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An exploratory study of organisational transformation in manufacturing SMEs

by

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Abstract

In a competitive environment organisations are driven to continuously change and adapt to emerging conditions in order to sustain competitive advantage. The reported decline of the manufacturing sector in the UK is believed to be the result, in part, of the failure of manufacturing organisations to adapt by transforming their businesses, particularly small and medium sized enterprises (SMEs). The field of change management is long established and contains a plethora of theories, frameworks, models, and discussions on organisational change and transformation, yet it seems that there is a disconnect between this body of knowledge and its implementation by practitioners. Since the majority of the work in this area is based on empirical analyses of large organisations, it could be argued that the assumption that it can be 'scaled down' to fit the SME context is invalid, as SMEs are well recognised as having distinctive characteristics that warrant specific investigation. Thus, the thesis is focused on providing insights into the transformation behaviour of manufacturing SMEs in order to further understanding of why these organisations struggle to transform. Using the content, process, context framework as its foundation, the transformations of four manufacturing SMEs in Scotland are analysed and discussed using an exploratory case study methodology. The findings suggest that the content of transformation in manufacturing SMEs reflects existing theory, however in addition content elements of ownership or leadership, new management team, and extension of product/service portfolio were in evidence. The process through which manufacturing SMEs transform aligns with the theory of punctuated equilibrium; however the punctuations themselves are not transformational. Leadership, appropriate knowledge and skills, access to resources, and external collaboration are contextual enablers to transformation, whereas culture is a barrier if not aligned to the new behaviours required. The discussions also led to a number of emerging propositions concerning the pace of transformation, patterns of constituent changes, and differences between family and non-family owned/managed organisations, which are presented as areas for future empirical investigation.

Chapter 1 -   Introduction

"In this tough economic environment, if you wait too long to envision and implement transformational changes, you are out of the game" (Kanter, 2009). So says one of the 'masters of change' in discussing the fate of GM's CEO. Although the current global economic climate has emphasised this need for change and most likely pressed the fast-forward button on its necessary pace, scholars have long been debating the theory that organisations are not static but dynamic entities in a constant state of flux, and that continual change is necessary to remain competitive (Porter, 1990; Burnes, 2005). More specifically, the decline in the manufacturing sector both in UK and across the globe is of great concern. As a graduate in manufacturing engineering the researcher is very keen to contribute to the sustainability of manufacturing and is acutely aware of the current business climate in this sector. Working as a research assistant for two years on a project investigating management practices in manufacturing firms gave insight into both the successful and unsuccessful attempts of organisations to meet the demands of their external environments.

Theories of change date back to the early 1940s and 1950s when Lewin introduced the three step 'unfreeze, move, freeze' approach (Lewin, 1951). Since then thousands of papers, books and articles have been published on the topic. Consultancies offer change and transformation agents to rejuvenate tired markets and outdated strategies. So why, then, with such a plethora of frameworks, theories, process models and expertise are organisations still failing to successfully change? With the cries of "transform or die" from scholars and practitioners alike (Abrahamson, 2000; BBC, 2002) come findings that demonstrate the difficulty in doing just that, for example a study by Sirkin et al, 2005, found that over two-thirds of transformation attempts fail. The point of departure for this research, therefore, is to ask the question; *why are manufacturing organisations failing in their attempts to transform?*

1.1 Scope of the work

The domain problem has built within it a number of assumptions, the first being that manufacturing organisations are actually attempting to transform. To test this proposition, the researcher organised a number of informal interviews – three with managing directors of Scottish manufacturing organisations, and one with the CEO of Scottish Engineering, the major support and lobbying organisation for the manufacturing engineering industry in Scotland. To supplement this, the researcher also attended a seminar on 'High Value Manufacturing' through the Manufutures network, a series of round-table discussions on 'High-Value Manufacturing' hosted by Strathclyde Institute for Operations Management on behalf of the Scottish Manufacturing Advisory Service (SMAS), the SMAS annual conference (2007), and workshops held with the SMAS practitioners to discuss manufacturing industry issues. The data collected at these sessions, although unstructured, gave the researcher some insight into the industry, and confidence that transformation was indeed an issue for manufacturing organisations. More specifically, it is an issue for manufacturing SMEs (small to medium sized enterprises), who were the central focus in the majority of these various events. SMEs account for over 99% of businesses in the UK (BERR Statistical Press Release, 2008), and over 99% of those in the European Union (EC Putting Small Business First, 2008) and so are of utmost importance to the productivity and competitiveness of these nations. This is demonstrated by the increasing support being targeted at these organisations both at a national and European level (e.g. launch of EC SME Portal and recent introduction of the Small Business Act for Europe (2008)).

Discussions with colleagues following the aforementioned events led to the informal classification of manufacturing SMEs into one of four categories:

- Those who do not want or need to transform

- Those who do need to transform but are oblivious of this need

- Those who attempt to transform but fail

- Those who attempt to transform and do so successfully

Each of these categorisations presents in itself an issue regarding why manufacturing organisations, and in particular SMEs, fail to transform. As mentioned, Porter suggests that all organisations must continually reinvent themselves in order to remain competitive (Porter, 1980). Is this in fact the case? Companies in the first category may see the need to transform but may choose to use it as an opportunity to take early retirement or turn efforts to another venture. Some companies, of course, do not realise there is an issue – how can we help companies look outside their own business to see potential threats in the external environment? Or indeed, if they do see the danger, how can we persuade them that they are not immune to it and need to act if they wish to remain in business? Of those that do make the decision to transform there are both successes and failures – what do these companies need to do to become a success story?

Scratching the surface of any of these questions would reveal a myriad of factors and their complex inter-linkages that influence the responses, cutting across such fields as entrepreneurship, small business management, organisational change, strategy, organisational behaviour, and cognitive psychology. Therefore, to limit the scope of the study, and based on the researcher's background and personal interests, the

research will focus on those SMEs that attempt to transform, and the reasons why this is or is not successful, i.e. ***why do manufacturing SMEs which attempt to transform not always succeed?*** The subsequent chapters will discuss the development of this domain problem into a focused set of research questions and the research conducted to answer them. The aim of the research is to provide insights to the transformation behaviour of manufacturing SMEs by investigating how they transform, the internal and external factors impacting on this transformation, and the association between these factors and how the transformation occurs. A qualitative case study strategy is adopted to fulfil the research aim, in response to current calls for such empirical studies on organisational change (Pettigrew et al, 2001; Dawson, 2003). The work presented in this thesis will extend existing theory on organisational transformation by exploring it within the context of manufacturing SMEs, and will shed light on the factors affecting transformation in this context, thus provide a foundation for future work into how successful transformation can be achieved.

1.2   Thesis structure

This thesis is structured as follows:

Chapter One outlines the motivation for the work, presents the pre-understanding of the research topic and outlines the structure of the thesis.

Chapter Two presents an exploratory literature review to establish the gap in knowledge, and states the research aim and research questions driving the work.

Chapter Three details the research design for answering the research questions, based upon an understanding of the researcher's philosophical assumptions and methodologies used to study the topic.

Chapter Four presents an in-depth literature review to determine the stimulus, content, process and context of transformation, divided into internal and external factors. This chapter concludes with a theoretical framework for analysing the case study data.

Chapter Five describes the four case studies investigated and presents an analysis of the transformation story of each individually, then in comparison to the conceptual framework developed in Chapter Four. Each case analysis concludes with a summary of the key findings.

Chapter Six presents a cross-case analysis of the four case studies in the context of the theoretical framework, and proposes an empirical framework of transformation in manufacturing SMEs. It concludes with a summary of the key findings of the analysis.

Chapter Seven presents a discussion of the research questions and summarises the answers to each, then presents a number of emerging propositions that the study has uncovered.

Chapter Eight presents the conclusion of the findings. It then details the contribution and implications of the work, presents an assessment of the quality of the research and recommendations for further development in the area. It concludes with the personal reflections of the researcher.

The thesis structure is summarised in Figure 1.1 below.
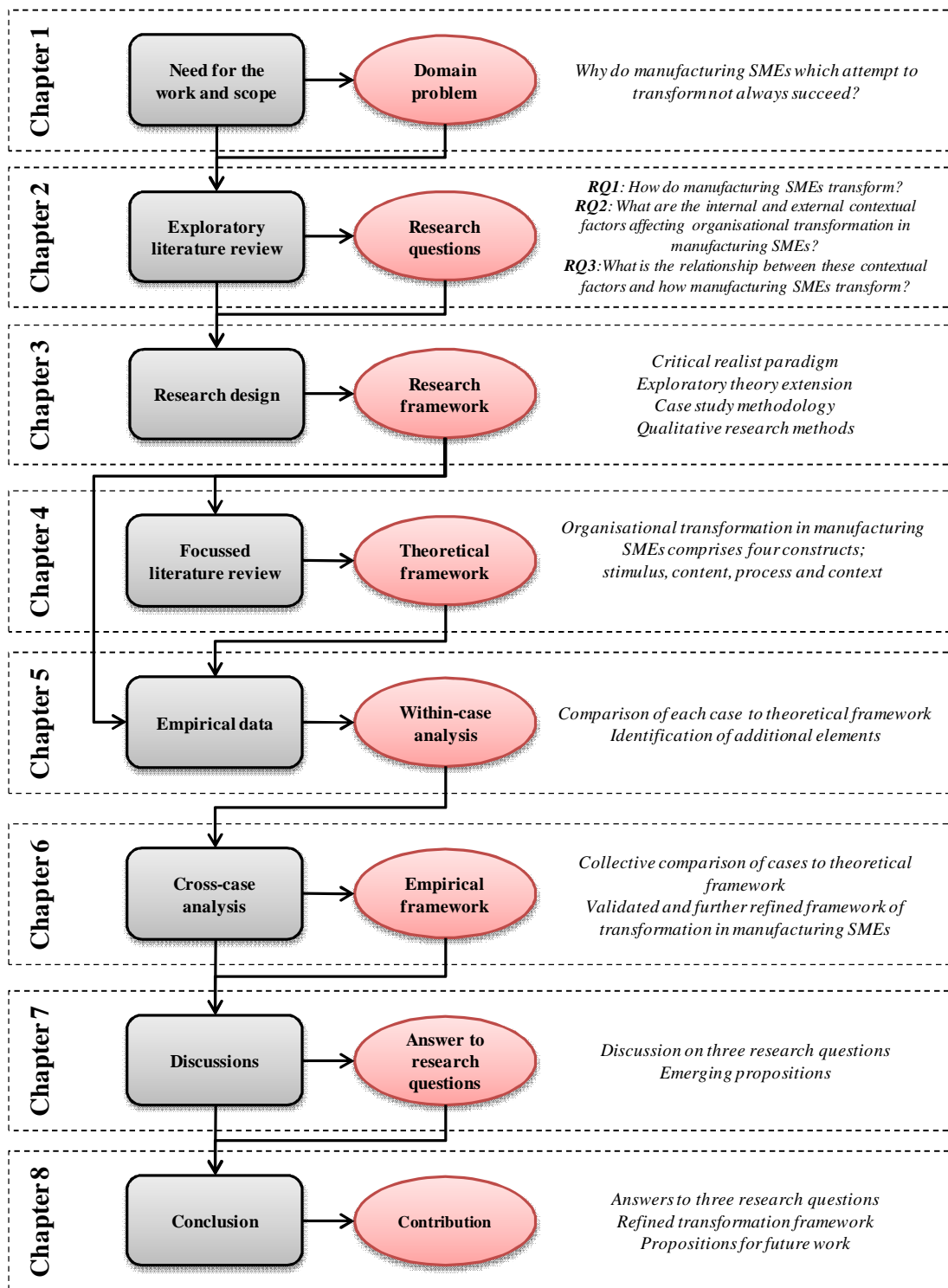
Figure 1.1 – Structure of thesis

Chapter 2 -   Identifying the gap

The aim of this chapter is to identify any gaps in knowledge of *why manufacturing SMEs which attempt to transform do not always succeed?* and in doing so develop specific research questions for the study. Section 2.1 presents a review of the literature in the field of transformation, both generally and in the context of manufacturing SMEs, and concludes with a conceptual framework to summarise the findings. Section 2.2 presents a summary of an analysis of the transformation of a manufacturing company in Scotland in which the researcher participated, in order to empirically understand the research area. A discussion of the findings from the literature review and transformation case study is then presented in Section 2.3, which concludes with an explanation of the gap in knowledge regarding transformation in manufacturing SMEs and a statement of the aim and research questions driving the remainder of the work. Section 2.4 then presents a summary of the key points in this chapter.

2.1   Exploratory literature review

As a basis for understanding the domain problem, it is necessary to review existing literature in the area of transformation in order to identify the following;

- What is transformation in a general sense; i.e. definition and understanding of constructs.

- What is transformation in the context of SMEs in the manufacturing industry.

Transformation is not an established body of literature in its own right, rather it is considered a type of organisational change thus the research is positioned within this domain. The strategy adopted for conducting the exploratory review began with a general search of databases for "transformation" and related terms, leading to source

searches until fundamental literature was found. A systematic literature review approach was considered (Tranfield et al, 2003) and rejected due to the exploratory nature of the study and the lack of consensus in terminology as will be elaborated below.

2.1.1. What is transformation?

Entities are in a constant state of change; as time passes things will be different than they were before. This fundamental understanding has been depicted graphically as shown in Figure 2.1 and is accepted as being the basic structure of a change in any given context. In terms of an organisation, the structure holds true – the organisation before (input) goes through some sort of transformation and emerges different in some way (output). At the simplest level, the passing of time will result in transformation in so much as the organisation will be different when compared to another moment in its existence. It does not require a change program or transformation roadmap to happen, it will happen because of the dynamic environment in which it operates. This study is concerned with organisational transformations that are the result of an intended or deliberate change to the current state; people within the organisation make a decision to change it in some way.

Input → Transformation → Output

Figure 2.1 – Basic structure of change

Already in describing transformation, the word 'change' has been used synonymously with it, therefore it is necessary to begin by distinguishing these words. The most common distinction of change is that it is either radical or incremental. At face value, these terms are often understood to represent the scale of change e.g. radical meaning 'big change' and incremental meaning 'small change', however the literature suggests that these terms also describe the way in which a type of change is enacted, with radical change being a discontinuous, one-off event, and incremental change an evolving, continuous series of events (Bessant and Caffryn, 1997; Todd, 1999; Weick and Quinn, 1999). Ackerman (1997) proposes three types of change; developmental, transitional or transformational. Developmental change is described as first order or incremental change focusing on improvement of skills or processes. Transitional change is second order or radical change that results in the movement from one state to another. Transformational change is also second order and radical, however it not only involves a change in state but requires a shift in assumptions made by the organisation, different structure, processes, culture and strategy (Ackerman, 1997). Already it is evident that there is a confusing mix of terms used to describe change but it seems that some terms are describing the same type of change. Francis et al (2003) state that transformation requires multiple changes, a sentiment echoed by Wischnevsky (2004) who states that transformation is "simultaneous major changes in key organizational dimensions". A useful review of the literature of change systems by Maes (2008) identified seven characteristics of change; scope, tempo, time, goal, control, frequency, and 'way in which' which collectively describe a change system. The continua for each are presented in Table 2.1 below and demonstrate that transformational change is concerned with the scope of change and so can, in theory, be characterised by any of the other attributes listed.

Table 2.1 – Attributes of change (adapted from Maes, 2008)

Scope	adaptation	transformation
Tempo	incremental	rapid
Time	short	long

Goal	strict		open
Control	planned		emergent
Frequency	stable	discontinuous	continuous
Way in which	participative		coercive

Organisational transformation has been described by some authors under various guises such as corporate transformation (Kilmann et al, 1988; Miles, 1997), revolutionary change (Drew and Coulson-Thomas, 1997; Wischnevsky, 2004) and organisational metamorphosis (McHugh et al, 1999). It has been defined as "change which cannot be handled within the existing paradigm and organisational routines; it entails a change in the taken for granted assumptions and 'the way of doing things around here'" (Johnson and Scholes, 2002). Other authors discuss transformation in terms of its key characteristics; it is radical (Todd, 1999; MacIntosh and MacLean, 2001; Dawson, 2003; McAdam, 2003), and must include a change in behaviour (Kilmann et al, 1988; Blumenthal and Haspeslagh, 1994; Todd, 1999), the change is strategic in nature (Pettigrew and Whipp, 1991; McHugh et al, 1999; MacIntosh and MacLean, 1999, 2001) and results in simultaneous changes in structures and systems (MacIntosh and MacLean, 1999, 2001; Wischnevsky, 2004). The definition by Levy and Merry (1986; pg ix) sums up the fundamental nature of transformation;

"transformation is the response to the notion that the organisation cannot continue functioning as before... in order to continue to exist it needs a drastic reshuffling in every dimension of its existence."

