervisor: Dr Janet Godsell
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ABSTRACT

Research into the phenomenon of change has attracted interest from a range of management disciplines; organizational, management, behavioural and operations. Each discipline brings with it a perspective which informs the theoretical debates and empirical research, resulting in different ideas, meaning and approaches taken in studying the phenomenon of change. Ideas about the meaning of the content of change, why contextual factors might influence the process of change and, how does the process of change unfold over time, are three important aspects to understanding the phenomenon of change. This literature review draws on the three concepts of the content, context and process of change to explore the extant change literature.

Evidence based literature reviews have a strong tradition within the medical field and have been shown to be a rigorous method for determining efficacy of clinical trials. This review applies the principles of this method but within a management research context and reviews 52 papers.

Variations in the aspects of organizational context and process of change empirically studied confirm that context plays a significant and influential role in processes of change and change outcomes. There is little evidence to support the idea that the content of change influences the process of change activities and this is an area that needs further research. Further research is also needed to develop the idea of the importance of emergent change activities within planned change frameworks.

Keywords:

Change Activities, Internal Context, Emergent Change, Planned Change

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1 INTRODUCTION

This chapter provides an introduction to my systematic literature review on the subject of change. Section 1.1 gives a general overview of the management problem in terms of the context, content and process of change in the case of British American Tobacco (BAT). Informed by this description and anecdotal evidence about the management problem, Section 1.2 then provides a brief historical overview of the theoretical debates surrounding the subject of organizational change. The aims and objectives of this paper are presented in Section 1.3, and Section 1.4 summaries the structure of the rest of the paper.

1.1 THE BAT MANAGEMENT CHALLENGE

1.1.1 External Context

The global tobacco market is forecast (Datamonitor, 2011a) to continue to grow at a steady annual rate of 4% over the next five years. BAT is currently the second largest international tobacco company by volume (13% global market share) after Philip Morris International (16%).

Employing 61,053 people, BAT operates 50 cigarette factories in 41 countries across 4 geographical regions. Cigarettes are sold into 180 country markets and sales revenues are in the region of £14 billion. Within the context of the positive outlook for the global tobacco market reported by Datamonitor, (2011b) BAT is seeking to respond effectively to two significant environmental threats.

One of the broader environmental concerns is the implementation of national legislation which is aimed at reducing the supply and demand of cigarette products. This legislation which is drawn from the Framework Convention of Tobacco Control (WHO, 2003) presents BAT Operations with three key challenges with respect to management of its operational supply chain; reduced access to market resulting in some shrinking markets, reduced security of tobacco leaf supply, and, the pressure to reduce the lead time for product innovations that specifically address health implications. The increasing product

price and excise duty levels being imposed by national governments on a regular basis present BAT with additional challenges.

The question for BAT is how to satisfy shareholder demands within the context of increasingly stringent tax regimes imposed by mainly developed country governments and the growing illicit trade in cigarettes which result in reduced sales revenues. Against the backdrop of the wider legal and economic context, BAT's vision is to improve its competitive position within the tobacco industry. To support this aspiration BAT Operations has developed a five year operations strategic programme that proposes significant changes to how the whole of the global operational organization conducts its business.

1.1.2 Internal context

The BAT group of companies has a rich heritage going back over 100 years to the beginning of the 20th century (BAT, 2002). Founded by the American Buck Duke in 1902, as an alliance of American and British tobacco companies, BAT has grown into an international organization that spans all continents. The core values that underpin this growth are embedded in four corporate guiding principles.

These principles represent the personality of the people that collectively work in BAT, '*with its enterprising spirit, strength from diversity, freedom through responsibility and open mindedness'* (BAT, 2002, p1). It is against this historical background that BAT Operations is developing and implementing significant changes.

1.1.3 Content of Change

The aim of the strategic changes is to increase the level of integration of the formal operational elements; the organization, management and coordination of the supply, transformation and demand side of tobacco based products.
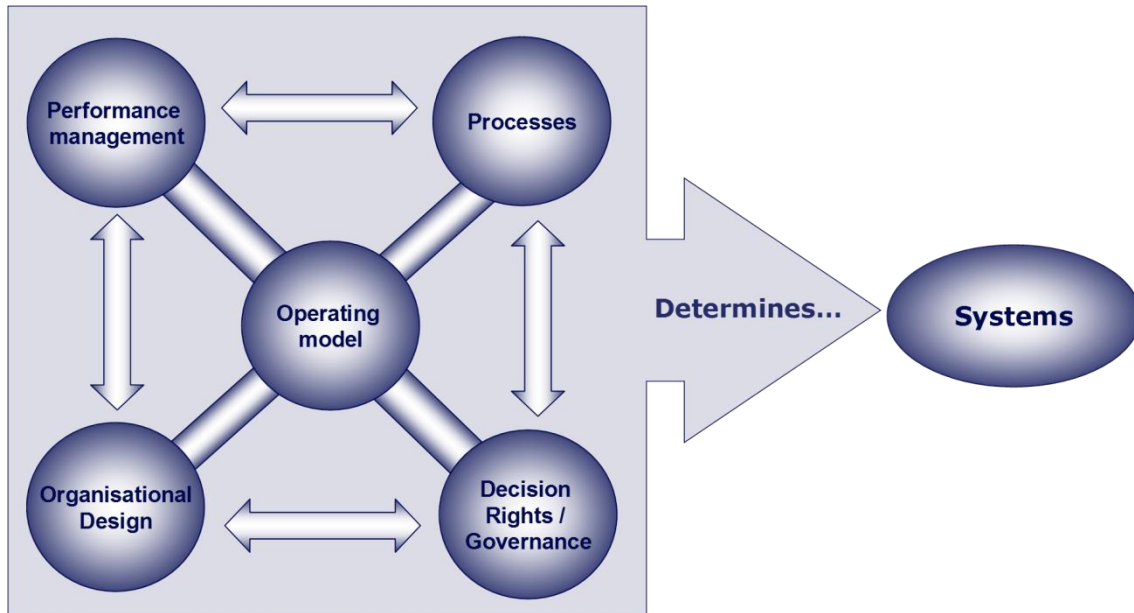
Figure 1-1: Global Operating Model

(source: BAT and Cranfield, 2010)

Consequently, there are four operational elements that are the focus of change; processes, decision rights and governance, organizational design and performance management. As illustrated in Figure 1.1 above, these operational elements, through their interaction with each other comprise the new BAT global operating model (BAT and Cranfield, 2010). One substantial programme of change that affects all the global operating model elements is the organizational redesign of global operations into three interdependent units; the operations strategy unit, regional support centres and in-country factories.

The key role for Strategic operations will be strategy development (BAT, 2007). This role will include aligning the operations strategy with that of the BAT Group through coordinating strategic contributions from the regional support centres. In addition to strategic development, this group will also take on new responsibilities that were historically located within the global geographical regions. Governance and decision rights relating to the global supply chain activities were traditionally dispersed across the world through regional and country management teams. Activities included; sourcing, procurement, logistics, and the number (and size) of factories. The relocation of these

3

significant governance and decision rights to the strategic unit signals a transition from regional ownership and a trend towards centralisation of operational decision making and control systems.

The main purpose of these new geography based regional centres will be to coordinate through planning activities, the regional supply of tobacco products to meet specific country market demand. Core planning processes include capturing product demand from the individual country markets and then determining and allocating supply requirements to a network of factories within that region. This change represents a radical shift for country based factories, and has a number of implications.

Firstly, country based factories will no longer have a direct relationship with the centre or with their product markets. These two relationships will be managed through the regional centre on behalf of the individual factory. Secondly, the choice of operating model available to in-country factories will essentially diminish. Each region and factory is expected to implement and sustain the one global operating model within their own contexts whilst simultaneously meeting globally set targets. In-country factories will therefore be tasked with focussing their efforts on delivering against regionally set product plans.

1.1.4 Process of change

To facilitate the strategic changes to the global operating model, BAT is using two mechanisms; a portfolio of projects to drive the implementation of change and a supporting network of change agents (BAT, 2007).

The Group Change Management function sits in the corporate centre in the UK, and coordinates a change management team that is dispersed within the geographical regions. This team provides change agents whose role is to support regional processes of change within regional and country contexts. Support will be offered within the context of the current capabilities and resources of the individual regions. Typically support could include the individual and group developmental activity in conjunction with the facilitation of implementation of change projects.

A portfolio of change programmes has been established by the Strategic Operations Function. Each programme of change projects focusses on a specific aspect of the global operating model and is primarily geared toward increasing the level of integration and functionality of the elements of the GOM. One example of such a change project is the introduction of the Advanced Planning Optimiser (APO) system (BAT, 2010).

The aim of this new IT system is to develop a global set of data standards and management processes that is used by all three operational entities. This technological change affects the whole of the BAT operational organization. As shown in Figure 1.1, due to the interconnectivity between the global operating elements, a technological change within the system may result in changes to other elements with intended or unintended consequences.

At an organizational level the process of change is broadly divided into four stages; operating model design by corporate centre, pilots, adaptation within regional context by corporate and geographical regions, and, implement and sustain by geographical regions. The project management process starts with the detailed planning required to adapt the global design for the regional contexts and ends with the implementation by the regions.

At a macro level, the BAT change programme would appear to be following a combined planned and emergent approach to the process of change. The planned approach is alluded to in the programmed and sequential events of the change programme stages. An emergent change approach appears to also be an integral part of the planned change. Pilots offer the opportunity for experimentation and learning, resulting in the emergence of potentially additional changes that may need to be made prior to the full implementation process. Sustaining implemented changes also suggests that an emergent approach may be required to enable on-going adaptations to local contextual situations.

Situated alongside this project management process is the regionally based resource provided by change agents (personal communication with Martin Whitehouse, May 2011). Unlike the project management programmes, change

agents will provide support to the regions as and when required. The process of change led by change agents would appear on the surface to be different from the change projects in terms of approach, the pace, and the level of the organization in which they are positioned. These potential differences raise some interesting questions about the relationship between the project and change management processes.

1.1.5 Summary

In responding to its external environment whilst also attending to its historical context, BAT Operations is undertaking a programme of radical change initiatives. The GOM constitutes the overarching and extensive changes being made to specific formal structures and processes which have been determined and mapped out at the operations strategic level.

However the project management blueprints, which include pilots and staged roll outs, would suggest that the implementation of change will have to take account of differing operational contexts. The change programmes proposed would also appear to draw upon both planned and emergent change approaches.

The BAT case would therefore appear to suggest that in practice the content, context and process of change may be important considerations; when designing, implementing and evaluating the progress and success of change initiatives. The question then arises about the different change contents, contexts and their relationships to unfolding change trajectories and why some change paths may be more successful than others.

Overall, anecdotal evidence suggests that BAT Operations anticipates that from these radical organizational changes will emerge key learning points. The idea would then be to use this learning to inform on-going change processes and future strategic choices. Management of change is a significant and on-going issue for BAT. Consequently, this paper focuses on the subject of change and explores the extant literature on the content, context and process of organizational change and their possible interactions.

1.2 MANAGING CHANGE

Since the 1940s, there has been a substantial body of multi-disciplinary research seeking to increase theoretical and empirical knowledge about the phenomenon of change. The predominant theory underpinning this research is that change is intentional, directed by an organization's leadership and imposed from the top to the bottom of the organization through formal hierarchical structures. Although not always explicit within the change literature, Hendry (1996, p624) suggests that;

'*scratch any account of creating and managing change and the idea that change is a three-stage process which necessarily begins with a process of unfreezing will not be far below the surface*'.

Although the three-stage model of planned change is the most recognisable theory of change, this model is only a part of a related group of theories of planned change. The other theories of change include; group dynamics, action research and the field force theory. All four theories of planned change are credited to the pioneering work conducted by Kurt Lewin during the 1940s (Hendry, 1996; Burnes, 2004).

Up until the 1980s, the theory of planned change was understood and explained as a 3 step model of 'unfreezing, moving and refreezing'. This understanding took centre stage within the organizational behaviour field, particularly with respect to research into individual and group development (Hendry, 1996). The central premise of this theory according to Hatch (2006) is that any change unfolds through a 3 stage process, whereby the first stage involves people shifting their beliefs and attitudes from a current situation towards an envisioned future state or situation. Step 2 is about progressing towards this future state, with step 3 signalling the arrival at the future condition. This perspective assumes a rational logic to the process of change, which has identifiable start and end points.

The last 30 years has seen a growing interest in a theoretical debate about the nature of planned change within real life organizational settings. This debate

challenges the extent to which the conceptual 3 step model adequately explains empirical findings. The traditional view sees change as unfolding in a prescribed sequence of change steps (e.g. Beer and Nohria, 2000; Kotter, 1995), as a result of change programme initiatives first formulated by the organizational leadership and then implemented in a logical sequence by the rest of the organization.

This positivist view focusses on the role of leadership in formulating and driving change along pre-defined steps which will lead to successful change outcomes. In this perspective organizational change is understood as a recipe that contains specific ingredients to be mixed in a logical sequence leading to a successful conclusion.

The more recent conceptual and empirical debate suggests that planned change does not unfold in this formulaic manner. Organizational theorists (Van de Ven, 1995; Weick, 2009) and sociologists (Dawson, 1994, 1997; Pettigrew, 1985, 1987) challenge this traditional and prescriptive approach to understanding planned change and have proposed alternative perspectives.

Van de Ven (1995) conceptualises change processes as being contingent on four different contextual situations. Four process change models are suggested; teleological, regulated, dialectic and evolutionary. These four theories propose that different 'motors of change' (Van de Ven, 1995, p522) play an important role in understanding the path that the change process follows and therefore how the resulting change outcomes are evaluated.

Dawson (1994, 1997) and Pettigrew (1985, 1987), claim that their empirical research provides evidence that the process of change is influenced and therefore shaped by contextual, temporal and spatial factors. As a result change outcomes are contingent on the interaction between change processes and the internal and external organizational context over time. Whilst the planned change perspective dominates the process of change debate, more recently the role of emergent change in planned processes of change has become more prominent.

One of the leading proponents of the importance of emergent change in planned processes of change is Weick (2009). The central argument is that *'emergent, continuous change forms the infrastructure that determines whether planned, episodic change will succeed or fail'* (Weick, 2009, p229) and that *'the power of emergent change to enhance adaptability in changing environments derives from the liabilities of planned change plus the advantages of emergent change'* (Weick, 2009, p231). Whilst Weick's perspective points towards understanding change as a process that combines both emergent and planned change processes, there is one point of departure from the planned change side of the debate.

Weick (2009) views emergent change as essentially a phenomenon that occurs at an individual level within an individual's internal and external context. This view does not recognise the role of planned and organizational content of change. Firstly, change is bounded by the scope of an individual's role and position within the organization which does not allow for individuals to operate beyond that scope to formulate organizational change. Secondly, the content of change makes limited sense in the organization wide context, as the process of change is confined to individual experimentation and learning. Subsequently, the content of change is of the individual's own making.

Planned and emergent approaches to change therefore owe their heritage to the 3 step model of planned change. The contemporary debate on planned change would appear to point to the significance of organizational contingencies and the potential for emergent change to enhance planned change processes. As discussed above, the current debate draws our attention to the role of the content, context and process of change and their interactions in the achievement of successful change outcomes.

Building on the idea of the influence of context and content in shaping change processes, this review explores the extant theoretical and empirical literature by focussing on the interactions between the content, context and process of change. Multi-disciplinary research into the phenomenon of organizational change has traditionally drawn from the organizational, managerial,

behavioural, and strategic fields. Therefore this review draws on these diverse literatures in Chapter 2 to position the literature inquiry.

1.3 AIMS AND OBJECTIVES

The primary aim of this review is to develop a knowledge base on organizational change that is of value and relevance to the operations management field, where my doctoral research is located. This aim will be achieved through two objectives. The first objective develops a map of the multidisciplinary research on the concepts of content, context and process of organizational change and their overlaps.

Following this mapping process, the second objective will be to investigate the existing literatures for evidence of these interactions. I intend to use the systematic literature review methodology proposed by Tranfield, Denyer and Smart (2003).

This methodology encourages transparency of the logic underpinning the review process. The rationale for the literature search and selection strategies, and assessment activities should be described and explained. Reporting the decision making process should therefore provide for a more transparent, auditable and credible basis from which to understand the review findings. It can also enhance the basis on which recommendations are made for future research and practice.

To guide my investigation, the following review question is proposed;

What are the interactions between the content, context and process of organizational change?

BAT organizes and manages its operational activities as a global organization with the planned change content (GOM) intended to affect the whole of the operational organization. It is therefore appropriate that the review question includes the concept of organizational change and not the more restrictive notion of operational change that has historically been restricted to manufacturing.

Additionally, as the operations management field draws its theories of planned change from other disciplines other than its own, it would appear reasonable to maintain an inclusive conceptualisation of the phenomenon of change. However in this review, the concept of organizational change is limited to its relevance to operational activities. Consequently, the relevance criteria defined in section 3.4.1 are designed to exclude other types of organizational activities such as Marketing, Human Resources and Finance organizational units.

Drawing on the results of my investigation, I hope to be in a position to propose a theoretical framework on the interactions between the content, context and process of change and as a consequence identify potential research questions. The idea would then be to evaluate the merit of these questions within the context of my doctoral research and value to practice in BAT Global Operations.

1.4 STRUCTURE OF THE PAPER

This paper is structured in a way that takes the reader through the sequence of steps taken in conducting a qualitative literature review, from the introduction to the conclusions drawn. The structure is outlined as follows:

Chapter 1 - The introduction positions the management problem within the context of BAT Global Operations. A brief description of the historical development of the theoretical change landscape is given, followed by an outline of review aims and the structure of the rest of the paper.

Chapter 2 - The field of inquiry situates the review within the change literatures and describes the concepts of; organization, change content, context, and process of change and their interactions. This section concludes by bringing change concepts together into the overarching review question.

Chapter 3 - The methodology chapter describes the process applied in this review. This section then goes on to explain each of the steps taken in the systematic search and selection process, and the logic behind the data extraction and synthesis.

Chapter 4 - The descriptive findings chapter summarises the key features of the articles included in this review. It also highlights trends in methodologies used in empirical studies and maps out coverage of the content, context and process of change concepts and their interactions.

Chapter 5 - The conceptual findings chapter focusses on the key findings in relation to the content, context and process of change and interactions between these concepts.

Chapter 6 - A discussion of the extent to which the reviewed literature contributes to answering the review question forms the basis of this chapter. Limitations and further research opportunities are explored.

Chapter 7

The conclusion identifies the reviewer's limitations, followed by the reviewer's perspective on key personal learning as a result of carrying out this review.

2 POSITIONING THE FIELD OF INQUIRY

2.1 INTRODUCTION

This chapter positions my inquiry within the field of organizational change and has as its primary focus the content, context and process of organizational change. Section 2.2 draws on the concept of organizational elements to define the content of change. The concept of internal and external context and how it relates to the content and process of change is discussed in Section 2.3. In Section 2.4 planned and emergent processes of change are briefly discussed and the role of the content and context of change are highlighted. Section 2.5 brings the concepts of content, context and process of change together through the idea of 'interactions'. Section 2.6 presents a summary of this chapter and introduces the review question that will guide the investigation into the concepts of the content, context and process of change and their interactions.
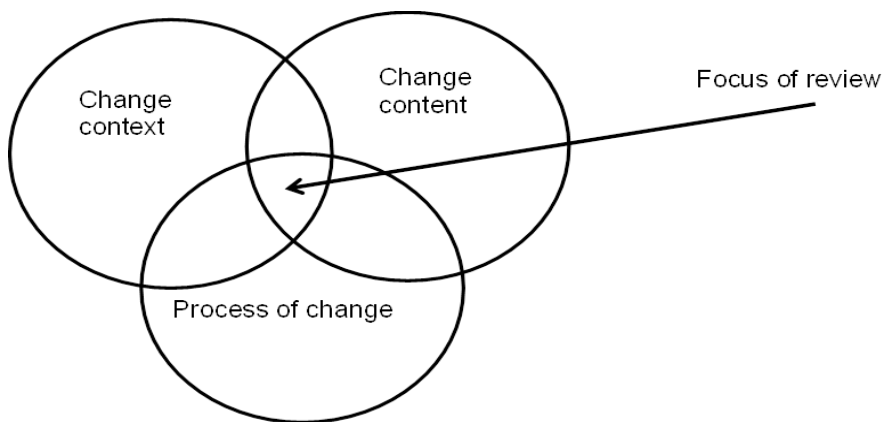
Figure 2-1: Map showing position of inquiry

2.2 THE CONTENT OF CHANGE

In this section, the content of change is explored firstly by defining a basic concept of the organization and its organizational elements in Section 2.2.1. Using this basic concept of organizational elements, the content of organizational change is then defined in Section 2.2.2.

2.2.1 Concept of the organization

Researchers have long been interested in studying the phenomenon of organizational change (Huy, 2001). However the concept of organization change is a complex one, and to understand organizational change requires tracking back to how the concept of the organization is defined. Researchers hold differing perspectives on the nature of an organization. As a basic concept, the organization can be defined as *'technologies, social structures, cultures and physical structures that exist within and respond to an environment…..that all of these elements of organizing are colored by relations of power'* (Hatch, 2006; p19).

This concept makes a number of assumptions about organizational elements and therefore has implications for studying organizational change. Firstly, the elements within the organization interact with each other within an internal context.
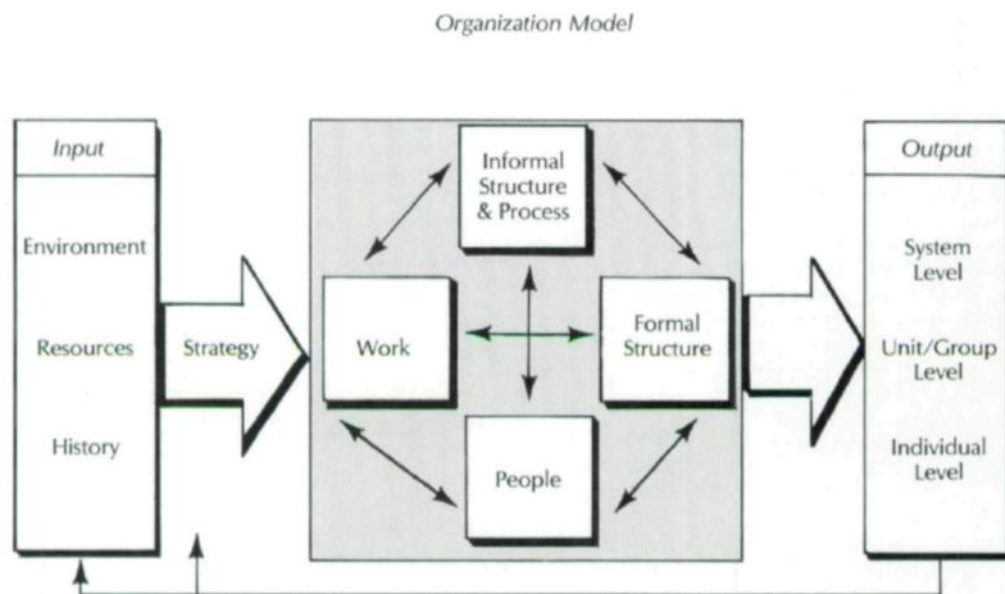
Figure 2-2: Model of organizational elements

(source:Nadler and Tushman, 1989)

Secondly, the organization as a whole interacts with the environment in which it is embedded (Hatch, 2006). Underpinned by these assumptions, the model

(Nadler and Tushman, 1989) of the organization and its elements can be illustrated as shown in Figure 2.2 above.

In this strategic view of the organization (Nadler and Tushman, 1989), the combined environmental conditions within which an organization is located form the organizational inputs which are then interpreted by senior management into a strategic direction. The ensuing organizational activity is then aimed at organizing and managing the elements of the organization to produce outputs that meet the strategic intent and which respond effectively to the external environment. Organizational elements are broadly categorised as formal informal structures and processes, work activities and people. It is these elements, their interaction with each other, and the internal organizational context in which they are embedded that in combination generates the organizational output.

What this conceptual model also implies is that an organizational entity can be viewed as a system composed of interacting technical and social sub-systems. This socio-technical systems perspective assumes that technical systems include technologies and physical structures (Hatch, 2006) or work and formal structures (Nadler and Tushman, 1989). Additionally the socio-technical systems perspective assumes that social systems include social structures and culture (Hatch, 2006) or informal structures and processes, and, people (Nadler and Tushman, 1989). Researchers have used this understanding of organizational elements and systems to conceptualise what organizational elements are changed in response to external environmental conditions (Huy, 2001).

2.2.2 The concept of organizational change content

2.2.3 The challenge

The challenge surrounding any academic debate about the topic of change is that research studies from the different management disciplines use; various terms to define change, different adjectives to describe the nature of change and focus on different change content and organizational levels (Armenakis and

Harris, 2009; Todnem, Burnes, and Oswick, 2011). In their review of the change literature, Todnem, Burnes and Oswick (2011, p4) draw our attention to this problem by quoting Stickland (1998) who states that '*change parades across many subject domains under numerous guises, such as transformation, development, metamorphosis, transmutation, evolution, regeneration, innovation, revolution and transition to name but a few*'.

At the heart of all these change labels, is the notion of identifiable difference of 'something' between two points in time. Consequently this review draws on a single definition proposed by Van de Ven and Poole (1995) that encapsulates this idea, which is elaborated further in the next section.

2.2.3.1 Basic concept of organizational change and content

A basic concept of organizational change is that it is '*an empirical observation of difference in form, quality or state over time in an organizational entity*' (Van de Ven and Poole, 1995, p512). Taking this definition as the starting point, the literature appears to take two discernible stances on the nature of change in organizations.

The first stance is that taken by the strategic management discipline where change is described as transformational (Burnes, 2005; Huy, 2001; Pettigrew 1985), revolutionary and discontinuous (Burnes, 2005; Romanelli and Tushman, 1994). Change therefore can be system wide, large scale, initiated by the organizational leadership, strategic and, management driven, planned and controlled. The primary focus of the content of change can therefore include all or some of the organizational elements such as; strategy, structure, people, system, culture (Huy, 2001; Nadler and Tushman, 1989; Pettigrew, 1987).

This view is informed by the perspective that the formulated content of change is in response to a continually changing external environment (Leana and Barry, 2000; Chakravarthy, 1982; Nadler and Tushman, 1989; Piderit, 2000). This form of adaptation assumes a reactionary response to environmental conditions which are viewed as presenting a threat to an organization's survival and

growth aspirations. A contrasting form of adaptation assumes a more proactive stance.

This proactive perspective views environmental changes as offering an opportunity to build future competitive advantage within already defined strategic (Nadler and Tushman, 1999), and structural boundaries (Laughlin,1991) and without fundamental changes to power structures and culture (Hailey and Balogun, 2002). This view sees organizational change as emergent, on-going and continuous (Barry, 2000) incremental (Nadler and Tushman, 1999), evolutionary (Romanelli and Tushman, 1994), developmental and first order (Laughlin, 1991). In response to anticipated changes in the environmental context therefore, the content of change focusses on building upon existing capabilities in specific areas; work processes such as business process re-engineering, the introduction of new technologies or changing the behaviour and therefore culture of the organization.

2.2.3.2 The planned and emergent view of the content of change

Proponents of planned change take the reactive stance to organizational change and see defining the content of change as a pre-requisite to determining the process of change. Huy (2001) proposes a theoretical framework that starts from the premise that the content of change informs the process of change. This framework assumes that the content of change and consequently the approach taken to the process of change play a role in the success of change outcomes. Drawing on the theory of punctuated equilibrium (Romanelli & Tushman, 1994), Huy (2001) proposes that the organizational elements of formal structures and shared beliefs affect the whole organization, are episodic and radical in nature and the processes of change take a considerable time to effect. Where the content of change involves the social relationships and work processes (Huy, 2001) suggests the appropriateness of an emergent approach to change that is incremental and continuous in nature.

2.3 THE CONTEXT OF CHANGE

In this section, context is described in Section 2.3.1, followed by the dominant perspectives on the external organizational context found in the literature in Section 2.3.2. Internal context is defined in Section 2.3.3.