Intentional organisational transformation is driven by the desire to move from an existing state or business model that is not achieving desired results to a completely new state or business model in an effort to improve (Kilmann et al, 1988; Francis et

al, 2003). The new or 'vision' state is the focus of each radical change effort, i.e. each change is planned and executed in an effort to reach the vision (Miles, 1997). Numerous radical change programs are discussed in the literature as being 'transformational', the most widely investigated being Business Process Reengineering (BPR) as introduced by Hammer (1990). BPR is concerned with the total overhaul of the processes in an organisation with a view to improving performance (Armistead et al, 1997; Zairi, 1997; Harrington, 1998; Lee and Dale 1998; O'Neil and Sohal, 1999). In the context of the definitions and characteristics of organisational transformation as discussed above, it has been argued that BPR does not provide the solution to organisations wishing to transform their business since it does not take into consideration the need for changes in strategy, behaviour and culture (Davenport and Stoddard, 1994). It is, however, a tool that can be used to enable transformation (Davidson, 1993; Venkatraman, 1994), with other examples being Six Sigma (Antony, 2004), strategic reengineering (Bhattacharya and Walton, 1998) and innovation (Francis et al, 2003; Cumming et al, 2005). Table 2.2 summarises the characteristics of organisational transformation.

Table 2.2 – Characteristics of organisational transformation

Characteristics	References
Radical changes in key organisational elements	Levy and Merry, 1986; Todd, 1999; MacIntosh and MacLean, 2001; Dawson, 2003; McAdam, 2003
Includes change in culture/"the way things are done around here"	Johnson and Scholes, 2002; Todd, 1999; Blumenthal and Haspeslagh, 1994; Kilmann et al, 1988
Includes change in behaviour	Todd, 1999; Blumenthal and Haspeslagh, 1994; Kilmann et al, 1988
Strategic in nature	Pettigrew and Whipp, 1991; McHugh et al, 1999; MacIntosh and MacLean, 1999, 2001
Simultaneous changes in structures and systems	MacIntosh and MacLean, 1999, 2001; Wischnevsky, 2004

Paradigm change/ change in state	Levy and Merry, 1986; Kilmann et al, 1988; Johnson and Scholes, 2002; Francis et al, 2003

Since there is no agreed definition of organisational transformation, a definition is proposed for the purpose of this study based on the characteristics outlined above:

"the change in state of an organisation as a result of a series of changes in key organisational elements, including strategy, behaviour, structures, and systems".

Given that organisational transformation is a type of organisational change, it is pertinent to explore this body of literature to understand its tenets. The roots of organisational change theory are found in the fields of group dynamics and behavioural psychology, and it evolved as an independent discipline due to the need for factory managers to understand how to reduce resistance amongst employees to changes in working conditions and practices in the 1940s (Burnes, 2004). Since then, the field has diversified from interests in employee behaviour to the successful management of the entire change process. Complementary to this are bodies of work studying the same phenomenon but through different theoretical lenses. Organisational development focuses on the way in which organisations incrementally change and evolve over time and is a term, rightly or wrongly, often used synonymously with 'organisational change' (Armenakis and Bedeian, 1999; Weick and Quinn, 1999). Within the organisational development field, organisational transformation has been referred to as "second generation organisational development" (Porras and Silvers, 1991) and it is suggested that the two phenomena collectively inform our understanding of change (Bartunek and Louis, 1988 in Dunphy and Stace, 1993). Studies of organisational flexibility (Hitt et al, 1998; Dreyer and Grønhaug, 2004; Sawhney, 2006), configuration (Miller, 1996; Dyck, 1997) and dynamic capabilities (Teece and Pisano, 1994; Eisenhardt and Martin, 2000) in the context of organisational change highlight the synergy between change

and strategy literature. As highlighted above, transformational change is described as being strategic in nature and results in a change in 'state' (Kilmann et al, 1988; Francis et al, 2003). This description complements literature on configuration of the firm, where a firm is said to change state or 'reconfigure' by transforming its components (Miller, 1996; Dyck, 1997; Mintzberg et al, 1998; Srai and Gregory, 2008). Other strategic change literature discusses specific results or deliberate targets of change and transformation such as turnaround (Eitel, 1998; Wren, 2001), and repositioning (Ryan et al, 2007).

The edges between organisational change and strategic change fields have become increasingly blurred as organisations are called to continuously change their strategies and thus elements of the organisation in order to cope with the demands of the external environment. Further, it has been argued that it is now the principal task of the strategist or leader of an organisation to adapt and change it to ensure sustained competitive advantage (Voola et al, 2004). Current strategy research focus lies within the resource-based view paradigm which has been used as the foundation for the latest thinking in strategic change management, *dynamic capabilities*, which extends strategic change from being only about changing the strategy itself to understanding the consequence of this to all elements of the organisation (Teece et al., 1997; Eisenhardt and Martin, 2000; Winter, 2003; Helfat et al, 2007; Easterby-Smith and Prieto, 2008). Dynamic capabilities have been defined as "the capacity to sense and shape opportunities and threats, seize opportunities and maintain competitiveness through enhancing, combining, protecting and where necessary reconfiguring the business enterprise's tangible and intangible assets" and so are considered to be vital weapons in an organisation's armoury if they wish to survive in the long-term (Teece et al, 1997; Eisenhardt and Martin, 2000; Helfat and Peteraf, 2003). One such capability, defined as organisational resilience, has been identified as a pre-cursor to change; a resilient organisation is one that is configured to anticipate key opportunities and events from emerging trends, constantly adapt and change, and remain relatively stable in a turbulent environment (Hamel and

Valikangas, 2003). These concepts are closely linked to the literature on strategic flexibility, which focuses on an organisation's ability to adapt to opportunities in the business environment (Dreyer and Grønhaug, 2004).

2.1.2. How is transformation achieved?

Whether considering transformation through the lens of organisational change theory or strategic change theory, a number of common themes emerge from studies in the area. Early work on transformational and strategic change identified the need for a holistic view in terms of its content (i.e. what had changed), process (how it changed) and context (internal and external situation before, during and after the change) (Pettigrew, 1987) and since then further calls for the understanding and integration of these three constructs have been made (Pettigrew et al, 2001; Dawson, 2003). Individually, all three have been widely investigated. The content of transformation is generally presented as frameworks or models that represent the key elements of a business and how they are linked, stating that each element will change as part of the transformation e.g. Miles' transformation framework (Miles, 1997), the Change Cube, (Mintzberg et al, 1998), McKinsey's 7S framework (Peters & Waterman, 1982), the Star Model (Galbraith et al, 2001), and the Transformers Roadmap (Bititci, 2007).

Transformation process literature is more difficult to identify explicitly, since transformation and change are words used interchangeably when describing this construct. The transformation frameworks listed above implicitly consider process in terms of the starting point of transformation and the possible sequence of changes, but a micro-level process of *how* it is carried out is not described. Assuming that the definitions described previously are accurate and that transformation is the culmination of a series of changes, then change process management models are abundant. Underpinning the models are a number of theories of how change occurs in organisations. Planned change assumes that organisations exist in a state of

stability and that a change can be planned to turn this into a different, desired stable state through a defined process of steps, and in the case of radical change it has been proposed that this approach is optimal (Todd, 1999; McAdam, 2003). However, planned change has been criticised by some who argue that it does not adequately account for bottom-up, continuous changes and improvements required by organisations in dynamic and turbulent competitive environments (Kanter et al, 1992; Pettigrew and Whipp, 1991; Dawson, 1994). The theory of emergent change appears to lend itself to the definition of transformation, in that the continuous small-scale incremental changes culminate over time into a re-configuration or transformation of the organisation (Burnes, 1996). Both planned and emergent theories have been widely adopted in studies of organisational change and transformation, leading to the suggestion that there is "no one best way" to change and that the optimal approach is dependent upon the specific internal and external context or contingencies of the business (Dunphy and Stace, 1993). This contingency approach, however, has not gained significant following amongst change scholars as a stand-alone theory and is criticised for implying that an organisation must adapt to its contingencies rather than change its contingencies to suit its own culture or style (Burnes, 1996). In saying that, the most recent theories of change accept the view that its implementation and management is influenced by an organisation's particular context.

Scholars' answer to the criticisms noted above has been to propose more specific change processes that build upon planned and emergent thinking. The processual approach deconstructs change into a series of sequential steps, the detail behind each determined by the specific context of the company, thus borrowing from both the planned and contingency theories of change (Jick, 1991; Kotter, 1995; Garvin, 2000; Mento et al, 2002; Pettigrew and Whipp, 1993; Dawson, 1994). The theory of punctuated equilibrium (Gersick, 1991; Romaneli and Tushman, 1994) has its roots in evolutionary biology and proposes that organisations evolve incrementally and slowly over time, and that this state of equilibrium is disturbed by a radical,

revolutionary event that changes the organisation dramatically. The frequency of these punctuations depends on the dynamism of the market in which the organisation operates, again adopting ideas from the contingent approach. Continuous transformation on the other hand argues the opposite. Theorists believe that organisations do not experience periods of incremental evolution but are endlessly engaged in radically changing various elements of the organisation to remain competitive (Greenwood and Hinings, 1996; Brown and Eisenhardt, 1997), which is aligned to the emergent school of thought. Most recently complexity theories have been used to understand continuous transformation (Tenenbaum, 1998; MacIntosh and MacLean, 2001) but are considered to simply provide a metaphor for describing organisational change, as opposed to a new theory for analysing and explaining organisational change phenomena (Burnes, 2005). In strategic change literature the processual school of thought describes strategic change in terms of new strategy implementation (Johnson & Scholes, 2002; Pettigrew, 1992) although making the sharp distinction between process and content in this field is considered "more of an analytical hindrance than a help" (Pettigrew, 1992; 7). Indeed, within strategy literature transformation has been stated as being synonymous with the strategy-making process (Mintzberg et al, 1998; 302) further supporting this view that separating content and process is futile. Key thinkers in the field have recently been calling for a different approach when studying strategic change – a micro-level investigation of routines and behaviours of employees as the change progresses, rather than abstracting to the organisational level and investigating steps between changes in state (Beech and Johnson, 2005). This echoes the thoughts of Pettigrew (1992) who considers dynamic analysis of change to be of more value than static approaches. In the context of the work presented here, the transformation process is the third of three types defined by Van de Ven; "a sequence of events that describes how things change over time" (Van de Ven, 1992; pg 169), the events being the content of the change. As mentioned, transformation process discussions are intertwined with the content models through suggestions of the sequence of events to enact a transformation, but the process of transformation from the point of view of *how* it is achieved is the domain of change management scholars.

The context within which a transformation occurs is a relatively abstract concept in that it provides the stimulus for transformation, but is also changed as a result of the transformation, so it is both input and output. It is also intertwined with the content and process as it influences what is done and how it is done, and provides barriers and enablers for transformation to occur. Pettigrew (1987) defines context in two dimensions. One dimension is the 'outer' context, which is concerned with the macro and micro environment within which the organisation operates, for example, economic, political, and competitive environment. The 'inner' context is concerned with elements such as organisational structure, capabilities, culture, and power (Balogun et al, 2004). The context of transformation has been researched as part of the way in which transformation is enacted and reasons behind its success or failure. Leadership and culture are key themes (Bass 1990; Beer et al, 1990; Pettigrew and Whipp, 1991; Kotter, 1995; Miles, 1997; Mintzberg et al, 1998; McAdam, 2003; Balogun et al, 2004; Bititci, 2007) as are organisational learning and knowledge management (Jones and Hendry, 1994; MacIntosh and MacLean, 1999). The stimulus for transformation is discussed as a contextual factor that impacts on the content and process (Kilmann et al, 1988; Drew and Coulson-Thomas, 1997; Eisenbach et al, 1999; Francis et al, 2003; Chrusciel, 2008).

2.1.3.   Summary

Organisational transformation has been discussed in the context of organisational change theory, however insights have also been drawn from other fields, notably strategic change and organisational development, which offer learnings on particular aspects of the phenomenon. Other bodies of knowledge have been shown to overlap with organisational transformation e.g. innovation and business process reengineering (BPR) as drivers; however since the aim of the study is to operationalise the transformation process, these areas are noted as being relevant but are not extensively reviewed.

In summary, the researcher concludes the following;

- Organisational transformation is *the change in state of an organisation as a result of a series of changes in key organisational elements, including strategy, behaviour, structures, and systems.*

- Organisational change and strategic change fields offer separate but complementary insights into understanding organisational transformation.

- Transformation should be understood in terms of its content, process and context, as suggested by Pettigrew (1987).

- The content of transformation is discussed in both strategic and organisational transformation literature, generally presented as a framework or model of the elements of the organisation that will change.

- Transformation process should be considered in three ways. Firstly, the sequence of events describing how the transformation occurs over time (Van de Ven, 1992), secondly the theory or set of assumptions which describe the transformation, and finally the way in which the changes within the overall transformation are enacted. The first is the domain of transformation content literature, and the others within the realms of the organisational change management field.

- Literature that could be described as exploring the 'context' of transformation discusses barriers and enablers of transformation, reasons why it has occurred (i.e. the stimulus), and the influence of these factors on the content and process.

2.2   Transformation in manufacturing SMEs

Clarification of terms

Before discussing transformation in the context of manufacturing SMEs, it is necessary to clarify definitions of the terms 'manufacturing' and 'SME'. The definition of SME or Small to Medium-sized Enterprise can vary from country to country, however for member states of the European Union a consistent definition of the term is officially used. The most recent definition was published in 2003 as an organisation with less than 250 employees and/or turnover of less than EUR50million and/or an annual balance sheet total of less than EUR43million (EC, 2003). Since this research will focus on UK manufacturing SMEs, this definition will be adopted.

To manufacture is *"to make something, especially on a large scale, using machinery"* (Oxford English Dictionary). Industry classifications of manufacturing have continuously developed (e.g. Standard Industrial Classification (SIC) codes) however in recent years the scope of what was traditionally considered manufacturing has been widened. Doom and gloom stories of the death of manufacturing has led to industry leaders engaging with practitioners and the government to redefine our thinking and reinvent the concept of manufacturing for the 21st century. In 2002 the UK government released its manufacturing strategy which was reviewed in 2004 and again in 2008. The latest document outlines the changing role of manufacturers in the global value chain, identifying a divergence into activities such as research and development, design, sales, services, after-care and supporting packages, in addition to production and engineering (BERR, 2008b). The researcher thus defines a manufacturing organisation as *one that is involved in the provision of a tangible good for customers through research and development, design, production and/or assembly, or after-sales service.*

2.2.1.   Why do manufacturing SMEs transform?

"Industrial transformation is a must. In order to meet the competitive, environmental and social challenges, a concerted effort will be needed to transform European manufacturing from a resource intensive to a knowledge intensive, innovative sector capable of achieving and maintaining technological and production leadership in the global market place." (MANUFUTURE, 2004) There is no doubt that the manufacturing industry has been under immense pressure in the past decade, blamed on low-cost alternatives following globalisation and changing consumer priorities (DTI, 2004). SMEs in particular are most susceptible to changes in industry structure, since the majority form part of the supply chain of larger organisations which tend to dictate their direction (Bluhm and Schmidt, 2008, pg 3). Organisational transformation and strategic change literature alike most commonly cite changes in the external environment as triggers for transformation (Child and Smith, 1987; Pettigrew and Whipp, 1991; Drew and Coulson-Thomas, 1997; Francis et al 2003) so in addition to globalisation and changing consumer habits, the current economic climate offers a further push for manufacturing SMEs to radically change the way in which they compete. At a more general level, organisations often transform in response to a crisis which could be caused by internal or external events e.g. loss of a customer, new competitors, poor performance results, or retirement of key employees (Drew and Coulson-Thomas, 1997; Chrusciel, 2008).

But what do manufacturing SMEs transform into? In 2003 UK government commissioned a review of UK competitiveness to determine how its organisations could improve productivity and competitiveness against the backdrop of challenges in the external environment. The report, led by Porter and Kettels, concluded that the key to the UK's sustainability was for its businesses to "move from a location competing on relatively low costs of doing business to a location competing on unique value and innovation" (Porter and Kettels, 2003; pg 5). This report informed

the review of the UK Manufacturing Strategy mentioned above (DTI, 2004). Also building upon the findings of the competitiveness report, Livesey (2006) lays the foundations for a better understanding of the concept of 'high value manufacturing' and proposes a 'high value matrix' as a framework for allowing manufacturing companies to understand their current competitive posture. If this concept of high value manufacturing is adopted as a part of the UK's manufacturing strategy it will effect manufacturing SMEs in terms of funding mechanisms and government support (through regional development agencies) who will focus their attention on organisations falling into the 'high value' category. Thus when considering long-term strategies SMEs need to take this into consideration. The discussion thus far is based on the assumption that manufacturing SMEs transform because they are forced to by changing market or competitive conditions (Badri et al., 2000) but this is not always the case. As with large organisations, when a new owner or managing director takes over an SME they often want to make their mark on the company and demonstrate their abilities by making changes (e.g. Bititci et al, 2010). The business may not be in crisis but the new leader perceives that things could be done in a better way, or has different goals or aspirations (stemming from past experience or simply ego) and the company would benefit as a result of making such changes. As has been mentioned in the discussion of transformation context, the reason for a transformation occurring has an impact on the way in which it happens and so this is an important factor to consider.

2.2.2.   How do manufacturing SMEs transform?

The continued dominance of SMEs in the business environment, and indeed the sustained presence of manufacturing companies (albeit in different forms of the traditional 'manufacturing' perception) indicate that manufacturing SMEs are capable of weathering the storm and surviving, even growing in some cases. In the interview with the CEO of Scottish Engineering, the researcher gained an alternative view of manufacturing in Scotland as a thriving and innovative sector, full of small companies with big success stories. This is a sentiment echoed by numerous

government reports keen to sell the story of success in the manufacturing industry (e.g. EEF, 2007; BERR, 2008), despite continuing negative media coverage and poor public perception. When asked his opinion on why some manufacturing SMEs were unable to survive, the Scottish Engineering CEO stated: *"They don't move with the times. By the time they realise, it's too late…The ones that survive are the ones that take a long hard look in the mirror and say 'where are we, where are we going, how are we going to get there, let's do it!'…There's no excuse for not changing if you want it enough"*. SME-specific literature compliments this view, suggesting that the dominance of the owner/manager dictates the way in which the organisation develops (Hudson et al, 2001). It is well accepted that SMEs are not miniature versions of large organisations (Storey, 1994; O'Regan and Ghobadian, 2004), and many distinguishing differences have been identified that warrant a separate mode of inquiry to be followed to understand organisational phenomena in the SME context. The SME classification is sufficiently wide to be further fragmented into particular fields of study, such as entrepreneurship and micro businesses, however a set of generic characteristics have emerged that set SMEs apart from larger organisations, summarised by Hudson et al (2001) as:

- personalised management, with little devolution of authority;

- severe resource limitations in terms of management and manpower, as well as finance;

- reliance on a small number of customers, and operating in limited markets;

- flat, flexible structures;

- high innovatory potential;

- reactive, fire-fighting mentality;

- informal, dynamic strategies.

These characteristics have a clear impact on the way in which SMEs transform. Enablers such as flat structures and informal strategies would suggest that SMEs are in a position to transform easily, however other characteristics counteract these and act as barriers; resource limitations both physically and in terms of employees means that SMEs cannot invest in systems or technologies to support transformation efforts, nor devote the necessary time to embedding or fully implementing changes into the culture of the organisation (Lu and Beamish, 2001). The reluctance of some SME owners/leaders to delegate responsibility (Van Gils, 2005) means that transformation may not be given appropriate emphasis or priority among other employees and so fails to happen or stick. Reactive, fire fighting mentality puts the SME in a constant state of alert (Garengo and Bernardi, 2007) so employees may get overwhelmed by unstructured and unfocussed change initiatives with no clear direction or purpose, resulting in resistance to change. Linked to this, an informal strategy (O'Regan and Ghobadian, 2008) may mean that the company has no long-term vision of the future, or at least one that is understood by employees other than the owner/leader, and so changes may be viewed as individual operational improvement projects with no strategic impact. Focussing specifically on manufacturing SMEs, the researcher was unable to find any studies which explicitly described their characteristics, however from her own experience as a researcher working with manufacturing SMEs over the past four years, some common features are evident. Manufacturing SMEs tend to be owner managed and founded by engineers with particular technical skills. Even if not owner managed, manufacturing SMEs tend to be run by engineers with technical backgrounds and limited experience in business management, particularly evident in sales and marketing functions. For some organisations this is addressed through the appointment of specialists in the area, however in the smaller companies, where the owner takes on many of the business functions himself to control costs, this skill is clearly lacking and poses a threat to the long-term survival of the companies in question. A further observation is the reluctance of some of these owners to invest in non-operationally focussed processes or functions such as branding, advertising, or product development.

Storey (1994) suggests that three characteristics that should be studied when investigating the development (and so in this context the transformation) of small firms; characteristics of the entrepreneur, types of strategy associated with growth, and the characteristics of the organisation. However, studies of organisational transformation or indeed change in an SME context are limited and tend to focus on a specific driver of the transformation e.g. business process reengineering (McAdam, 2002; Tennant 2007), or contextual effects such as governance (Brunninge et al, 2007), rather than the overall process and how it is enacted. SMEs have been studied in relation to strategic planning and implementation, and findings suggest that these organisations are involved in strategic activities to varying degrees (e.g. O'Regan and Ghobadian, 2007; Ates, 2009), however these findings have not been discussed in relation to organisational change or transformation.

2.2.3.   Summary

In summary, the researcher can conclude the following:

- SMEs need to transform in order to survive in the current globally competitive business environment.

- SMEs transform as a result of changes or crises from the internal and external environment or the introduction of new owners or leaders.

- SMEs are characteristically different from larger organisations and so need to be empirically studied as a separate unit of analysis in relation to organisational phenomena.

- Theories of change and transformation have not been discussed in the context of SMEs and their particular characteristics.

- There is limited empirical understanding of how transformation occurs in SMEs, particularly in the manufacturing industry.

2.3   Conceptual framework

To summarise the exploratory literature review, the researcher has developed a diagrammatical representation of organisational transformation, presented in Figure 2.2 below and explained thereafter.
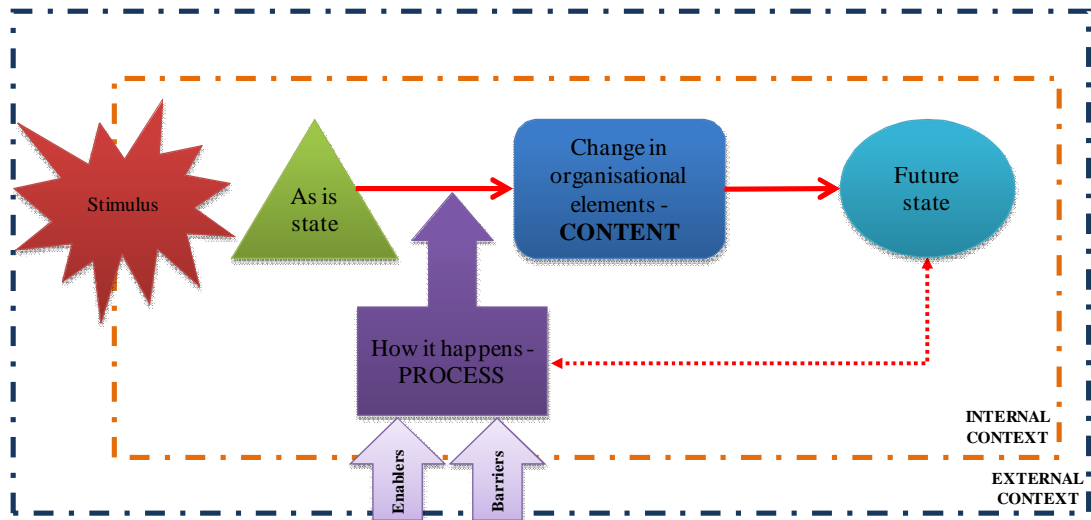
Figure 2.2– Conceptual framework for organisational transformation

An organisation operates in its 'as is' state within an internal context, which itself operates within an external context. Something stimulates a decision to change, either from the internal or external context, and the organisation transforms to a future state by changing organisational elements (content) in some way (process). As well as stimulating the change, the internal and external context (which includes the characteristics of the organisation) has an impact on the process of transformation and its content in terms of enablers and barriers. In this study, the generic context is manufacturing SMEs, but each will have its own particular context that will impact on its transformation behaviour.

2.4   Exploratory case study

Whilst conducting this research, the author also had the opportunity to participate in the analysis of the transformation of a Scottish manufacturing organisation (see Bititci et al, 2010 for full case study). Highland Spring Ltd, a bottled spring water producer, has grown from a small own labelled water seller to one of the leading spring water brands in the UK over the past 20 years. Taking Pettigrew's content, process, context framework as its starting point (Pettigrew, 1987), the analysis traced the steps in the transformation journey using data collected during interventions with the company and interviews with those involved. The content of the transformation was described as a series of 'waves of change' over the period of analysis. The process of transformation was described through the temporal sequence of the waves, as well as the internal and external contexts at the time. Each individual wave of change was also mapped onto Kotter's 8 step change process (Kotter, 1996) to describe the way in which each was executed. The key findings from this exploratory study are as follows:

- Highland Spring transformed from a producer of own-label bottled water to one of the leading bottled water brands in the UK.

- The stimulus for the transformation was the growth aspirations of the owner (which were impossible through the own-label strategy) and the vision of the management team to exploit 'Scotland the brand' through selling pure spring water.

- The content of the transformation appeared to follow the models of Miles, 1997; Mintzberg et al, 1998; Bititci, 2007, where the vision and strategy, value streams and products, organisational structure, infrastructure, systems and resources, processes and competencies, culture, leadership and performance management all changed.

- For the majority of the changes, contextual factors initiated or shaped the direction of the subsequent changes during the transformation journey, thus the overall transformation was emergent in nature, rather than a planned program.

- The order in which the waves were carried out was considered to be important, in particular it was believed that the implementation of new production systems would have been more successful had it taken place after making changes to employee culture, and not before as had been the case.

- All but two waves of change could be mapped to Kotter's 8 step change process (Kotter, 1996) and those that did not appear to follow these steps were not considered as successful as the others.

Involvement in this analysis allowed the researcher to gain a better insight into organisational transformation within a manufacturing SME and realise the need to take a longitudinal view of transformation in order to more fully appreciate the interplay between the various factors, as has been suggested by many change scholars (Pettigrew, 1990; Armenakis and Bedeian, 1999). It demonstrates that considering transformation in terms of content, process and context is a useful approach, however having not been directly involved in the data collection process, the researcher is still unsure that a grounded understanding of *how* manufacturing SMEs transform has been revealed, or indeed the significance and impact of the contextual factors on how the company transformed into its current state.

2.5   Discussion

In exploring the literature in the area of transformation, the researcher has demonstrated that organisational transformation is a type of change that involves a number of radical changes in various elements of the organisation including strategy, culture and behaviour. It fits within the realm of both organisational change and strategic change fields of study, each of which offers valuable insights into understanding transformation and its constructs. Current thinking suggests that in order to understand transformational or strategic change, it is necessary to consider its content, process and context together. In this research, the context includes

manufacturing SMEs, which have been demonstrated to have characteristics that require specific and focussed empirical investigation. However there are no published studies focussing on the effects of the manufacturing SME context to current transformation theories and models (see Bititci et al, 2010 as an exception).

This chapter began with the question "why do manufacturing SMEs which attempt to transform not always succeed?". It would seem that there is ample theoretical and indeed empirical literature presenting the recipes for successful transformation in the form of models and frameworks and contingency factors; however these studies have in general used experience in large companies as the foundation for theory building, and largely ignore the unique characteristics of SMEs as well as those operating in the manufacturing industry. Therefore the researcher is led to conclude that there is a disconnect between our current understanding of the theory of transformation and how it actually occurs in the manufacturing SME context, and that this may be contributing to some organisations failing in their attempts to transform. Support agencies, consultants and SMEs managers themselves turn to models and frameworks of change and transformation and the assumption that they are equally applicable to the SME context may be a fatal flaw in their understanding. Indeed, Buchanan et al (1999) question whether change in small organisations can be approached in the same way as that in a department of a large organisation. The case study presented in Section 2.4 suggests that existing theories of transformation and change may indeed be applicable to manufacturing SMEs, however the retrospective mapping of the story of transformation in this case onto these theories means that one cannot assume that they universally apply. By using the theories as organising frameworks the researchers defined the terms in which they viewed transformation in this company, rather than letting the transformation behaviour emerge. To build a more objective picture of the transformation behaviour of manufacturing SMEs, the researcher believes a more grounded approach is necessary.

It is clear, therefore, that before being able to understand the reasons for transformation failure in manufacturing SMEs, it is first necessary to understand the general transformation behaviour of manufacturing SMEs. In their review of organisational change in 1990s, Armenakis and Bedeian (1999) echo the thoughts of Van de Ven and Hubner (1990) in their call for more empirical understanding of how change occurs in organisations. Further, Pettigrew et al (2001) and Dawson (2003) continue in their call for longitudinal studies investigating the content, context and process of change together. Thus, the aim of this research is to contribute to knowledge of the transformation behaviour of manufacturing SMEs by answering three research questions:

RQ1: How do manufacturing SMEs transform?

RQ2: What are the internal and external contextual factors affecting organisational transformation in manufacturing SMEs?

RQ3: What is the association between these contextual factors and how manufacturing SMEs transform?

RQ1 will be answered by investigating the content and process of transformation, whereas RQ2 and RQ3 will be answered through an investigation of the context of transformation in manufacturing SMEs, and the impact this has on the content and process.

2.6   Summary

This chapter has presented the findings from a review of literature in the areas of transformation and manufacturing SMEs, concluding that organisational change and strategic change literature gives insights into the content, process and context of organisational transformation, however understanding of these constructs in manufacturing SMEs is limited. The need for studying manufacturing SMEs as a particular focal point has been established, and a case study of one such transformation described. Within this chapter the researcher has highlighted the need for a more grounded understanding of the general transformation behaviour of manufacturing SMEs and presented this as the aim of her study. To fulfil this aim, three research questions are stated, which will allow the researcher to propose how manufacturing SMEs transform, the contextual factors affecting this transformation, and the association between these factors and how the transformation occurs. Chapter Three will describe the research design to enable the fulfilment of the aim of the study.

Chapter 3 - Research Design

The aim of this chapter is to outline the methodology that the researcher will follow in order to answer the research questions posed in Chapter Two. It begins, in Section 3.1, with a discussion of the philosophical paradigm into which the researcher's work can be positioned, based on ontological assumptions and methodologies used in existing studies of organisational transformation, and goes on to explicate the implications this has for the research strategy. Section 3.2 then discusses the chosen research strategy summarised into a research framework (Maxwell, 2005), and presents a discussion of the methods employed to conduct the research and analyse the data collected, and the evaluation criteria that will be used on completion of the research to ascertain its validity. Finally, Section 3.3 summarises the key findings from this chapter.

3.1   Research philosophy

Philosophy is defined as *"the use of reason in understanding such things as the nature of reality and existence, the use and limits of knowledge and the principles that govern and influence moral judgment" (Cambridge Advanced Learners Dictionary online, accessed 05/07/09).* The use of reason is governed by the background of the thinker; experience, education, morals, religion and so on. This baggage is present before the research topic is conceptualised and so must be examined and understood to allow prejudices and assumptions to be set aside or at least acknowledged prior to the investigation of phenomena. As a result of mankind's relentless pursuit of knowledge, studies of philosophy and its nature date back to Ancient Greece and theories are still developed today. Specific to academic research, branches of philosophy have emerged to provide researchers with a theoretical framework into which their work can be positioned. The philosophical paradigm forms the foundations upon which a research design rests, influencing the scoping of the research goals and questions, data collection and analysis methods, and tests of the quality and validity of the study (Easterby-Smith et al, 2003: 10). Therefore,

before designing the strategy for this study, the philosophical paradigm of the researcher and justification of this categorisation is discussed.

There is an element of the 'chicken and egg' type of debate that is applicable here. One can arguably investigate research paradigms and in doing so identify that which fits their own worldview best, and thus 'choose' to position their work within it. Conversely, the way in which the research questions are defined and the scoping of the problem under investigation are demonstrations of the philosophical position of the researcher and therefore the paradigm is implicit in the framing of the problem. This debate is essentially one in the same, in that a research paradigm is chosen based upon a better understanding of how philosophical assumptions can be characterised through investigating the various types, allowing the researcher to position the work relative to other academics in the field. To aid the logical flow of this chapter, the following section begins by stating the researcher's philosophical assumptions, then goes on to present the philosophical debate in social science research, and where these assumptions position this study in terms of a research paradigm. Precedence is also drawn from existing studies of organisational transformation to add further weight to the justification of adopting a particular viewpoint.

3.1.1. Philosophical assumptions underpinning this study

Philosophical assumptions in social science research can be broadly separated into two elements; the nature of reality (ontology); and the nature of knowledge (epistemology). At one extreme, ontology can be objective, where the researcher believes reality exists independently of the observer, thus can be objectively observed and measured. At the other extreme, reality is considered to be a socially constructed concept, is subjective depending on the observer and so can be discussed and described but not proven. Epistemological assumptions also have two extremes; one belief is that phenomena can be deconstructed to simplest elements and so

measured to understand causality. Conversely, at the other end of the scale is the belief that complexity is necessary to understand phenomena and the focus is on understanding relationships and meanings to build a picture of what may be occurring. The descriptions of ontology and epistemology allude to the fundamentals of the philosophical paradigm debate in social science research. The characteristics of ontology and epistemology in combination constitute a research paradigm (Beech, 2005) and in the management field, two philosophical paradigms dominate; positivism and phenomenology/social constructionism (Easterby-Smith et al, 2003; Maxwell, 2005). Positivism assumes that reality can be objectively observed and deconstructed into fundamental elements, thus the researcher is independent of the phenomena under study. At the opposite end of the spectrum, phenomenology/social constructionism assumes that reality is a construct of the observer and as such the researcher cannot be independent of the phenomena being studied. The main characteristics of these are summarised in Table 3.1 below, as detailed in Easterby-Smith et al, 2003:27.