2.3.1 Context

An organization's context refers to its internal and external setting (Hatch, 2006). This concept of context is supported by Kelly and Amburgey (1991) who define context as the external and internal organizational context. The distinction between the internal and external context assumes that organizational boundaries are fairly rigid. This distinction becomes blurred when the internal context is directly influenced by the external context.

The relationship between people inside an organization and their professional networks that extend outside an organization are one way in which organizational boundaries become blurred (Buchanan and Badham, 1999; Dawson, 1994; Pettigrew, 1987). The other is the direct influence of national policy on particular groups of people within an organization for example unions (Dawson, 1994; Pettigrew 1987). Therefore both professional and unions groups have their own networks that extend outside the organization.

This external/internal context interaction becomes more apparent during the process of change when some group interests become more dominant than those of management (Buchanan, 1999 and 2008; Dawson, 1994; Pettigrew 1987). Whilst recognising the potential for the grey area between the inside and outside of the organization, there appears to be general consensus in the literature on the meaning of the external and internal organizational context.

2.3.2 External Context

The immediate environment within which an organization interacts is understood in general terms as the area that has direct contact with the organization. The immediate environment has also been described as the task environment (Dill, 1958) in which an organization competes with other similar

organizations and, networks with its suppliers and other stakeholders (Hatch, 2006). Taking a broader view of the external environment, Pettigrew (1987, p658) proposes that the '*outer context refers to the social, economic, political, and competitive environment in which the firm operates*'.

Furthermore Kelly and Amburgey (1991) emphasize that context should also be viewed in temporal terms as the historical, present and future context of the organization. Dawson (1994) takes a similar perspective on organizational context, but argues that the spatial nature of context should also be considered as an important means by which the process of change is understood.

The central debate surrounding the external context is to do with its importance in triggering an organizational response. This response typically starts with the formulation of the content of change within organizations in terms of organization wide or strategic change (Dawson, 1994, 1997; Pettigrew 1985; Whipp, Rosenfield and Pettigrew 1989).

2.3.3 Internal Context

There appears to be general agreement in the literature that an organization's internal context refers to the environment within the organization and its elements are embedded and includes; culture, politics, capabilities, resources, structure, power, history (Buchanan, 1999 and 2008; Dawson, 1994 and 1997; Pettigrew, 1985; Pettigrew, Woodman, Cameron, 2001). Whilst there may be general consensus on the definitions of the internal context, there are some distinctions.

One view that is drawn from the strategic management literature is that context should be viewed in vertical and horizontal perspectives. Pettigrew (1985) argues that empirical research into the phenomenon of change has to take account of both vertical and horizontal contextual elements in what Pettigrew calls the '*holistic contextual analysis*' (1985, p35).

The contextual approach to change suggests that vertical dimensions are multi-levels of context that span three organizational levels; the firm, the sector and the economy. The horizontal perspective is viewed as the temporal aspect of

context, suggesting that the multiple levels of vertical context change over time. This view of context is confined to the level of the firm and beyond, but clearly this is a perspective that blurs the boundaries between inside and outside the organization.

Other empirical research also supports the idea that the internal context and its sub-contexts (Dawson, 1994, 1997), play a significant and influential role in processes of change over time. This perspective suggests that the internal context includes history, time, and space, and has as its primary focus the political nature of the process of change. Buchanan (1999, 2008) and Buchanan and Badham (1999) also support the political context as an important influence in shaping the process of change.

2.4 THE PROCESS OF CHANGE

In this section three prominent theoretical models that are informed by the 3 step model of change are described. Section 2.4.1 focusses on the contextual framework. Section 2.4.2 describes the processual approach and then in Section 2.4.3 the four models of change that seek to explain different processes of change are explored. Section 2.4.4 provides a brief overview of the emergent process of change.

2.4.1 Contextual Approach

The main premise of the contextual approach (Pettigrew, 1985) is that to more fully understand strategic change, different levels of the internal and external context should be studied in combination and over time. The underlying premise is that internal and external organizational contexts significantly influence the content of change (belief systems, structure and strategy) during the implementation process.

Drawing on his empirical and longitudinal research into ICI Pettigrew (1985) describes the change process as *'the actions, reactions and interactions from interested parties as they seek to move the firm from its present to its future state'* (Pettigrew, 1987, p657). The organizational and business unit (divisional) levels were the focus of an eight year study into the unfolding planned strategic

changes made in ICI during the 1970s and 80s. Using the process of change within both the internal and external context as the unit of analysis, Pettigrew (1985) showed how change was shaped by the interaction between the content, context and the process of change.

Recently, a more contemporary definition has emerged, whereby the change process is the *'sequences of individual and collective events, actions, and activities unfolding over time in context'* (Pettigrew, Woodman and Cameron, 2001, p700). This definition of the process of change is supported by the processual approach to change proposed by Dawson (1994).

2.4.2 Processual Approach

The perspective embedded within the processual approach is that the process of organizational change is characterised by a temporal context which influences the shape of the process of change and therefore change outcomes. Developed out of the work of Dawson (1994), the processual approach to change sees a contextually situated phenomenon comprising a complex interaction of activities, decisions, implementation, and evaluation taking place over time. The process of change is made up of three time zones; the need for change, the change transition process and the time during which new work procedures are no longer new, but become part of everyday work routines. Similarity to the 3 step Lewin model can be seen in the processual approach which defines three time zones, each one approximating to the 3 step model stages of unfreezing, moving and refreezing.

Dawson's argument (1994, 1997, and 2003) developed from his empirical studies of planned change as it unfolds in the field and, from the seminal work of Pettigrew (1985). Dawson proposes that *'the context within which change occurs, the substance of change in question, and the political behaviour of individuals and groups all interact over time in the shaping and reshaping of organizational processes of change'* (Dawson,2003, p1). The focus of this processual perspective is the interplay between the content, context and the process of organizational changes over time as a means for understanding how and why change is created and sustained within all levels of the organization.

21

There appears to be support for and an interest in, studying change using a combined contextual/processual approach (Buchanan, 1999; Garvin, 1998; Langley, 1999; Pettigrew; Woodman and Cameron, 2001; Van de Ven and Poole, 1995), through which to empirically study the phenomenon of change.

2.4.3 Four motors of change

Change events have been referred to as *'a progression (i.e., the order and sequence) of events in an organizational entity's existence over time' (*Van de Ven and Poole, 1995, p512). Taking a biological systems perspective underpinned by contingency theories, Van de Ven and Poole (1995) propose four process of change models; lifecycle, teleological, dialectical and evolutionary. The life cycle model is defined as *'a prescribed sequence of stages and activities over time'* (Van de Ven and Sun, 2011, p62). This process of change is a regulated form of change that is driven by predictable change motors that underpin biological life cycles. Teleological processes of change are proposed as *'repetitive sequence of goal formulation, implementation, evaluation and modification'* (Van de Ven and Sun, 2011: p61). This approach to change processes assumes that there is a consensus amongst organizational members about change goals. There are temporal, contingent and contextual similarities between the teleological and life cycle models and, the contextual and processual approaches discussed above in section 2.4.1 and 2.4.2.

The dialectic model of change is proposed as a process that could be used to resolve conflict between organizational units during the process of change and therefore its motor of change is conflict management practices. Finally the evolutionary process of change refers to *'recurrent and probabilistic progression of variation, selection and retention activities'* (Van de Ven and Sun, 2011: p64). The generating mechanism for change here is the scarcity of resources within an organization's external context.

Distinctions between these perspectives of planned change processes can be made based on the contents of change. In the case of the contextual process of change proposed by Pettigrew (1985), the focus is the strategic aspects of

change. The processual approach (Dawson, 1994) has as its primary concern changes of formal organizational elements at any level within the organization. Whilst the four motors of change (Van de Ven and Poole, 1995) characterise different process of change models, these differences do not appear to suggest a fit with specific contents of change.

However the contextual, processual and four motors of change conceptual models suggest theories of the process of change that are embedded in and contingent on the internal and external organizational context. Similarly, theories of emergent change propose the importance of contextual influence in shaping the process of change. There is however one key difference between planned and emergent change theories. Whilst implementation of planned change starts from a defined content of change, emergent change is predicated on individuals responding to their environments through the continual adaptation of their work routines.

2.4.4 Emergent process of Change

A prominent perspective on emergent change is that it is a continuous and incremental process of change typically observable at the individual or group level within the organization. The dominant view in the literature is that '*change is on-going, continuous and cumulative'* (Weick, 2009: p 230) as individuals at all levels within an organization adapt their daily routines to the changes in their external and internal organizational contexts, through the '*everyday contingencies, breakdowns, exceptions, opportunities, and unintended consequences of work'* (Orlikowski, 1996:p65). This perspective has as its primary concern individual or group routines, where it is the routine that becomes the content of change.

The emergent perspective offers an understanding of change as a building of experiences and learning capabilities over time and as phenomenon to be found in all organizations (Weick, 2009). Whilst not obvious from a top management perspective, the emergent approach emphasises the unfreezing stage of the 3 step model of planned change and therefore suggests a relationship with the idea of preparing for planned change.

2.5 INTERACTIONS

One useful framework for conceptualising the interactions between the content, context and process of change is through the framework developed by Whipp, Rosenfield and Pettigrew (1989).
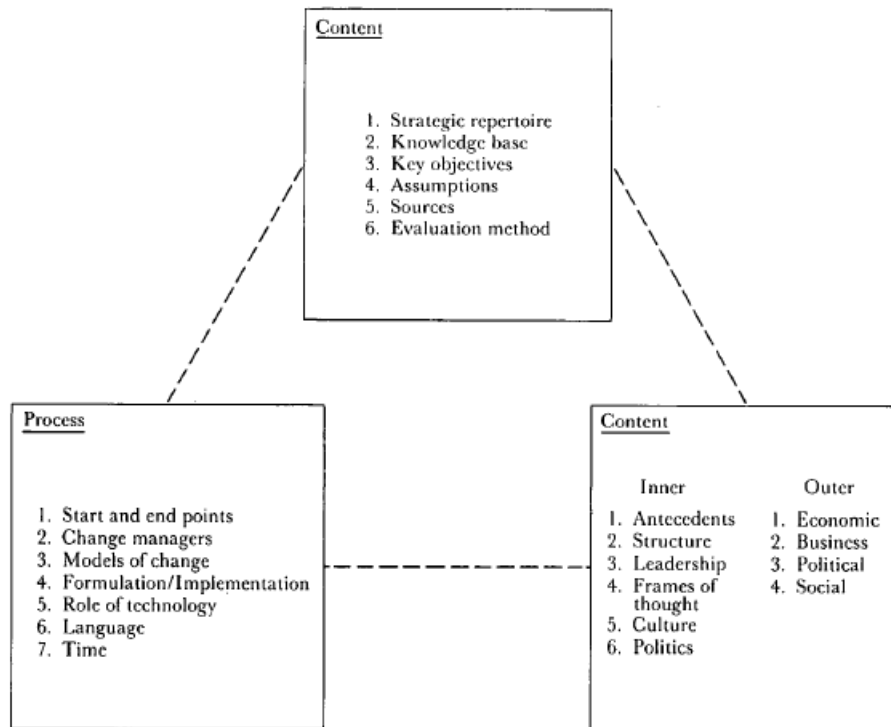
Figure 2-3: Relationships between the content, context and process of change

(source: Whipp, Rosenfield and Pettigrew 1989)

This framework sets out the meaning that Whipp, Rosenfield and Pettigrew (1989) give to the content, context and process of change within a strategic management context and is shown in Figure 2.3 above. This framework has been copied directly from the original journal article and contains an error. The box labelled content which details inner and outer should have the header 'context' as in the inner and outer organizational contexts. Figure 2.3 provides a useful way of framing the content, context and process of change concepts and their possible interactions.

2.6 CONCLUSION AND REVIEW QUESTION

In this chapter, an overview of the organization and its elements suggested that the content of organizational change could take different forms; formal and informal systems, people, structures and work. The setting within which change takes place was then explored through the concepts of internal and external organizational environments. Finally the significant and contemporary theoretical models of the process of change were presented.

Bringing these three concepts of content, context and process of change together in Figure 2.3 (albeit from a strategic perspective) the theoretical models of planned and emergent change propose that there are interactions between what is being changed, how change happens and why. It is these interactions that are of interest in this review. Therefore this review poses the question;

What is the interaction between the content, context and process of organizational change?

The review question has been broken down into four sub-questions;

1. *What are the content, context and process of organizational change?*
2. *What is the interaction between the content of organizational change and context?*
3. *What is the interaction between the content of change and the process of organizational change?*
4. *What is the interaction between context and the process of organizational change?*

In the following Chapter the systematic review method used in this paper is described and explained.

3 METHODOLOGY

3.1 INTRODUCTION

This chapter outlines the systematic literature review methodology by describing and explaining the review process. Originally established by the medical field to encourage evidence based knowledge development (Tranfield, Denyer and Smart 2003), the systematic literature review process has been adapted for the management sciences and is designed to be a;

'*replicable, scientific, and transparent approach which seeks to minimise bias and requires reviewers to summarise all existing information about a phenomenon in a thorough and unbiased manner*' (Denyer & Tranfield, 2009).

The systematic literature review process can be broken down into four sequential steps. This process starts with the development of a review plan, followed by the selection and quality assessment of the relevant literature. Next the selected literature is analysed and subsequently synthesised. Finally a report is prepared outlining the key findings, their contribution to answering the review question and, further research opportunities and implications for practice.

This four stage process was applied in my study and is consistent with the systematic literature review methodology proposed by Tranfield, Denyer and Smart (2003). Figure 3.1 on the next page shows the four stages of the process and where in the paper each stage is addressed.

Stages	Activities		Location in paper
Planning	→	• Justify the need ————————→	Chapter 1
		• Develop the review question ————→	Chapter 2
		• Design the review protocol ————→	Chapter 3
		• Establish a review panel ————→	Section 3.2
Identifying and Assessing Studies	→	• Conduct systematic search ————→	Section 3.3
		• Assess selected studies ————→	Section 3.4
Analysing and Synthesising Data	→	• Extract data from studies ————→	Section 3.5
		• Synthesize extracted data ————→	Section 3.6
Reporting and Contributing to Research and Practice	→	• Report descriptive findings ————→	Chapter 4
		• Report conceptual findings ————→	Chapter 5
		• Discussion ————→	Chapter 6
		• Conclusion ————→	Chapter 7

Figure 3-1: The Systematic Review Process

3.2 REVIEW PANEL

The idea behind having a review panel is to provide the researcher with support and guidance during the literature review process. Faculty provided insights into theoretical frameworks, framing of review questions and, the review process design. BAT Global Managers shared the practitioner perspective concerning large scale strategic change and its management through the use of change agents and change projects. Table 3.1 below gives details of the panel members, their organizational affiliation and role in this review.

28

Table 3-1: Review Panel Members

Person	Organization	Involvement
Chris Clemmow	British American Tobacco	Advice on Operations Strategic Programmes
Dr Janet Godsell	Cranfield School of Management	Guidance on process, review of drafts, moral support
Dr Mark Johnson	Cranfield School of Management	Guidance on review question refinement, literature and process
Dr Liz Lee Kelley	Cranfield School of Management	Literature review content
Professor Donna Ladkin	Cranfield School of Management	Guidance on scope of literature review
Martin Whitehouse	British American Tobacco	Advice on Global Change Management network
Heather Woodfield	Kings Norton Library	Advice on searches and database management

3.3 SYSTEMATIC SEARCH

The purpose of the systematic search process is to seek evidence in support of answers to the review question and sub-questions posed in chapter 2. This section describes the process used for choosing keywords, developing search strings and the selection of electronic databases. In parallel with the process descriptions, decisions made at each stage of the process are explained.

3.3.1 Keywords

The keywords used in this review are drawn from the concepts described and explained in chapter 2. These concepts are change content, internal and external context, and, the change process and are directly informed by the review question '*What is the interaction between the content, context and process of organizational change?*' It was relatively straightforward to find article titles that appeared to have as their focus the phenomenon of change.

Initial keyword searches revealed an interest in the phenomenon of change by a wide range of journals representing different disciplines; organizational,

management, behavioural and operations. These disciplines appeared to use a variety of terms for the different change concepts. Consequently, finalised searches used keywords that were synonyms of the concept terms as well as alternative words.

3.3.1.1 Change

The concept of change is described in the literature as both a 'transformation' of an organization, as well as an organization 'adapting' to its external or internal environmental situation. Whilst at first glance 'transformation' and 'adaptation' appear to have different meanings, they are used interchangeably in the literature. Superficially, 'reengineering' suggests a phenomenon that is embedded only within the engineering discipline.

However whilst 'reengineering' may have its roots in process engineering, it is a term that was found to be of more generic use in the change literature to refer to organizational or single process level changes. Historically, the term 'development' has been used within the organizational and individual development literature and is embedded within the concept of life-cycle growth and development. Whilst individual development is not the primary focus of this review, the use of word 'development' at an organizational level, justifies its inclusion as a keyword search.

3.3.1.2 Content of change

What is being changed within an organization is broadly described in the change literature as the 'content' of change. However 'content of change' is also referred to specifically as change to; processes, individual or group behaviour, structure, technology or work. Consequently all these terms were used in the keyword searches to cover the different organizational elements that could be the subject of change, as shown in Table 3.2 below.

3.3.1.3 External and internal context

The change literature refers to an organization's context in a variety of ways; contingencies, environment, supporting and inhibiting forces, influencers or drivers. There doesn't appear to be a distinction between the term 'context'

within an organization, or the organizational environment. Therefore the terms 'internal' and 'external' are applied to differentiate between context within the organization and context outside of the organizational boundaries respectively. The distinction between the keyword searches used for internal and external context is shown in Table 3.2 below.

Table 3-2: Keywords

Concept	Keywords	Rationale
Change	(chang* OR transform* OR adapt* OR develop* OR re-engineer*)	These keywords represent the main terms used to describe organizational change.
Content	(content* OR process* OR structure* OR behaviour* OR work*)	These keywords represent the main terms used to describe organizational elements that are the subject of change.
Internal context	(internal) P/1 (context* OR environment* OR factor* OR force* OR contingenc* OR influence* or driver*)	These keywords represent the main terms used to describe the internal organizational environment.
External context	(external) P/1 (context* OR environment* OR factor* OR force* OR contingenc* OR influence* or driver*)	These keywords represent the main terms used to describe the external organizational environment.
Process	(event* Or act* OR stage* OR phase* OR step*)	These keywords represent the main terms used to describe what makes up processes.

3.3.1.4 Process

The final keyword choices were in relation to the concept of process. I took the decision while developing the keyword searches not to use the term 'process'

itself. First of all because within the literature, the concept of 'process' was more closely associated with a specific content of change, than the process of change. Secondly, the process of change appeared to be more often referred to as its constituent parts; phases of change, change steps, a set of change activities and actions, or change events. As a result, the finalised keywords use alternative terms for process as set out in Table 3.2 above.

The process for arriving at the keywords in Table 3.2 involved experimenting with different terms as well as combinations of terms in the form of search strings, to search electronic databases for relevant papers. Developing an understanding of the value of specific keyword and search string searches in terms of the number of hits and the relevance of the resulting papers was therefore an iterative and cumulative learning experience.

3.3.2 Search strings

Following the identification of the keywords used to describe change concepts, the next stage is the development of the search strings. The review question seeks to identify interactions between the content, context and process of change. In an attempt to capture these interactions, five search strings were developed to enable a search in electronic databases of the change concepts themselves as well as any potential interactions between them. The results of the search strings developed are shown in Table 3.3 below.

Two Boolean operators were used to delimit the search strings. The first one was in relation to context. As I am specifically interested in what external factors drive organizational change or how processes of change are influenced by internal contexts, the search strings developed were aimed at finding the terms internal context and external context together and in that order. Therefore I used Pre/1 or N1 operators, so that 'internal' or 'external and 'context' are directly next to each other. The other Boolean operator used was N3 or N/3 for a '3 word' proximity of the terms change and content. Search strings for ABI/Inform used Pre/1 and N/3, whereas EBSCO used N1 and N3.

Table 3-3: Search Strings

No	Concept	Search Strings
1	Change content and internal context	(chang* OR transform* OR adapt* OR develop* OR re-engineer*) N/3 (content* OR process* OR structure* OR behaviour* OR work*) AND (internal) P/1 (context* OR environment OR factor* OR force*OR contingenc* OR influence* OR driver*)
2	Change content and external context	(chang* OR transform* OR adapt* OR develop* OR re-engineer*) N/3 (content* OR process* OR structure* OR behaviour* OR work*) AND (external) P/1 (environment* OR factor* OR force* OR contingenc* OR context* OR influence* OR driver*)
3	Change content and process	(chang* OR transform* OR adapt* OR develop* OR re-engineer*) N/3 (content* OR process* OR structure* OR behaviour* OR work*) AND (event* OR act*OR stage* OR phase* OR step*)
4	Internal context and process	(internal) P/1 (context* OR environment OR factor* OR force*OR contingenc* OR influence* OR driver*) AND (event* OR act*OR stage* OR phase* OR step*)
5	External context and process	(external) P/1 (environment* OR factor* OR force* OR contingenc* OR context* OR influence* OR driver*) AND (event* OR act*OR stage* OR phase* OR step*)

3.3.3 Electronic databases

The development of the search strings goes hand in hand with the selection of the potential databases that will yield the most relevant results. Three databases were initially explored; ABI/INFORM Global, EBSCO HOST, and, Science Direct. However I found that both ABI/INFORM Global and EBSCO HOST produced results that provided a wide range of management literature on the subject of change. Science Direct on the other hand tends to focus extensively on the applied sciences, and the overlap with management sciences appeared limited.

Additionally where there was an overlap between Science Direct and the other two databases, the documents could in any case also be sourced from either ABI/INFORM Global or EBSCO HOST. Therefore in this review, only

ABI/INFORM Global and EBSCO HOST electronic databases were used. The result of applying the search strings to these two databases was a total of 11,314 hits as shown in Table 3.4 below.

Table 3-4: Database Search Results

Database	ABI/INFORM	EBSCO	Total
Search string 1	27	75	102
Search string 2	228	204	432
Search string 3	4674	5313	9987
Search string 4	25	122	147
Search string 5	302	344	646
Total	5256	6058	11314

Only scholarly and peer reviewed papers were included through the delimiting facilities available within each electronic database. Consequently, all trade and business journals were excluded. Delimiting for scholarly journals ensured a minimum quality level and credibility of all papers that might later be included in this review.

Taking one search string at a time, the next stage was to undertake a broad review of subject relevance of all 11,314 hits, by reading the titles and in some cases also the abstracts. At this stage the 11,314 hits included duplicates. The advantage of reviewing the raw data within the electronic databases was that it gave me the ability to carry out a crude and quick first screening of general relevance of large data sets. This was especially the case with search string number 3 which accounted for 88% of the total number of hits.

Using this approach also minimised the repetitive, time consuming and error prone cycle of transferring limited and permissible numbers of citations from

journal databases to my own management database (Refworks). As a result of this first screening for general relevance, the 11,314 hits were reduced to 411 journal articles. Table 3.5 below gives the breakdown of the 411 papers resulting from reviewing the raw data collected from the two electronic databases.

Table 3-5: Results of selection of potentially relevant papers

Database	ABI	EBSCO	Totals
Search string 1	10	14	24
Search string 2	28	17	45
Search string 3	144	153	297
Search string 4	4	8	12
Search string 5	16	17	33
Totals	202	209	**411**

The 411 citations were then transferred into the Refworks database. Duplicates were removed and the general relevance of each title in combination with the abstract was assessed. This filtering process comprised of reading and reviewing the title and abstract to determine their potential to meet the relevance criteria. As a result, 94 (23%) of the 411 papers reviewed at this stage were retained for further analysis. The challenge at this stage was that not all papers used the conventional abstract format. This was particularly the case for practice papers. As a result introductions and conclusions where available were read. At this stage 13 practice papers were selected and included in the 94 papers for the next step in the review process.

3.3.4 Other sources

In addition to the electronic databases, other sources of information were pursued. Whilst electronic databases were used as the primary source of information, they do not contain all the information that might be of relevance to

this review. Other potential information sources were identified through personal recommendations, electronic searches of the available Kings Norton library catalogue of books and PhD theses and, reference lists contained in the journal articles selected from the electronic database searches. Additional background information on internal contexts and change processes was sourced from Julia Balogun's PhD thesis (1998), on '*The role of obstructing and facilitating processes in change'*.

Three books, two by Patrick Dawson; "*Organizational Change: The processual approach*" (1994) and "*Reshaping change: A processual perspective*" (2003) and; the other by Andrew Pettigrew "*The Awakening Giant - Continuity and Change in Imperial Chemical Industries*" (1985), provided valuable insights into the subject of change, the processes of change and the interaction with internal and external organizational contexts. Both authors provided a more comprehensive background and level of detail about change concepts than is typically available within journal articles.

All three books informed Chapter 2, but have not been used in the literature review itself, as the focus of this review was on theoretical and empirical research published in journals. As a result of personal recommendations and searching reference lists of searched journal articles, 31 additional papers from other sources were selected for review. These papers were added to the 94 papers selected from the electronic databases, giving a total of 125 papers that were taken forward to the next stage.

3.4 ASSESSING SELECTED STUDIES

At this stage, the purpose of the screening process is to filter out papers that do not fulfil the prescribed scope and quality requirements of this review. Therefore in this section, the relevance criteria, and quality standards are defined. The screening process results are also provided.

3.4.1 Relevance criteria

The 31 papers from other sources together with the 94 journal articles from the electronic databases totalled 125 papers. Loosely defined criteria based on

keywords had been used in previous screening stages to determine relevance. At this point the text of all 125 papers was read and the detail of the texts assessed against the more stringent relevance criteria detailed in Table 3.6 below.

Table 3-6: Criteria used to assess titles and abstracts

Criteria	Inclusion Criteria	Exclusion Criteria
Conceptual	concepts of change related to content, context and process; including large scale or organizational, strategic change, incremental, planned , emergent change	concepts related to one time events eg mergers and acquisitions
Theories	related to the content, context and process of change and the interaction between the content, context and process of change	complex adaptive systems, complexity theory, institutional theory, cognitive psychology, individual development
Empirical	qualitative and quantitative papers	none
Organizational unit	organizational and operational units within the public or private sector	marketing, human resources, finance functional units, products,
Unit of analysis	organization, group, individual levels	interfirm level
Journal quality	scholarly and peer reviewed journals	trade magazines
Accessability	english language papers	non english language papers

The inclusion and exclusion criteria help to define the scope of what papers are relevant to this review, in terms of concepts, theories, methods, organizational unit, units of analysis, journal quality and accessibility.

These criteria were initially defined prior to the electronic database searches and then refined as new areas of relevance or irrelevance emerged during the selection process. Two adjustments were made during the selection process. One relates to theory and the other to organizational units.

Using the keyword adapt* resulted in papers on adapting or adaptive organizations, as well as theories of complex adaptive systems, a subject area which is not of prime concern in this review. Therefore exclusion criteria were developed to screen out any papers on complex adaptive systems.

The change literature can be categorised along organizational functional units such as organization wide, operations, marketing, human resources, and finance. Changes at an organizational and operations level are of interest in this review and therefore both functional units were included.

It became more apparent reading the full texts, the extent to which the concepts of interest in this review were covered. Where the main conceptual focus of an article played a peripheral role in this review, it was relatively straight forward to reject such papers.

This was the case with journal articles that formed the introduction to special issue publications (e.g. Dawson, Clausen and Nielsen, 2000). In this article 'Political Processes in Management, Organization and the Social Shaping of Technology', the central focus is to *reconceptualise our understanding of technology and political process'.* Change concepts play a minor role in this introduction and therefore this paper was excluded.

Another example was journal articles where the abstract and title appeared very relevant to the review. On closer inspection of the full text however, the concepts of change related to other organizational aspects that were outside the scope of this review. Making decisions on inclusion in these types of cases was more challenging at this fine grained level.

Some of the papers drawn from the operations management literature fell into this more difficult category. A number of papers explored the interaction between organic structures (small incremental changes) and external environmental uncertainty within manufacturing contexts. However whilst the abstracts appeared to suggest direct relevance to change concepts, a more detailed examination revealed for example that one paper (Pagell and Krause, 2004) focussed on 'flexibility' or 'adaptable structures' and external

environmental 'uncertainty' concepts in relation to organizational performance. Concepts of change were positioned as background. Consequently such papers were excluded.

Applying the more stringent relevance criteria shown in Table 3.6 above to the full texts of each of the 94 papers resulted in the inclusion of 72 papers and the exclusion of 53 papers.

3.4.2 Quality criteria

Two sets of quality criteria were using during this review. An initial quality screening was carried out during the electronic database searches which were delimited to only include scholarly and peer reviewed journals. This was followed by a second set of quality criteria that were used to assess the full text of each of the 72 papers. The purpose of this additional quality assessment is to attribute levels of quality to papers and therefore to decide what level of quality should be included in this review. This screening also serves to differentiate quality across papers used in the review.

The key features of this quality assessment include examining; whether the theoretical basis of the paper was drawn from the extant literature, a description of the research design elements from data collection to findings and, the contribution to theoretical or practice knowledge.

These quality criteria are most suited for assessing empirical research papers. The main reason is that there is typically a clear fit between the quality criteria and the conventional subheadings that are used in empirical papers; introduction, literature review, theoretical concepts, methods, data analysis, findings, discussion and conclusion. This match is not so obvious in practice and theoretical research papers and consequently a slightly different approach was used.

In reviewing the quality of theoretical papers, I looked for whether concepts were grounded in what I considered to be the most relevant literature, the way (method) in which referenced examples from theoretical or empirical research

were used as evidence to support conceptual arguments, and what contribution was being claimed.

I assessed the quality of practice papers, by seeking evidence of theoretical (literature) and the empirical (method) basis on which practice frameworks were developed. Then I explored the extent to which this evidence warranted the claims made for the success of such frameworks in practice.

The decision on what aspects of a paper were to be quality assessed was then used as the basis on which to make the final selection of review papers. My own subjective judgement was applied to distinguish between levels of quality informed by the idea of 'strength' of evidence provided in the paper for the theoretical basis for example. To guide my assessment, I used 3 quality levels for each of the criteria; weak, middle and strong as detailed in Table 3.7 below.

Table 3-7: Quality Assessment Criteria

Criteria	Weak = 1	Middle = 2	Strong = 3	Not applicable
Literature review and theoretical basis	Limited literature review. Limited explanation of theories in the literature.	Reasonable literature review, which is used as a basis for discussion of theories.	Comprehensive literature review and clear positioning of the theoretical argument.	Element not applicable to paper
Research Design	Limited explanation of research design choices and linkages to theory and findings.	Reasonable explanation of research design choices and linkages to theory and findings.	Clear explanation of research design and linkages to theory and findings.	Element not applicable to paper
Contribution	No contribution to theory or practice.	Contribution to existing theory or practice is explained.	Contribution to a potentially new theory or practice is explained.	Element not applicable to paper

All papers were evaluated for the strength of their quality attributes by assigning each aspect of a paper to a level of quality; weak (=1), middle/moderate (=2) and strong (=3). All the criteria carried the same weighting.

This resulted in a quality score for each criterion, where each paper had to achieve as a minimum an aggregate score of 5 to be included in the review. This allows for the possibility of papers being included that are moderately strong in at least 2 aspects and which are of interest and value to this review. Papers strong in all aspects attracted a maximum score of 9. Of the papers achieving an aggregate score between 5 and 9, nearly 50% scored as middle strength and therefore an aggregate score of 6. Papers achieving an aggregate score of below 5 were rejected.

Over 80% of the papers excluded at this stage were practitioner papers. All were however ranked either 3* or 4* according to the Cranfield School of Management (SoM) rankings (2012). The main reason for excluding these practice papers was firstly the aggregate score equalled 3 and therefore did not meet the threshold of an aggregate score of 5. These papers attracted a low quality score due to the apparent weak link to theoretical concepts and literature (score of 1), weak evidence of the empirical basis (method = score of 1) being used to support practice frameworks in organizational settings (contribution score=1).

Whilst of interest and general relevance to the phenomenon of change, these practice papers do not provide quality insights into change concepts or the interactions between them. Instead these articles set out prescriptive guidance on what actions or steps to implement, and typically, neglect the influencing role that organizational contextual settings have on processes of change.

The individual and aggregate scores of all 72 papers are tabulated at the back of this paper in Appendix A. This table shows that 52 papers achieved an aggregate score of 5, in line with the minimum quality standard. This final selection of 52 papers comprises; 31 empirical, 18 conceptual, and 3 practice papers. The remaining 20 papers attracted an aggregate score of below 5, resulting in their exclusion.

In Appendix A, the papers are positioned in order of score, starting with the papers with the highest aggregate score. Therefore, of the 72 papers the 52

papers that meet the quality criteria are shown first, followed by the 20 articles that are excluded from this review.

3.5 DATA EXTRACTION

Data was extracted from all the papers included in this review and then recorded within Excel spread sheets. Extracted data is recorded in tables that can be found at the back of this paper in the Appendices. Set out below is Table 3.8 which itemizes the information extracted for each journal article used in this review and identifies the appendix in which it is located.

Appendix A details the scores of the 72 papers assessed against each of the 3 quality criteria and their aggregate scores. This table also shows that the top 52 papers were accepted and the remaining 20 papers were excluded from this review.

The general information about each of the 52 papers included in this review is tabulated in Appendix B. This information shows the authors of the paper, the year of publication, the journal title and the volume, issue and page details.

Appendix C comprises Appendices C1 and C2. Appendix C1 is a summary data extraction of conceptual and practice papers using the same categorisation of information from which the papers were assessed for quality; theoretical basis, methodology (used to explore and support conceptual development), conclusion and contribution. The extracted data is a mixture of summarised and verbatim text that I could use as an aide memoir and audit trail.

The summary data extraction for empirical studies is in Appendix C2. Appendix C2 attempts to capture what the papers were about in terms of the aims of the study, theoretical basis, research design, and contribution. The rationale behind this approach was to identify methodologies employed, and more importantly the concepts on content, context and process of change.

Table 3-8: Information extracted from reviewed articles

Appendix A	**Quality Assessment Decisions**
	Paper
	Literature and theoretical basis quality score
	Research design quality score
	Contribution quality score
	Aggregated quality score
Appendix B	**General Paper Information**
	Authors
	Year
	Paper Title
	Journal
	Volume
	Issue
	Pages
	First Author Country
	SoM * Ranking
Appendix C1	**Summary Extraction - Conceptual/Practice Papers**
	Authors
	Context of Paper
	Theoretical basis
	Method used to support argument (theoretical or empirical)
	Conclusion
	Overall contribution (theory/research/practice)
Appendix C2	**Summary Extraction - Empirical Papers**
	Authors
	Study context
	Theoretical basis
	Method - Quantitative, Qualitative
	Type of Method
	Data collection
	Data analysis
	Findings and conclusion
	Overall contribution to (theory/research/practice)
Appendix D	**The concepts of content, context, process of change**
	Authors
	Unit of Analysis
	Content of change
	External context
	Internal context
	Process of change: pre-implementation, implementation, post implementation
	Change approach - planned, emergent

Consistent with the data extraction found in Appendix C1 tables, Appendix C2 records both summaries and verbatim text from reviewed papers.

Appendix C1 and C2 were then used as the basis for extraction of data on the conceptual aspects of the content, context and process of change. This data is recorded in Appendix D.

3.6 DATA SYNTHESIS

Data was extracted from the 52 papers and recorded in the Appendices B, C and D. The data in Appendix B supports the descriptive findings reported in Chapter 4 (Section 4.2) and relate to the key features of the publications used in this review.

Appendix C sets out summaries of the data extracted from the empirical, conceptual and practice papers. Key trends found in the empirical research methodologies are reported in Chapter 4 (Section 4.3).

Data that specifically relates to the content, context, process of change concepts and their interactions is recorded in Appendix D. This data was synthesised and forms the basis of Chapter 4 (Section 4.4).

3.7 CONCLUSION

The systematic search of the electronic databases used pre-defined search strings yielding 11,314 papers. The titles were then scanned for general relevance resulting in 411 articles. A closer review of the title and abstract generated 94 papers, which were then added to the papers derived from other sources giving a total of 125 papers. These papers were subsequently scrutinised using defined relevance criteria. The resultant 72 papers were assessed against the quality criteria. As a result, 52 articles were selected for data extraction, analysis and synthesis in this review. The systematic search and selection activities are illustrated in Figure 3.2 on the next page.
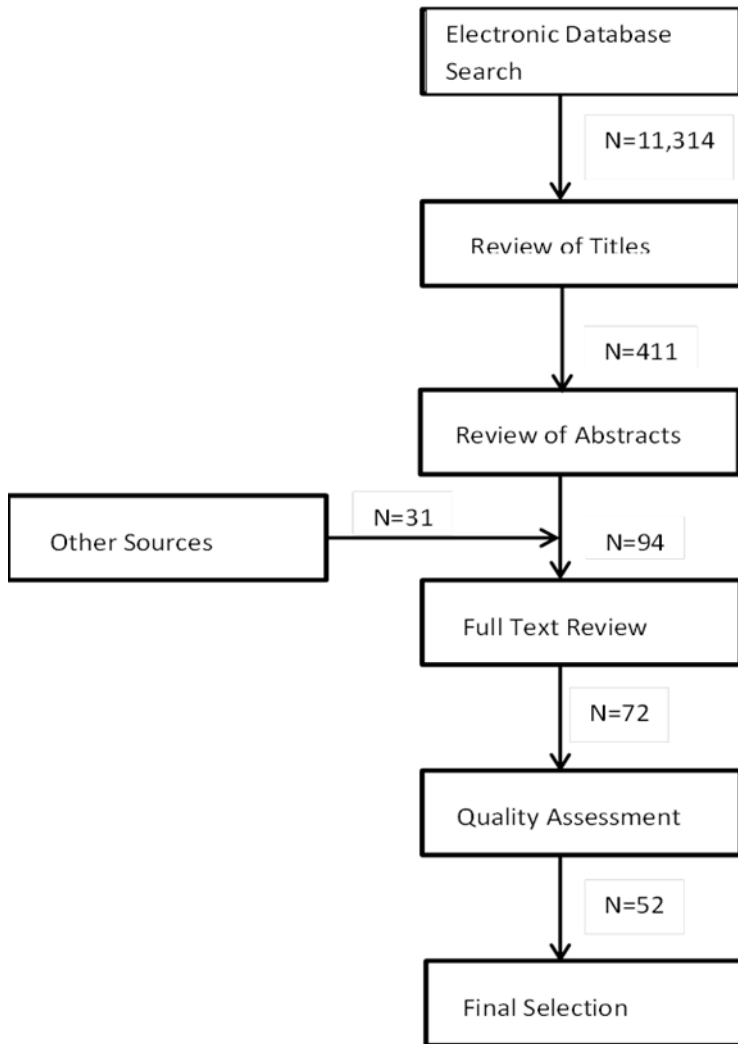
Figure 3-2: Summary of the search and selection process

4 DESCRIPTIVE FINDINGS

4.1 INTRODUCTION

In this chapter the characteristics of the 52 journal articles included in this review are briefly described. Section 4.2 provides a brief overview of the key features of the journals from which the articles were drawn. This summary is followed by Section 4.3 which gives an overview of the trends in the methodologies used to empirically examine the theoretical concepts of interest. Then in Section 4.4 the coverage of the conceptual findings and their interactions are described. Section 4.5 concludes this chapter with a summary of the descriptive findings and as a prelude to Chapter 5.

4.2 KEY PUBLICATION FEATURES

4.2.1 Trends in annual publications

Overall the trend to publish on the subject of change within the context of this review appears to be increasing. This trend is illustrated in Figure 4.1 below.
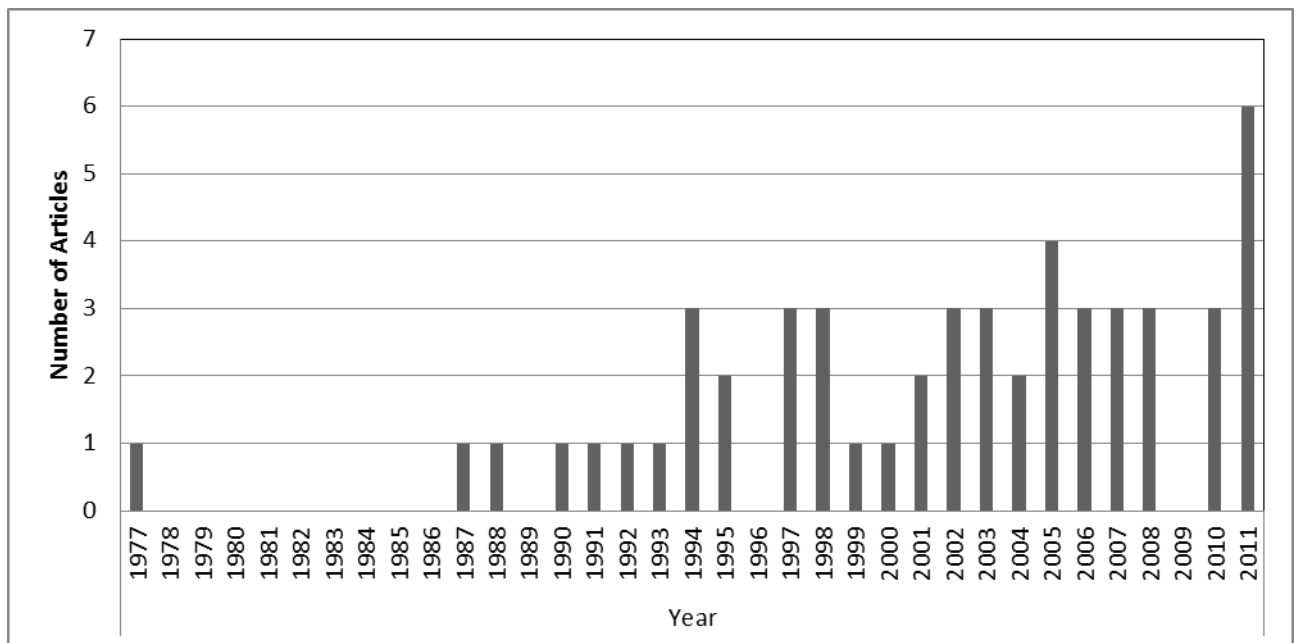
Figure 4-1: Number of publications per annum

The earliest published paper appears in 1977 after which there was a gap of about 10 years. Between 1987 and 1993, there was on average 0.8 articles

published each year. This annual average has increased to 2.5 papers over the last 15 years (1994 to 2011).

4.2.2 Number of articles per journal used in this review

Journal	Number of articles	Cranfield SoM * Ranking
International Journal of Operations & Production Management	5	3
Journal of Applied Behavioral Science	5	2
Organization Science	5	4
Long Range Planning	4	3
Human Relations	3	4
Journal of Management Studies	3	4
Academy of Management Journal	2	4
British Journal of Management	2	3
International Journal of Human Resource Management	2	3
Journal of Management	2	4
Organization Studies	1	4
Academy of Management Perspectives	1	3
Academy of Management Review	1	4
Administrative Science Quarterly	1	4
Business Process Management Journal	1	2
European Journal of Information Systems	1	3
IEEE Transactions on Engineering Management	1	3
Information Systems Journal	1	3
Information Technology & People	1	2
International Journal of Logistics Research and Applications	1	2
International Journal of Management Reviews	1	3
International Journal of Technology Management	1	3
Journal of Business Research	1	3
Journal of Management Information Systems	1	3
Journal of Organizational Behavior	1	3
Journal of Organizational Change Management	1	2
MIT Sloan Management Review	1	4
Omega, International Journal of Management Science	1	3
Scandinavian Journal of Management	1	2

Table 4-1: Publications - number of reviewed articles per journal

In this review, papers have been drawn from 29 publications as shown in Table 4.1 above. Taken together this breadth of publications spans the disciplines of organization, management, operations and behavioural sciences. This spectrum of publications suggests a multi-disciplinary interest in the phenomenon of organizational change. Table 4.1 also shows the number of articles sourced from each journal in descending order. The top 10 journals account for 63% of the papers used in this review.

The publications have been compared against the Cranfield School of Management journal ranking system (SoM, 2012) which categorises publications according to four quality scales; 4*-world leading, 3*-internationally excellent, 2*-internationally recognised, and 1*-national. Table 4.1 shows the ranking for each publication. A significant majority (79%) of the publications attract the superior 3* or 4* grades and all of the publications used in this review are recognised internationally.

4.2.3 Country of origin of the first author

The country of origin of the first author for each paper is depicted in Figure 4.2 below.
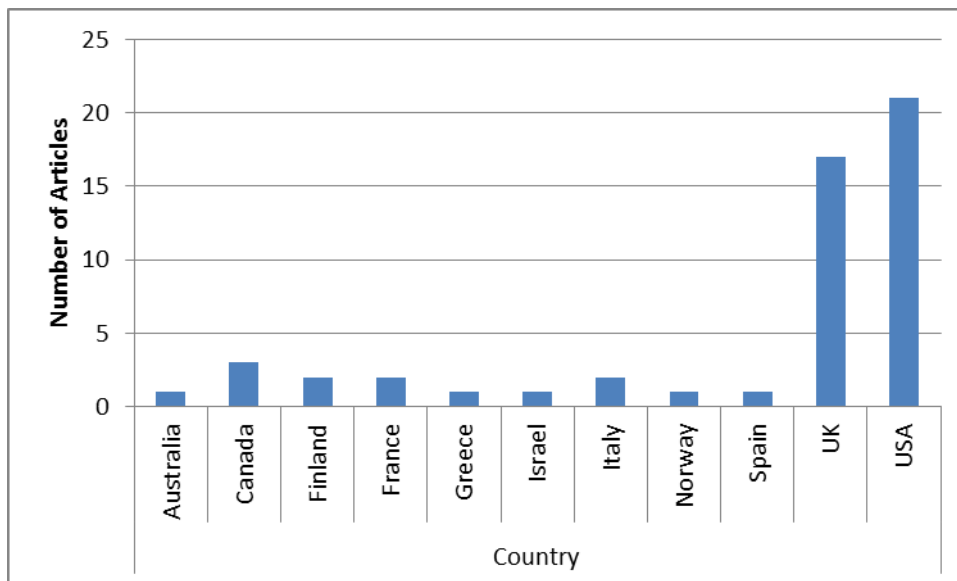
Figure 4-2: Country of origin of the first author

American and British based academics are a dominant force, as graphically illustrated in the above figure, representing 73% of the papers published. Taken together, the papers coming from the Western and mainly English (Australia, Canada, UK, and USA) speaking world represent a significant proportion of the published articles, accounting for 80%.

Collectively the authors of these papers may assume particular biases and philosophical perspectives which potentially differ from those held by authors writing in other languages and from other geographical contexts not reported in this review.

4.3 TRENDS IN METHODOLOGY

Out of the 52 papers that inform this literature review, the 31 empirical studies account for 60%, thereby representing the major proportion of the articles. The conceptual papers follow with 35%, and then the practice papers with 5%.

4.3.1 Type of Paper

Figure 4.3 below shows that the 52 papers used in this review comprise 31 empirical, 18 conceptual and 3 practice papers.
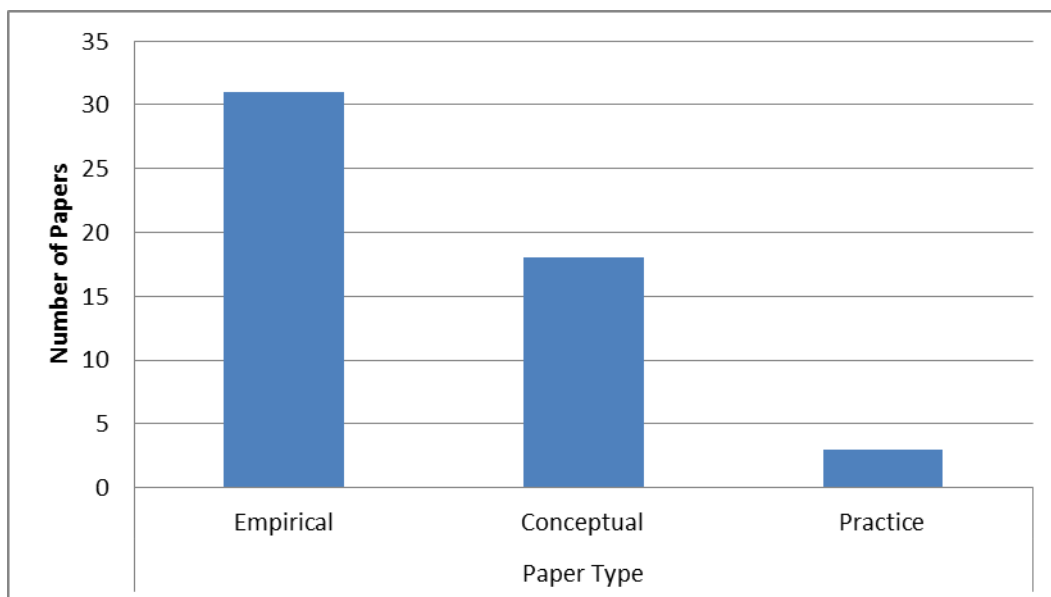
Figure 4-3: Type of paper

This categorisation of papers assumes that all conceptual papers focus on the development or discussion of theoretical concepts.

Consequently, the conceptual papers include three literature reviews. One paper reviews the quantitative studies on change (Oreg, Vakola, and Armenakis, 2011) over a 60 year period and develops a model showing antecedents for change recipients and their reactions to planned change.

A second review concentrates on the events in the process of change, with a specific focus on the process of sustaining change (Buchanan, Fitzgerald, Ketley, Gollop, Jones, Lamont, Neath, and Whitby, 2005). In this paper the literature review informs the proposed 'process of sustaining change model'.

A third paper (Choi, 1995) that draws heavily on a literature review, seeks to bring the organizational change and continuous improvement literatures together within an integrated framework.

Empirical studies account for nearly two thirds of the papers in this review. Therefore a closer examination of the methods used in these studies is detailed in the next section.

4.3.2 Empirical Study Methods

Figure 4.4 below depicts the different methods used in the 31 empirical studies of which 70% are qualitative methods. The research in these studies was drawn from data collected through interviews, observations, and the review of documentation.
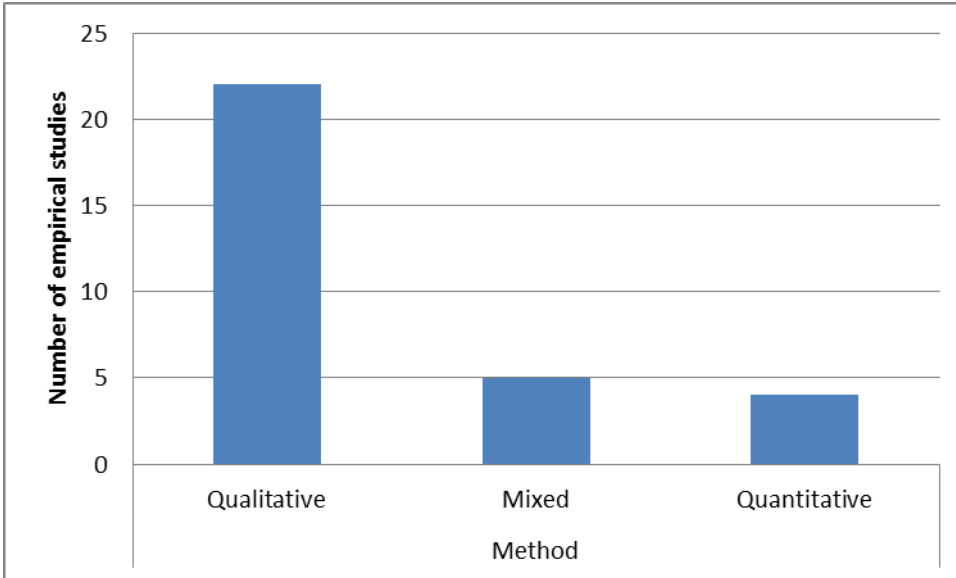
Figure 4-4: Methods used in empirical studies

4.3.3 Qualitative and Longitudinal Studies

An examination of qualitative research articles reveals the dominance of longitudinal studies as depicted in Figure 4.5 below. This finding, that 70% of the empirical studies are conducted within a temporal context has three significant implications.
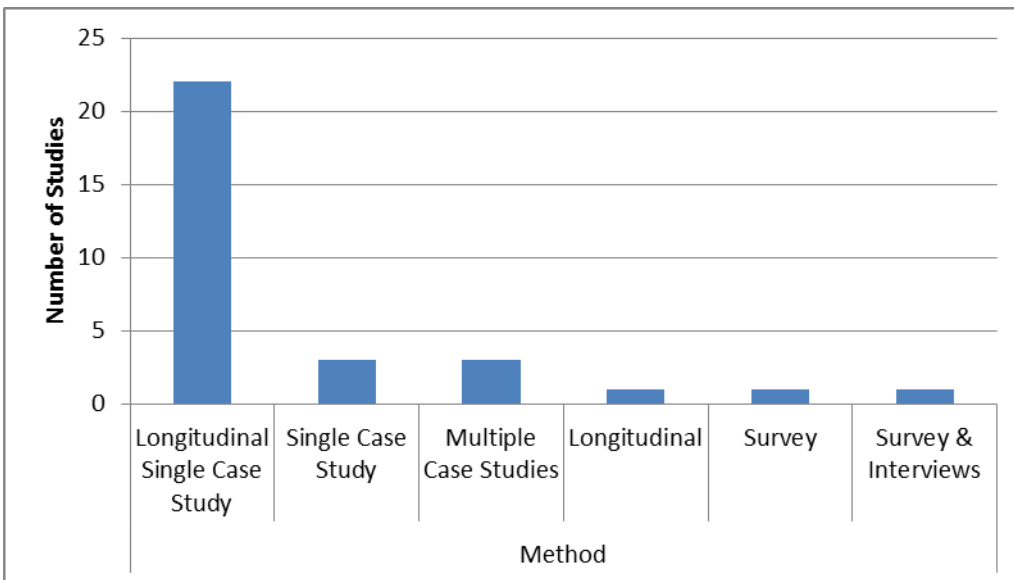
Figure 4-5: Types of Qualitative Research

Firstly, processes of change have been observed to follow a particular trajectory over time (Stensaker and Langley, 2010), which may or may not generate outcomes that align with the intent of planned organizational change initiatives.

The second implication is that by observing how and when internal or external organizational factors (Buchanan, Addicott, Fitzgerald, Ferlie and Baeza, 2007) influence the path of change over time, it may be possible to explain differences in change outcomes.

Thirdly and perhaps most important of all, this finding may allude to the significance of the application of the contextual/processual approach being used to analyse processes of change (e.g. Stam and Stanton, 2010).

Longitudinal studies therefore provide the possibility of exploring over time, the interaction between the content of change, process of change and the organizational context in which change is located. In contrast snap-shot or cross-sectional studies provide insights into potential interactions at a single point in time. As a result cross-sectional research would not be able to provide the level and duration of insight available when conducting longitudinal studies of the process of change.

4.4 CONCEPTS AND THEIR INTERACTIONS

Recalling Chapter 2, of prime interest in this literature review are the content, context and process of change, and possible interactions between these concepts. Section 4.4.1, describes the coverage of the content of change concept. This is followed by Section 4.4.2 and a description of the coverage of the external and internal organizational change contexts. The findings on the process of change are described in section 4.4.3.

Section 4.4.4 brings together the content, context and process of change concepts and describes any overlaps found between these three concepts. Section 4.4 therefore, sets out in general terms the conceptual coverage of the articles reviewed and serves as an introduction to the detailed account of the key conceptual findings in Chapter 5.