Table 3.1 – Summary of characteristics of research paradigms (adapted from Easterby-Smith et al, 2003:27)

	Positivist paradigm	Phenomenology/social constructionism paradigm
Ontology	The world is external and objective	The world is socially constructed and subjective
	Observer is independent	Observer is part of what is being viewed
	Science is value-free	Science is driven by human interests
Epistemology	Focus on facts	Focus on meanings
	Look for causality and fundamental laws	Try to understand what is happening
	Reduce phenomena to simplest elements	Look at the totality of each situation

	Formulate hypotheses and then test them	Develop ideas through induction from data
Preferred methods include	Operationalising concepts so that they can be measured	Using multiple methods to establish different views of phenomena
	Taking large samples	Small samples investigated in depth or over time

As with any debate, there are criticisms and benefits argued for each. Positivism is criticised for being over simplistic and losing any meaning due to the reductionist approach, but is accepted as an optimal approach for understanding causal relationships between a small number of well-defined constructs (Easterby-Smith et al, 2003). Similarly, social constructionism has been slated for developing theory that is too specific to individual cases that it loses all meaning and practical implications, but is also hailed as vital in understanding, in-depth, the nuances, relationships and meanings of phenomena in specific cases (Easterby-Smith et al, 2003). These paradigms lie at opposite ends of a spectrum but in general, and as is true of this study, the majority of researchers find themselves accepting and appreciating elements of both viewpoints and so position themselves somewhere in between. As such other paradigms have emerged that blend various aspects of these extremes, most notably critical realism, which assumes that a variety of viewpoints are necessary to understand a phenomenon (Easterby-Smith et al, 2003) and more recently pragmatism which takes the stance that whichever approach that is appropriate for the context should be adopted (Cherryholmes, 1992; Cresswell and Plano-Clark, 2007).

Organisational transformation is accepted as being a myriad of complex interactions between leadership, culture, business context, processes and so on and to cope with this complexity, studies tend to be reductionist in their approach. Work focuses on one element of the jigsaw or the relationship between a few pieces (e.g. leadership

and embedding change, Buchanan et al, 2005). These studies are important to allow for incremental building of knowledge and understanding in the field, but some have been criticised as providing a superficial view of how change is occurring and what can be learned from the analysis (Pettigrew, 1987 Dawson, 1994; Collins, 1998). As discussed in the previous chapter, Pettigrew along with others calls for the integration of the content, process and context of transformation to fully appreciate the complexities involved, suggesting studies tending towards the social constructionist end of the spectrum.

The researcher herself believes an objective reality exists, i.e. organisational transformation in a manufacturing SME has happened and can be defined, but also accepts the fact that different participants describing the event may construct different realities about it, all of which are valid. The need for maintaining the complexity of the phenomenon of organisational transformation is accepted, highlighted by the third research question which aims to understand the association between constructs, thus allowing new insights to be developed. Critical realism is based on the assumption that "there exists an objectively knowable, mind-independent reality which we make our own through perception and cognition" and is categorised by its underpinning of exploratory, information-rich studies (Easterby-Smith et al, 2003), thus this work is positioned within the critical realist paradigm. A widely used method for collecting and analysing data on organisational change transformation is through case study and narrative. 'Stories' of change in organisations are gathered from those involved in designing, implementing and embedding the changes and pieced together to give an overall understanding of the phenomenon (e.g. Child and Smith, 1987). Collins and Rainwater (2005) make the argument that on top of the longitudinal case study approach, change researchers need to take multiple narrative perspectives to move closer to a true representation of what has taken place in the organisation. Therefore, the pursuit of this study within a critical realist paradigm would answer these calls by preserving the complexity of the phenomenon and investigating different viewpoints of what has occurred to develop

a more valid picture of reality. This has obvious links to the research strategy employed to collect data on these viewpoints and make sense of it, which is the topic under discussion in the following section.

3.2   Research design

The strategy for the research in this thesis uses the framework proposed by Maxwell (2005) for qualitative research design as its recipe. The framework is intended to give structure to the research process, whilst being flexible enough to allow for interactive changes to its various elements as the research progresses. It comprises of five interrelated elements (Figure 3.1); goals, conceptual framework, research questions, methods and validity, each of which will now be discussed in the context of this work.
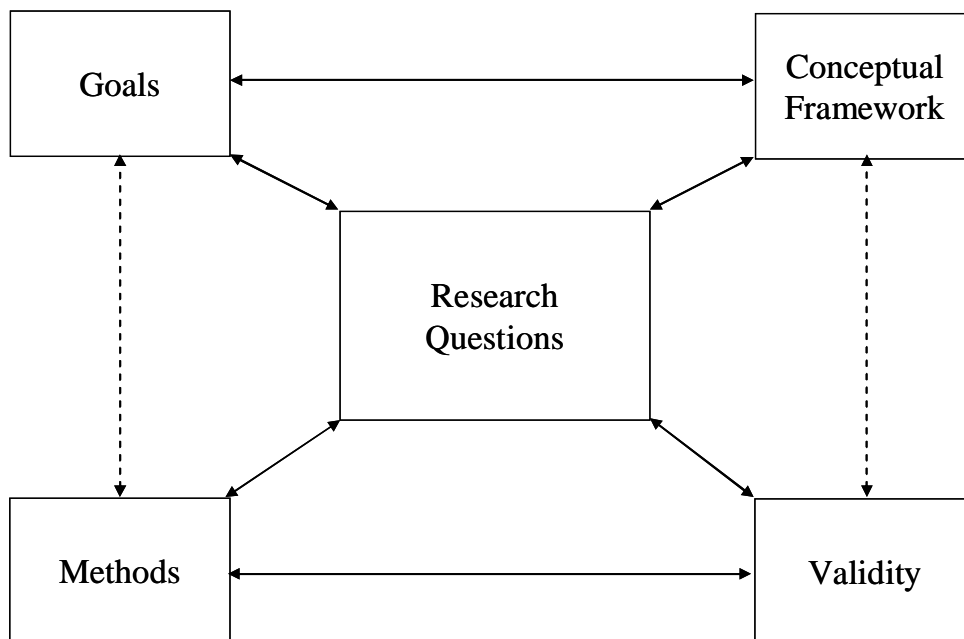
Figure 3.1 – Research framework (Maxwell, 2005)

3.2.1. Goals, conceptual framework and research questions

Maxwell (2005) defines goals as the reasons for doing the research, why it is worth doing and what issues will be clarified by doing it, and has divided these into personal, practical and intellectual goals. The personal goals relate to the motivation of the researcher to pursue the chosen line of inquiry, practical goals relate to the need that the research aims to address and intellectual goals are set to ensure the research study makes a theoretical contribution in the area. Each of these goals has been implicitly stated through the discussions presented in Chapters One and Two. In summary, the overall goal of the research is to extend theory on the transformation behaviour of manufacturing SMEs. Deconstructing this into Maxwell's three types of goals, the personal goals of the researcher are to help ensure the sustainability of manufacturing in the UK, and to complete her doctorate as a means to build a career in academia. Practical goals are to undertake a formative evaluation of organisational transformation in manufacturing SMEs thus shedding light on the phenomenon and its application in practice. In terms of intellectual goals and contribution to theory, this research will provide insights into the transformation behaviour of manufacturing SMEs, and discussions as to how contextual factors influence the content and process of transformation.

The conceptual framework provides the constructs of the research topic, the 'what' elements to consider when striving to answer the research questions and fulfil the research goals. The conceptual framework for this work was presented as the conclusion of the exploratory literature review in Chapter Two, which was guided in its direction by the research goals. The key constructs are the stimulus, content, process and context of transformation, where context includes the enablers and barriers of the transformation, and the internal and external environments of the organisation.

The research questions are central to the research design and clarify exactly what the researcher wants to discover by conducting the study. Three research questions were stated in Chapter Two, following discussions of the background to the study, exploratory literature review and exploratory case study. Hence, these questions were formed from the research goals and conceptual framework, demonstrating the linkage between these three elements of Maxwell's framework (2005). These elements and the relationships between them are represented graphically in Figure 3.2 below.
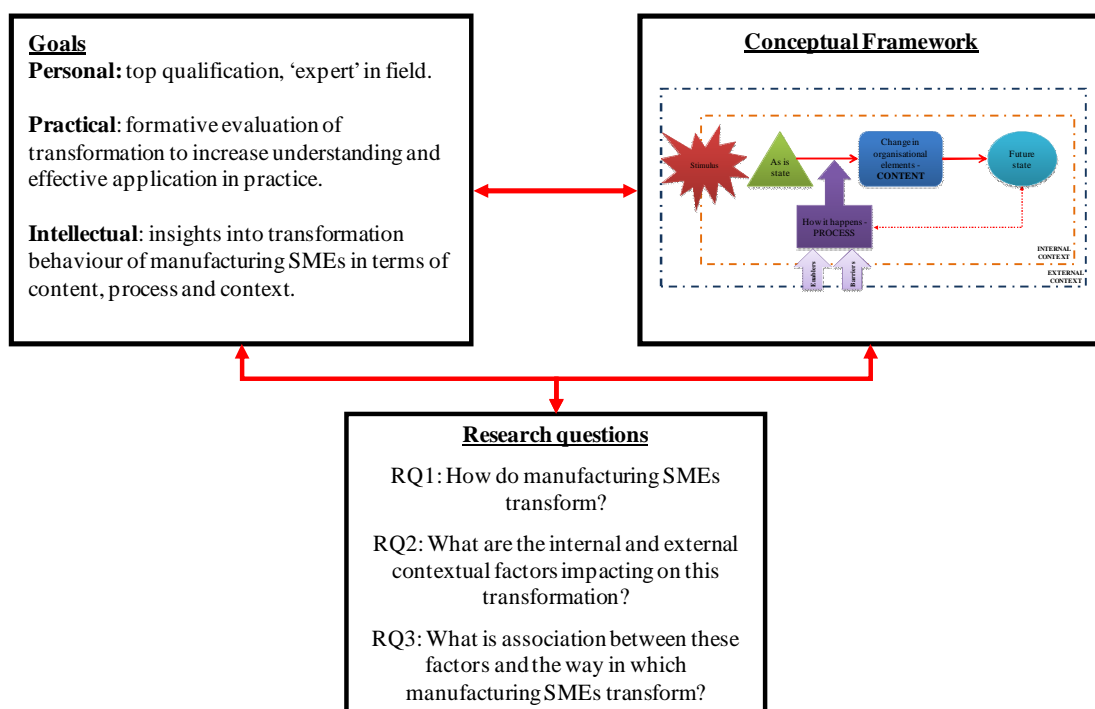
Figure 3.2 – Three of five elements of research design (based on Maxwell, 2005)

3.2.2. Methods

The fourth, and arguably most important element of any research design is how the research questions will be answered. The 'methods' element of the framework suggested by Maxwell (2005) includes methodology (the strategy for data collection

and analysis), as well as methods (the tools and techniques used to collected and analyse data). This research is exploratory in nature due to the fact that little is known about the transformation behaviour of manufacturing SMEs. Within a critical realist paradigm the methodological approach is one of discovery and process orientation to gather information-rich, contextual data. As has been noted above, case study methodology is suggested as optimal for investigations of organisational change (Pettigrew et al, 2001), and in general in the operations management field is gaining popularity (McCutcheon and Meredith, 1993; Voss et al, 2002).

Case study research

Yin (2003; pg1) suggests that case studies are relevant when "how" or "why" questions are being posed, when the researcher has little control over the events under investigation and when the focus is on phenomenon within a real-life context, each of which is true in this study. The increasing popularity of case study research in operations management has led to the development of guiding processes and frameworks for designing the data collection and analysing it. Yin (2003) presents the definitive guide to case study research design and methods, now in its fourth edition and considered the 'bible' of case study research. The case study method can be divided into three phases: define and design; prepare, collect and analyse; and analyse and conclude. In the initial phase, cases are selected and data collection protocols designed. Phase two consists of conducting the case studies and writing individual reports for each, and the final phase involves cross-case analysis, modification of theory and development of implications.

In the same vein, Eisenhardt (1989) proposes a process of theory building from case study research, and although the output of this research is considered to be theory extension and refinement rather than theory building, it is a useful structure to adopt for designing and conducting the study. The process steps are presented below in Table 3.2 and discussed thereafter.

Table 3.2 – Process of theory building from case study research (Eisenhardt, 1989)

Step in process	General activity
Getting started	Definition of research questions and a priori constructs.
Selecting cases	Specified population, sampling.
Crafting instruments and protocols	Multiple data collection methods, combination of quantitative and qualitative data.
Entering the field	Overlap data collection and analysis, flexible and opportunistic data collection methods.
Analysing the data	Within- and cross-case analyses.
Shaping hypotheses	Tabulation of evidence for each construct, replication across cases, evidence of "why" behind relationships.
Enfolding literature	Comparison with literature.
Reaching closure	Theoretical saturation.

The first step of 'getting started' has begun through defining research goals, developing the conceptual framework and developing the three research questions, however further investigation of the constructs in the literature is required to fully understand the current knowledge in the field. This will allow a theoretical framework of transformation to be developed, which will be used to discuss the empirical findings and lead to confirmation and extension of theory (presented in Chapter Four).

In selecting cases, consideration must be given to the number of cases appropriate to address the research questions. Yin (2003) makes the distinction between single- and multiple-case designs and describes in detail the rationale behind choosing one or the other, based upon the nature of the research questions, and the purpose of the data collected from the case(s). The overall aim of this study is to understand transformation behaviour in manufacturing SMEs, thus the research intends to extend theory within the field of organisational transformation, using evidence from the

cases under investigation. This purpose, along with the wide scope of the context in this study (i.e. manufacturing SMEs) tends the researcher towards the multiple-case design. A single study would not be representative of manufacturing SMEs which operate in vastly different contextual environments, nor would it allow for robust or valid theory development (Voss et al, 2002). Moreover, the study is exploratory in that it aims to provide insights into transformation behaviour and it is only through multiple studies that general behaviours or characteristics could be identified, if they indeed exist. Yin (2003, pg 42) suggests that a rationale for conducting a single-case study is the longitudinal case, however there is no proposed injunction for conducting multiple longitudinal studies outside the obvious resource intensiveness that would be required. As previously mentioned, a longitudinal investigation of organisational transformation is deemed most appropriate to understand the phenomena, although since organisational transformation takes place over many years (e.g. Bititci et al, 2010), this strategy is not possible for this study. What is achievable, however, is the use of a small number of retrospective case studies which will allow for in-depth analysis of organisational transformation over a period of time (Yin, 2003). Voss et al, (2002) discuss the choice between longitudinal and retrospective studies, though suggest that both are not mutually exclusive since the investigation of current case studies will involve the collection of historical data to some degree. Retrospective studies do have disadvantages in that participants can place interpretations on events that may not have materialised had the data been collected in real time (Voss et al, 2002), however it is a general disadvantage of qualitative data collection that subjectivity cannot be removed, only minimised, as will be discussed in Section 3.2.3.

The cases selected for this study were chosen based upon the need for particular data in order to answer the research questions. Clearly, the case study companies must be manufacturing SMEs. The organisations needed to have transformed according to the definition presented in Chapter Two - *the change in state of an organisation as a result of a series of changes in key organisational elements, including strategy,*

behaviour, structures, and systems. To gather necessary data to answer the research questions, the researcher needed to have access to those involved in the transformation of the business, any significant historical data and any external publicity. These criteria imply a close and, ideally, well established relationship with the organisations to gain access to data and receive accurate accounts of changes in the business. Fortuitously, the researcher is familiar with a number of manufacturing SMEs as a result of other research projects and so was able to identify four cases for inclusion in this study, presented in Table 3.3 below.

Table 3.3 – Case study companies for this research

Characteristics	CS1	CS2	CS3	CS4
Transformation	Co-packing (primary) to contract bottling (primary)	Multi-divisions (home, auto, distribution) to single focus on home audio equipment; new technology base.	Poor performing market 'lagger' to dominant brand in bowls market across world.	Machine shop to precision engineering company.
Transformation timeline	2000-2009	2000-2009	1992-2009	1992-2009
Location	Industrial estate, outskirts of Glasgow, UK	Purpose-built factory on green field site, outskirts of Glasgow, UK	Industrial zone, Glasgow city, UK	Industrial zone (close to residential area), Glasgow city, UK
No. of employees (at time of writing)	33 (plus up to 20 agency staff during peak times)	160	42	132
Sector	Food & Drink (whisky bottling and co-packing)	Home audio equipment	Bowls manufacturer	Precision engineering/ machining

Ownership	Private shareholders	Family founded and owned (2nd generation MD)	Family founded, owned by new family (2nd generation MD)	Family founded and owned (2nd generation owner and MD)
Age of company	22 years	38 years	214 years	59 years
Customers	Whisky producers/ distillers	Home consumers (premium)	Professional and amateur bowls players	Aerospace, oil & gas, nuclear industry
Governance	Formal management team, strategically led by managing direction and shareholders.	Formal management team led by managing director (2nd generation); supported by non-exec board chaired by founder.	Managing director supported by functional managers (informal structure) and main shareholder (his father).	Formal management team led by managing director (2nd generation).