4.4.1 Coverage of the content of change concept

The coverage of the content of change within the 52 papers relates to organisational elements and primarily to changes in formal structures and processes. None of the literature had the primary aim of investigating the informal changes to structures, processes, work or people. Informal aspects of change tended to be investigated as a result of changes to the formal structures and processes. Additionally, in focusing on formal structures and processes all papers emphasize planned change initiatives. The literature draws our attention to four themes of the content of change.

Technological change, restructuring, process changes and, organization wide change initiatives, are the four themes that emerge from the reviewed literature. Comparing these emerging themes with the organisational elements identified in Chapter 2 would suggest that there is a partial congruence between these elements and the content of change themes found in the literature. This congruence is limited to the formal structure and processes, work and people. Investigations into the informal structures and processes or social systems appear absent from the change literature included in this review.
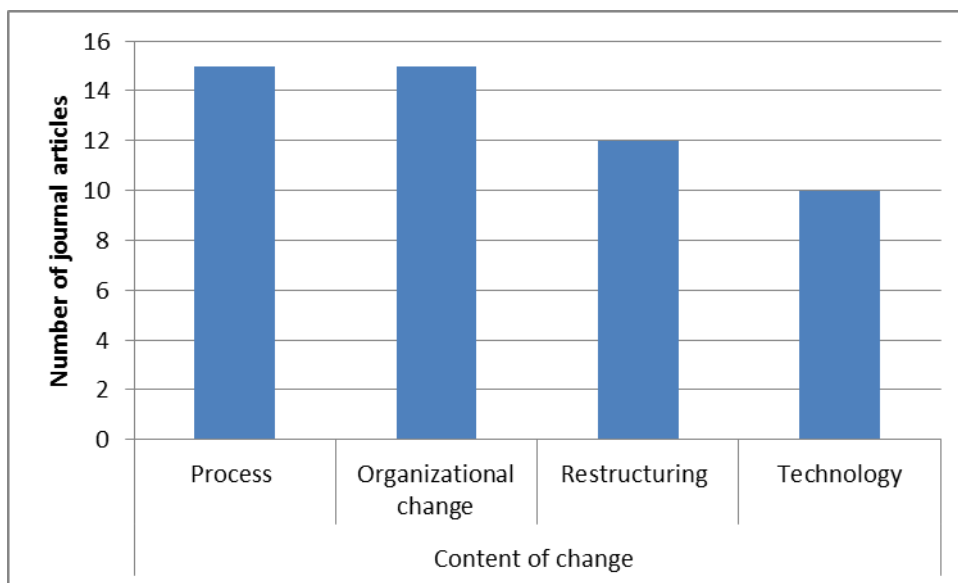
Figure 4-6: Coverage of the content of change concept

Where the literature has focused on changes to formal processes, this represents nearly a third (29%) of all papers reviewed. Focus on organization wide change also accounts for 29% of the articles. Restructuring represents 23% of all papers, whilst investigations into technological change make up the remaining 19% of papers. The four different types of content of change are shown in Figure 4.7 above.

Technological change has emerged as a specific theme. Technological processes could be viewed as just another type of formal processes. However some papers explicitly link technological change to information flow processes. In these journal articles, the introduction of new electronic technology is viewed as a means of changing information flows. Such change in typically viewed as both radical and as a source of significant influence on other organizational elements including; political decision making processes (Dawson and Buchanan, 2005), individual work routines (Orlikowski and Hofman, 1997), informal structures and processes (Brown, 1993), defined organizational socio-technical sub-systems (Lyytinen and Newman, 2008) or performance outputs (Newman and Zhao, 2008).

In contrast, the literature primarily concerned with changes to processes, define the scope of investigation in terms of general operational processes; e.g. hospital patient management (Buchanan, Addicott, Fitzgerald, Ferlie and Baeza, 2007; Bertolini, Bevilacqua, Ciarapica and Giacchetta, 2011), financial service provision (Drew, 1994), or manufacturing (Bamford and Forrester, 2003; Carrillo and Gaimon, 2002).

The distinction made in this paper between changes to operational and technological processes is therefore a reflection of the content of change themes found in the literature. Consequently changes to technological processes are shown separately from other types of processes, as illustrated in Figure 4.7 above.

Organisational change is broadly described as including overarching changes to the direction of an organization. Examples include changes to an organization such as; acquisition, new leadership (Isabella, 1990), strategic intent (Calori,

Baden-Fuller and Hunt, 2000; Grunberg, Moore, Greenberg and Sikora, 2008), structure (Evans and McQuillan, 1997), design (Hope-Hailey and Balogun, 2002), or improvements in organizational performance (Burnes, 2004) and organization wide quality (Isabella, 1990). This type of change is broad in scope, covers more than one aspect of an organization, and has the potential to impact other organizational elements. Therefore in this review, organizational change has been differentiated from technology, process and restructuring contents of change.

This review found literature that focussed on specific restructuring and redesign. Examples include decentralisation of operations (Balogun, 2006; Balogun and Johnson, 2004), introduction of new job specifications (Brooks, 1997), and changes to operational structures and locations (Child and Smith, 1987; Giangrecco and Peccei, 2005; Jarvenpaa and Stoddard, 1998). As a result this literature was categorised under the label of restructuring.

4.4.2 Coverage of the context concept

The organizational context refers to both the external and the internal environments within which an organization is embedded. As discussed in Chapter 2, context can significantly influence organizational contents and processes of change. The importance of context is reflected in the papers from which this literature review is drawn. Over 70% of the papers included coverage of the external context, and all 52 papers focussed on some aspect of the internal organizational context.

4.4.2.1 External context

In this review, the literature frames the external organizational context using a similar perspective to that found in Chapter 2. The external context was described in broad terms in Chapter 2 (section 2.3.2.) as encompassing both the immediate and wider environment in which an organization is located. Out of the 52 papers, 37 (71.2%) articles included the external context.

With respect to the immediate organizational environment, 23 papers (44%) covered competitive pressures and 18 (34.6%) suppliers and customers.
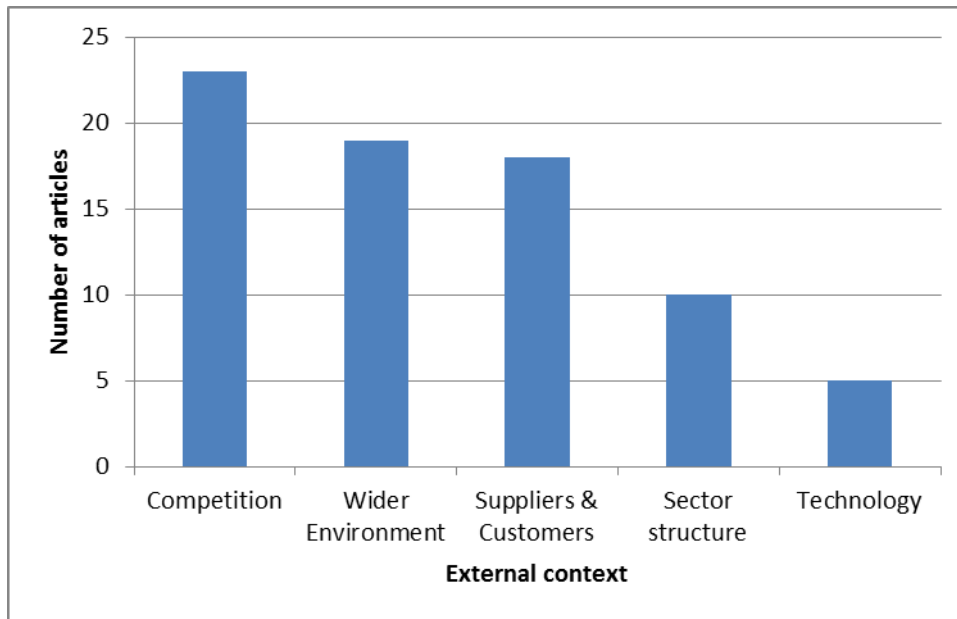
Figure 4-7: Coverage of the external context

Less than 20% included coverage of either the sectorial structure (19.2%) or technology (9.6%). A total of 19 articles (36.5%) covered the wider organizational environment, mainly in relation to government policy, regulation, and general economic pressures. The extent to which the 52 papers cover both the immediate and wider external organizational environment is illustrated in Figure 4.8 above.

4.4.2.1.1 Immediate environment

Almost half (44%) of the papers covered sectorial competitive pressures which were viewed as influencing organizational change in two ways; reactive organizational change initiatives (Brown and Eisenhardt, 1997; Buchanan et. al, 2005; Burnes, 2004; Child and Smith, 1987; Choi, 1995; Drew, 1994; Jarvenpaa and Stoddard, 1998) or in anticipation of future changes (Brown and Eisenhardt, 1997; Buchanan et al, 2005; Ford and Ford, 1995).

Over a third (36.5%) of the papers covered the influence that suppliers and customers had on organizational change. Whilst not strictly speaking a customer or supplier, the literature that covered external networks have also been included under this label. This categorisation assumes that networks similarly to customers and suppliers represent different types of external stakeholders who have an interest in and potentially influence over organizational change initiatives.

Papers covering the influence of customers on organizations emphasised the role of customers in shaping the content of organizational change. Such changes included; improvement of product or service delivery (Bertolini et. al, 2011; Buchanan et al, 2007; Drew, 1994; Tissan and Heikkila, 2001), development of new product strategies through customer alliances (Brown and Eisenhardt, 1997), and seeking approval of shareholders on the content of change (Calori et al, 2000).

The coverage of suppliers as influencers of organizational change included; external consultants as facilitators of change processes (Bamford and Forrester, 2003; Child and Smith, 1987) alliances with customers for new product development support (Brown and Eisenhardt, 1997), and, sources of new technological solutions (Jarvenpass and Stoddard, 1998).

The coverage of networks that crossed organizational boundaries was found in only two articles. Although representing a minor percentage (11%) of the total supplier and customer coverage in the literature, both articles (Brooks, 1997; Buchanan, 1998) focussed on the professional and union networks that spanned organizational boundaries within the UK National Health Service (NHS). These networks were found to exert a strong influence on the content and process of organizational change because of the power that these networks had in elevating the political position of the professional and union subcultures relative to that of the administrative managers. Therefore networks whilst included within the supplier and customer category, should be viewed as representing a relationship with organizational members that is different from that of suppliers and customers.

A focus on changes to the structure of a sector and the effect that such changes might have on organizations is mentioned by less than 20% of the papers in this review. However such sectorial changes can have a significant influence on the content of organizational change. Where papers have given a view, this covers sectorial issues such as the influence of changes taking place in the sector and the impact that this has on the content of change (e.g improvement programmes, best management practices) introduced in the rest of the sector (Burnes, 2004; Child and Smith, 1987; Newman and Zhao, 2008).

Literature was also found to cover the role of new entrants into the sector or the technological trends influencing changes to organizational strategies and structures (Drew, 1994). The increased concentration of a sector through mergers and acquisitions or as a result of deregulation specific to the sector (Child and Smith, 1987; Drew, 1994; Zuniga-Vicentre et al, 2005) was also mentioned as triggering organizational change and influencing the process of change.

Technology in the literature represents the lowest percentage (9.6%) of papers that cover the external context. Coverage extends to future technological trends and the proactive organizational changes that organizations need to make to remain competitive (Brown and Eisenhardt, 1997). The emergence of new technologies is also cited as an important factor in presenting opportunities for organizations seeking to increase their operational capability and capacity (Drew, 1994).

4.4.2.1.2 Wider environment

The main themes emerging from the literature in relation to the wider environment included government policy, regulation and economic pressures. A total of 19 papers (36.5%) covered the wider environment and its influence on organizational change. This coverage included; government policy in relation to the NHS (Brooks, 1997; Buchanan et al, 2007; Buchanan, 1998) and the effect of such policy on the content and process of change.

The literature also covered the general economic pressures that; increased raw material prices (Child and Smith, 1987), resulted in downsizing and restructuring in the financial sector (Drew, 1994), and increased globalisation and therefore restructuring of organizational activities (Kelliher et al, 2011). The influence of regulation on the content of change was covered in relation to the financial and utility sectors (Giangrecco and Peccei, 2005; Zuniga-Vicente et al, 2005) or the role of regulatory agencies in influencing the content of change (Whelan-Berry et. al, 2003).

4.4.2.2 Internal context

All of the 52 reviewed papers explored the role of the internal context in shaping the process of change. In Chapter 2 (section 2.3.3) the internal context was broadly described as encompassing a wide range of perspectives including; culture, politics, capabilities, resources, structure, power and history. In this review, the literature frames the internal organizational context around four concepts; structure, culture, resources, and capabilities.
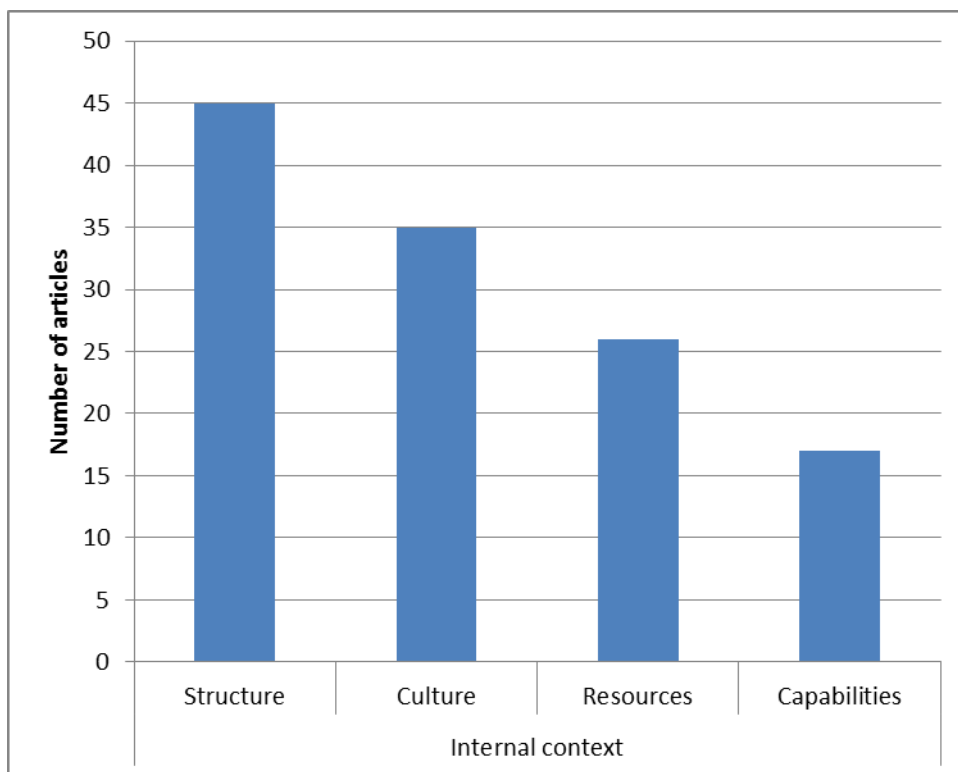
Figure 4-8: Coverage of internal context

Nearly 87% (45) of the papers explored the role of structure, followed by 67% (35 papers) that focussed on organizational culture and sub-cultures. Half of the papers (50%) considered internal resources, and around a third (32.7%) of the papers investigated the process of change within the context of organizational capabilities.

Above is Figure 4.9, which shows the extent of the coverage of the different internal contextual issues that emerged from the literature.

Organizational structure emerged as the content of change that was the most investigated of all the internal contextual aspects. Representing over 85% of the literature in this review, these papers were found to emphasize structural context of specific managerial levels within organizational hierarchies.

Distinctions between managerial levels include; top management as instigators of planned change (Bamford and Forrester, 2003; Burnes, 2004; Calori et al, 2000; Child and Smith; 1987; Isabella, 1990), middle managers as facilitators or inhibitors of change (Drew, 1994; Giangreco and Peccei, 2005), or middle managers as recipients of change (Balogun, 2004; Keliher et al, 2011).

Nearly two thirds of the reviewed papers investigated the relationship between culture and organizational change. Most studies identified particular organizational sub-cultures that have their own shared values, attitudes and beliefs such as; unions (Brooks, 1997; Buchanan et al, 2007), professional groups such as technical specialists (Orliskowski and Hofman,1997) and clinicians (Brooks, 1997; Buchanan et al, 2007), corporate management teams (Kelliher et al, 2011) and management cultures (Giangreco and Peccei, 2005; Isabella, 1990; Molinsky, 1999).

Half of the research papers covered the resources available to an organization during the process of change. The types of resources included; human (Bertolini et al, 2011; Drew, 1994), financial (Child and Smith, 1987), technical (Brown and Eisenhardt, 1997), managerial (Brown and Eisenhardt, 1997), change agents (Buchanan et al, 2007), knowledge (Carrillo and Gaimon, 2002), political (Dawson and Buchanan, 2005) and time available for the

61

implementation, adaptation and maintenance of change, (Buchanan et al, 2005; Calori et al 2000; Stam and Stanton, 2010; Tyre and Orlikowski, 1994).

Literature that investigates temporal contextual perspectives was found to include historical, present and future aspects and their influence on the content and process of change. However temporal considerations did not emerge as a separate theme within the reviewed papers, but generally in relation to other internal contextual aspects.

This was particularly the case with organizational resources for example; future organizational resource requirements (Bertolini et al, 2011), availability of current resources to enable individual engagement and experimentation with the process of change (Buchanan et al, 2007), and reconciling the past and future resource requirements (Calori et al, 2000). Consequently in this review consideration of the temporal context has been included within the organizational resources category.

Coverage of internal organizational capabilities accounted for about a third of the articles reviewed in this paper. Capability was described generally as the ability of; marketing and technical managers to anticipate future product market trends (Brown and Eisenhardt, 1997) or implement technological changes (Tyre and Hauptman, 1992).

Capability was also referred to as the knowledge, skills and practices available to; cross functional teams to enable them to achieve successful change outcomes (Buchanan et al, 2007), individuals to continuously improve operational practices (Buchanan, 1998), and managers to develop skills in the management of change (Child and Smith, 1987; Tissan and Heikkila, 2001).

In addition to human capabilities, the literature covers process and system capabilities (Orliskowski and Hofman, 1997). Examples include the ability of processes to maintain change after implementation (Whelan et al, 2003) and current organizational process to accommodate the introduction of new practices (Zephir et al, 2011).

4.4.3 Coverage of the process of change concept

The process of change was defined in Chapter 2 as the *"the actions, reactions and interactions from interested parties as they seek to move the firm from its present to its future state'* (Pettigrew, 1987, p657). This definition is reflected in all papers. Indeed the process of change is a key concept analysed in this literature.

Also implied in the definition of the process of change is that change is '*an empirical observation of difference in form, quality or state over time in an organizational entity' (Van de Ven and Poole, 1995, p512)*. A dominant view of the process of change is that it starts from a known point in time and ends with the achievement of pre-determined goals and outcomes. The assumption is that it is possible to prescribe and therefore plan the path through which change happens, dominates the literature. Consequently 98% of the studies into the process of change start from the perspective of planned change initiatives.

4.4.3.1 The Process

All the literature covers the process of change. However literature focussed on different stages in the change process. The key theme emerging from the literature is that the process of change can be viewed as three sequential phases.

These three phases of change activity are consistent with Lewin's three stage model of unfreezing, moving, and refreezing. This theoretical framework proposes that individual and organisational change starts with preparing for planned change, implementation of change, and then the embedding of that change within an organization.

Over 80% of the papers focus on the implementation of change, 46% explore the pre-implementation stage and a minority representing 17% focus on the post implementation activities. Figure 4.9 below illustrates the different change activities analysed and the range of stages included. It is interesting to note that very little research covers all three stages of change.
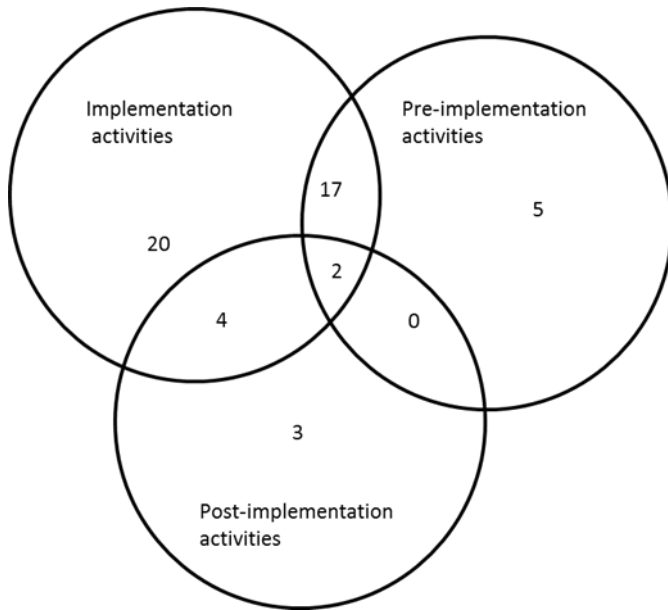
Figure 4-9: Stages of the Process of Change

4.4.3.2 Planned and emergent change approaches

Nearly all of the papers (98%), started their investigations into organizational change through planned change initiatives. At least 38% of the studies assume that the process of change progresses along pre-defined direction. Therefore analysis focusses on how the process of change unfolds in practice in relation to achieving planned goals and outcomes. Analysis of organizational change on individuals focusses on the emotions, reactions and behaviour that emerge in response to planned change activities.

Just under two thirds of the research takes the view that change paths are not strictly pre-defined, but are open to some flexibility through varied interpretation and adaptation, leading to the emergence of changes not previously anticipated. Consequently these papers analyse emergent change and where in the process of planned change it appears.

Figure 4.10 below illustrates the dominance of a focus on planned and emergent change. Only one paper (2%) investigates emergent change triggered by the anticipation of planned regulatory changes.
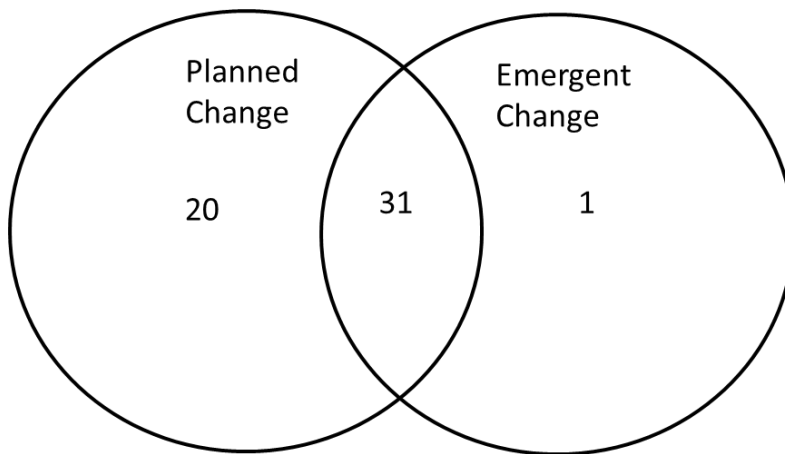
Figure 4-10: Planned and Emergent Change Approaches

4.5 Interactions between the content, context and process of change

Figure 4.11 below illustrates the coverage of the content, context and process of change concepts and the extent to which their interactions have been studied. Studies that focus on the interaction between the content, context and process of change, account for 46% of the papers. Analysis of the interaction between organizational context and process however dominates, representing 50%. A minority of papers focus on the interaction between the content of change and, either the context or process of change, accounting for 2 papers and none respectively.

The content of change as a primary concern of empirical studies and the overlap with the external and internal context was found in 2 papers. These two papers focussed on analysing how the content of change was developed. Findings from both empirical investigations suggest that context (Buchanan 1998; Bertolini, Bevilacqua, Ciarapica, and Giacchetta, 2011) influenced the final content of planned change. The absence of literature that analyses the relationship between the content and process of change may suggest that

65

context plays an important role in our understanding of the factors that influence the process of change.
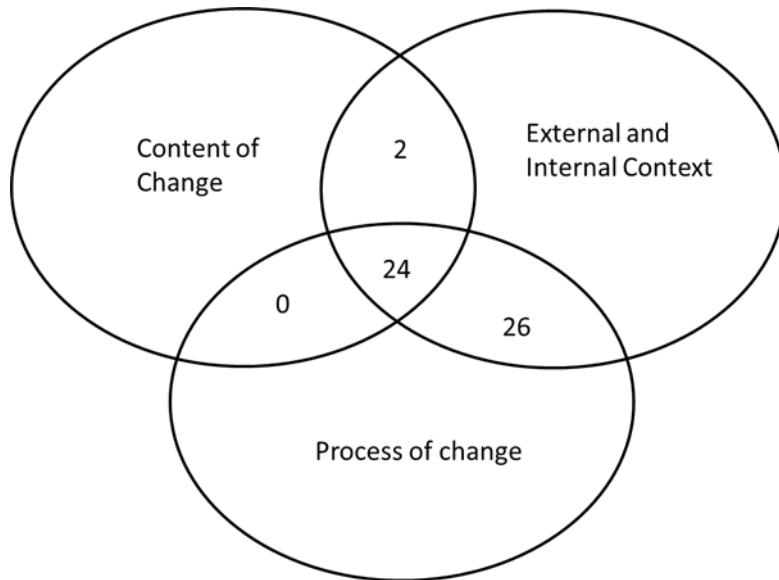
Figure 4-11: Coverage of content, context and process of change

4.6 CONCLUSION

4.6.1 Publication features

In this chapter key features of the publications used in this review have been described and include;

1. An increased interest in publishing on the subject of organizational change since 1994.
2. A spread of publications across the organization, management, operations and behavioural fields.
3. Nearly 80% of publications attract a 3* or 4* SoM ranking.
4. Dominance of American and British based academics.

4.6.2 Empirical studies and methodology

Empirical studies accounted for 60% of the papers included in this review. Other trends found include;

1. Qualitative methods represented 70% of the empirical studies.
2. Longitudinal single case studies made up 70% of the qualitative methods employed.

4.6.3 Content, Context and Process Concepts Covered

1. Over 40% of studies investigate general and technological process changes compared to nearly 30% that focus on either formal structural or organizational changes.
2. All the research reported in this review investigates aspects of internal organizational context, whereas only 70% include coverage of the external context.
3. The dominant interest in the process of change was found in the change implementation activities which accounted for over 80% of the studies included in this review. Post implementation change activities were less emphasised, and accounted for under 20% of research investigations.
4. A majority (98%) of papers focussed on analysing planned change processes. However around 66% included exploration of the role of emergent change within the planned change framework.

4.6.4 Interaction between the Content, Context and Process of Change

Most of the investigations into the content, context and process of change focus on the interactions between the context and process of change representing 50% of the studies in this review. The interest in analysing the interaction between the content, context and process of change follows with 46%.

5 CONCEPTUAL FINDINGS

5.1 INTRODUCTION

In this Chapter the key findings are discussed. Section 5.2 focusses on the content of change and the different researcher perspectives to emerge from the literature. Section 5.3 focusses on the variation in the internal and external contexts studied. Section 5.4 looks at the key differences in the stages of the process of change that are studied. Section 5.5 pulls these three concepts together.

5.2 THE CONTENT OF CHANGE

Chapter 4 shows that the literature characterises the content of change as change to formal organisational structures and processes. Research therefore does not have as its primary concern changes to informal social structures and processes. Technological, structural, process and organisational change, represent the four main types of contents of change that have been found in the literature. Table 5.1 overleaf shows the authors that focus on each content of change.

5.2.1 Technological change

Technological change is assumed to be about making formal and electronic changes to how structures, processes, people, and tasks interact with each other, intended to produce greater integration and management control systems.

Table 5-1: Researchers that Focus on Variations in Contents of Change

Technology Change	Process Change	Structural change	Organizational change
Brown, A, D. (1993)	Bamford, D. R., and Forrester, P. L. (2003)	Balogun, J. (2006)	Buchanan, D. & Dawson P. (2007)
Dawson, P., and Buchanan, D. (2005)	Bertolini, M., Bevilacqua, M., Ciarapica, F. E., and Giacchetta, G. (2011)	Balogun, Julia, and Johnson, G.(2004)	Buchanan, D., Fitzgerald, L., Ketley, D., Gollop, R., Jones, J. L., Lamont, S. S., Neath,
Lyytinen, K., and Newman, M. (2008)	Brown, S. L., and Eisenhardt, K. M. (1997)	Brooks, I.(1997)	Burnes, B.(2004)
Newman, M., and Zhao, Y.(2008)	Buchanan, D. A., Addicott, R., Fitzgerald, L., Ferlie, E., and Baeza, J. I. (2007)	Child, J., and Smith, C. (1987)	Calori, R., Baden-Fuller, C., and Hunt, B.(2000)
Orliskowski, W.J. and Hofman, J.D. (1997)	Buchanan, D.(1998)	Giangreco, A., and Peccei, R.(2005)	Choi, T. (1995)
Roskies, E., Liker, J. K., and Roitman, D. B. (1988)	Carrillo, J. E., and Gaimon, C. (2002)	Jarvenpaa, S.L., and Stoddard, D. B. (1998)	Evans, M. G. and McQuillan, W.(1997)
Stam, K. R., and Stanton, J. M.(2010)	Drew, S. (1994)	Kelliher, C., Clarke, C., Hailey, V. H., and Farndale, E. (2011)	George, J. M., and Jones, G. R. (2001)
Tyre, M. J., and Hauptman, O. (1992)	Ford, J. D., and Ford, L. W. (1995)	Molinsky, A. L. (1999)	Grunberg, L., Moore, S., Greenberg, E. S., and Sikora, P. (2008)
Tyre, M. J., and Orlikowski, W. J.(1994)	Sarker, S., Sarker, S. and Sidorova, A (2006)	Oreg, S., Vakola, M., and Armenakis, A. (2011)	Hailey, V. H., and Balogun, J. (2002)
Volkoff, O., Strong, D. M., and Elmes, M. B. (2007)	Smeds, R.(1994)	Schwarz, G. M. (2010)	Isabella, L. A. (1990)
	Stensaker, I. G., and Langley, A.(2010)	Staudenmayer, N., Tyre, M., and Perlow, L. (2002)	Kyriakidou, O. (2011)
	Stevenson, W. B., and Greenberg, D. N. (1998)	Stevenson, W. B., Bartunek, J. M., and Borgatti, S. P. (2003)	Laughlin, R. C. (1991)
	Tissan, T., and Heikkila, J.(2001)		Van de Ven, A. H., and Sun, K. (2011)
	Vaast, E., and Levina, N. (2006)		Zúñiga-Vicente, J. Á., de la Fuente-Sabaté, J. M., and Suárez-González, I. (2005)
	Whelan-Berry, K. S., Gordon, J. R., and Hinings, C. R. (2003)		
	Zephir, O., Minel, S., and Chapotot, E.(2011)		

Three perspectives emerge on planned technological process changes; operational, services and, associated social and informal processes. Operational planning information systems to integrate production and service operational activities include MRPII (manufacturing resource planning) "*a computerised information system integrating all business functions and for planning and controlling all company resources*" (Brown, 1993; p25). In this study Brown (1993) found that the introduction of technological change required subsequent modifications to the roles and responsibilities of managers throughout the organisational hierarchy. Brown (1993) found that the implementation of MRP systems resulted in the movement of governance and decision rights from individuals located lower down the management hierarchy towards the top end.

Technological change is also associated with Information Systems, and is defined as the "*deliberate change to an organisation's technical and organisational subsystems that deal with information*" (Lyytinen and Newman, 2008, p589). Newman and Zhao (2008) have also defined technological change as enterprise resource planning (ERP) systems, which have the ability to "*connect different divisions and functions together*" so that "*problems associated with using diverse legacy systems can be ameliorated, if not solved*". This definition is consistent with ERP systems viewed as "*comprehensive commercial software packages designed to support and integrate organisational processes across functional boundaries*" (Volkov et al, 2007, page 833).

Technological change content that is intended to meet customer service requirements appears to be defined differently. Technological change is less about resource management and control and is more closely associated with the ability of users to continually adapt and modify the application of technology to meet the needs of customers.

A study by Orlikowski and Hoffman (1997) showed that technological change was intentionally designed and implemented to allow end users to experiment, learn and adapt technological features to create new applications that met

customer needs. This is in contrast to technological changes that are viewed as mechanisms to embed sequences of activities and individual work routines.

The third perspective is where technological change is viewed as a political decision making process. Dawson and Buchanan (2005) focus on the political process associated with the introduction implementation and outcomes of technological change. They argue that the politics of management influences the decisions on the type of technological change as a way of minimising the erosion of their positions of authority and power within the organization.

Dawson and Buchanan (2005), also propose that different organisational levels represent different political processes. It is these different organisational processes that produce the differing narratives about the introduction implementation and outcome of change. Consequently, understanding the content of technological change requires paying attention to the different narratives of the different actors in their accounts of how change was introduced how the technological change was implemented and the outcomes of that change.

5.2.2 Organizational change

As noted in Chapter 4, organisational change is broadly described as including overarching changes to the direction of an organization. However there are variations in the focus of empirical research. The empirical study by Isabella (1990) found that different managerial levels construed change events through 4 stages; anticipation, confirmation, culmination and aftermath, which were consistent with the 3 stage model of the theory of change. Calori et al (2000) in contrast found that lower level managers construed change as requiring interpretation and adaptation at a local level within planned change initiatives imposed by top management.

How employees construed change events while they were happening was the focus of the empirical study by Grunberg et al (2008). They found that the years of change affected the sense that people had about their company. The company was construed less like a 'family' as it had been previously and more

like a 'team' where there was less tolerance for those who did not pull their weight.

5.2.3 Process Change

In contrast to studies into technological change, the literature on process change includes general operational processes. Buchanan et al (2007) focus on a specific patient service process and in their study found that whilst the improvement goals were planned, what emerged was a network of interested clinicians and non-medical staff developing together the process changes and achieving a successful outcome. Similarly Bertolini et al (2001) found that successful process outcomes could be achieved using the Dephi technique; a mixed method for achieving consensus on process improvements.

On the other hand Drew (1994), found that stress, and managerial resistance were the main barriers to success process change outcomes. Inhibitors of change were also found in the Bamford and Forrester (2003) study, where financial reporting systems were found to play a significant role in inhibiting change.

5.2.4 Restructuring

There are variations in the restructuring aspects that Researchers attend to with respect to restructuring and redesign. Only one empirical study (Balogun, 2006) analysed the implementation of the restructuring of an organization into 3 divisional service providers. The key finding was how the shared sensemaking of managers was replaced over time with sensemaking that was differentiated around the new divisions.

5.3 EXTERNAL AND INTERNAL CONTEXT

Table 5.2 shows the level of interest in the role that the external and internal context plays in influencing organizational change. Whilst there appears to be consensus on the definitions of the external context (sectorial and wider environment) and the internal context there are a variety of views about the

importance that different contextual aspects have in influencing organizational change processes.

5.3.1 External context

There are differing views on the dynamics of the external environment and how this might influence not only the content of change, but also the process of change.

Brown and Eisenhardt (1997) found that companies where continually restructuring their organizations to enable innovation processes to keep up with the changes in the environment. Both the content and process of change were therefore influenced directly and continuously by the external environment. A similar finding by Calori et al. (2000) suggested that different aspects of the external competitive environment are continuously changing reflecting the continual changes taking place in an organization. This view of the external environment is in contrast to the static view which appears to dominate the literature.

The external environment was viewed by a few studies as existing between organizational units; between organizational divisions and the corporate centre (Stensaker and Langley, 2010) or as the production environment in which technological changes were managed by engineers (Tyre and Hauptman 1992).

5.3.2 Internal context

There are two perspectives on the internal context; one that suggests that context influences content and the other that content influences context.

Fine grained empirical research attends to the variation in internal organizational contexts. Brooks (1997) developed narratives on three subcultures (management, unions and staff) and found that each subculture influenced the content of change in different ways. Brooks (1997) claimed that the assumption that the management sub-culture is the most dominant was not found in this case. Instead the Union sub-culture to protect its interests of nationally negotiated employment contracts, interacted with its network external

to the organization to ensure that the process of change was stopped before it could be implemented. This tension between sub-cultures is contrary to what Buchanan et al. (2007) found. In their study the sub-cultures of clinical and non-clinical staff worked effectively together to improve a patient treatment processes.

The influence of the content of change on organizational culture was a key finding of the empirical study by Roskies et al (1998). In their longitudinal study, Roskies et. al. (1988) found that the content of change in this case the continual downsizing and restructuring within the company changed the organizational culture.

5.4 THE PROCESS OF CHANGE

5.4.1 Stages in the process of change

Table 5.2 overleaf shows what stages of the process of change that different researchers focus on.

Two empirical studies explore all three processes of change stages. Stam and Stanton (2010) conducted a longitudinal study into a single organization and found that there was an interplay between organizational change and individual change processes particularly emotions. Taking a different approach Staudenmayer et al (2002) explored the mechanisms that enable change in organizational structures, processes and ways of acting and thinking. The key finding from this research was that temporal shifts or how employees thought about time was a trigger for changes to individual work routines.

Post implementation of change is the least emphasised focus of most research into processes of change. The limited research that has been conducted in this area would suggest that sustaining change through further development needs to be explored further (Buchanan et al 2005). Indeed empirical research by Orlikowski and Haufman (1997) shows that the continual adaptation of change to local contextual settings can support the maintenance of implemented change initiatives.

Table 5-2: Researcher Focus on Variations in Process of Change Stages

Pre-implementation of change	Implementation of change
Balogun, J. (2006)	Balogun, J. (2006)
Balogun, Julia, and Johnson, G.(2004)	Balogun, J. and Johnson, G.(2004)
Bamford, D. R., and Forrester, P. L. (2003)	Bamford, D. R., and Forrester, P. L. (2003)
Bertolini, M. et al (2011)	Brooks, I.(1997)
Brooks, I.(1997)	Brown, A, D. (1993)
Brown, A, D. (1993)	Brown, S. L., and Eisenhardt, K. M. (1997)
Buchanan, D.(1998)	Buchanan, D. & Dawson P. (2007)
Calori, R. et al (2000)	Buchanan, D. A. et al (2007)
Child, J., and Smith, C. (1987)	Burnes, B.(2004)
Choi, T. (1995)	Calori, R. et al (2000)
Dawson, P., and Buchanan, D. (2005)	Carrillo, J. E., and Gaimon, C. (2002)
Ford, J. D., and Ford, L. W. (1995)	Child, J., and Smith, C. (1987)
Hailey, V. H., and Balogun, J. (2002)	Choi, T. (1995)
Jarvenpaa, S.L., and Stoddard, D. B. (1998)	Dawson, P., and Buchanan, D. (2005)
Kyriakidou, O. (2011)	Drew, S. (1994)
Lyytinen, K., and Newman, M. (2008)	Evans, M. G. and McQuillan, W.(1997)
Smeds, R.(1994)	Ford, J. D., and Ford, L. W. (1995)
Stam, K. R., and Stanton, J. M.(2010)	George, J. M., and Jones, G. R. (2001)
Staudenmayer, N.et al (2002)	Giangreco, A., and Peccei, R.(2005)
Stevenson, W. B., and Greenberg, D. N. (1998)	Grunberg, L. et al (2008)
Stevenson, W. B. et al. (2003)	Jarvenpaa, S.L., and Stoddard, D. B. (1998)
Tyre, M. J., and Hauptman, O. (1992)	Kyriakidou, O. (2011)
Zephir, O., et al (2011)	Laughlin, R. C. (1991)
Zúñiga-Vicente, J. Á. Et al(2005)	Lyytinen, K., and Newman, M. (2008)
Post implementation of change	Molinsky, A. L. (1999)
Brown, A, D. (1993)	Newman, M., and Zhao, Y.(2008)
Buchanan, D. et al (2005)	Oreg, S., et al (2011)
Child, J., and Smith, C. (1987)	Orliskowski, W.J. and Hofman, J.D. (1997)
Isabella, L. A. (1990)	Roskies, E., et al (1988)
Kelliher, C. et al (2011)	Sarker, S., et al (2006)
Newman, M., and Zhao, Y.(2008)	Schwarz, G. M. (2010)
Orliskowski, W.J. and Hofman, J.D. (1997)	Smeds, R.(1994)
Stam, K. R., and Stanton, J. M.(2010)	Stam, K. R., and Stanton, J. M.(2010)
Staudenmayer et al (2002)	Staudenmayer, N., et al (2002)
Tyre, M. J., and Orlikowski, W. J.(1994)	Stensaker, I. G., and Langley, A.(2010)
Volkoff, O. et al (2007)	Stevenson, W. B., et al (2003)
	Tissan, T., and Heikkila, J.(2001)
	Tyre, M. J., and Hauptman, O. (1992)
	Tyre, M. J., and Orlikowski, W. J.(1994)
	Vaast, E., and Levina, N. (2006)
	Van de Ven, A. H., and Sun, K. (2011)
	Volkoff, O. et al (2007)
	Whelan-Berry, K. S. et al (2003)
	Zúñiga-Vicente, J. Á., et al (2005)

5.4.2 Planned and Emergent change

Whilst most of the change research emphasises planned change, a key finding from this review is the extent to which emergent change was found to be embedded within planned change processes. The central theme is that emergent change has a role to play in supporting all of the process of change steps; pre-implementation, implementation and post implementation stages. Table 5.3 shows all the researchers that view emergent change as important within planned change frameworks.

Table 5-3 Researchers that Investigate Planned and Emergent Change:

Planned and emergent change
Balogun, J. (2006)
Balogun, Julia, and Johnson, G.(2004)
Bamford, D. R., and Forrester, P. L. (2003)
Brooks, I.(1997)
Brown, A, D. (1993)
Brown, S. L., and Eisenhardt, K. M. (1997)
Buchanan, D. A., et al (2007)
Buchanan, D.(1998)
Burnes, B.(2004)
Calori, R., Baden-Fuller, C., and Hunt, B.(2000)
Child, J., and Smith, C. (1987)
Drew, S. (1994)
Ford, J. D., and Ford, L. W. (1995)
Giangreco, A., and Peccei, R.(2005)
Grunberg, L., et al (2008)
Jarvenpaa, S.L., and Stoddard, D. B. (1998)
Molinsky, A. L. (1999)
Newman, M., and Zhao, Y.(2008)
Orliskowski, W.J. and Hofman, J.D. (1997)
Roskies, E., et al (1988)
Sarker, S., Sarker, S. and Sidorova, A (2006)
Schwarz, G. M. (2010)
Smeds, R.(1994)
Stensaker, I. G., and Langley, A.(2010)
Stevenson, W. B. et al (2003)
Tissan, T., and Heikkila, J.(2001)
Tyre, M. J., and Hauptman, O. (1992)
Tyre, M. J., and Orlikowski, W. J.(1994)
Van de Ven, A. H., and Sun, K. (2011)
Volkoff, O., et al (2007)
Whelan-Berry, K. S., et al (2003)

5.5 INTERACTION OF CONCEPTS

The key finding from this review is that context significantly influences the path of change and change outcomes. Empirical studies also focus on the interaction between the content, context and process of change. However it is not clear from this evidence how the content of change influences the process of change and therefore its importance relative to context. A possible explanation could lie in the different ways in which content of change is defined and the subsequent implementation activities. Another reason could point to the need for more attention to be paid to the contents of change and how they interact with different process activities.

5.6 CONCLUSION

There is consensus on the definitions of internal and external context and the influence of the external environment in triggering particular contents of change and therefore processes of change. Significant number of empirical studies found that the internal context was the main source of influence on the process of change in terms of shaping the process and the resultant change outcomes.

There is strong evidence that Lewin's 3 step model is being used to frame analysis of the processes of planned change over time. There is also evidence that the field force theory of change can help to explain how and why organizational contexts influence the process of change.

There appears to be a lack of evidence on the role of the content of change in change processes.

6 DISCUSSION

6.1 INTRODUCTION

The extent to which the literature answers the review question posed in Chapter 2 is discussed in Section 6.2. Key limitations of the current research are described in Section 6.3. Implications for theory and practice are examined in Section 6.4, and further research avenues proposed in Section 6.5.

6.2 HAS THE REVIEW QUESTION BEEN ANSWERED?

This review was framed by the question

"What is the interaction between the content, context and process of organizational change?"

In order to answer this question, four related sub-questions were posed:

1. What are the content, context and process of organizational change?
2. What is the interaction between the content of organizational change and context?
3. What is the interaction between the content of change and the process of organizational change?
4. What is the interaction between context and the process of organizational change?

In this section the conceptual findings in Chapter 5 are summarised to show how the four sub-questions have been answered and therefore the extent to which the overall review question has been answered.

6.2.1 Content, Context and Process Concepts

6.2.1.1 Content

It is evident from the literature that what organizations decide to change has been widely researched. The elements that an organization might choose to change have been broadly categorised into formal structures and processes, work tasks, people and, informal processes (Nadler and Tushman,1989).

Research focusses mostly on planned changes to formal structures and processes with less emphasis given to specific planned changes to work tasks or people. However the outcomes of changes to formal structures and processes have been shown to lead to changes in work tasks and routines.

Adaptations to the planned change initiatives, was mainly drawn from the research into general and technological process change content. The scope of emergent change was found to be constrained by the planned change boundaries and limited to pilot testing of new processes prior to full implementation or the continued development of implemented changes.

6.2.1.2 Context

6.2.1.2.1 External context

There is general consensus in the literature that the external and the internal organizational context are separated by organizational and intra organizational boundaries. However, little research focusses on the blurring of organizational boundaries and how this blurring enables external and internal contexts in combination to influence the changes that top management can make.

The research that does exist, concentrates on the relationship between organizational members in unions and their national bodies with less emphasis on suppliers and customers.

The dominant conversation about the external context is that it acts as a trigger for organizational change. Change to the competitive landscape is commonly cited as a key external contextual factor that stimulates change, but most of this rhetoric is not substantiated. The empirical investigations into the external context are therefore limited to a small minority of papers that explicitly explore the interpretations made by top management of the changing external context and the implications for the content and process of change.

There is also a dearth of literature on the influence of government policy and regulation on organizational change initiatives. Only a few papers focussed on this area and these were either in relation to public services or the financial sectors.

6.2.1.2.2 Internal context

There is strong evidence from the literature that the internal contextual aspects have an important role in shaping the process of change. However differences appear in the implied importance placed on certain contextual factors compared to others. Structure and culture contexts by virtue of the level of attention they receive in the literature would appear to suggest that researchers attach greater importance to them than availability of resources or the development of capabilities. However there is evidence that a lack of financial resources and under-developed individual and organizational capabilities may hamper processes of change.

A minor proportion of the literature focusses on the political context. Empirical studies point to the ability of organizational politics to halt processes of change in their tracks, suggesting that greater prominence needs to be given to this contextual aspect.

6.2.1.3 Process

There is general consensus in the literature about the meaning of the process of change and that it involves a sequence of activities and interactions that start with a current organizational state and progress to a future state. There is a dearth of research that encompasses the whole process of change from pre-implementation, implementation and post implementation activities.

What is evident from the literature is that the typical approach for studying organizational change is to focus on some elements of the process of planned change. The most prominent focus lies with the change implementation activities.

Post implementation activities are less researched. A literature review on sustaining change would point to variations in change activities; development, decay and maintenance. There is evidence to support the idea of the continued development of technological and process changes to meet local needs.

Whilst most research assumes the planned nature of organizational change, some of the research has shown the importance of paying attention to the interplay between planned and emergent change processes.

Some researchers have found that putting into practice planned change initiatives results in the emergence of unplanned changes. Emergent change has been shown to occur as a consequence of variations in interpretation and adaptations of planned change requirements.

During the pre-implementation process, emergent change has resulted from groups of people seeking solutions to particular process problems The significance of emergent change during implementation and post implementation of planned change processes has been found mainly in studies on technological and general process changes

6.2.2 Interaction between the Content and Context of Change

A few studies investigate the interaction between the content and context of change. The studies that explore this interaction analyse how the internal context influences the formulation of change content. These studies focus on defining current service processes as a basis for the development of new processes that will achieve improvements. It is evident therefore that the interaction between the content and context of change is not a well-established idea. Potential reasons for this could be that this relationship is viewed as less important in comparison to the context and process of change interaction or that it more difficult to operationalize in empirical research.

6.2.3 Interaction between the Content and Process of Change

Interactions between the content and process of change were not the focus of any of the studies in this literature review. This lack of studies, would suggest that this interaction is not well understood or established with respect to how different contents of change may require variations in planned processes of change. Developing this knowledge may also help our understanding of how different contents and processes of change interact with other.

6.2.4 Interaction between the Context and Process of Change

The interaction between the context and process of change is clearly the most significant relationship studied in the literature. The predominant view is that the organizational context influences the process of organizational and individual change events. There is little evidence to suggest that the process of change influences the organizational context.

6.3 LIMITATIONS

With few exceptions, there appears to be a general and implicit assumption that the external context drives the need for, and the content of, change. However much of the empirical research lacks the evidence to support this assumption. There is also a dearth of research that explores how the internal context might influence the need for, and the development of change content.

It is clear from the research into the public services sector that professional and union networks that extend across organizational boundaries constitute interactions between external and internal organizational factors that influence the content and process of change. What appears to be less researched and therefore less well understood is how other networks such as supply chains or professional bodies might influence the content and process of change within commercial organizations.

Almost all the research into the public service organizations is restricted to national settings. The interaction between the external and internal contexts of geographical regions and how this interaction might influence global or corporate change initiatives, being implemented at local level does not appear to be well understood.

The change research focusses almost exclusively on changes to formal structures and processes. The other organizational elements, particularly informal processes are limited to the study of political processes or personal networks across organizational boundaries as influencing factors on the process of change.

The process of change phase that is predominantly focussed on is the implementation phase. There is little research on what happens after change has been implemented, particularly with respect to whether the changes are maintained, continue to be developed or decay.

6.4 IMPLICATIONS FOR THEORY, PRACTICE AND RESEARCH

The planned change theory points to change progressing from a defined current to a future planned state through stages that are consistent with Lewin's 3 stage model of planned change. The empirical research investigated in this review supports this change theory.

The force field theory of change proposes that contextual aspects apply supporting and inhibiting forces on the process of change, with consequences for change outcomes. This literature review provides strong empirical evidence in support of the force field theory of change.

In terms of practice, organizations appear to focus on the need to take into account organizational contextual issues and potential emergent change during planned change processes. However organizations need to develop processes of change that are temporally and spatially sensitive to different contents of change, particularly when being implemented at the same time.

Additionally the embedding of implemented changes within an organization is important to practice. Organizations need to better understand how they go about maintaining or continuing to develop and adapt implemented changes.

Informal organizational process and their influence on shaping the process of change are not well understood. One informal process where there is some research is the political process which is understood by a few researchers as being crucial to the success or otherwise of change processes. Further research is needed to understand the role of other informal and social processes like individual networks on the process of change.

6.5 FURTHER RESEARCH AVENUES

There are a number of further research opportunities that emerge from this study and the potential research questions are listed below.

1. How do different contents of change influence the design and implementation of planned change? Is the process of change contingent on the content of change?

2. How does the design and implementation of one content of change influence other contents of change?

3. How does one content of change influence organizational elements?

4. How does emergent change influence processes of planned change? What contingencies support emergent change?

5. What reactions emerge from organizational members during the process of change? And how does the resultant behaviour influence the process of change and change outcomes?

6. How do informal processes inhibit or support planned change processes?

7. How do available resources and capabilities inhibit or support planned change processes?

8. How do the external and internal contexts through professional and supply chain networks behave to inhibit or support planned processes of change?

7 CONCLUSION

7.1 INTRODUCTION

In this final chapter, the key limitations of this review are highlighted in Section 7.2, followed by an overview of the more significant and personal learning points in Section 7.3.

7.2 LIMITATIONS

A key purpose of a systematic approach to reviewing literature is to minimise personal bias. This approach encourages the use of a recognised framework for conducting systematic literature reviews. Also proposed is a more 'objective' method of conducting a review which suggests explicit articulation of potentially subjective choices made during the search and selection process. However, there are three key limitations to this review. These limitations are associated with the formulation of the review question and subsequent search strategies, choices I made during the paper selection process and, the analysis and subsequent presentation of the findings.

7.2.1 Review Question

The first limitation resides in the question that framed this literature review. The structure of the review question assumes the existence of a variety of perspectives in the literature on the concepts of content, context and process of change and their interactions over time. This assumption reflects the adoption of a relativist/nominalist ontological stance in the question and, the keywords and search strings subsequently used.

A potential result of taking this stance is that this review focussed almost exclusively on conceptual and qualitative research papers. Studies located outside this research paradigm, particularly within the positivist and quantitative body of knowledge would therefore appear to have been excluded from this review. This exclusion started with the structure of the review question, the subsequent keyword and search strings, and carried through to the final selection of papers.

7.2.2 Final Paper Selection Choices

The subjective personal choices made during the systematic search and selection process constitute the second limitation. Whilst the systematic process advocates an objective framework, there is at each stage a subjective evaluation that also has to be made. Personal choices are inevitable during this process as the systematic framework has to be operationalized to meet the needs of the specific literature review. This was particularly the case when assessing papers against relevance and quality tests.

Relevancy of papers is about seeking a match between the abstracts or full text and the relevance specification developed by the reviewer. The relevance criteria themselves were informed by my own ideas about operationalization of the relevance criteria and review question.

Assessing the quality of papers in order to decide on inclusion in a literature review depends on the criteria used as well as the competence and, consistency of the evaluation undertaken. Making judgements about the quality of academic articles was one of my key challenges. As a doctoral student who is still developing her research skills, I am not best placed to judge the quality of academic papers that have already been reviewed for quality by more experienced and knowledgeable academics prior to publication. Indeed, I called upon my own preferences and interest to supplement my limited competence in this area.

The relevance and quality stages were therefore influenced by my own preferences. However this approach may not be a limitation in itself as the assessment of relevance and quality were bounded within the systematic review process. This process encourages transparency of researcher preferences, through the articulation of choices made. Therefore the relevance and quality criteria used in this review are explicitly defined in Section 3.4. In addition the individual and aggregate scores assigned to the 72 papers assessed for quality are provided in Appendix A.

7.2.3 Analysis and Review Findings

The third limitation of this review resides in the personal preferences associated with the data analysis and therefore the reporting of findings. The central discussion in this paper emphasizes content, context and process of change and the interactions between the three constructs. As a result what was attended to during the data analysis and reporting were these three constructs and their inter-relatedness. This approach is consistent with the perspective taken by the strategic, organizational and operations management disciplines and, behavioural sciences. However there are other perspectives that could have been taken including a focus on disciplinary views and ontological stances.

7.3 PERSONAL LEARNING

Reflecting on my experience with the systematic review process, there are three key learning points that I take away; knowledge about the phenomenon of change, the nature of the systematic review process and, thirdly development of researcher skills.

7.3.1 Knowledge about the phenomenon of change

Engaging with the change literature through a systematic process has provided me with a direction and focus that will support my doctoral studies going forward. Whilst I am aware that I have delved into a small part of the change literature, this review has broadened my horizons with respect to the subject of change, and also given me a more fine grained insight into the on-going debate about organizational change.

I found the studies to be characterised by debates from the strategic, organizational, management and behavioural disciplines. All disciplines have an interest in the content, context and processes of change and how these concepts relate to each other. What emerged from the literature was the distinction made between units of analysis; systems, processes, groups and individuals. The behavioural disciplines appeared to emphasize the individual

and groups, whereas the operational literature focussed on work tasks and routines of groups and the inter-relatedness between process activities.

The literature focussed almost exclusively on planned change processes, with a minority signalling the important role that emergent change activities have in supporting planned change.

Whilst the internal organizational context significantly influences the change process, the key areas of investigation were the structural and cultural contexts. The level of importance attached to the organizational resources and capabilities and their influence on the process of change was limited. I found this somewhat surprising considering the potential negative implications that a lack of resources and limited individual knowledge and skills can have on the implementation and maintenance of change.

One of the most insightful findings of this review was the framing of the content of change construct. All of the literature focussed on the changes to formal organizational elements. There was clarity in the descriptions on changes to process and technology, but less so with structural changes taking place. The term organizational change was used with a few exceptions as a general basket to put into those changes being made across an organization. Such changes were mainly strategic and structural changes. In most cases these contents of change were positioned as background.