Case study company 1 (CS1) operates within the whisky industry and has expanded the scope of its activities from a bonded warehousing and co-packing service provider to include contract bottling of whisky and other spirits. CS2 is a family owned and managed business which designs and manufactures precision audio equipment. It has transformed the way in which it competes, operates and provides value to its customers whilst maintaining its guiding vision of perfect sound reproduction. CS3 is the world leader in the manufacture of bowls. It is a family owned and managed business and has been in existence for over 200 years, but the recent transformation occurred when a new family purchased the business and saved it from the brink of collapse. CS4 is a precision machining company which supplies components primarily for aerospace, nuclear and oil and gas markets. It is also a family owned business, now in its second generation and has positioned itself as a preferred supplier for many of its key customers.

Each of the companies has transformed in terms of its strategy, organisational structure, culture and operational activities thus make them ideal candidates for investigation. They operate in different sectors which could enable the identification of any sector-specific contextual factors that may influence transformation behaviour, as well as control environmental variation and add to the generalisability of the findings (Eisenhardt, 1989). They are also different in terms of age, number of employees, and governance, which may allow for propositions to be made regarding associations between transformation behaviour and these variables. There is a clear geographical bias in this selection of case studies, due to close proximity between the companies and the university and their involvement in projects with the department and researcher, and this will be taken into consideration when drawing any conclusions from the data analysis. The match in transformation timeline for the companies is purely coincidental. Chapter Five presents an in-depth discussion of each case along with a discussion of the findings from the data collection phase.

Data collection

Case study methodology primarily uses interview as the data collection method and this study is no exception. Since the cases are SMEs there is little published information about them, nor any articles charting their development. An exception is CS2 which receives much media attention in its sector and whose founder has been interviewed for Harvard Business Review (Morse, 2006), however discussions with the managing director prior to this study suggested that what is shared with the media about the company is not necessarily the reality of the situation. This contributes to the reason why the cases in this study are anonymous, as it gave the interviewees confidence to speak freely without fear of sharing sensitive or proprietary information. Although exploratory in nature, this study is guided by three research questions which provided some structure to the interviews and gave a starting point to discussions. For the most part, the researcher was able to start the conversation with a brief overview of the area of study, and let the interviewees talk, interjecting only to probe for specific details or clarifications.

The interviewees were selected to provide a cross section of decision makers, implementers and those affected by the transformation in an effort to triangulate the data collected (Yin, 2003) and understand several viewpoints of the same events (Collins and Rainwater, 2005). In an attempt to avoid shared story-telling the researcher interviewed non-management team employees to gain an alternative perspective on the changes in the business. Where this was not possible, the researcher had informal conversations with shop floor employees during facility yours and coffee breaks whilst visiting the companies. The interviews were guided by the development of a case study protocol (Appendix 1) to achieve consistency between cases and allow the researcher to ensure the necessary topics were covered during the interviews to answer the research questions (Yin, 2003). The use of a protocol also attempts to address the criticism of the case study method that it lacks rigour and repeatability. In addition, secondary documentation was collected in the form of internal reports (if made available), and externally published stories or articles about the companies to support data collected through the interviews, however as noted above, these sources of information were treated with caution and data analysis was primarily based upon interview data. The data collection strategy is summarised in Table 3.4.

Table 3.4 – Data collection strategy for each case study company

Company	Interviewees	Documentation
CS1	Managing Director/Ops Manager; Production manager (bottling), Production manager (co-packing), three key customers.	Reports from participation in previous university projects; website information.
CS2	Managing Director, Operations Director, Research and Development Manager, Supply Chain Manager.	Reports from participation in previous university projects; published articles from media and practitioner journals; website information.
CS3	Owner, Managing Director,	History of company documented in

	Production Manager, Sales & Purchasing employee.	visitor centre; website information.
CS4	Managing Director, PA to Managing Director, Engineering Works Manager, Engineering Projects Manager, Office Supervisor.	Evolution of sales/marketing brochures, website information, internal newsletters, published publicity/features/news stories.

In an ideal world, multiple investigators would be used to conduct each interview in order to allow one person to focus on having the conversation with the interviewee, and the other to take notes and make any other observations. This was not possible for this work, however it was achieved 'virtually' by using a digital recording device during each interview. This allowed the researcher to act both as converser and note taker (which took place on listening to the recordings following the interview). Clearly, this is not as robust as having multiple investigators but it did prove vital in allowing free-flowing conversation. On some instances the interviewees requested that parts of the discussion were not recorded, and so the researcher reverted back to taking notes. For the most part, however, interviewees did not mind, nor did they seem affected (owing perhaps to the fact that it was an iPod with a small microphone attached and so fairly inconspicuous). The interview notes were made for each case in the form of a mindmap (Appendix 3) and on completion of all interviews for each case study company, a summary case study report was compiled (Appendix 2), incorporating any information gathered from the documentation, and was used as the raw data for the analysis phase.

Data analysis

The aim of data analysis is to interpret collected data to provide an answer to the research questions and thus generate insights into the transformation behaviour of manufacturing SMEs. The data collected from the case study companies will be analysed individually (within-case analysis), then collectively (cross-case analysis)

and finally the findings from literature and case studies will be discussed together (enfolding literature).

Within-case analysis

"For a case study, analysis consists of making a detailed description of the case and its setting" (Cresswell, 1998; p153). Van de Ven and Poole (2005) present the arguments for studying organisational change using either variance or process methods and propose a typology of four approaches to guide researchers in their attempts to empirically understand the phenomenon; summarised in Table 3.5 below.

Table 3.5- Typologies of approaches for studying organizational change (from Van de Ven and Poole, 2005)

Approach I: Variance studies of change in organizational entities by causal analysis of independent variables that explain change in entity (dependent variable)	Approach IV: Variance studies of organizing by dynamic modelling of agent-based models or chaotic complex adaptive systems
Approach II :Process studies of change in organizational entities narrating sequence of events, stages or cycles of change in the development of an entity	Approach III: Process studies of organizing by narrating emergent actions and activities by which collective endeavors unfold

The nature of this study tends it towards Approach II – Process Study of Change in Organizations as described by (Van de Ven and Poole, 2005). This approach involves the narration of the sequence of events or stages in the development of the organisation, in this context the individual changes contributing to the transformation of each case study. The narratives will contain an entanglement of the areas of interest; the stimulus, content, process, and context of transformation. Thus, it is necessary that these are separated from the narrative according to distinct definitions or descriptions of each. The focussed literature review presented in Chapter Four will provide such descriptions to enable this separation. The temporal development of the

case study companies and the internal and external contextual factors are mapped as a transformation timeline, an example illustrated in Figure 3.3.
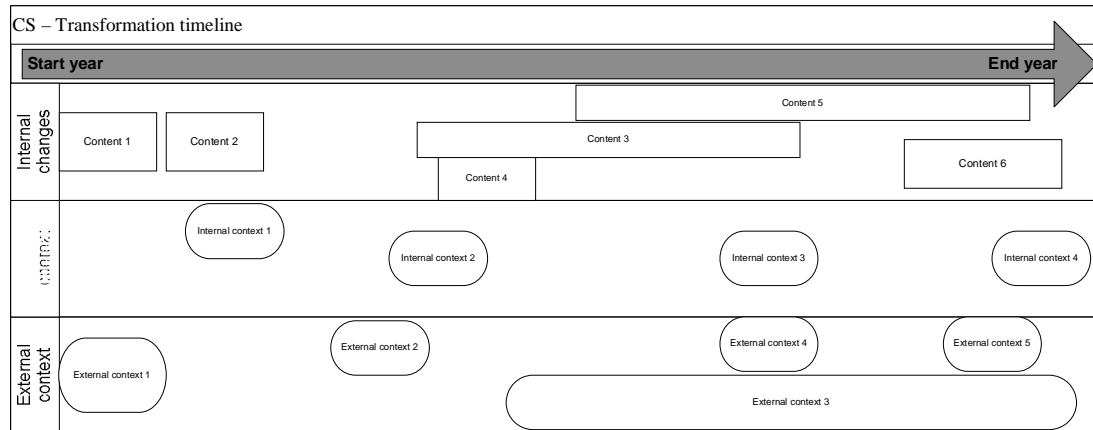
Figure 3.3 – Example of transformation timeline

Following the narrative analysis of the case, a comparison is made to the theoretical framework developed in Chapter Four. The comparison is achieved by coding the stimulus, content, process and context of the transformation of the case according to the defined constructs presented in the framework, thus converting the specific case findings into a comparable set of findings that will enable cross-case analysis. Where coding of the case data is not feasible, additional constructs are proposed. Tabular arrays will be used to display the comparative analyses, as described in Miles and Huberman (1994).

Cross-case analysis and enfolding literature

The individual comparisons against the theoretical framework will be combined in order to search for patterns across the four cases, thus leading to general conclusions being made (Miles and Huberman, 1994; Voss et al, 2002). This will be achieved by creating various tabular arrays, based on the content, process and context elements,

which can then be used for as the basis for explanation building and discussions of causality (Voss et al, 2002). Replication of constructs from the theoretical framework will lead to confirmation of existing theory on organisational transformation, and any additional constructs proposed are discussed in terms of theory extension. Discussions on causality will enable emerging propositions and insights to be developed from the analysis for future work in the area.

3.2.3. Validity

The final element in this research design is the concept of validity; that is how one can judge the accuracy of the conclusions drawn from the work. This also encompasses measurements of reliability and generalisability, which, within a critical realist paradigm are difficult to quantify. It is not an impossibility however, and Easterby-Smith et al (2003) suggest a phenomenological viewpoint to achieve this, presented in Table 3.6 in contrast to the positivist viewpoint.

Table 3.6 – Questions of reliability, validity and generalisability (adapted from Easterby-Smith et al, 2003: 41)

	Positivist viewpoint	Phenomenological viewpoint
Validity	Does an instrument measure what it is supposed to measure?	Has the researcher gained full access to the knowledge and meanings of informants?
Reliability	Will the measure yield the same results on different occasions (assuming no real change in what is to be measured)?	Will similar observations be made by different researchers on different occasions?
Generalisability	What is the probability that the patterns observed in a sample will also be present in the wider population from which the sample is drawn?	How likely is it that ideas and theories generated in one setting will also apply in other settings?

At a basic level, validity is pursued through the method of triangulation (Yin, 2003). Triangulation can be achieved in four different elements of research design;

- Data triangulation through different data sources;

- Investigator triangulation through a number of researchers collecting data;

- Methodological triangulation through collecting data using a number of methods; and

- Theory triangulation through analysis of data from different viewpoints.

In this study, triangulation of data is achieved through interviewing a number of employees from each case study company in order to build a more representative picture of the transformation. Methodological triangulation is achieved by employing different methods of data collection about transformation; focussed literature review, semi-structured interviews, and internal and external documentation. The use of multiple sources also maximises the reliability of the work, along with the development of a case study protocol to guide data collection. More specifically, there is a strategy that can be employed to help minimise bias and strive towards as valid a study as possible. Yin (2003: 34) proposes four 'design tests' that should be considered when designing research and collecting data;

- Construct validity – ensuring the correct concepts are being studied

- Internal validity – establishing a causal relationship

- External validity – establishing the domain to which the study's findings can be generalised

- Reliability – demonstrating that the operations of the study can be repeated

Table 3.7 summarises the use of these tests to demonstrate the consideration given to validity and reliability when designing this research study.

Table 3.7 – Validity and reliability in this research (adapted from Yin, 2003; 34)

Tests	Case Study Tactic	Application in this research
Construct validity	Use multiple sources of evidence.	Focussed literature review, semi-structured interviews, internal and external documentation.
	Establish a chain of evidence.	Case study notes following each interview and a case study report for each company.
Internal validity	Explanation building.	Discussion of association between constructs, triangulation of sources of data to support explanations, all reports verified by interviewees and modified if necessary.
External validity	Use replication logic in multiple-case studies.	Transformation timeline used for each case to display data. Conceptual framework constructs used as organising framework for discussions in each case.
Reliability	Use case study protocol.	Case study protocol developed and used to guide semi-structured interviews and documentation collection (Appendix 1).
	Develop case study database.	Interview recordings, reports and all documentation stored electronically for each case study company in a decided folder.

3.3 Summary

Having discussed each of the five elements of the research design, Figure 3.4 illustrates a summary of each element and their relationships. Following on from Figure 3.2 presented earlier, the research questions impact on the methods used to conduct the study, as well as the way in which validity can be addressed. As expected, there is a direct relationship between methods and validity, but there is also a relationship between research goals and methods, since the way in which data is collected and analysed will impact on the ability of the researcher to fulfil the goals set. Similarly, there is a relationship between validity and the conceptual framework in terms of construct validity; i.e. the conceptual framework guides the concepts to be studied, which is one of the four design tests discussed above.

Goals
Personal: top qualification, 'expert' in field.

Practical: formative evaluation of transformation to increase understanding and effective application in practice.

Intellectual: insights into transformation behaviour of manufacturing SMEs in terms of content, process and context.

Conceptual Framework

Research questions

RQ1: How do manufacturing SMEs transform?

RQ2: What are the internal and external contextual factors impacting on this transformation?

RQ3: What is association between these factors and the way in which manufacturing SMEs transform?

Methods

Case study: semi structured interviews, historical data

Literature review: stimulus, content, process and context of transformation to develop theoretical framework

Data analysis: temporal discussion of transformations and compare to theoretical framework; within- and cross-case

Validity

• Triangulation of methods and information sources (number of interviewees)

• Construct, internal and external validity used to assess research quality

Figure 3.4 – Research design of this study (adapted from Maxwell, 2005: 5)

This chapter has presented the research design for this study, based upon the philosophical assumptions of the researcher and the five elements proposed by Maxwell (2005). A critical realist philosophical paradigm was described as the foundation for this work. Informed by existing studies in the field, a theory extension case study methodology was discussed and shown to be most applicable for this research. The qualitative data collection and analysis methods employed were described, and a discussion of validity and reliability presented. The following chapter presents a focussed literature review on the constructs identified in the conceptual framework.

Chapter 4 - Focussed literature review

Using the constructs of organisational transformation proposed in Chapter Two as its starting point, this chapter presents a focussed review of the literature in order to answer, theoretically, the three research questions driving this work. Section 4.1 presents a review of the literature on the stimuli for organisational transformation, then Sections 4.2 and 4.3 present a review of the literature on the content and process of organisational transformation respectively. Section 4.4 goes on to present a review of the literature on the internal and external context of organisational transformation. Then, Section 4.5 presents a discussion of the findings from the chapter in relation to the research questions to answer them from a theoretical viewpoint. Finally, Section 4.6 summarises the key points from this Chapter. Figure 4.1 below illustrates again the conceptualised constructs of organisational transformation to refresh the reader's memory.
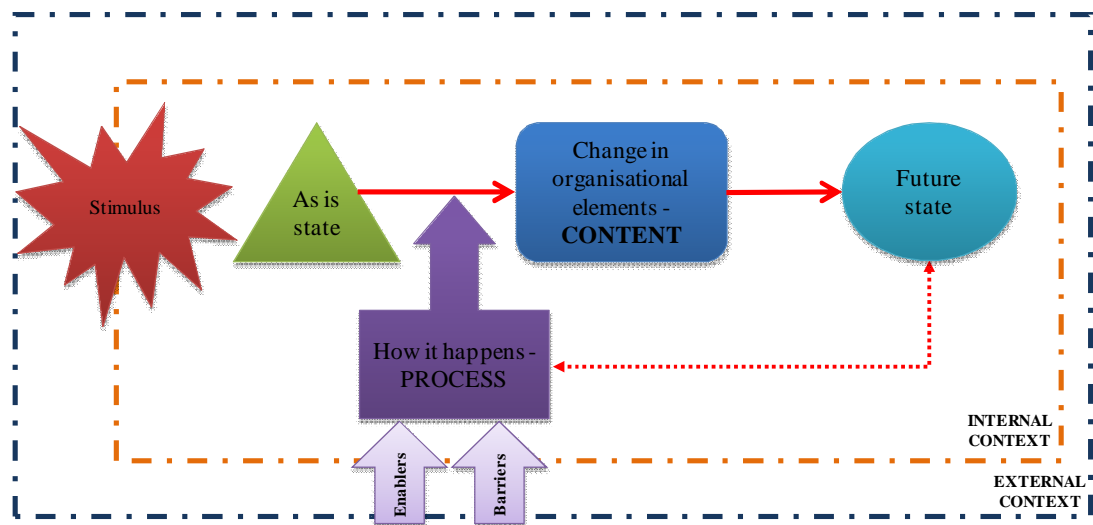
Figure 4.1 – Constructs of organisational transformation

4.1 Stimulus for organisational transformation

The reasons for organisational transformation occurring have been discussed as influencing the content and process of transformation (Kilmann et al, 1988; Blumenthal and Haspeslagh, 1994; Balogun et al, 2004) and so it is pertinent to discuss the various stimuli which cause an organisation to go through a transformation journey, and why the decision to transform is taken. As has been discussed in Chapter Two, there is debate as to whether or not an organisation decides to 'transform', but significant organisational change does not happen by itself, and so an element of decision making does come into play to start the change process in motion.