The interaction between different contents of change was emphasised by a number of investigations into planned technological changes. Here studies explored the impact of technological change on individual and group work tasks. As this change to work tasks started to emerge, new planned changes were required to structural arrangements. The number of examples of content of change outcomes inducing further changes was limited, and offers up avenues for further research into the impact of one content of change on other contents of change. This interaction is of prime interest to me as this research will also be of interest in practice to BAT Operations which is engaging with simultaneous planned change initiatives.

7.3.2 The Nature of the Systematic Review Process

The second lesson that I draw from this experience is the nature of systematic review processes. There appears to be a tension between the mechanics of undertaking a systematic process and the creative aspects. Presenting the systematic review process in a sequential step by step manner in this paper suggests a straightforward progression from one stage to the next and that each stage has a definitive start and end point. This representation belies the work that goes on in the background.

In practice the systematic review process is iterative and therefore also pretty messy. This is particularly the case during the search and selection stages, where keywords and search strings are tested, refined and then retested. The challenge is recognising when to stop.

Another example of the iterative nature of the process is the analytical and synthesis stage. In this situation, the approach taken for synthesis of the data depends on the focus of the analysis. However during the analysis process, patterns appear to emerge which suggest a particular approach for the synthesis of the data. These patterns encourage a revisit of the analysis either for confirmation of those patterns or to seek out new ones. These two examples allude to both the mechanical and creative nature of the systematic review process.

On the one hand the process is formulaic. By following pre-defined steps, you are persuaded to align your literature search and selection with a recognised methodology. This framework provides clear milestones, which I found to be useful reference points to measure progress against (e.g. number of articles against which relevance and quality criteria were applied).

The mechanical approach can also however give you a false sense of security. I initially felt that the searches of the electronic databases would provide all the literature that I would need for this review. This naïve perspective was soon put to rest as I started to review literature from other sources. Whilst other sources such as books and reference lists were useful for providing me links to other

potentially relevant literature, the most important source was through personal recommendations. My Review Panel and other academic staff were my primary source of information on potential theorists and researchers that might be of interest and relevance to my review.

In contrast to the mechanical elements, I found that using the systematic review process also called upon my own intuition and creativity. I had to adapt the methodology to my own context in terms of subject matter and personal preferences. The analysis and synthesis of the data required a significant proportion of time analysing the data and then thinking through the linkages between data and therefore potential ways of synthesising the data. I found this stage of the process the most challenging, but also the most interesting as it brought me closer to what is of prime concern to me, the constructs through which the phenomenon of change has been studied. The systematic review process for me was therefore in parts; mechanical, creative and intuitive. For me the key lesson has been in starting to recognise when to effectively engage with each aspect.

7.3.3 Researcher Skills

By engaging with the process I have had the opportunity to continue to develop my researcher skills. This review offered me the opportunity to further develop my electronic software skills. I improved my skills in the use of Excel; in the creation and manipulation of tables, working out how to create charts and the transference of Excel spread sheets in a readable format into word documents. I also tried out a number of different ways of organizing and storing all my data by experimenting with data management software; Refworks, Mendeley and Endnotes. None does all I would like it to do, but I have a better idea of the inherent strengths and weaknesses of each one. My preference is a combination of Refworks and Mendeley.

A second skill that is emerging from this experience is the development and then application of my own relevance and quality criteria. Underpinning quality assessments is the ability to critically read and analyse papers. I need to continue to develop my critical analytical skill in both what I read and in how I

write. This skill will help me to improve my ability to quality assess academic papers, their contributions to knowledge and therefore their value to my research.

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APPENDIX A: Quality Assessment Scores: Papers Considered for Final Selection

No.	Paper	Literature and theoretical basis quality score	Research design quality score	Contribution quality score	Aggregated score
1	Brown, S. L. and Eisenhardt, K. M. (1997), "The art of continuous change: Linking complexity theory and time to paced evolution in relentlessly shifting organizations", *Administrative Science Quarterly*, 42(1), 1-34	3	3	3	9
2	Dawson, P. and Buchanan, D. (2005), "The way it really happened: Competing narratives in the political process of technological change", *Human Relations*, 58(7), 845-865	3	3	3	9
3	Ford, J. D. and Ford, L. W. (1995), "The Role of conversation in producing intentional change in organizations", *Academy of Management Review*, 20(3), 541-570	3	3	3	9
4	George, J. M. and Jones, G. R. (2001), "Towards a process model of individual change in organizations", *Human Relations*, 54(4), 419-444	3	3	3	9
5	Isabella, L. A. (1990), "Evolving interpretations as a change unfolds: how managers construe key organizational events", *Academy of Management Journal*, 33(1), 7-41	3	3	3	9

No.	Paper	Literature and theoretical basis quality score	Research design quality score	Contribution quality score	Aggregated score
6	Orlikowski, W.J. and Hofman, J.D. (1997), "An improvisational model for change management: The Case of Groupware Technologies", *MIT Sloan Management Review*, 38(2), 11-21	3	3	3	9
7	Schwarz, G. M. (2010), "The logic of deliberate structural inertia", *Journal of Management*, 38(2), 547-572	3	3	3	9
8	Van de Ven, A. H. and Sun, K. (2011), "Breakdowns in implementing models of organization change", *Academy of Management Perspectives*, 25(3), 58-74	3	3	3	9
9	Volkoff, O., Strong, D. M., and Elmes, M. B. (2007), "Technological embeddedness and organizational Change", *Organization Science*, 18(5), 832-848	3	3	3	9
10	Balogun, J. and Johnson, G. (2004), "Organizational restructuring and middle manager sensemaking", *Academy of Management Journal*, 47(4), 523-549	3	3	2	8
11	Bertolini, M., Bevilacqua, M., Ciarapica, F. E., and Giacchetta, G. (2011), "Business process re-engineering in healthcare management: A case study", *Business Process Management Journal*, 17(1), 42-66	3	3	2	8
12	Brooks, I. (1997), "Call my bluff: multiple interpretations of an organizational process", *British Journal of Management*, 8(4), 269-282	3	3	2	8

No.	Paper	Literature and theoretical basis quality score	Research design quality score	Contribution quality score	Aggregated score
13	Buchanan, D. A., Addicott, R., Fitzgerald, L., Ferlie, E., and Baeza, J. I. (2007), "Nobody in charge: Distributed change agency in healthcare", *Human Relations*, 60(7), 1065-1090	3	3	2	8
14	Carrillo, J. E. and Gaimon, C. (2002), "A framework for process change", *IEEE Transactions on Engineering Management*, 49(4), 409-427	3	3	2	8
15	Sarker, S., Sarker, S., and Sidorova, A (2006), "Understanding business process change failure : An actor-network perspective", *Journal of Management Information Systems*, 23(1), 51-86	3	3	2	8
16	Buchanan, D. (1998), "Representing process : The contribution of a re-engineering frame", *International Journal of Operations and Production Management*, 18(12), 1163-1188	3	3	2	8
17	Buchanan, D., Fitzgerald, L., Ketley, D., Gollop, R., Jones, J. L., Lamont, S. S., Neath, A., and Whitby, E. (2005), "No going back: A review of the literature on sustaining organizational change", *International Journal of Management Reviews*, 7(3), 189-205	3	3	2	8
18	Buchanan, D. and Dawson, P. (2007), "Discourse and audience: organizational change as multi-story process", *Journal of Management Studies*, 44(5), 69-686	3	2	2	7

No.	Paper	Literature and theoretical basis quality score	Research design quality score	Contribution quality score	Aggregated score
19	Choi, T. (1995), "Conceptualizing continuous improvement: Implications for organizational change", *Omega, International Journal of Management Science*, 23(6), 607-624	3	2	2	7
20	Kelliher, C., Clarke, C., Hailey, V. H., and Farndale, E. (2012), "Going global, feeling small: an examination of managers' reactions to global restructuring in a multinational organisation", *The International Journal of Human Resource Management*, 23(11), 2163-2179	3	2	2	7
21	Staudenmayer, N., Tyre, M., and Perlow, L. (2002), "Time to change : temporal shifts as enablers of organizational change", *Organization Science*, 13(5), 583-597	2	2	3	7
22	Tyre, M. J. and Orlikowski, W. J. (1994), "Windows of opportunity: temporal patterns of technological adaptation in organizations", *Organization Science*, 5(1), 98-118	2	3	2	7
23	Balogun, J. (2006), "Managing change: Steering a course between intended strategies and unanticipated outcomes", *Long Range Planning*, 39(1), 29-49	2	2	2	6
24	Bamford, D. R. and Forrester, P. L. (2003), "Managing planned and emergent change within an operations management environment", *International Journal of Operations & Production Management*, 23(5), 546-564	2	2	2	6

No.	Paper	Literature and theoretical basis quality score	Research design quality score	Contribution quality score	Aggregated score
25	Brown, A, D. (1993), "Understanding technological change: The case of MRPII", *International Journal of Operations and Production Management*, 13(12), 25-36	2	2	2	6
26	Calori, R., Baden-Fuller, C., and Hunt, B. (2000), "Managing change at Novotel : Back to the future", *Long Range Planning*, 33(6), 779-804	2	2	2	6
27	Child, J. and Smith, C. (1987), "The context and process of organizational transformation: Cadbury Limited in its sector", *Journal of Management Studies*, 24(6), 565-593	3	1	2	6
28	Drew, S. (1994), "BPR in financial services : Factors for success", *Long Range Planning*, 27(5), 25-41	2	2	2	6
29	Giangreco, A. and Peccei, R. (2005), "The nature and antecedents of middle manager resistance to change: evidence from an Italian context", *International Journal of Human Resource Management*, 16(10), 1812-1829	2	2	2	6
30	Grunberg, L., Moore, S., Greenberg, E. S., and Sikora, P. (2008), "The changing workplace and its effects: A longitudinal examination of employee responses at a large company", *Journal of Applied Behavioral Science*, 44(2), 215-236	2	2	2	6

No.	Paper	Literature and theoretical basis quality score	Research design quality score	Contribution quality score	Aggregated score
31	Hailey, V. H. and Balogun, J. (2002), "Devising context sensitive approaches to change : The example of Glaxo Wellcome", *Long Range Planning*, 35(2), 153-178	2	2	2	6
32	Jarvenpaa, S.L. and Stoddard, D. B. (1998), "Business process redesign: Radical and evolutionary change", *Journal of Business Research*, 41(1), 15-27	2	2	2	6
33	Kyriakidou, O. (2011), "Relational perspectives on the construction of meaning: A network model of change interpretation", *Journal of Organizational Change Management*, 24(5), 572 to 592	2	2	2	6
34	Laughlin, R. C. (1991), "Environmental disturbances and organizational transitions and transformations: Some alternative models", *Organization Studies*, 12(2), 209 to 232	2	2	2	6
35	Lyytinen, K. and Newman, M. (2008), "Explaining information systems change: A punctuated socio-technical change model", *European Journal of Information Systems*, 17(6), 589-613	2	2	2	6
36	Molinsky, A. L. (1999), "Sanding down the edges : Paradoxical impediments to organizational change", *Journal of Applied Behavioral Science*, 35(1), 8-24	2	2	2	6

No.	Paper	Literature and theoretical basis quality score	Research design quality score	Contribution quality score	Aggregated score
37	Newman, M. and Zhao, Y. (2008), "The process of enterprise resource planning implementation and business process re-engineering: tales from two Chinese small and medium-sized enterprises", *Information Systems Journal*, 18(4), 405-426	2	2	2	6
38	Oreg, S., Vakola, M., and Armenakis, A. (2011), "Change recipients' reactions to organizational change: A 60-Year Review of Quantitative Studies", *Journal of Applied Behavioral Science*, 47(4), 461-524	2	2	2	6
39	Roskies, E., Liker, J. K., and Roitman, D. B. (1988), "Winners and losers : Employee perceptions of their company's technological transformation", *Journal of Organizational Behavior*, 9(2), 123-137	2	2	2	6
40	Smeds, R. (1994), "Managing change towards lean enterprises", *International Journal of Operations and Production Management*, 14(3), 66-82	2	2	2	6
41	Stam, K. R. and Stanton, J. M. (2010), "Events, emotions, and technology: examining acceptance of workplace technology changes", *Information Technology & People*, 23(1), 23-53	2	2	2	6
42	Stensaker, I. G. and Langley, A. (2010), "Change management choices and trajectories in a multidivisional firm", *British Journal of Management*, 21(1), 7-27	2	2	2	6

No.	Paper	Literature and theoretical basis quality score	Research design quality score	Contribution quality score	Aggregated score
43	Stevenson, W. B., Bartunek, J. M., and Borgatti, S. P. (2003), "Front and backstage processes of an organizational restructuring effort", *Journal of Applied Behavioral Science*, 39(3), 243-258	2	2	2	6
44	Tyre, M. J. and Hauptman, O. (1992), "Effectiveness of organizational responses to technological change in the production process", *Organization Science*, 3(3), 301-320	2	2	2	6
45	Zúñiga-Vicente, J. Á., de la Fuente-Sabaté, J. M., and Suárez-González, I. (2005), "Facilitating and inhibiting factors behind strategic change: Evidence in the Spanish private banking industry, 1983–1997", *Scandinavian Journal of Management*, 21(3), 235-265	2	2	2	6
46	Burnes, B. (2004), "Emergent change and planned change – competitors or allies? The case of XYZ construction", *International Journal of Operations & Production Management*, 24(9), 886-902	2	1	2	5
47	Evans, M. G. and McQuillan, W. (1997), "A longitudinal analysis of the context and structure of a large British financial institution", *Journal of Management Studies*, 14(2), 131-146	2	2	1	5
48	Stevenson, W. B. and Greenberg, D. N. (1998), "The formal analysis of narratives of organizational change", *Journal of Management*, 24(6), 741-762	2	1	2	5

No.	Paper	Literature and theoretical basis quality score	Research design quality score	Contribution quality score	Aggregated score
49	Tissan, T. and Heikkila, J. (2001), "Successful re-engineering: Learning by doing", *International Journal of Logistics Research and Applications*, 4(3), 329-344	2	1	2	5
50	Vaast, E. and Levina, N. (2006), "Multiple faces of codification : organizational redesign in an IT organization", *Organization Science*, 17(2), 190-201	2	2	1	5
51	Whelan-Berry, K. S., Gordon, J. R., and Hinings, C. R. (2003), "Strengthening organizational change processes : Recommendations and implications from a multilevel analysis", *Journal of Applied Behavioral Science*, 39(2), 186-207	2	1	2	5
52	Zephir, O., Minel, S., and Chapotot, E. (2011), "A maturity model to assess organisational readiness for change", *International Journal of Technology Management*, 55(3/4), 286-296	1	2	2	5
53	Ghoshal, S. and Bartlett, C.A (1996), "Rebuilding behavioral context: a blueprint for corporate renewal", *MIT Sloan Management Review*, 37(2), 23-36	2	1	1	4
54	Lorsch, J. W. (1986), "Managing culture: The invisible barrier to strategic change", *California Management Review*, 28(2), 95-109	2	1	1	4

No.	Paper	Literature and theoretical basis quality score	Research design quality score	Contribution quality score	Aggregated score
55	Quinn, J. B. (1978), "Strategic change: Logical incrementalism", *Sloan Management Review*, 20(1), 7-21	2	1	1	4
56	Bridges, W. (1986), "Managing organizational transitions", *Organizational dynamics*, 15(1), 24-33	1	2	1	4
57	McLoughlin, I. and Badham, R. (2005), "Political process perspectives on organization and technological change, *Human Relations*, 58(7), 827-843	2	1	1	4
58	Kwun, S. K. and Cho, N. (2001), "Organizational change and inertia: Korea Telecom", *Asia Pacific Business Review*, 7(4), 111-136	2	1	1	4
59	Oakland, J. S. and Tanner, S. (2007), "Successful change management", *Total Quality Management & Business Excellence*, 18(1/2),1-19	2	1	1	4
60	Allaire, Y. and Firsirotu, M. (1985), "How to implement radical strategies in large organizations", *MIT Sloan Management Review*, 26(3),19-34	1	1	1	3
61	Bahrami, H. (1992), "The emerging flexible organization: perspectives from Silicon Valley", *California Management Review*, 34(4), 33-52	1	1	1	3

No.	Paper	Literature and theoretical basis quality score	Research design quality score	Contribution quality score	Aggregated score
62	Brynjolfsson, E., Renshaw, A. A., and Van Alstyne, M. (1997), "The matrix of change", MIT Sloan Management Review, 38(2),37-54	1	1	1	3
63	Graetz, F. (1996), "Leading strategic change at Ericsson", *Long range planning*, 29(3),304-313	1	1	1	3
64	De Jager, B., Minnie, C., De Jager, J., and Welgemoed, M. (2004), "Enabling continuous improvement: a case study of implementation", *Journal of Manufacturing Technology Management*,15(4),315-324	1	1	1	3
65	Lacey, M. Y. (1995), "Internal consulting: Perspectives on the process of planned change", *Journal of Organizational Change Management*, 8(3),75-84	1	1	1	3
66	Lawrence, T. B. ; Dyck, B., Maitlis, S., and Mauws, M.K, (2006), "The underlying structure of continuous change", *MIT Sloan Management Review*, 47(4), 59-66	1	1	1	3
67	Knowles, H. P. and Saxberg, B. O. (1988), "Organizational leadership of planned and unplanned Change", *Futures*, 20(3), 252-265	1	1	1	3

No.	Paper	Literature and theoretical basis quality score	Research design quality score	Contribution quality score	Aggregated score
68	Olson, P. D. and Terpstra, D. E. (1992), "Organizational structural changes: Life-cycle stage influences and managers' and interventionists' challenges", *Journal of Organizational Change Management*,5(4), 27-40	1	1	1	3
69	McElroy, W. (1996), "Implementing strategic change through projects", *International Journal of Project Management*, 14(6), 325-329	1	1	1	3
70	Beugelsdijk, S., Slangen, A., and Herpen, M. V. (2002). Shapes of organizational change: the case of Heineken Inc. *Journal of Organizational Change Management*, 15(3), 311-326.	1	1	1	3
71	Nah, F. F. and Kuang, J. (2001), "Critical factors for successful implementation of enterprise systems", *Business Process Management Journal*, 7(3),285-296	1	1	1	3
72	Klarner, P., By, R. T., and Diefenbach, T. (2011), "Employee emotions during organizational change—Towards a new research agenda", *Scandinavian Journal of Management*, 27(3),332-340	1	1	1	3

APPENDIX B: General information: Papers included in the review

No.	Authors	Yr	Title	Journal	Vol.	Issue	Pages	First author country	SoM* Rank
1	Balogun, J.	2006	Managing Change: Steering a Course between Intended Strategies and Unanticipated Outcomes.	Long Range Planning	39	1	29-49	UK	3*
2	Balogun, J. and Johnson, G.	2004	Organizational Restructuring and Middle Manager Sensemaking.	Academy of Management Journal	47	4	523-549	UK	4*
3	Bamford, D. R. and Forrester, P. L.	2003	Managing Planned and Emergent Change within an Operations Management Environment.	International Journal of Operations & Production Management	23	5	546-564	UK	3*
4	Bertolini, M., Bevilacqua, M., Ciarapica, F. E., and Giacchetta, G.	2011	Business Process Re-Engineering in Healthcare Management: A Case Study.	Business Process Management Journal	17	1	42-66	Italy	2*

No.	Authors	Yr	Title	Journal	Vol.	Issue	Pages	First author country	SoM * Rank
5	Brooks, I.	1997	Call My Bluff: Multiple Interpretations of an Organizational Process.	British Journal of Management	8	4	269-282	UK	3*
6	Brown, A, D.	1993	Understanding Technological Change: The Case of MRPII.	International Journal of Operations and Production Management	13	12	25-36	UK	3*
7	Brown, S. L. and Eisenhardt, K. M.	1997	The Art of Continuous Change: Linking Complexity Theory and Time-Paced Evolution in Relentlessly Shifting Organizations.	Administrative Science Quarterly	42	1	1-34	USA	4*
8	Buchanan, D.	1998	Representing Process : The Contribution of a Re-Engineering Frame.	International Journal of Operations and Production Management	18	12	1163-1188	UK	3*

No.	Authors	Yr	Title	Journal	Vol.	Issue	Pages	First author country	SoM* Rank
9	Buchanan, D. and Dawson, P.	2007	Discourse and Audience: Organizational Change as Multi-Story Process.	Journal of Management Studies	44	5	669-686	UK	4*
10	Buchanan, D. A., Addicott, R., Fitzgerald, L., Ferlie, E., and Baeza, J. I.	2007	Nobody in Charge: Distributed Change Agency in Healthcare.	Human Relations	60	7	1065-1090	UK	4*
11	Buchanan, D., Fitzgerald, L., Ketley, D., Gollop, R., Jones, J. L., Lamont, S. S., Neath, A., and Whitby, E.	2005	No Going Back: A Review of the Literature on Sustaining Organizational Change.	International Journal of Management Reviews	7	3	189-205	UK	3*
12	Burnes, B.	2004	Emergent Change and Planned Change – Competitors or Allies?: The Case of XYZ Construction.	International Journal of Operations & Production Management	24	9	886-902	UK	3*

No.	Authors	Yr	Title	Journal	Vol.	Issue	Pages	First author country	SoM * Rank
13	Calori, R., Baden-Fuller, C., and Hunt, B.	2000	Managing Change at Novotel : Back to the Future.	Long Range Planning	33	6	779-804	France	3*
14	Carrillo, J. E. and Gaimon, C.	2002	A Framework for Process Change.	IEEE Transactions on Engineering Management	49	4	409-427	USA	3*
15	Child, J. and Smith, C.	1987	The Context and Process of Organizational Transformation: Cadbury Limited in its Sector.	Journal of Management Studies	24	6	565-593	UK	4*
16	Choi, T.	1995	Conceptualizing Continuous Improvement: Implications for Organizational Change.	Omega, International Journal of Management Science	23	6	607-624	USA	3*
17	Dawson, P. and Buchanan, D.	2005	The Way it Really Happened: Competing Narratives in the Political Process of Technological Change.	Human Relations	58	7	845-865	UK	4*

No.	Authors	Yr	Title	Journal	Vol.	Issue	Pages	First author country	SoM * Rank
18	Drew, S.	1994	BPR in Financial Services : Factors for Success.	Long Range Planning	27	5	25-41	Canada	3*
19	Evans, M. G. and McQuillan, W.	1977	A Longitudinal Analysis of the Context and Structure of a Large British Financial Institution.	Journal of Management Studies	14	2	131-146	UK	4*
20	Ford, J. D. and Ford, L. W.	1995	The Role of conversation in producing intentional change in organizations.	Academy of Management Review	20	3	541-570	USA	4*
21	George, J. M. and Jones, G. R.	2001	Towards a Process Model of Individual Change in Organizations.	Human Relations	54	4	419-444	USA	4*
22	Giangreco, A. and Peccei, R.	2005	The nature and antecedents of middle manager resistance to change: evidence from an Italian context.	International Journal of Human Resource Management	16	10	1812-1829	Italy	3*

No.	Authors	Yr	Title	Journal	Vol.	Issue	Pages	First author country	SoM * Rank
23	Grunberg, L., Moore, S., Greenberg, E. S., and Sikora, P.	2008	The Changing Workplace and Its Effects: A Longitudinal Examination of Employee Responses at a Large Company.	Journal of Applied Behavioral Science	44	2	215-236	USA	2*
24	Hailey, V. H. and Balogun, J.	2002	Devising Context Sensitive Approaches To Change : The Example of Glaxo Wellcome.	Long Range Planning	35	2	153-178	UK	3*
25	Isabella, L. A.	1990	Evolving Interpretations As a Change Unfolds: How Managers Construe Key Organizational Events.	Academy of Management Journal	33	1	7-41	USA	4*
26	Jarvenpaa, S.L. and Stoddard, D. B.	1998	Business Process Redesign: Radical and Evolutionary Change.	Journal of Business Research	41	1	15-27	USA	3*
27	Kelliher, C., Clarke, C., Hailey, V. H., and Farndale, E.	2012	Going Global, Feeling Small: An Examination of Managers' Reactions to Global Restructuring in a Multinational Organisation.	International Journal of Human Resource Management	23	11	2163-2179	UK	3*

No.	Authors	Yr	Title	Journal	Vol.	Issue	Pages	First author country	SoM* Rank
28	Kyriakidou, O.	2011	Relational Perspectives on the Construction of Meaning: A Network Model of Change Interpretation.	Journal of Organizational Change Management	24	5	572-592	Greece	2*
29	Laughlin, R. C.	1991	Environmental Disturbances and Organizational Transitions and Transformations: Some Alternative Models.	Organization Studies	12	2	209-232	UK	4*
30	Lyytinen, K. and Newman, M.	2008	Explaining Information Systems Change: A Punctuated Socio-Technical Change Model.	European Journal of Information Systems	17	6	589-613	USA	3*
31	Molinsky, A. L.	1999	Sanding Down the Edges : Paradoxical Impediments to Organizational Change.	Journal of Applied Behavioral Science	35	1	8-24	USA	2*

No.	Authors	Yr	Title	Journal	Vol.	Issue	Pages	First author country	SoM* Rank
32	Newman, M. and Zhao, Y.	2008	The Process of Enterprise Resource Planning Implementation and Business Process Re-Engineering: Tales from Two Chinese Small and Medium-Sized Enterprises.	Information Systems Journal	18	4	405-426	UK	3*
33	Oreg, S., Vakola, M., and Armenakis, A.	2011	Change Recipients' Reactions to Organizational Change: A 60-Year Review of Quantitative Studies.	Journal of Applied Behavioral Science	47	4	461-524	Israel	2*
34	Orliskowski, W.J. and Hofman, J.D.	1997	An Improvisational Model for Change Management : The Case of Groupware Technologies.	MIT Sloan Management Review	38	2	11-21	USA	4*
35	Roskies, E., Liker, J. K., and Roitman, D. B.	1988	Winners and losers : Employee Perceptions of their Company's Technological Transformation.	Journal of Organizational Behavior	9	2	123-137	Canada	3*
36	Sarker, S., Sarker, S., and Sidorova, A	2006	Understanding Business Process Change Failure : An Actor-Network Perspective.	Journal of Management Information Systems	23	1	51-86	USA	3*

No.	Authors	Yr	Title	Journal	Vol.	Issue	Pages	First author country	SoM* Rank
37	Schwarz, G. M.	2010	The Logic of Deliberate Structural Inertia.	Journal of Management	38	2	547-572	Australia	4*
38	Smeds, R.	1994	Managing Change towards Lean Enterprises.	International Journal of Operations & Production Management	14	3	66-82	Finland	3*
39	Stam, K. R. and Stanton, J. M.	2010	Events, Emotions, and Technology: Examining Acceptance of Workplace Technology Changes.	Information Technology & People	23	1	23-53	USA	2*
40	Staudenmayer, N., Tyre, M., and Perlow, L.	2002	Time to Change : Temporal Shifts as Enablers of Organizational Change.	Organization Science	13	5	583-597	USA	4*
41	Stensaker, I. G. and Langley, A.	2010	Change Management Choices and Trajectories in a Multidivisional Firm.	British Journal of Management	21	1	7-27	Norway	3*

No.	Authors	Yr	Title	Journal	Vol.	Issue	Pages	First author country	SoM* Rank
42	Stevenson, W. B. and Greenberg, D. N.	1998	The Formal Analysis of Narratives of Organizational Change.	Journal of Management	24	6	741-762	USA	4*
43	Stevenson, W. B., Bartunek, J. M., and Borgatti, S. P.	2003	Front and Backstage Processes of an Organizational Restructuring Effort.	Journal of Applied Behavioral Science	39	3	243-258	USA	2*
44	Tissan, T. and Heikkila, J.	2001	Successful Re-Engineering: Learning by Doing.	International Journal of Logistics Research and Applications	4	3	329-344	Finland	2*
45	Tyre, M. J. and Hauptman, O.	1992	Effectiveness of Organizational Responses to Technological Change in the Production Process.	Organization Science	3	3	301-320	USA	4*
46	Tyre, M. J. and Orlikowski, W. J.	1994	Windows of Opportunity: Temporal Patterns of Technological Adaptation in Organizations.	Organization Science	5	1	98-118	USA	4*

No.	Authors	Yr	Title	Journal	Vol.	Issue	Pages	First author country	SoM* Rank
47	Vaast, E. and Levina, N.	2006	Multiple Faces of Codification : Organizational Redesign in an IT Organization.	Organization Science	17	2	190-201	USA	4*
48	Van de Ven, A. H. and Sun, K.	2011	Breakdowns in Implementing Models of Organization Change.	Academy of Management Perspectives	25	3	58-74	USA	3*
49	Volkoff, O., Strong, D. M., and Elmes, M. B.	2007	Technological Embeddedness and Organizational Change.	Organization Science	18	5	832-848	Canada	4*
50	Whelan-Berry, K. S., Gordon, J. R., and Hinings, C. R.	2003	Strengthening Organizational Change Processes : Recommendations and Implications from a Multilevel Analysis.	Journal of Applied Behavioral Science	39	2	186-207	USA	2*
51	Zephir, O., Minel, S., and Chapotot, E.	2011	A Maturity Model to Assess Organisational Readiness for Change.	International Journal of Technology Management	55	3/4	286-296	France	3*

No.	Authors	Yr	Title	Journal	Vol.	Issue	Pages	First author country	SoM* Rank
52	Zúñiga-Vicente, J. Á., de la Fuente-Sabaté, J. M., and Suárez-González, I.	2005	Facilitating and Inhibiting Factors behind Strategic Change: Evidence in the Spanish Private Banking Industry, 1983–1997.	Scandinavian Journal of Management,	21	3	235-265	Spain	2*

APPENDIX C1: Summary Extraction of conceptual and practice papers

No	Authors	Context of Paper	Theoretical basis	Methodology	Conclusion	Overall contribution
1	Balogun, J. (2006)	Privatised utility company	Sensemaking through the introduction of planned change by senior management	Through illustration drawn from previous empirical research	Intended and unintended planned change outcomes as a result of middle managers' sensemaking	Practice - the management of change
2	Brown, A, D. (1993)	Introduction of MRP 11	Draws on three aspects; context (Lewin's 3 step model of unfreezing, moving and refreezing), social and cognitive	Draws on empirical research, provides an integrated framework for understanding some of the social and cognitive dynamics associated with the introduction of a manufacturing resouce planning (Materials Requirements Planning II) system.	Rites are an important feature of an organization's cultural life, and project managers should add them to their armoury of weapons for managing change. Project managers should bear in mind the fact that in managing a change process the people involved will pass through distinct cognitive phases.	Guidelines to Practitioners - integrates organizational change processes with individual change processes. The research presented here provides a framework for understanding the ways in which behavioural difficulties and cognitive change phases are linked, and explains their importance for successful MRPII implementation.

No	Authors	Context of Paper	Theoretical basis	Methodology	Conclusion	Overall contribution
3	Buchanan, D. & Dawson P. (2007)	Multiple narratives about the process of change and change outcomes	Processual/contextual and multi- narrative approach	Use empirical examples	We argue that change is complex, political and multi-voiced, and in this section draw from existing studies to illustrate how accounts of change can be contradictory on at least four overlapping dimensions, concerningconflicts of attribution, assessment, interpretation and audience. Conflicts of assessment, multiple interpretations of events, stories for different types of audiences, and competing explanations (and attempts to bring closure to conflicts of attribution) allmark organizational change as a history of competing narratives.	Research - reporting of research findings. Advocate inclusion of multiple perspectives and not just the dominant management one.

No	Authors	Context of Paper	Theoretical basis	Methodology	Conclusion	Overall contribution
4	Buchanan, D., Fitzgerald, L., Ketley, D., Gollop, R., Jones, J. L., Lamont, S. S., Neath, A., and Whitby, E., (2005)	Lack of literature on change sustainability process	3 step model (Lewin) focus on refreezing, draws on processual/contextual approach to develop process of change model	Review of change sustainability literature	propose model of the process of sustaining change within internal and external organizational contexts	Conceptual, Research. Extends understanding about sustaining the process of change: decay, development, maintenance.
5	Carrillo, J. E., and Gaimon, C. (2002)	Manufacturing operations	Key internal and external contextual factors that inhibit or support changes to processes	Literature review on manufacturing; resources, strategic change, uncertainty and timing	Process change decision making framework	Research needed in understanding the influence of internal knowledge assets and external uncertainties on process of change

No	Authors	Context of Paper	Theoretical basis	Methodology	Conclusion	Overall contribution
6	Choi, T. (1995)	Change concepts viewed from system and process level	Bridging organizational change and continuous improvement concepts	Brings together literature on continuous improvement from operations management and the literature on organizational change from the strategic and organizational development fields.	Continuous improvement changes require that one incremental change be built on previous incremental changes on a continual basis.Both steadily accumulating continuous changes and major changes (when necessary) are important for an organization's survival.	Research - The idea that an accumulation of continuous improvement changes also leads to a radical organizational change must be studied further. Does the accumulation of continuous improvement changes represent a shift in the organizational schemata? If so, this realization poses an interesting question for theorists, because continuous improvement then represents a radical change that does not disrupt the entire organization.

No	Authors	Context of Paper	Theoretical basis	Methodology	Conclusion	Overall contribution
7	Dawson, P., and Buchanan, D. (2005)	Organizational sub-cultures	Draws on processual-contextual theoretical perspective of change.	Challenges through literature the prescriptive literature which promotes a rational-linear process of change, and which promotes the single narrative about the implementation and outcomes of change, and which ignores the influence of the politics on the process of change.	Researchers - analyse competing narratives (over time) in the development of interpretative frameworks for explaining the process and outcomes of technological change, rather than attempt to triangulate such competition out of the data stream.	Draws researchers' attention to the possibility of multiple and competing narratives of the process of change and their influence on the present and future processes of change.

No	Authors	Context of Paper	Theoretical basis	Methodology	Conclusion	Overall contribution
8	Drew, S. (1994)	Financial organizations	This article describes the results of BPR initiatives in the US and Canadian financial services industry and reveals some strategic internal and external factors which relate to success or failure	Draws on own empirical research on financial companies reported elsewhere. Positions BPR as revolutionary change. Identifies different change content (work flow redesign, use of teams, new technology introduction). Identifies strategy and budgets as the key internal contexts for change and, customers and performance (external context) as key influences for choice of change content.	Concludes that stress most important barrier to change, followed by managerial resistance and then lack of knowledge and skills (internal contextual factors).	Practice - prescriptive management guidelines. BPR not a quick fix, don't be discouraged by early disappointments.Successful process change associated with the use of benchmarking against other companies.Choose process for re-engineering with care. Deal with barriers to change. Build high energy terams, integrate re-engineering strategies with business plans.

No	Authors	Context of Paper	Theoretical basis	Methodology	Conclusion	Overall contribution
9	Ford, J. D., and Ford, L. W. (1995)	Planned change	Change as a series of conversations based phenomenon (speech as performative). Draws on Lewin's 3 step model; unfreezing, moving and refreezing	Illustration	Four types of conversation, initiative (unfreezing), understanding, performance (moving) and closure (refreezing). In this context everything, including prevailing conditions and circumstances, is seen as created, sustained, and producedby and in communication. Therefore, in the absence of communicationthere is no intentional change and no intentional change process. We propose that communication is the generative mechanism of change that gives people the reality in which they live rather than serving as simply a tool for representing and transmittingpeople's understanding or knowledge.	Examine more closely what is said, how it is said, when it is said (Managers) and the impact of what was said on the progressive development of an intentional change. The model proposed here indicates that understanding is only one component of the change process and that it may not be the most important component. Further, understanding by itself is not sufficient to produce a change. Performance conversations are necessary for coordinated action and closure conversations have been proposed as being more important than understanding. Research is clearly needed to identify and propose different sequences of conversations and then test their effectiveness.

No	Authors	Context of Paper	Theoretical basis	Methodology	Conclusion	Overall contribution
10	George, J. M., and Jones, G. R. (2001)	Organizational change	Individual and group sensemaking to develop a framework of process of individual change	Analysis of individual change processes	Psychology of change process may be key to understanding inertia and the inability to change in organizations. Macro-level explanations may be enriched by consideration of the individual change process.	Conceptual and Research - Proposing a process model of individual change in organizations and identifies 6 sources of potential resistance. Links the individual change process to the organizational change process.

No	Authors	Context of Paper	Theoretical basis	Methodology	Conclusion	Overall contribution
11	Hailey, V. H., and Balogun, J. (2002)	Glaxo Welcome - Pharmaceutical manufacturer	Draws on contingency theory and contextual approach to change to develop a model aimed at achieving 'fit between context and organizational change design'	Illustrates contextual 'kaleidscope' framework using Glaxo Welcome example.	Kaleidoscope can be used for retrospective analysis or problem solving the challenge of change. For those from large corporations, asking them to problem solve change questions by examining different business divisions, helps them understand that it is seldom possible to unfurl one change strategy across diverse business units. Using the idea of change paths helps the perception of corporate change as a journey where checks and adjustments to plans will need to be made at different milestones along the way.	Practice - internal contextual considerations to be included in design of change processes. Planned change strategies will also include emergent change activities.

No	Authors	Context of Paper	Theoretical basis	Methodology	Conclusion	Overall contribution
12	Laughlin, R. C. (1991)	External environmental change.	Draws on processul/contextual approach to change	Draws on literature to develop 4 models of change pathways that organizations take in response to external environmental contextual change events. Model 1 - first order change, rebuttal, Model 2 - first order change-re-orientation, Model 3 - Second order change - colonization, Model 4 - second order change -evolution. Ilustrates 2 of the models (re-orientation, colonization) using 2 case studies.	These two studies both sparked by some type of economic pressure, yet the responses and the implications for the respective organizations were very different indeed. What the case studies demonstrate is the power of the models (organizational and continuous incremental change) to conceptualize the changes that are occurring.	Research - need more detailed case studies of similarly economic-driven changes, to gain a greater appreciation of the external and internal contextual dynamics involved.

No	Authors	Context of Paper	Theoretical basis	Methodology	Conclusion	Overall contribution
13	Lyytinen, K., and Newman, M. (2008)	Information systems	Draws on punctuated equilibrium theory, socio-technical systems theory, contextual/processual approach to change.	Discusses the literature on punctuated equilibrium and socio-technical systems and integrates them to develop a punctuated socio-technical change process model (PSIC)	The proposed model depicts Information Systems change as a subtle interplay between technologies, actors, organizational relationships, and tasks at multiple levels. The change can be either incremental or punctuated and it is co-evolutionary in that it distinguishes multiple separate, but interacting streams of events – the work system, the building system, and the organizational environment.	Research - Currently, there is too little research on the dynamics of IS change that utilizes simultaneously ideas of incremental and punctuated change and multi-level view of change. We hope that the proposed PSIC model is a step towards richer and more detailed accounts of what are increasingly complex IS changes and their corresponding organizational design options.

No	Authors	Context of Paper	Theoretical basis	Methodology	Conclusion	Overall contribution
14	Molinsky, A. L. (1999)	Internal environmental context and influence on organizational change	Draws on population ecology to explore how internal social systems (through maintainence of the status quo) contribute to ineffective change.	Uses two empirical examples (Hospital and Corporation) to argue three paradoxical system features that create inertia. 1) change depends on management, but management makes change less likely. 2) change depends on the commitment of change leaders, but the commitment of change leaders makes change less likely to occur. 3) change depends on rhetoric, but rhetoric makes change less likely to occur.	The deep rooted planned changes aimed at fundamentally altering the system (morphogenesis) paradoxically resulted in morphostatic outcomes, ie that the type of change implemented made things look different when in fact they remain the same.	Proposes four action strategies for practitioners when implementing planned change. 1) if system is seen as resistant, focus on 'industry best practice'. 2) Real system is the social system, then a facilitator that helps participants to learn and understand the change process. 3) if the system a blueprint for change, then planned change should be sensitive to the internal context as a way to integrate 'action and understanding' (this was used in the two examples, but did not produce the intended planned change). 4) if the system is seen as an unsurmountable obstacle, then planned change may need to be timed to circumvent the current system, by waiting until a crisis occurs.

No	Authors	Context of Paper	Theoretical basis	Methodology	Conclusion	Overall contribution
15	Oreg, S., Vakola, M., and Armenakis, A. (2011)	Review of quantitative change literature	Develops a framework that proposes an interaction between the content, context, process and pre-content of change as antecedents of impact on individuals who in turn influence the change outcome.	Meta-analysis of the quantitative change literature. Searches in PsychoInfo and Proquest databases, and a manual search in 10 journals (1980-2007). 79 articles in the final selection and used in the review.	The internal context and the change process antecedent categories offer prescriptions for change management in improving change recipients' responses to change. Findings present the possibility for organizations to select change recipients on the basis of these dispositions for positions dealing with change is key. Change agents must give special consideration to these ramifications and aim to understand and incorporate change recipients' perspectives in the design of organizational change.	Research - We need to be more specific in designing research to investigate whether explicit reactions are different from change consequences. The vast majority of studies explored change processes that occurred in a single organization (or department). This prevents the consideration of variables (e.g.antecedents) at the organizational level, such as change content.

No	Authors	Context of Paper	Theoretical basis	Methodology	Conclusion	Overall contribution
16	Orliskowski, W.J. and Hofman, J.D. (1997)	Software company	Draws on theories of planned change (Lewin) and emergent change to propose an 'improvisational model for change management' made up of 3 events; planned change, emergent change and opportunistic change.	Explains how the sequence of change unfolds by illustration of a company that authors had studied. Also explains why the internal organizational conditions might have prompted the type of change in a particular sequence over time.	The change process unfolds in both anticipated and unanticipated ways. Proposes that a focus on micro organizational change processes will reveal a change sequence that is contingent on users experience, learning and changing local internal context.	Conceptual, Research, Practice of implementing technological changes which have an open and evolving architecture and use. Extends understanding of how and why planned change events occur in a technological process of change. Introduces the idea of opportunistic change.

No	Authors	Context of Paper	Theoretical basis	Methodology	Conclusion	Overall contribution
17	Schwarz, G. M. (2010)	Key decision makers	Draws on structural inertia theory to propose the presence of internal influences that affect organizational adaptation.	Proposes a model made up of three layers explaining the reasoning that decision makers employ to rationalize structural inertia as they delineate a belief in inertia (Layer 1), defend its choice (Layer 2), and then legitimize the choice (Layer 3).	Internal historical and structure context of organization acts in opposition to organizational changes triggered by the external organizational environment. Decision makers play a role in organizational responses to change, and because structural inertia theory generally undervalues the individual, focusing more attention on the specific influence of key decision makers on structural inertia advances theory in the area.	deliberate structural inertia reinforces that organizations are logically predisposed towards risk aversion. Explaining deliberate structural inertia using cognition adds a dimension to ecology research in reaffirming the different roles that different individuals play in changing organizational structures. Extends understanding of resistance to change in organizational leadership.

No	Authors	Context of Paper	Theoretical basis	Methodology	Conclusion	Overall contribution
18	Smeds, R.(1994)	changing management view as the maintainer of operations to the management of innovation	Draws on theories of incremental and radical change, ecological life cycles and learning theories	Social simulation games can create hologram structures for innovative process experimentation and rapid implementation	According to the framework, the vision, direction and the guidelines for change are the most important top-down managerial tools. The individual change projects can and should unfold under this development umbrella, consciously managed as innovation processes that enable participation, bottom-up creativity and learning.	Practice - management of change Linkage between the planned and emergent change programmes. Linkage between the strategic level and the group level of change processes (learning/participation).

148

No	Authors	Context of Paper	Theoretical basis	Methodology	Conclusion	Overall contribution
19	Stevenson, W. B., and Greenberg, D. N. (1998)	Data analysis method	Draws on cognitive anthropology and rational choice theory originally used to study cultural routines	Formal analysis of an organizational change by applying one of the new techniques, Event-Structure Analysis (ESA) to an analysis of an organizational change. ESA relies on a narrative approach which assumes that change is composed of a complex, interweaving sequence of events.	Narrative positivism provides a framework for the analysis of organizational change. Routines can be diagrammed, and disruptions of the routine can also be analytically constructed to reveal the process of change. These techniques provide a powerful combination of the interpretive and the formally analytical and shouldprove very useful for organizational researchers in future studies of organizational change.	Research - Data analysis methodology. ESA is an ideal approach for researchers who are attempting to develop dynamic explanations of the change process. Internal context narratives.

No	Authors	Context of Paper	Theoretical basis	Methodology	Conclusion	Overall contribution
20	Van de Ven, A. H., and Sun, K. (2011)	4 models of organizational processes of change	Draws on contingency theory by exploring fit between individual change agent's mental model (actions and reflections) and the unfolding change process being managed by change agents	Examines common breakdowns (through literature) in implementing four process models of organization change: teleology (planned change), life cycle (regulated change), dialectics(conflictive change), and evolution (competitive change)	We argue that multiple models are needed to address complexities of having multiple changes ongoing in an organization, multiple change agents with different mental models of any given change, and multiple interactions between change.models over time.	Concept, Research, Practice. We introduced a number of contingency theory propositions for implementing each of the four models of organization change. Our discussion implies that an important future research agenda is to shift our research on organizational change toward a contingency theory of implementation. This requires research on the interdependencies and interactions among various models, agents, and changes. Research needed that examines the learning cycle of acting to correct an organization to fit one's model of change, and reflecting on how one's model might be revised to better fit the processes unfolding in the organization.

No	Authors	Context of Paper	Theoretical basis	Methodology	Conclusion	Overall contribution
21	Zephir, O., Minel, S., and Chapotot, E.(2011)	European project (system for mobile maintenance accessible in real time)	Draws on current work practices	The model organised in three levels is designed to assess the potential change brought about by a new technology and the organisational readiness to this change. It is a collaborative decisional method to determine the pre-requisites for change from a current state to a transformed organisational state by spotting changing factors.	These three steps enables diagnoses of the organisational variables that will evolve, the extent to which they will change and the organisational capacity to successfully introduce those transformations.	Practice - We have illustrated through this paper the action research which is being organised in theMRO industry to define change management specifications. Propose a methodology of collaborative decision making for evaluating the readiness for change; the body of organisational knowledge and competencies that are concerned by the change, the related capability knowledge, skills and abilities to achieve the process goals and objectives.

151

APPENDIX C2: Summary Extraction of Empirical Papers

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
1	Balogun, Julia, and Johnson, G.(2004)	Privatised Utility	Draws on theories of sensemaking, cognition and change to explore the process of change that managers experienced.	Quals	Longitudinal Single Case Study	26 diarists across the three divisions, regular phone contact and review meetings with diarists. Indepth interviews at beginning and end of the research.	Narratives.	Shared sensemaking was replaced with clustered sensemaking around new divisional "organization as multidivisional—inter-divisional relationships" schemata, and a change process schema was introduced.	Future research on schema changes occurring in strategic and structural change settings could usefully pay more particular attention to the effects of social engagement and the roles in it of senior managers, middle managers, and others.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
2	Bamford, D. R., and Forrester, P. L. (2003)	2 manufacturing sites	Conceptual framework that includes planned and emergent change approaches to study the responses of individuals to organizational change. Build's on contextual/processual change model.	Qualitative	Longitudinal Single Case Study	30 structured interviews, observed 200 meetings, workshadowed 54 managers	Information not provided	External forces affected the change initiatives at both sites. The financial reporting system most dominant internal influence. Further internal forces were perceptions provided by senior managers. The high turnover of departmental managers also caused a number of problems.	Practitioners - In an organisation where accounting measures are predominant, change is difficult. When project champions are removed too soon, they leave behind initiatives that decay. Socio-economic factors in the local area exert a strong influence and should not be underestimated.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
3	Bertolini, M., Bevilacqua, M., Ciarapica, F. E., and Giacchetta, G. (2011)	Hospital surgical ward	The use of Dephi technique to incorporate stakeholder input and realism into modelling the real situational processes.	Mixed	Longitudinal Single Case Study	The models created used to simulate the As-Is processes to gather information about: throughput time for processes with certain resources, process delays, identification of bottlenecks, use of resources and number of processes completed in a certain period of time.	Simulation results obtained were discussed with experts.	The use of Delphi methodology, in order to incorporate expert opinions in the re-engineering process, was one of the main points of this work. Important feature introduced by Delphi techniques was the anonymity of answers. Feedback comprised the opinions and judgments of all group members and not just the most vocal.	Research -Using Delphi approach, there was an attempt to overcome the traditional approach, where modelers and analysts are the players and the rest (process owners, managers, stakeholders and experts) are either passive participants or even absent.

155

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
4	Brooks, I.(1997)	NHS Hospital Trust	Uses a managerial, cultural and political interpretative framework to study the introduction of a multiskilled flexible working concept for domestic and portering staff.	Qualitat-ive	Longit udinal Single Case Study	interviews with senior, middle and junior staff, documentatio n, observations	content analysis	Proposes that the internal context (managerial, cultural and political perspective) all influence the process of change, and could explain the reason for the planned change initiative failure. External context has a stronger influence on the internal sub-cultures influencing agreement to change content, and whether the change process can proceed or not.	Practice - management of change with increased sensitivity to the many sub-cultures within the NHS Trusts and the strong influence from the UK government (external context) on the Unions or any other internal subculture within in a Trust. Research - alternative perspectives of studying the content, context and process of change.

156

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
5	Brown, S. L., and Eisenhardt, K. M. (1997)	6 Software and Hardware producers	In contrast to the punctuated equilibrium model of change, this study examines howorganizations engage in continuous change.	Qualitative	Longitudinal multiple Case Studies	81 interviews, questionnaires, observations, and secondary sources	We analysed the data by first building individual case studies and then comparing across cases to construct a conceptual framework.	Semistructures lie between the extremes of very rigid and highly chaotic organization. We observed managers with successful portfolios created links in time; focused on managing current projects and they also developed a sense of where to go next through future probes. They organized how to get from the present to the future through choreographed transitions.	Extension on theories beyond a static conception of organizations and the punctuated equilibrium view of change to aparadigm that emphasizes dynamic organizations and continuous change and that is a more realistic description of how many firms actually compete.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
6	Buchanan, D. A., Addicott, R., Fitzgerald, L., Ferlie, E., and Baeza, J. I. (2007)	NHS Hospital	Draws on the notion of distributed change agency, and the contextual/procesual approach to change that 'emphasizes interaction between context, process and substance' to study interaction between 4 different change agents involved in the process of reducing waiting targets for urgent referrals.	Qualitat-ive	Longit udinal Single Case Study	23 interviews with individuals and 26 interviews with groups across managerial, adminstrative, clinical, patients, representativ es.	Compared the successful change outcomes at Grange with the failures at two other hospitals.	Informal, fluid, 'non-managerial' and migratory manner in which changes were implemented. Roles and responsibilities shifted with agendas and priorities. Process change outcome achieved as perceived by participants. Grange (compared to 2 other Trusts) appears to have an internal contextual advantage related to its structure.	A combination of factors contributing to the concertive action of distributed change agency - conjunctural causation - where outcomes are generated, and explained, by a combination of factors which together appear to be necessary and sufficient to support the phenomenon of interest. A benefit of distributed change agency may be organizational capability and an approach that does not rely on one person.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
7	Buchanan, D.(1998)	NHS Hospital Trust	Uses 4 views (prophets, disciples, revisionists and critics) to analyse changes made to one operational process in a NHS hospital, by studying the first phase- redesigning the process.	Qualita-tive	Single Case Study	documents, interviews (12), survey (12/20 responses to clinical staff, 12 theatre nurses), mystery shopping, photo-documentation	Process mapping	The conclusions from this study seem to lie in the revisionist camp, particularly with respect to the contribution of the process orientation which are-engineering frame implies. This orientation has at least three significant characteristics, concerning the politics of problem solving, the import of new working practices, and the visual representation of process.	The process orientation advocated by re-engineering should be regarded as a "framing device", used to shape the definition of organizational problems, to shape the manner in which those problems are addressed, and to shape an organization's more broadly conceived organizational change and development strategy, than as a central organizational change methodology in its own right.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
8	Burnes, B.(2004)	XYZ construction	Draws on planned and emergent change theories to propose that 'the success of change comes from matching the approach to change to the type of change being undertaken'.	Quali-tative	Longit udinal single Case Study	Interviews, observation, documents, feedback.	Interpretatio n. No other details.	Transformation of operation, culture and structure. Changes in the main small scale and decentralised, but touched all levels. The MD and consultant agreed five stage change process; change readiness audit, evaluation and planning workshops, communications, implementation and team building and evaluation and align with Lewin's 3 Stage model.	Practice - Only by understanding the context within which change takes place, that the most beneficial types of change can be introduced. The key issue for managers is to understand what they are trying to achieve, the context in which their organization is operating and the strengths and weaknesses of the various approaches to change.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
9	Calori, R., Baden-Fuller, C., and Hunt, B.(2000)	Novotel Hotels in Europe	Draws on cognitive, political and symbolic theories to study a European hotel change to observe the process of change over 3 years.	Qualitative	Longitudinal Single Case Study	Observation, documents, 60 in-depth interviews of one of the hotel's co-presidents, most of top management team, many senior managers at Novotel's head office and general managers and their staff in seven different hotels.	Detail not provided	A systemic effect to overcome inertia. Meetings, a bottom-up process for the emergence of variations. Insight into dialectical change framework. Tension between managers and top management stimulated change process. Tensions between past and future, and between std and local context stimulated search of creative solutions.	Three strands of cognitive, political and symbolic change. Understand change as a dialectical process, and adopt dialectical instead of binary logic-it implies that the process will be deliberate and emergent; orchestrated and improvised.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
10	Child, J., and Smith, C. (1987)	Cadbury - food processor	Draws on the population ecology perspective, cognitive arena with which managers identify and collaborative sector networks. Studies the organizational changes that take place over a number of years	Qualitative-details reported else where	Longitudinal Single Case Study	Company documents and 50 extensive interviews conducted with senior management, engineers and other specialists, shopstewards and trade union officers.		External environment (competitors and economy) and internal environment (personnel changes) trigger for transformation. Transformation through different phases with no clear beginnings and ends. Significant agents of change were family members or long serving managers. Implementation of change through both confrontation and incrementalism.	A lengthy process of recognition preceded transformation. Competing frames of meaning and recipes for improvement advanced by actors conditioned by training, specialty, and previous experience in the company. In addition to their position power, legitimacy strengthened by previous record of managing change successfully in other areas of the company.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
11	Evans, M. G. and McQuillan, W.(1997)	UK insurance company	Used 2 variables; context in which the organization operates and the organizational structure. Studies three departments of a company over a number of years to observe the changes in 2 variables.	Quants	Longitudinal Single Case Study	Interviews with CEO and Senior Management Data on external context variable dimensions size, customer/goals orientation, dependence on other organizations in environment, technology. Data on organization structure dimensions.	Little detail.	We found both an increase in size and standardization, formalization and role specialization. We see the organization decentralizing some decisions while centralizing others. An environmental shift occurs solely in the Pensions area of the business reducing the environmental uncertainty. Interpreted as increased ability to adjust to the changing environment.	Our analysis suggests that an organization's ability to make effective strategic choices is dependent upon the opportunities and shifts of its environment (ecology population theory) and the openness of its policy makers towards those shifts. Our analysis suggests that the changes we are able to demonstrate are the result of the organization's ability to recognize and cope with environmental change.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
12	Giangreco, A., and Peccei, R.(2005)	Italian national elec-tricity company	Resistance to change related to the contentand process of change respectively. The importance and extent towhich individuals (middle management) perceive the change as being contrary to their interests and the extentto which they participate in various aspects of the change process, respectively. Studies organizational and strategic change processes.	Quants	Survey	Survey data from sample of 359 middle managers (in distribution division) collected	Factor analysis	Middle managers express disagreement with change through covert or passive resistance and opposition, by behaving in ways that slow down change. Reactions to change are strongly influenced by perceptions of actual content and consequences of change on them personally. Importance of direct participation in the process of change to reduce resistance.	Future studies should use longitudinal data covering a range of groups in different organizations undergoing major programmes of change, focussing on both pro- and anti-change forms of behaviour and use of non self-report measures of RTC involving, for example, supervisory ratings of employees' behaviour.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
13	Grunberg, L., Moore, S., Greenberg, E. S., and Sikora, P.(2008)	US manufacturer	Overarching question was one of exploring the multiple ways surviving employees are affected (both positively and negatively) by complex organizational change.	Mixed	Longitudinal Single Case Study	Interviews, focus groups and 4 surveys over a 10 year period, starting with 2,279 respondents to final sample of 525 respondants. Description of measures given, used 3,4,5 point likert scales. No detail provided on interviews and focus groups.	Paired comparison between the surveys.	The years of change reshaped the corporate culture. The leadership heralded this change by telling employees that the company should no longer be seen as a "family" but rather as a "team." There was now less tolerance of "free riders" or those who did not pull their weight as "lean" processes tightened standards and raised productivity expectations.	Research - Makes a useful contribution to the literature on the effects of layoffs and workplace change more generally. Second, the changes in attitudes that we report suggest that employee attitudes fluctuate over time in response to and somewhat in concert with organizationally initiated change.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
14	Isabella, L. A. (1990)	US Financial services institution	Development of a conceptual framework - manager's interpretations of key events related to the process of change unfold in four stages; anticipation, confirmation, culmination and aftermath. Draws on process theory.	Quals	Longitudinal Single Case Study	Two rounds of 40 in depth interviews with managers across the finance, accounting, marketing, customer operations, data processing, legal services and HR.	Used grounded theory	Interpretations of key events evolve through 4 stages; anticipation, confirmation, culmination, and aftermath. The action of trigger events appears to parallel the process of change Lewin (1947) called unfreezing, moving, and refreezing.	Research - at organizational level, further exploration of how managers collectively construe organizational events is needed.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
15	Jarvenpaa, S.L., and Stoddard, D. B. (1998)	Financial High Tech, Telecoms, food companies	Theories of revolutionary and evolutionary change to explore managing change in business process reengineering.	Qualitative	Interviews, documents	Semi-structured interviews of senior management, project participants, internal and external representatives of the process, bimonthly phone calls with project leaders, company documentation	no information provided.	Organizations can combine both radical and evolutionary tactics within a single project as long as the design phase involves primarily radical tactics coupled with radical visions. Reengineering designs must be radical: breakthrough designs provide a long-term road map for change but as companies implement the plans, they compromise them, and still gain effective results.	Practice- Senior management and project management. Research; empirical evidence for revolutionary and evolutionary change processes within single change initiatives. The influence of the internal resources available and the nature of the change process.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
16	Kelliher, C., Clarke, C., Hailey, V. H., and Farndale, E. (2011)	UK food processing operation of multinational	draws on theories of globalisation and impact on individuals within multinational organizations of global structural changes. Study the reactions of country managers to organizational restructuring and strategic change	Quals	Longitudinal Single Case Study	22 interviews and focus group of senior country managers) at 2 points; 1999 and 2004.	NVIVO coding and template/thematic analysis.	Process of responding to globalisation resulted in a new structure, changing where decisions made. Managers expected to comply with standardised procedures developed by corporate head office. Managers' jobs deskilled, and roles and activities only concerned with implementing strategy and policy. Demand for compliance with homogeneous practices over local contexts.	Research and Practice - Explored how globalisation is experienced by people in organisations undergoing global restructuring. Many of our findings are unintentional consequences of the globalisation process. We present our study as a reminder that organisations have a choice about how they treat their managers and that these choices may have serious organisational consequences.