The stimulus for transformation is closely tied to the internal and external context from which the need or push to transform will originate. The focus among scholars tends to be on external pressures such as competition (Kilmann et al, 1988; Drew and Coulson-Thomas, 1997), market changes (Drew and Coulson-Thomas, 1997), changing customer needs (Drew and Coulson-Thomas, 1997) and technological change (Kilmann et al, 1988; Drew and Coulson-Thomas, 1997; Francis et al, 2003). Internal stimuli include new ownership or leadership (Boeker, 1997), benchmarking (McAdam, 2003), and 'dissatisfaction with the old' or the way in which the business is operating (Kilmann et al, 1998). Poor performance results, either financially or operationally, are a key driver for deciding to make a change (Burke and Litwin, 1992; Boeker, 1997), but this tends to be incremental performance improvement rather than large scale radical change or transformation (McAdam and Bannister, 2001). The assumption that transformation is triggered by changes in the external environment is further supported by the fact that transformation scholars tend to put weight on the process of scanning the external environment as the precursor to any planned change or transformation effort (Child and Smith, 1987; Pettigrew and Whipp, 1991; Vandermerwe and Vandermerwe, 1991; Trahant et al, 1997; Choo, 1999; McGreevy, 2003; Walters et al, 2003; Day and Schoemaker, 2006). Environmental scanning is defined as *"the monitoring, evaluating and dissemination*

of information from the external environment to key managers within their organisations" (Snyder 1981). This information is then used to make decisions about opportunities and threats to the organisation. The 'external environment' is wide in scope and encompasses the micro or immediate environment characterised by Porter in his five-forces model (Porter, 1990); the threat of substitutes, threat of new entrants, competitive rivalry, bargaining power of customers, and bargaining power of suppliers; and the macro environment, generally described using the PESTLE acronym (political, economic, social, technological, legal, and environmental). Studies of change and transformation suggest that the stimulus could originate from any of these areas in the business environment, specific to the particular context of the business, but clearly, macro-level events will influence transformation regardless of individual characteristics e.g. the global recession of the late 2000s.

The small business literature suggests that these organisations change or transform in a reactive manner due to external changes in the competitive environment (Hudson et al, 2001), however explicit studies of SME transformation were not found. SMEs, particularly in the manufacturing sector, tend to be part of a supply chain dominated by large organisations whose own changing contexts will impose changes on the SMEs supplying or purchasing from them (e.g. accreditation (ISO9001); environmental standards and HR practices, (Briscoe et al, 2005)). As mentioned in Chapter Two, there is call from the UK government for manufacturing to move to 'high value' but no studies exist that describe transformations that occurred due to this reason, outside of Bititci et al (2010) where the stimulus was not driven by the desire to become 'high value' but to build a brand. An internal trigger for strategic change in SMEs has been cited as new ownership (Smallbone et al, 1995). In summary, the stimulus for organisational transformation in manufacturing SMEs can come from both internal and external environments of the business, with internal stimulus generally being a change in ownership or leadership, and external stimulus the response to a crisis in the competitive environment.

4.2   Content of organisational transformation

The content of transformation refers to the elements of the organisation which change, more simply the 'what' of transformation (Pettigrew, 1987). The majority of scholars focus on specific elements, but a number of useful models have been identified from within the change/transformation fields (Miles, 1997; Mintzberg et al, 1998; Bititci, 2007), from a strategic change perspective (McKinsey 7S, Peters & Waterman, 1982), and from an organisational development stance (Galbraith, 2001), which propose a holistic view.

In his book 'Leading Corporate Transformation' Miles (1997) sets out a total-system framework with formal and informal elements centred on a clear corporate vision. These formal elements of strategies, structure and infrastructure are readily observable and measurable and so easier to diagnose and alter. The informal elements are people, culture and competencies which are subjective and so difficult to change. The purpose of the framework is to develop a model of the future state of the organisation and compare this with the current state, so effectively it is a form of gap analysis. Transformation initiatives are those elements of the organisation that need to be changed in order to successfully achieve the future state.
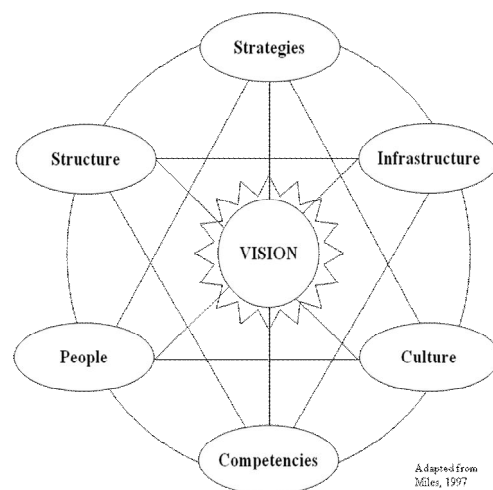
Mintzberg's Change Cube (Mintzberg et al, 1998; 326) is presented in two dimensions; 'strategy' which is about the direction of the organisation, and 'organization' which refers to its state. Under these dimensions are eight elements ranging from the conceptual to the concrete in terms of how abstract or tangible they are; vision, positions, programs, products in the strategy dimension, and culture, structure, systems and people in the organization dimension. The authors state that each element in both dimensions needs to be considered when changing an organisation and that the order of the elements in the cube is relevant; changing any element will not be successful without changing all the elements below it.
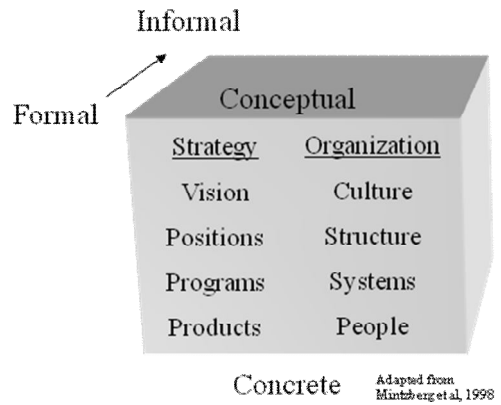
Bititci (2007) proposes a 'business transformation formula' that encompasses eight key components of the organisation that must all be addressed to achieve transformational change. The first six components should be considered in terms of what they are 'today' and how they will look 'tomorrow'. These are value streams, strategy, organisation, people, processes and systems and resources. The final two components – performance measures and leadership – are described as the glue that holds the others together. Bititci (2007) suggests that by aligning the six components to the vision of tomorrow and supporting this with effective leadership and a fully integrated performance measurement system, an organisation can be successfully transformed.
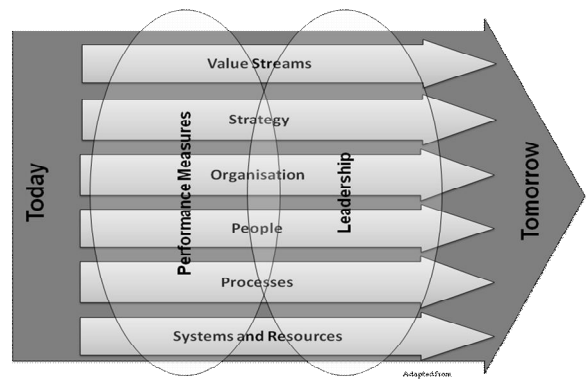
The McKinsey 7S framework (Peters and Waterman, 1982) consists of seven hard and soft elements and although not explicitly a transformation model, it is used to ensure that there is alignment across the organisation when a change is made or the business context alters in some way. The hard elements are tangible, definable and can be controlled. These are strategy, structure, and systems. The soft elements are more conceptual and influenced by culture and behaviour; shared values, style, staff, and skills. The model is constructed with shared values at the centre and the remaining six elements connected with this and each other around the periphery, indicating that the purpose or vision of the company is central to everything else it does, and that changing one element will impact on the others.

Adapted from http://www.mindtools.com/pages/article/newSTR_91.htm
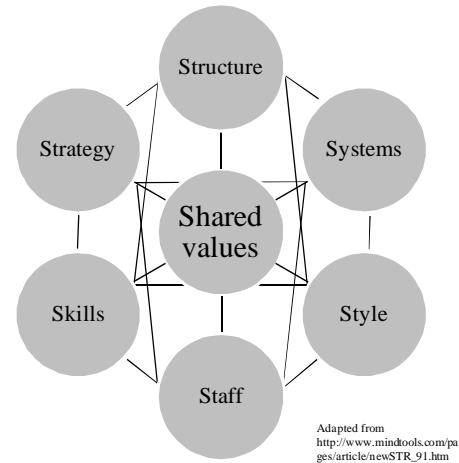
The Star model (Galbraith et al, 2001) was developed as a framework to aid organisational design and is accompanied by a nine-step process of implementation. The star has five elements; strategy, structure, processes, rewards and people that are interconnected and proposed to enable effective behaviour if implemented correctly. As with McKinsey 7S framework, this model is not explicitly cited as a transformation or change model but does offer insight into the building blocks of an organisation and their configuration.
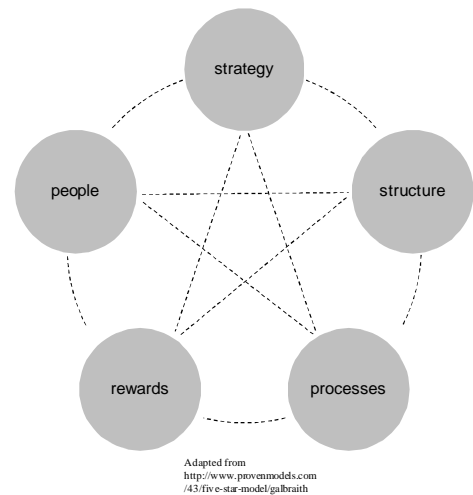
Adapted from http://www.provenmodels.com/43/five-star-model/galbraith

Considering these models and frameworks together, there is a great degree of overlap between the elements. Initially Bititci (2007) appears more comprehensive with the inclusion of leadership and performance measures, however leadership is presented as a contextual factor that will enable or inhibit the transformation effort, rather than a content element that changes to deliver transformation. This is also true of the 'style' element of the McKinsey model. The majority of the models make a distinction between 'hard' and 'soft' elements, suggesting that a different approach may be required for each category. Within this categorisation, Mintzberg et al (1998) class 'people' as concrete and 'structure' as conceptual which is in disagreement with the way in which Miles (1997) and McKinsey (Peters and Waterman, 1982) class corresponding elements of their models. It is also important to understand where any order or emphasis lies in each model since they are presented as collective elements in a structure that itself will have meaning. Miles (1997) and McKinsey 7S place vision or purpose at the centre of the models, and each model suggests that strategy (following the vision in the two aforementioned models) is the starting point of operationalisation. Subsequent elements are presented either in a particular order and imply a sequence (e.g. Bititci, 2007) or are shown in a circular arrangement with no starting point identified (the remaining models). In all cases each element in the model is connected to the rest to demonstrate that changing one will influence all the others.

Aside from transformation models, the content of transformation is also discussed by researchers within the transformation, strategic change and configuration fields. Strategic change focuses on changes in vision and business goals and objectives (e.g. Gersick, 1994). Organisational transformation and change literature highlights vision (Vollman, 1996; Trahant et al, 1997), strategy (Pettigrew and Whipp, 1991; Kilmann, 1993 (from Leavitt, 1965); Vollman, 1996; Trahant et al, 1997; MacIntosh and MacLean, 1999, 2001; McHugh et al, 1999), organisational structure (Kilmann, 1993 (from Leavitt, 1965); Trahant et al, 1997; MacIntosh and MacLean, 1999, 2001; Wischnevsky, 2004), culture (Kilmann, 1993 (from Leavitt, 1965); Blumenthal

and Haspeslagh, 1994; Vollman, 1996; Trahant et al, 1997), infrastrucutre (Kilmann, 1993 (from Leavitt, 1965); Vollman, 1996; Trahant et al, 1997; MacIntosh and MacLean, 1999, 2001; Wischnevsky, 2004) and processes (Davidson, 1993; Venkatraman, 1994; Vollman, 1996) as the content of transformation. The dynamic capabilities literature discusses changing resources and competencies within the organisation (Teece et al, 1997; Eisenhardt and Martin, 2000; Helfat and Peteraf, 2003). Configuration, as discussed by Miller (1996) is concerned with the integration of states of strategy, structure and systems of an organisation to form archetypes, and changing these states results in a transformation of archetype.

Table 4.1 summarises the various transformation content components discussed in literature, along with a brief description of each, classification as 'hard' or 'soft', and supporting literature references. Where based on empirical data, these elements reflect large company behaviour. The researcher was unable to identify any studies that investigated the content of transformation in SMEs, and so proposes that the components listed below can collectively be described as the content of organisational transformation in this context.

Table 4.1 – Components of the content of organisational transformation

Component	Description	Classification	References
Vision	The purpose, values and/or desired state of the organisation.	Soft	Peters & Waterman, 1982; Vollman, 1996; Miles, 1997; Trahant et al, 1997; Mintzberg et al, 1998
Strategy	The high level objectives for the organisation to meet the desired vision, and how these objectives will be met. Includes value proposition, value streams and operating model.	Hard	Peters & Waterman, 1982; Pettigrew and Whipp, 1991; Kilmann, 1993 (from Leavitt, 1965); Miller, 1996; Vollman, 1996; Miles, 1997; Trahant et al, 1997; Mintzberg et al, 1998; MacIntosh and MacLean, 1999, 2001; McHugh et al, 1999; Galbraith et al, 200;1 Bititci, 2007
Organisational structure	The way in which the organisation operates, including governance and employee structure.	Hard, (but soft according to Mintzberg et al, 1998)	Peters & Waterman, 1982; Kilmann, 1993 (from Leavitt, 1965); Miller, 1996; Miles, 1997; Trahant et al, 1997; Mintzberg et al, 1998; MacIntosh and MacLean, 1999, 2001; Galbraith et al, 2001; Wischnevsky, 2004; Bititci, 2007
People and culture	The way in which employees behave and are managed. Includes 'the way things are done around here' and the roles and responsibilities of employees.	Soft, (but hard according to Mintzberg et al, 1998)	Peters & Waterman, 1982; Kilmann, 1993 (from Leavitt, 1965); Blumenthal and Haspeslagh, 1994; Vollman, 1996; Miles, 1997; Trahant et al, 1997; Mintzberg et al, 1998; Galbraith et al, 2001; Bititci, 2007
Competencies	The skills, experience, and abilities of the individuals within an organisation.	Soft	Peters & Waterman, 1982; Vollman, 1996; Miles, 1997; Mintzberg et al, 1998; Eisenhardt and Martin, 2000; Bititci, 2007

Systems and resources	Technology, management systems, infrastructure and financial resources.	Hard	Peters & Waterman, 1982; Kilmann, 1993 (from Leavitt, 1965); Miller, 1996; Vollman, 1996; Miles, 1997; Trahant et al, 1997; Mintzberg et al, 1998; MacIntosh and MacLean, 1999, 2001; Eisenhardt and Martin, 2000; Wischnevsky, 2004
Processes	Management, operational and support processes for delivering goods and services to the customer.	Hard	Davidson, 1993; Venkatraman, 1994; Vollman, 1996; Mintzberg et al, 1998; Galbraith et al, 2001; Bititci, 2007
Performance measures	Indicators of the achievement of goals or objectives in various parts of the business.	Hard	Trahant et al, 1997; Bititci, 2007

4.3   Process of organisational transformation

The process of organisational transformation is the 'how to'; the steps followed in order to arrive at the future or vision state (Pettigrew, 1987). This can be described in three facets; (i) the theoretical foundation for describing the type transformation process; (ii) how the enactment or implementation of the changes constituting the transformation (i.e. the content) is managed; and (iii) the order in which these content components of transformation are changed. These perspectives are summarised in Figure 4.2 below.
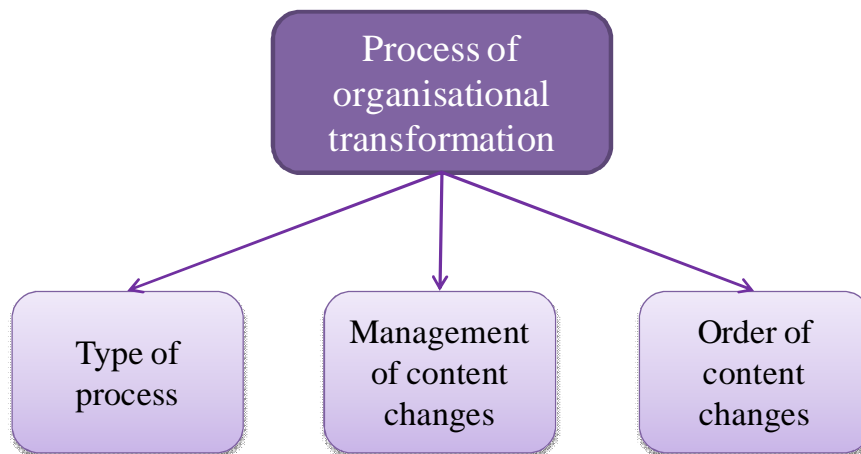
Figure 4.2 – Perspectives on the process of organisational transformation

Type of process

The various theories which exist to describe the type of transformation process have been discussed in Chapter Two; the planned approach, emergent approach, processual approach, contingency theory, punctuated equilibrium, and continuous transformation. These theories are inextricably linked to the process of managing change and although discussed as discrete theories, the boundaries between them are blurred when considering their application to practice and they do not appear to be

mutually exclusive (Collins, 1998). Although there is great debate about the best way to manage change, or indeed if such a utopian model exists (Burnes, 1996), in terms of investigating the process of how change or transformation occurs there is general agreement that it can retrospectively be fragmented into distinguishable, logically ordered pieces that collectively tell the transformation story (Pettigrew et al, 2001; Van de Ven & Poole, 2005). The debate therefore lies in whether one believes that organisations exist in relative stability and go through episodes of turbulence, or if organisations operate in a constant state of flux and continuously adapt and change to their environments both incrementally and radically depending upon the situation. Table 4.2 summarises the main characteristics of each change theory according to the researcher's understanding.