168

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
17	Kyriakidou, O. (2011)	Academic institution	Draws on social construction of reality, negotiation and argumentation, the negotiated order perspective, sensemaking, personal construct psychology, thematic networks, and identity to explore employee sensemaking (not managers).Studied the process of change.	Quals	Longitudinal Single Case Study	Interviews with employees. No detailed research design information given. The case study was used as an example to illustrate the social constructions for attractiveness of transformational change	Employees' sensemaking of change was explored through thematic content analysis and thematic network illustrations to explain ideas in interviews, following the principles of argumentation theory.	Found that change is interpreted within individual context, history of previous organizational changes and that there are multiple interpretations of change within organizations. The proposed changes can be achieved as series of moderate and on-going adaptations and alterations that may enact sufficient modifications over time and achieve transformational changes.	This paper tries to develop a better understanding of "relational perspectives on the construction of meaning" as they relate to organizational change, especially the kind of broad-ranging, transformational change

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
18	Newman, M., and Zhao, Y.(2008)	2 clothing retailers in China	Combines three streams of organizational change literature: a socio-technical model and punctuated equilibrium theory combined with social process theory into a model to analyse two ERP implementation cases in Chinese SMEs to develop pictorial trajectories.	Qualitat-ive	Two Case Studie s	22 semi-structured interviews with ERP implementati on 'stakeholders' from the 2 companies, observations and documentatio n. Interviews conducted in Chinese and then translated into English.	Within and across case comparison	Olmec's project deemed successful by top management and system rolled out to all branches and stores. Farina didn't transform business processes during EAS implementation. The software package was repeatedly modified. Project and organizational work level gaps not eliminated. Staff continued use of legacy systems and EAS system abandoned.	Senior management, importance in supporting major IT projects; vendor choice, budget agreed, and when important decisions and interventions have to be made. For researchers, process models tell story of implementation unfolding over time, linking history to outcomes and organizational context.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
19	Roskies, E., Liker, J. K., and Roitman, D. B. (1988)	Manufacture material handling equipment - technological change	Technological change impacts workers negatively and positively and not just one way as dominant in literature. The main interest here is employee welfare. Studies employee reactions to change.	Quants	Single Case Study	60 interviews from all levels and departments of company.	Quantitative but sample too small for statistical analysis. Results exploratory.	All committed to change. Bitterness and resentment expressed by losers not on the process of change itself, but on realisation that only some of the workers would make the transition into the new company, and that they had not been selected. Worker's overwhelming sense of helplessness in the face of changes.	This paper explored the range of reactions that a company's technological transformation can arouse in its workforce and highlights the complexity of the consequence of technological change.

171

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
20	Sarker, S., Sarker, S. and Sidorova, A (2006)	US Telecoms company	Draws from actor-network theory (ANT) to interpret the sequence of events that led to business process change (BPC) failure	Qualitative	Single Case Study	11 semi-structured interviews with several organization members at different levels and departments who had participated in or had been affected by the BPC initiative.	Draws from ethnography grounded theory, hermeneutic interpret-ation	Errors in problematisation, parallel translation, betrayal, and irreversible inscription of interests, contributed significantly to the failure. The vision of the focal actor may change as the position of the focal actor in the network shifts.	The larger implication of our study is that, for sociotechnical phenomena such as BPC with significant politicalcomponents, an ANT-informed understanding can enable practitioners to better anticipate and cope with emergent complexities.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
21	Stam, K. R., and Stanton, J. M.(2010)	Manufacturing, counseling centre, hospital	Draws on regulatory focus theory and affective events theory to study the process (transition stage) of technological change in three different contexts. The focus of the study was the interplay between individual emotions, change events and technological change content.	Quals	Longitudinal Single Case Study	In depth interviews (and structured observations) with 52 people across 3 different cases, before, during and after introduction of technological change, over an 18 month period. Question Protocol included in Appendix	Verbatim transcriptions and use of Atlas. TI programme for development of coding.	Trigger for change- social events related to planning or selecting new system, anxieties - learning and training, events suggesting acceptance of change. Resistance to change-emotional experiences before and during change. Regulatory focus of individual, organizational events - important to employees' interpretations.	The theoretical perspective-linkage between the interpretation of workplace events and an individual's personal goals. Practitioners-our framework suggests a shift in emphasis away from beliefs and towards emotionally relevant events. Our framework suggests consideration of two distinct motivational aspects of both new and old technology.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
22	Staudenmayer, N., Tyre, M., and Perlow, L. (2002)	Computer software, precision metal manufacturer, Office equipment manufacturer	Mechanisms that enable change in organizational structures, processes, and ways of acting and thinking. Studied different mechanisms used to change how time was viewed and therefore resulting in a process of change.	Quals	Three case studies	Analysis and integration of data from 3 previous studies	constant comparative method	The temporal shifts appeared to enable organization change by creating a trigger for change, providing resources needed for change, as a coordinating mechanism, and serving as a credible symbol of the need to change. A view of "event triggered" change and "time-triggered" change as interrelated processes, not as separate systems.	A novel method, to re-analyze and integrate qualitative data from three completed field studies. We add to the discussion of the objective facts of time in organizations (such as project deadlines, temporal milestones, or the tempo of work), and the felt experience of time. Managers might facilitate change by creating events that break the expected temporal flow of work, using both time and events to trigger adaptation.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
23	Stensaker, I. G., and Langley, A.(2010)	3 divisions of a multi-national oil company (Norway)	Draws on contingency and process perspectives and the role of the change agent. Studies corporate planned changes and the process of change in 3 divisions.	Qualitat-ive	Longit udinal Single Case Study	Eighty-foursemi-structured interviews with corporate managers, top level business unit managers, middlemanag ers and lower level employees.	Interpretive approach to understand how members at different levels interpreted the change content, context, process and outcomes. Used NUD*IST software. Performed content analysis, within-case using visual mapping and then across cases, searching for patterns in the three processes.	Division change agents choose approaches based on subjective assessments of the need for change (substantive concerns), the need for keeping corporate people happy (political concerns) and the need to maintain productive relations with employees (relational concerns).	Research. Trajectories of incrementalism (Division 1), forceful change and subsequent retreat (Division 2) and renegotiation before implementation (Division 3) merit further study, along with other possible temporal patterns arising as change agents deal with the underlying tensions among different concerns. Future research should explore whether the three patterns found here might recur in other settings.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
24	Steven-son, W. B., Bartunek, J. M., and Borgatti, S. P. (2003)	School	Draws on actor-network theory to study changes in social processes (non-visible) taking place at the same time that a new position was introduced (public and visible) within a single school.	Mixed	Longi-tudinal Single Case Study	Questionn-aires at beginning and end of school year. Scale used and questions asked not detailed.	Structural Equation Modelling	The planned change (restructuring) did not result in the intended outcomes. This is explained by the presence of forces within the social system moving for (support) and against (passive and active resistance) the change initiative and change agent over time.	Proposes future research on restructuring that draws on actor-network theory in other contexts. The advantage of actor-network theory to analyse 'invisible' social process taking place at the same time as planned change.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
25	Tissan, T., and Heikkila, J.(2001)	Telecomms service provider	Radical change through combined approach to BPR (socio technical systems) and its relation to theory of learning through continuous and incremental change. Studied implementation of BPR.	Qualitative	Longitudinal Single Case Study	One of authors was specialist in pilot and project manager in implementation phase. Data collected; minutes, project plans and reports, communication and presentation materials. Active participation and observation.	Researcher interpretation	Awareness and experience of the change content and change process by participants increased their learning and commitment to BPR. Success of BPR programme depends on the extent to which the internal context allows individual learning to shape the BPR process of planning, piloting and implementation.	Theory, Empirical and Practice

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
26	Tyre, M. J., and Hauptman, O. (1992)	High precision parts manufacturer (US)	Draws on process theory - technological process change.	Mixed	Longitudinal Single Case Study	Questionnaire, interview items in appendix. Semi-structured interviews (managers at plant and division levels, project participants). Eight plants in the United States, West Germany, and Italy. Sample included introduction of new technology and integrated production systems.	Bivariate correlations, multivariate regressions.	Adaptive responses to technological process change positively affected performance. Preparatory search activities contributed significantly to project success. The higher the technical complexity of a new manufacturing process, the less benefit was gained by forming multi-functional project teams.	Research and Practice. Test and refine the categorization schemes used here. Investigate problem solving processes associated with different technological changes. Casts doubt that cross-functional team involvement be maximized. Framework may enable balance of investments in new process technology between projects on existing manufacturing concepts, and systemic revision of existing practices.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
27	Tyre, M. J., and Orlikowski, W. J.(1994)	Manufacturing and service organiz-ations	Theories of technological change to study the adaptation by groups and individuals implementing and sustaining a technological change.	Qualita-tive	Three Case studies (longi and retrospective)	From 3 previous research projects conducted in both the US and Europe.	Within and cross-study analysis	Production pressure impedes adaptation. Patterns of use constraining over time. Adaptation more difficult as process technologies embedded and routinized in the user environment. Pattern of adaptation discontinuous, or episodic. Further adaptation rare unless unusual event or discovery.	Supports previous findings that the assumptions, behaviour patterns, and practices governing the execution of production tasks are defined early and congeal quickly. Similarly, study of a leading Japanese steel company points suggests test period as limited opportunity to surface all major problems with new technology, since incremental changes can be hard to implement later.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
28	Vaast, E., and Levina, N. (2006)	IT department of a European Insurance company	Theory of contextual/processual change to study the implementation of an organizational redesign.	Qualitative	Longitudinal Single Case Study	Ethnographic methods.	Qualitative analysis and grounded theory principles	Redesign saved resources. Approach was mechanistic. Tasks viewed as routine. Redesign changed the organization because its components reinforced each other, and supported vision as a cost-efficient service provider.	Recommends that managers implement change slowly and incrementally. Our study suggests that some resistance to change may be prudent. Organizations may want to maintain pockets of resistance to highly codified designs in the form of loyal, but defiant, subordinates or customers who communicate important design elements that the overall design vision may need to take into account.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
29	Volkoff, O., Strong, D. M., and Elmes, M. B. (2007)	Multinational manufacturer of precision industrial products	Draws on grounded theory methods to observe the unfolding process of organizational technological (SAP) change.	Qualitative	Longitudinal Single Case Study	Observations, interviews, informal conversations	grounded theory (Strauss and Corbin). Coding through NVIVO.	ES embedded work sequencing and connections between routines and the relationship between transactions and data, prohibiting transactions from being executed if the required data were not in the common database. Embedding a routine, role, or data in the ES changed that element and how it could be enacted by employees.	The core theoretical concept emerging from our data was embeddedness of technology. This extends the organizational research on organizational routines as sources of organizational change to other organizational elements. Example of a theory developed from a critical realist perspective, first such example in IT research.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
30	Whelan-Berry, K. S., Gordon, J. R., and Hinings, C. R. (2003)	Corporate audit department of US Bank	Draws on prescriptive organizational change process model, group level model and trans-theoretical model from psychology research for analysis at the individual level. Investigates 2 change contents (team based work environment and re-engineered audit processes) and three processes of change levels.	Mixed	Longitudinal Single Case Study	4 monthly surveys, 15 interviews after each of first 3 surveys, on site observation, documents (memos, minutes, newsletters)	Presented in narrative form in combination with findings. Lack of information on data analysis techniques used.	Pace of change at individual, group levels slower than at org level, which can result in resistance to change initiatives. Differences in meaning of change content and process explained by differences in context at org, group and individual level. A model for planned org change processes proposed -the interaction between three internal contexts; org, group and individual levels.	Conceptual and Research - Proposes a model of planned change processes that links organizational change processes to group level change processes and individual change processes.

No	Authors	Study context	Theoretical basis	Method	Type	Data Collection	Data analysis	Findings and Conclusion	Overall Contribution
31	Zúñiga-Vicente, J. Á., de la Fuente-Sabaté, J. M., and Suárez-González, I. (2005)	Spanish banking sector - financial service provider	Integrated strategic and ecological model to study changes in the Spanish banking sector.	Quants	Longi-tudinal	Secondary data and surveys on 134 Spanish Banks on 4 constructs; strategic change, environment-al factors, organization-al factors, managerial characteris-tics	Random Effects Models	Strategic change explained by the changes to the external environment, CEO succession and length of tenure.	Further research in exploring interaction in the other direction. Research into how strategic change antecedents change over time.

APPENIDX D: Coverage of content, context and process of change

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
1	Balogun, J. (2006)	Individual sensemaking	Restructure	general statement	Structure - Senior management imposition of change onto change recipients (middle management)	pre-implementation, Implementation and outcomes	planned, emergent

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
2	Balogun, Julia, and Johnson, G.(2004)	Individual sensemaking (middle managers)	Strategic restructure (downsizing, delayering, new work practices, change to customer focussed culture)	general statement - Future changes in competitive environment	Structure - Senior management imposition of change onto change recipients (middle management, culture)	pre-implementation, Implementation and outcomes	planned, emergent
3	Bamford, D. R., and Forrester, P. L. (2003)	Change events and staff activity	Process change - Continous improvement programme, Health and Safety Programme, Progress through quality programme,	Sectorial competition, customers and corporate customers, suppliers. Wider environment - regulation, economic	Top down imposed change programmes	pre-implementation, Implementation and outcomes	planned, emergent

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
4	Bertolini, M., Bevilacqua, M., Ciarapica, F. E., and Giacchetta, G. (2011)	Management of patients on arrival process	Process - Confirmation of current patient management process	Not mentioned	Resource availability, culture, structure	Define change content	planned
5	Brooks, I.(1997)	Sub-culture relationships	Restructure - Introduction of the generic-worker concept for domestic staff	UK Government policy, professional and Union networks	Sub-cultures (Managers, Unions, Medical Staff, Non medical staff)	Readiness, pilot and implementation	planned, emergent
6	Brown, A, D. (1993)	Linkage between project management process, group and individual processes	technological change - MRP 11	not mentioned	culture, social interaction	pre-implementation, Implementation and post implementation	planned, emergent

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
7	Brown, S. L., and Eisenhardt, K. M. (1997)	Product development project	Product innovation processes	Continuously changing sector structure and product markets	culture, resources, capabilities, structure	implementation	planned, emergent
8	Buchanan, D.(1998)	Process activities from patient referral to discharge from surgical theatre	process - Confirmation of current process activities	UK Government policy, professional networks, hospital networks, patients	capabilities, structure, culture	Define change content	planned, emergent
9	Buchanan, D. & Dawson P. (2007)	Individual narratives on change definition, implementation and outcomes	Organization change	other companies, consultants	structure, politics	Implementation and outcomes	planned

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
10	Buchanan, D. A., Addicott, R., Fitzgerald, L., Ferlie, E., and Baeza, J. I. (2007)	Activities of small teams and senior groups	Process - Prostate cancer service improvement	UK government policy, Unions, Professional networks, Patients	Professional sub-cultures, unions, capabilities, structure	Implementation	planned, emergent
11	Buchanan, D., Fitzgerald, L., Ketley, D., Gollop, R., Jones, J. L., Lamont, S. S., Neath, A., and Whitby, E., (2005)	Process	organization change	customer demands, competitor behaviour, environmental conditions	structure, leadership, cultural, political, financial	Sustaining change processes; decay, sustainability, development	planned

189

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
12	Burnes, B.(2004)	Events and activities of staff (all levels)	Organization change - Operation, culture, structure	Competition, changing contractor relationships from adverserial to 'partnerships'	New Managing Director	Implementation	planned, emergent
13	Calori, R., Baden-Fuller, C., and Hunt, B.(2000)	Managers' actions	Organizational change - Strategic (renewal)	Increasing sector competition and wider economic pressures. Shareholder support for change	Culture, history, resources, capabilities, structure	Defining the content of change, readiness, implementation	planned, emergent

190

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
14	Carrillo, J. E., and Gaimon, C. (2002)	Process change decision making	process - Manufacturing equipment, IT, procedures, re-engineering	Competition, technology	Resource capabilities	Implementation and outcomes	planned
15	Child, J., and Smith, C. (1987)	Management decisions	Restructure	Sectorial competition, partners, wider economic factors, sectorial structure	Family management, unions, history, culture, resources, capabilities, structure, leadership	Formulation, readiness, implementation	planned, emergent

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
16	Choi, T. (1995)	Change activities - organizational change literature and the continuous improvement literature	Organizational change - Major (top/down, radical) and minor change (localised,incremental) (OC)	Competition (CI), change in external context (OC)	Resources - Eliminate waste (CI)	Triggers for change, interpretation of change, nature of change, implementation, performance outcomes	planned
17	Dawson, P., and Buchanan, D. (2005)	Narratives of events	Technological change	Not mentioned	Political process, political resources, multiple narratives, structure	Before, implementation and outcomes	planned

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
18	Drew, S. (1994)	Organizations	process - BPR - Revolutionary and evolutionary organizational change	Competition, customers, new entrants, M&A, economic recession	resources, capabilities, hierachical and team structures	Implementation	planned, emergent
19	Evans, M. G. and McQuillan, W.(1997)	Activities in three departments	Organizational Structure	Stablising UK government policy, stable technology	Structure	Implementation	planned
20	Ford, J. D., and Ford, L. W. (1995)	Groups conversations	process - Quality programme illustration	environmental shifts	culture, structure	Triggers for change, interpretation of change, nature of change, implementation, performance outcomes	planned, emergent

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
21	George, J. M., and Jones, G. R. (2001)	Psychology of individual and group change processes and sources of resistance to change	Major second order organizational changes	No mention	Struture, culture, capabilities	Implementation and outcomes	planned
22	Giangreco, A., and Peccei, R.(2005)	Managers' perceptions and actions	Restructure	Italian Government deregulation and increased competition	middle management sub culture, structure	Implementation	planned, emergent
23	Grunberg, L., Moore, S., Greenberg, E. S., and Sikora, P.(2008)	Employees in a single division	Organizational change (downsizing, new technology, restructuring)	Sectorial and wider economic trends	Corporate culture change from 'family' to 'team'	Change outcomes and effect on individual employees	planned, emergent

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
24	Hailey, V. H., and Balogun, J. (2002)	Context	Cultural change programme, organization wide	Competition, NHS, customers, regulation	culture, resources, capabilities, structure	Design of change process	planned
25	Isabella, L. A. (1990)	Managers' interpretations of organizational change events	Five organizational change events chosen from pilot interviews; acquisition, new president, new quality programme, relocation of corporate headquarters, reorganization into geographic regions	no mention	management culture, structure	Post implementation	planned

195

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
26	Jarvenpaa, S.L., and Stoddard, D. B. (1998)	Customer service, product development, order fulfilment, plant management processes	Business Process Re-engineering	financial crisis threatening organizational survival	Leadership, structure, resources, simultaneous IT changes, capabilities	Design and implementation	planned, emergent
27	Kelliher, C., Clarke, C., Hailey, V. H., and Farndale, E. (2011)	Individual and groups of senior managers' reactions	Global restructuring	Globalisation	Culture, resources, structure	Post implementation	planned
28	Kyriakidou, O. (2011)	Individual	Organizational change	competition	culture, structure, individuals	Proposed and implemented	planned
29	Laughlin, R. C. (1991)	Organization	Organizational level and strategic change	economic pressure	structure, leadership	Implementation, sustaining, reversing	planned

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
30	Lyytinen, K., and Newman, M. (2008)	Change event and its connect to the relationships between technology, structure, tasks and actors	Technological - Planned Information systems change	sector changes, competition, regulation, political, environment, social	culture, politics, structure	Before, implementation and outcomes	planned
31	Molinsky, A. L. (1999)	Organization/system	Restructure- creation of self management teams	Not mentioned	culture, structure	Implementation and outcomes	planned, emergent
32	Newman, M., and Zhao, Y.(2008)	Relationship between organizational elements; structure, task, people, technology	Technology (ERP) and BPR	Chinese clothing sector, sector practices, economic conditions	culture, structure	Implementation	planned, emergent

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
33	Oreg, S., Vakola, M., and Armenakis, A. (2011)	Change recipients reaction's to organizational change	Organizational change -	not mentioned	culture, structure, capabilities	implementation	planned
34	Orliskowski, W.J. and Hofman, J.D. (1997)	Groups of users of technology in customer service process	Technological change leading to a change of structure	not mentioned	Technical specialist culture, resources, capabilities	Introduction, implementation, post implementation	planned, emergent
35	Roskies, E., Liker, J. K., and Roitman, D. B. (1988)	Individual and perceptions as to whether they were winners or losers as a result of the technological (MRP 11) changes.	Technological change	Changing competitive sector, technology. Changing wider economic environment	Culture change from 'family' to 'team', structure	Implementation, post implementation	planned, emergent

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
36	Sarker, S., Sarker, S. and Sidorova, A (2006)	Events and changes in relationship between actors within the formal network	Restructure and downsizing through IT systems	Changing competitive sector	Culture, structure	Implementation	planned, emergent
37	Schwarz, G. M. (2010)	Key decision makers' sensemaking	Structural change	Not mentioned	Structure	implementation and outcomes	planned, emergent
38	Smeds, R.(1994)	Change management process	Process - change towards lean organizations	Sectorial and wider environment	culture, organization structure,	Ideas, self organizing, implementation, outcomes	planned, emergent
39	Stam, K. R., and Stanton, J. M.(2010)	Individuals	Technology and Emotions	not mentioned	resources, structure	Before, during and after technology introduction	planned

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
40	Staudenmayer, N., Tyre, M., and Perlow, L. (2002)	Change stories from 82 individuals across the three companies	Restructuring	Not mentioned	resources, capabilities, structure	Triggers for change, implementation, post implementation	planned
41	Stensaker, I. G., and Langley, A.(2010)	Decisions, activities and reactions of multi-level; corporate centre and the management (top, middle), employees and change agents of each division.	Business Process Re-engineering (Organizational development and SAP)	Corporate requirements (customers)	culture, structure	Implementation	planned, emergent

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
42	Stevenson, W. B., and Greenberg, D. N. (1998)	Routines	Regulatory process	Regulatory body	structure	Sequence and position of events leading to changes to environmental regulation	emergent
43	Stevenson, W. B., Bartunek, J. M., and Borgatti, S. P. (2003)	Individual social networks	Restructure	Not mentioned	structure networks	Readiness, implementation	planned, emergent
44	Tissan, T., and Heikkila, J.(2001)	Organization	Corporate wide Business Process Re-engineering	Customer service networks	culture, resources, capabilities, structure	pilot, standardise, implementation and learning phases	planned, emergent

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
45	Tyre, M. J., and Hauptman, O. (1992)	Technological and organizational response measures.	Technology	Suppliers	Resources and capabilities - specialist (internal and external) and cross functional teams, culture, structure	Content definition/problem solving, readiness, implementation	planned, emergent
46	Tyre, M. J., and Orlikowski, W. J.(1994)	Events and individual and group routines and practice	Technology	not mentioned	Production pressure and team erosion, resources, capabilities, structure	Implementation and adaptation activities	planned, emergent

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
47	Vaast, E., and Levina, N. (2006)	Activities	Service delivery process redesign	Customers	Culture, resources, capabilities, structure	Implementation, outcomes	planned
48	Van de Ven, A. H., and Sun, K. (2011)	Change agent's actions and reflection and relationship with change events	Sectorial and organizational change	Sectorial competition	structure, change agents	Evolution, dialectic, life cycle, teleology process events (implementation)	planned, emergent
49	Volkoff, O., Strong, D. M., and Elmes, M. B. (2007)	Routines and roles of users	Technological - Enterprise System software Implementation	not mentioned	Structure, culture	Implementation	planned, emergent

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
50	Whelan-Berry, K. S., Gordon, J. R., and Hinings, C. R. (2003)	One bank's audit department (organizational level)	Organizational change - Team Based Work Environment, Re-engineering audit processes	not mentioned	Organization, group and individual pace of change, culture, resources, capabilities, structure	Readiness for change, implementation	planned, emergent
51	Zephir, O., Minel, S., and Chapotot, E.(2011)	Process and activities	Structure and technology	Not mentioned	Organizational maturity to integrate new practices - workforce capability.	Readiness for change, maturity	planned

No.	Authors	Unit of Analysis	Content	External context	Internal context	Process	Change approach
52	Zúñiga-Vicente, J. Á., de la Fuente-Sabaté, J. M., and Suárez-González, I. (2005)	Sector	Organizational change	Deregulation, liberalisation, industry concentration	Leadership succession and tenure, structure	Process inputs and outputs. measures of effects of content and context on change outcomes strategic change, environmental and organizational variables at intervals over time. (pre-implementation, implementation)	planned