SME literature suggests that these organisations are vulnerable to changes in the external environment (O'Regan, Sims & Ghobadian, 2005) which would imply that an emergent or continuous transformation theory of change would be applicable in this context, where the SME needs to continuously adapt to the ever-changing competitive environment (Badri et al., 2000). Other studies of SME behaviour contradict this, however, since SMEs are considered to be resource limited (Chan et al 2006) making it almost impossible for these organisations to continuously engage in radical changes to the business. There are also suggestions that SMEs operate in relative stability, engaging in continuous improvement or incremental changes, and only make radical changes to the business when forced to in order to survive. This would lean more towards a planned or punctuated equilibrium theory of transformation. Since there are no empirical studies exploring how change occurs in a manufacturing SME context, conclusions cannot be made as to the type of change process which best describes it.

Table 4.2 – Characteristics of transformation process approaches

Process approach	Characteristics	Key references
Planned	Stable state changed to desired new stable state through defined steps. Directive and top-down.	Lewin, 1951
Emergent	Continuous process of adapting to shifts in internal and competitive environments. Participative and led from wherever the change is needed.	Kanter et al, 1992
Contingency	Process type dependent upon the contingencies of the situation when the change is required. Appropriate approach should be chosen based on situational factors.	Dunphy & Stace, 1993
Processual	Process occurs in a complex environment and follows a series of sequential steps that take into consideration the complexities of the business context. Directive but involving a team, top-down.	Dawson, 1996; Kotter, 1996
Punctuated equilibrium	Organisations incrementally evolve but experience intermittent, revolutionary changes that radically change them. The frequency of the revolutionary changes depends upon the dynamism of the competitive environment.	Gersick, 1991; Romaneli and Tushman, 1994
Continuous transformation	Organisations are in a constant state of radical change in order to remain competitive.	Greenwood and Hinings, 1996; Brown and Eisenhardt, 1997

Management of content changes

As noted, the process of managing change stems from the theoretical understanding of how change occurs. From a planned theory perspective, Lewin (1951) suggests that change occurs by 'unfreezing' the current state, 'moving' and 'freezing' a new state. This 'Taylorist' approach has been criticised as ignoring the human factors involved in change (Burnes, 1996). Emergent change models propose a more fluid

and bottom-up approach that does not ignore the complexity of the various influencing factors, and suggests change is a continuous process with no end-point (e.g. Pettigrew and Whipp, 1993). These approaches are debated theoretically in the literature (see Burnes, 1996 and 2005 for a comprehensive review) but for the most part, from a practical application perspective, the processual approach is the most frequently used basis for empirical investigations (e.g. Kotter, 1996 in Bititci et al, 2010). Recent models have attempted to quell the dissatisfaction with the planned view by integrating the idea of contingency or context into the sequence of steps, thus not being too prescriptive or assuming homogeneity in organisations (Beer et al, 1990; Todd, 1999). Table 4.3 presents the key process models identified from the literature review, organised according to three generic phases of planning, implementation and review/consolidation.

Although grounded in alternative theories of change management, these models, in effect, describe the same process phases, some more comprehensively than others. SME literature does not explicitly identify a change or transformation process relative to SME characteristics, therefore it would seem valid to assume that any or all of these models could be used as a framework to describe the management of changes in the transformation process of an organisation, dependent upon its individual context.

Table 4.3 – Process models of organisational change

Reference	Change theory	Planning	Implementation	Review/Consolidation
Lewin (1951)	Planned	Unfreeze	Move	Refreeze
Bullock and Batten (1985)	Planned	Exploration phase Planning phase	Action phase	Integration phase
Kilmann et al (1988)	Processual	Diagnose the situation	Provide employees with information	
		Identify what has to be done well to succeed and directly relate this to core tasks and problems		
		Set high standards for individuals and sub-units	Create innovate models of organising and managing people	
		Find a theme from which people can identify and derive meaning		
Beer et al (1990)	Emergent	Mobilize commitment to change	Foster consensus, competence and cohesion	Institutionalize revitalization
		Develop a shared vision	Spread revitalization to all departments	Monitor and adjust strategies

Kanter et al (1992)	Emergent	Analyse the organisation and its need for change	Develop enabling structures	Reinforce and institutionalise change
		Create a vision and a common direction		
		Separate from the past		
		Create a sense of urgency		
		Support a strong leader role	Communicate, involve people and be honest	
		Line up political sponsorship		
		Craft an implementation plan		
Kotter (1996)	Processual	Establish a sense of urgency	Communicate the vision	Consolidate improvements
		Form a powerful guiding coalition	Empower others to act on the vision	Institutionalise new approaches
		Create a vision	Plan for creating short-term wins	
Trahant et al (1997)	Processual	Conduct change readiness assessment	Change culture by changing behaviour	Understand employee wants and needs and ensure a person-job fit
		Understand the external environment	Change structure to align with mission and strategy	

			Implement correct systems to support transformation	
		Get buy in to mission and strategy	Use management practices to motivate	Broad and balanced approach to performance management
		Ensure steady and consistent leadership	Teamwork	
			Give people tools they need to do the job well	
Garvin (2000)		Leadership	Mobilise commitment	Monitor progress
		Create a shared need	Make change last	
		Shape a vision	Change systems and structures	
Mento et al (2002)		Define the change initiative	Create cultural fit	Communicate the change
		Evaluate climate for change	Develop change leader team	
		Develop a change plan		
		Find a sponsor	Create small wins	Measure progress
		Prepare target audience		

Consolidating the steps leads to a generic framework for the management of the process of change;

Phase	Step
Planning	Analyse organisation and need for change
	Understand the external environment
	Develop shared vision and common direction
	Create a sense of urgency
	Strong leadership
	Ensure support from management team and key decision makers
	Develop implementation plan
	Develop performance measures to assess impact or success of change
	Assess readiness for change
Implementation	Communicate and provide information to employees
	Involve employees
	Create short-term wins
	Change culture by changing behaviour
	Implement systems and structures to support change
	Use management practices to motivate
	Teamwork
	Give people tools they need to do the job well
Review/ Consolidation	Monitor progress and adjust strategies as necessary
	Reinforce and institutionalise change
	Communicate results/progress of change

Order of content changes

The content models presented provide a limited discussion as to the process of transformation. What is discussed and shared among them is that the vision should take centre stage, with the strategy developed from this vision to guide the remainder of the components. They are not prescriptive in setting out a step-by-step guide, but simply highlight the interconnectedness of the organisational elements and the need to consider the consequences of changing each. This allows them to be applied in any type of transformation process – planned or emergent and implies that the business chooses its own path depending on its particular need. Mintzberg's change cube (1998) is conceptualised in such a way that it shows more 'concrete' elements at the base, and explicitly states that if the business wants to change any element it cannot do so successfully without changing the elements beneath in the framework. Bititci et al (2010) analysed the transformation of one case according to Bititci's framework (2007) and suggest that the order in which the various components were changed had significant influence on the transformation process and outcome. Indeed, Davenport and Stoddard (1994) found that the most successful organisations identify which business processes need most attention and attempt to make changes in those first, while preparing the rest of the organisation for changes that may subsequently occur.

In summary, the process of transformation is viewed from three perspectives; type of transformation process, the management of each content change, and the order of the content changes. For manufacturing SMEs there is no explicit theory or model to describe any of these three perspectives of the process of organisational transformation.

4.4 Context of organisational transformation

As noted in Section 2.1.2 the context of transformation is difficult to distinguish from the content and process as it is entangled with what is transformed and how this occurs. Nevertheless, there are specific internal and external contextual factors that have been identified as having an influence on organisational transformation (either as barriers or enablers) and discussed as such (e.g. Pettigrew, 1987; Walker et al, 2007; Bititci et al, 2010). For clarity, internal contextual factors are considered to be the organisational characteristics which impact on transformation, and external contextual factors are the micro and macro environmental factors which impact on transformation.

Understanding, shaping and/or reacting to the external environment is critical to any transformational or strategic change effort (Vandermerwe & Vandermerwe, 1991; Trahant et al, 1997; Choo, 1999), impacts on the flexibility of an organisation (Shimizu and Hitt, 2004) and determines its resilience (Hamel and Valikangas, 2003). Pettigrew (1987) identifies economics, politics and competition as key external factors, and in general the macro and micro environment within which the organisation operates. Mintzberg et al (2009: 305-6) highlights four dimensions of the competitive environment, suggesting that organisational behaviour is contingent on the characteristics of these; stability (ranging from stable to dynamic); complexity (ranging from simple to complex); market diversity (ranging from integrated to diversified); and hostility (ranging from munificent to hostile). Collectively, these four describe different characteristics of the industry or market in which the business operates. At a fundamental level, the macro and micro environments are well defined in the literature by Porter's five forces model (Porter, 1990) and political, economic, social, technological, legal and environmental or PESTLE factors respectively. The external factors are generally cited as the stimulus for a change or transformation.

The 'inner' or internal context is described by Pettigrew (1987) as the structure, corporate culture, and internal politics of the organisation and is most considered within literature. The models of the content of change identify some of the contextual factors. For example, Bititci (2007) explicitly identifies leadership as a contextual factor that enables transformation. Similarly, culture, management style, leadership, knowledge and skills are identified as key enabling contextual factors by Peters and Waterman (1982), Mintzberg et al, (1998) and Miles (1997). The most comprehensive study of the internal context has been presented by Balogun et al (2004) who have developed a 'change kaleidoscope' to aid an organisation in analysing the critical change features, make design choices about the change approach and thus design the optimum transition process. Although describing change in a broad scope, it is applicable to the study of organisational transformation as it is written within the context of strategic change. The components are; power, time, scope, preservation, uniformity, capability, capacity and readiness. These features are not synonymous with internal contextual factors as defined above, but some are relevant, namely power, capability and capacity. The 'change features' impact on the design choices identified in the model; change path and style, change start point, change roles, and change target, i.e. the process of change. Indeed, conducting a readiness assessment (Trahant et al, 1997; Mento et al, 2002) and planning or designing the change (Bullock and Batton, 1985) are features of the change processes discussed in Section 4.3.

Out with this model, other scholars discuss transformation context in terms of individual contingency factors, i.e. the enablers and barriers to successful organisational transformation. The most common element is leadership as identified in the content models (Bititci, 2007), and transformational leadership is a growing body of literature in its own right (Bass, 1999; Stewart, 2006). Studies discuss the need for strong and consistent leaders to drive transformation throughout the organisation (Pettigrew and Whipp, 1991; Francis et al, 2003), and the need for

leaders to be emotionally intelligent in order to engage with their employees (Todd, 1999). Linked to this is the danger of internal politics derailing change efforts (Child and Smith, 1987; Buchanan et al, 1999; Todd, 1999) Some argue that transformation should be managed by external consultants to help mitigate this risk (Todd, 1999; Bunker et al, 2006), whereas others are proponents for a management-led approach with those who understand the nuances of the business (Kilmann et al, 1988). Organisational learning is proposed as an enabler (MacIntosh and MacLean, 1999; Chrusciel, 2008) and the capacity of an organisation to learn is suggested to influence its ability to make change stick (Vollman, 1996).

The need for creativity and innovation has been proposed (Francis et al, 2003; McAdam, 2003; Cumming et al, 2005) as a factor affecting transformation success, as has the use of IT systems to drive transformation (McAdam, 2003). Pettigrew and Whipp (1991) highlight the need for coherence and linking strategy and operational changes, indeed Beer (in Kilmann et al, 1988) cites lack of integration between changes and strategic objectives as a cause of failure. Other barriers to transformation are power struggles (Child and Smith, 1987), politics (Buchanan et al, 1999) and lack of commitment from top management (Beer in Kilmann et al, 1988). Organisational culture imposes "coherence, order and meaning" (Wang & Ahmed, 2003) thus is influential in the adoption of new routines and processes (Child and Smith, 1987; Todd, 1999) but can also stop change in its tracks if it conflicts with these new routines (Beer et al, 1990). Six organisational characteristics were identified by Storey (1994) as being significant to the behaviour of small firms; firm age, size, industry sector/markets, legal form, location, and ownership. Organisational inertia is considered a huge barrier to change due to long-standing behaviours and routines from a veteran workforce, which would suggest that older firms are less likely to transform. Ghobadian and O'Regan (2006) found relationships between the type of SME ownership (independent vs subsidiaries) and leadership style, strategic planning and strategy implementation, suggesting that 'ownership' is a dominant characteristic that may impact on transformation

behaviour. The literature on strategic flexibility supports the factors discussed above, specifically highlighting leadership (Sanchez, 1997; Hitt et al, 1998; Shimizu and Hitt, 2004), core competencies (Sanchez, 1997; Hitt et al, 1998), human resource capability (Hitt et al, 1998), resources (Sanchez, 1997), and organisational structure and governance (Sanchez, 1997; Shimizu and Hitt, 2004) as having an impact.

Considering the internal contextual factors identified above, the characteristics of SMEs would appear to both enabler and hinder successful organisational transformation. The dominance and commitment of the owner/manager in conjunction with a flat, flexible organisational structure and informal communication lines would suggest that changes could occur quickly and easily, however a recent study has found that SMEs which are tightly controlled by the owner/manager exhibit less strategic change than those with a more open governance structure (Brunninge et al, 2007). The extent of strategic planning has been found to negatively correlate with owner or independently managed SMEs (Ghobadian & O'Regan, 2006), and since strategic planning is considered an important step in the transformation process (Kilmann et al, 1998; Pettigrew & Whipp, 1991; Bititci, 2007) one could deduce that independent SMEs struggle to transform. Within the SME context the informality of decision making and tacit knowledge in employee routines may inhibit the ability of an SME to be a learning organisation (Birdthistle, 2009), thus act as a barrier to successful transformation. However, the capacity for SMEs to be innovative due to their flexible structure and dynamic strategies (Smith et al, 2008) could be considered as an enabler to the process. SMEs are regularly cited as having limited resources which may be a barrier to transformation where investment in systems or hardware is necessary.

In summary, the context of organisational transformation in manufacturing SMEs can be described according to external factors, and internal factors expressed as barriers and enablers. External factors are classified by Porter's five forces model (Porter, 1990) and the PESTLE acronym however these tend to be more relevant to the stimulus for transformation rather than impacting on how it occurs. The internal factors can be contextualised to the specific characteristics of manufacturing SMEs as expected barriers and enablers and are summarised in Table 4.4 below.

Table 4.4 – Internal contextual factors in terms of expected barriers and enablers

Internal factors	Expected SME barriers	Expected SME enablers
Leadership & management style	Tight governance limited to owner/manager. Reactive to changes in external environment, need to adapt quickly to survive. Fire-fighting mentality.	Strong leadership, management commitment, influence of owner/manager, involvement of management team and/or board. Flexible and agile thus can change quickly and easily. Reluctance to change status quo so only change what is really necessary.
Power and politics	Autocratic, power struggles, tendency for command and control which can disengage workforce.	Informal decision making so changes happen faster. Generally single leader whom everyone listens to. Continuous communication due to flat structures so political issues talked through.
Knowledge, skills & capability	Limited knowledge and skills within organisation in certain areas. Propensity of tacit knowledge limiting organisational learning.	High levels of technical knowledge and specialist experience.
Resources	Limited resources. In-house designed and built systems. Generally part of a supply chain and constrained by supply.	Not constrained by bureaucratic process for spending. Opportunity seeking.

Culture	'Can't do' culture, informal management style. Limited communication outside management team.	Informal communication lines leading to quicker responses, emotional intelligence of leader through close working relationships
Organisation demographics – size, ownership, age, location, governance.	Fewer employees results in lack of time for devoting to changes. Tight governance dominated by owner/manager inhibits change.	Fewer employees results in greater flexibility. Informal structure makes changes quicker to implement.

4.5   Discussion

This chapter began with the conceptual framework that was developed following an initial review of the literature. Having investigated the specific constructs of interest for this study (i.e. the stimulus, content, process and context), a new framework of organisational transformation in manufacturing SMEs is proposed, illustrated in Figure 4.3. The process aspect explicitly states the type of transformation process and the three phases in the management of the changes. In applying the framework to describe the transformation of a particular case, the other facets of the process (the specific steps in management of the change process and order of content element change) will be discussed narratively. Using this model as the starting point, the remainder of this section presents a discussion of the extent to which existing knowledge provides answers to the three research questions.

Leadership & management style

Power & politics

Knowledge, skills & capability

Resources

Culture

Organisation demographics (size, age, etc)

Change in ownership or leadership

Performance measures

People & culture

Organisational structure

Stimulus

Strategy

Type of transformation process

Vision

Planning → Implementation → Review/revision

Crisis in competitive environment

Processes

Systems & resources

Competencies

Competition

Market

Industry sector

Customers

Regulation & legislation

Suppliers

PESTLE factors

Key

Internal contextual factor

External contextual factor

Transformation process

Internal stimulus

External stimulus

Content element

Figure 4.3 – Framework of organisational transformation in manufacturing SMEs

RQ1: How do manufacturing SMEs transform?

The literature on the stimulus, content and process of transformation is not sector specific, nor does it claim to be applicable to a particular size of organisation, therefore the assumption is made that the findings for the literature review are applicable in a manufacturing SME context.

Organisational transformation occurs when a decision is made to change a number of elements within an organisation. This decision is made following the acquisition and analysis of information from the external environment, or a change in the internal context. In the case of manufacturing SMEs, literature would suggest that externally driven transformation is crisis induced, where the organisation reacts to an event that impacts on the business. Internal stimulus is generally cited as a change in ownership or leadership, or poor performance results. In order for transformation to occur, a number of components must change, or at least be considered as to whether or not they need to be changed to achieve the new desired state. These components are; vision; strategy; organisational structure; people and culture, competencies, systems and resources; processes; and performance measures. The components are not presented in a particular order; however the various scholars who propose content models or frameworks agree that the development of a guiding vision and a strategy to achieve it should come before the others.

In terms of the process of transformation, three perspectives should be considered. The first is the type of transformation process, categorised as the planned approach, emergent approach, contingency theory, processual theory, punctuated equilibrium theory or continuous transformation theory. These approaches have been much debated in literature and their applicability to describe organisational transformation appears to be dependent on the internal and external context of the particular organisation under investigation. The second is the high level order of the various

content changes. As mentioned above, other than vision and strategy occurring before the others, literature does not provide guidance on this perspective. The third perspective is the 'how to' process, or steps in enacting each change in the transformation journey. Numerous guiding frameworks and methodologies exist that should be contextualised to the particular organisation and each have been demonstrated to adequately describe the change process when tested empirically. From a manufacturing SME perspective, Kotter's (1996) 8 step change process was used to describe the transformation of a Scottish manufacturing SME (Bititci et al, 2010) however as the researcher has already indicated, this retrospective fitting of the transformation story into these steps does not indicate its universal application in guiding change in this context. Thus a hybrid framework is proposed in the conceptual model which encompasses all of the process steps identified in the models discussed. When comparing the empirical data to this conceptual framework, it will then be clear which steps are relevant in the context of manufacturing SMEs.

RQ2: What are the internal and external contextual factors affecting organisational transformation in manufacturing SMEs?

Contextual factors affecting organisational transformation can be classified in terms of the internal and external context of the business. The internal contextual factors are barriers or enablers to the transformation and have been identified as leadership and management style; power and politics; knowledge, skills and capability; resources; culture; and organisational demographics (size, ownership, age, location and governance). The external context refers to changes in the external environment which affect the organisation in some way, namely customers, competitors, suppliers, market, industry sector, regulation & legislation, and macro PESTLE factors and these more often prompt the decision to transform rather than having an impact on its enactment. Specific to manufacturing SMEs a number of contingency factors were highlighted from within those listed above, although on the whole these factors are implied to impact on organisational transformation, rather than having been explicitly linked to its process and/or content. The factors correspond to the

characteristics of manufacturing SMEs discussed in Chapter Two, and are as follows; governance and decision making; influence of owner/manager; resource limitations; flexibility of organisational structure, communication ; informal strategy; number of employees; and management style.

RQ3: What is the association between these contextual factors and how manufacturing SMEs transform?

There is limited theoretical or indeed empirical literature that explicitly links both the internal and external context of transformation to its process and content. Numerous theorists call for such research to be conducted (e.g. Pettigrew, 2001; Dawson, 2003) but it seems this call has yet to be answered in an SME context. The model of the context of change (Balogun et al, 2004) goes some way to link contingency factors with the process and content of transformation by demonstrating the impact that the critical change features have on design choices. The ethos of the model is to align the context of the organisation with the process of change in order to optimise its implementation. The investigation of the transformation of a Scottish manufacturing company by Bititci et al (2010) proposed that the context of the organisation had an impact on the order in which the individual changes took place, where some changes uncovered problems in different areas of the business or required additional changes for implementation, as well as changes in the external environment pushing the business to react to opportunities and threats. This study did not discuss the impact of the contextual factors on the content or process in any great depth, but proposed this as an area of future work.

Summary

In attempting to answer the research questions from a theoretical perspective, the researcher has gained additional insight into organisational transformation in manufacturing SMEs, however it is clear that there are still gaps in understanding

this phenomenon. The stimulus, process, content and context of organisational transformation are constructs that are well understood and described in literature, however their applicability to manufacturing SMEs specifically is only implicit and has yet to be empirically validated. Further, the association between the contextual factors and the process and content of transformation is not well understood. Therefore, it is considered to be necessary to answer the same three research questions using empirical data as described in Chapter Three, and compare the findings with those presented here.

4.6   Chapter summary

From a theoretical point of view, this chapter presented a discussion on the constructs of organisational transformation and used this to provide answers to the three research questions. The main findings from this chapter are as follows:

- The stimulus for transformation can come from both the internal and external environment of the organisation. In the case of manufacturing SMEs it would appear that the internal stimulus is generally a change in ownership or leadership, and the external stimulus tends to be a crisis somewhere in the competitive environment.

- The key components of the content of transformation are; vision; strategy; organisational structure; people and culture, competencies, systems and resources; processes; and performance measures.

- The process of transformation can be described from three perspectives; the type of transformation process; the management of the transformation process (i.e. how the changes are carried out); and the sequence of change of the content elements of transformation).

- The type of transformation process can be categorised as following one of six theories, none of which have been explicitly linked to transformation in

manufacturing SMEs; planned, emergent, contingency, processual, punctuated equilibrium, or continuous transformation.

- Literature does not provide guidance on the sequence of content elements other than putting vision and strategy before the other content components, suggesting that individual organisations should follow the path deemed suitable for their particular context.

- Numerous models for change management have been developed within the various theoretical paradigms listed above, and the steps proposed within each can be organised according to three broad stages of planning, implementation, and review/consolidation.

- The external context (micro and macro environment) of transformation comes into play as both the stimulus for transformation and as affecting the transformation journey.

- Internal contextual factors provide barriers and enablers to organisational transformation and are more often cited as contingency factors. In manufacturing SMEs, heterogeneous characteristics can be deduced to impact on transformation (e.g. governance, leadership, structural flexibility etc) however this association has not been explicitly investigated.

The following chapter presents the background to the four case studies and discusses their transformation stories, followed by an analysis of each in the context of the conceptual framework presented above.

Chapter 5 - Empirical data

The aim of this chapter is to present the empirical data collected from each of the four case studies, and discuss it in relation to the conceptual framework developed in Chapter Four. Sections 5.1 to 5.4 present the within case analyses and each section is dedicated to a particular case study, arranged in a similar way, as described below. Section 5.5 then presents a summary of the key learnings from each case. Chapter Six will present a cross-case analysis of these findings, and discuss them in relation to the theoretical framework.

The within-case analysis process is illustrated in Figure 5.1 below. The interview data was converted into interview notes in the form of a mind map for each interviewee, and combined into a single map for the case. From this a detailed case study report was written and validated by the interviewees. Where any disagreements arose, the researcher discussed these face-to-face or via telephone or email with the interviewee and amended the report as necessary. The case study report was considered final when the interviewees were happy that the content represented their perception of the transformation story of the company. No situation arose where two or more interviewees were in disagreement about any details within the report.

Using the case study report as the data source, a narrative analysis of the transformation story was then written based upon the temporal sequence of events during the period of study. Following this, a summary of the stimulus, content, process, and context of the transformation was written and transformation timeline diagram created. Finally, the transformation of each case study was compared to the conceptual framework developed in Chapter Four in the form of a diagram, along with a discussion of whether the empirical data supports or contradicts the theoretical model. This process was followed for each of the four case studies. The interview notes (mind maps) and case study reports can be found in Appendix 2 and 3.
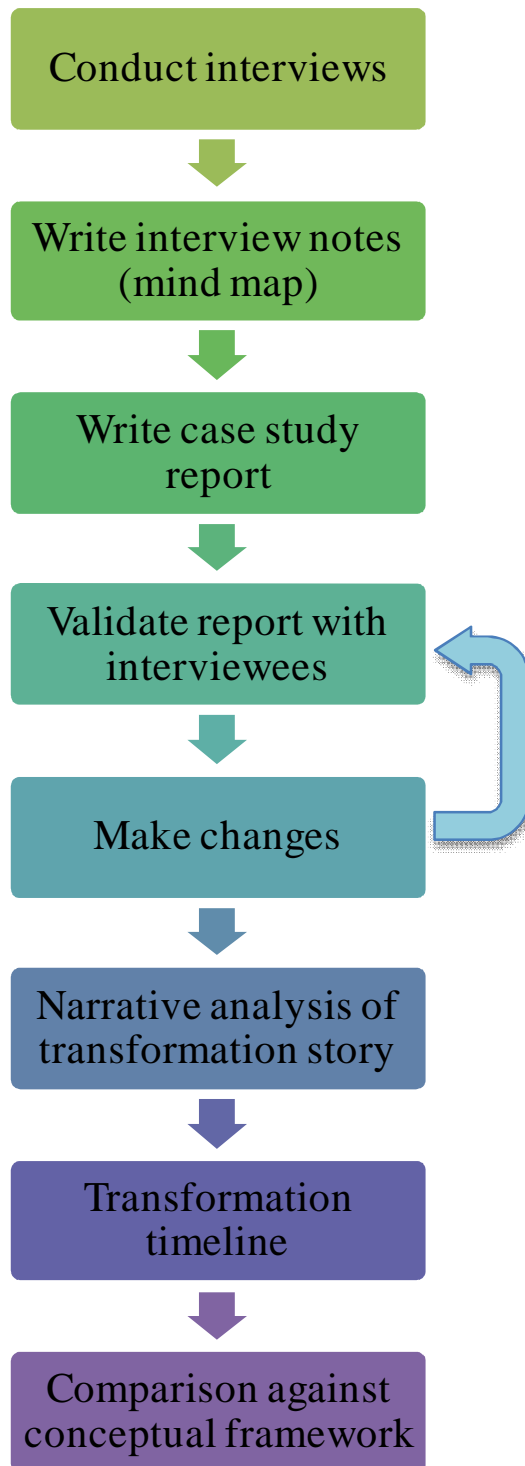
Figure 5.1 – Process of within-case analysis

5.1 Case study 1

5.1.1. Background

CS1 was founded in 1988 to offer bonded warehousing capacity to producers, exporters and importers of whisky. It soon diversified to offer a co-packing service when they identified this as a gap in the market. Co-packing involves placing the core product (e.g. a bottle of whisky) inside special packaging and sometimes with additional items (e.g. a glass) for promotions. It is a highly labour intensive job and the majority of drinks producers outsource this service, but the co-packing company effectively operates as an extension of its customers' business, since the customer provides the raw materials (products, packaging, bottles, spirit) and organises the dispatch of the finished product. The company further evolved to provide decanting and batch bottling services, again based on identifying the need for this small scale capability amongst its customers. In 2000 the company was sold to a consortium of investors, some of whom had experience and expertise in the Scottish Whisky industry. They introduced a new management team to run the company, and had minimal involvement in its operation. The new team set about improving the productivity and profitability of the company as directed by the shareholders. In 2006, on the request of (and with investment from) a customer, CS1 expanded its bottling capability to offer contract bottling as a key service in parallel with the co-packing value stream. To support this, the company has separated the two value streams into different factories; the bottling site custom-designed and opened in 2008. The company is bottling approximately 150000 cases of whisky annually and aims to grow this to 400000 over the coming years. It currently employs 33 permanent full-time staff. This study will focus on the transformation of the company from its sale in 2000 until 2009. Table 5.1 below summarises the transformation of CS1 which is explained in terms of its stimulus, content, process and context in the following section.

Table 5.1 – Summary of transformation of CS1 between 2000 and 2009

Organisational element	2000	2009
Ownership and management team	Privately owned and managed by the founder.	Owned by consortium of shareholders, new MD recently appointed to drive through new strategic direction.
Vision and strategy	Provide flexibility and quality service to customers. Achieve growth by taking on all customers if capacity was available.	Flexibility and quality through close customer relationships with few key customers. Growth through focus on expansion of bottling capacity and production efficiency.
Value proposition and value streams	Attempting to be both customer intimate and price minimisers in co-packing. Limited capacity for contract bottling.	New vision leads to customer intimate value proposition supported by operational excellence. New value stream of contract bottling expanded. Company rebranded to reflect both bottling and co-packing services.
Price restructuring	Ad-hoc pricing process resulting in company losing money on some orders.	Transparent and structured process for pricing orders.
Processes	Production processes poorly planned and unsystematic. Back office processes managed using bespoke systems and personal approaches.	Reengineering of production and planning processes. Standard operating procedures introduced. Bespoke systems still used for some functions although ERP system is in use for finance.
Investment and infrastructure	Facilities run down and outdated. Machinery generally second hand.	Recent investment in new bottling site, but limited investment in new machinery on production lines. New MD appointed with plans to bring new skills into the company.
Organisational structure	Owner managed and all decisions made by him. Limited management team, supervisory roles put in place as necessary.	Professional management team led by shareholders. New MD about to restructure company to reflect two value streams and strategy of the business.

5.1.2. Narrative analysis

The consortium of shareholders purchased CS1 at a time when co-packing was a profitable and growing market and so they had high expectations for making a good return on their investment. In partnership with the Managing Director (MD), the new Operations Director (OD) was tasked with improving productivity and so profitability in the company to enable growth. His experience in higher volume production environments allowed him to quickly identify areas for improvement at CS1.

The first key change was to refocus the company strategy to provide excellent customer service to three key customers. The management team realised that their industry was built upon informal relationships and reputation and so believed that building closer ties with key customers would result in CS1 being given all their co-packing work. In addition, small 'bitty' customers with short batches were causing long change over times on the production line and so greater efficiency and productivity potential was possible with fewer customers. In order to fully implement efficiency improvement programmes or changes in the company the OD needed support, ideally someone dedicated to process improvement. The existing staff members did not have the experience or capability to undertake such a project, and most had been working at CS1 for a number of years so were limited by their view of how the company operated. The shareholders were reluctant to invest in more employees, but the OD happened to receive information about a knowledge transfer programme with the University of Strathclyde and went on to hire an associate through this scheme. The associate worked with CS1 for two years to reengineer its business processes. The production process was analysed and modified and standard operating procedures introduced. The planning process was formalised and investment made in an ERP system to link production to the warehouse management system already in place at the company. A second knowledge transfer associate was hired as the first was finishing his program, and he continued with the implementation of ERP and process improvement targets. When both associates left

the company, the continuous improvement culture they had been trying to embed was lost as there was no one driving the new ways of working.

Just after the new associate began CS1 lost its major co-packing customer and with it almost 50% of its orders. As a result the company had to make redundancies and at this point the transformation stimulus changed from being one of growth to one of survival. The strategy of a small customer base was now proving detrimental and the company began chasing any work that was on offer. This resulted in CS1 entering into price wars with competitors just to win business, and consequently they were at times operating at a loss. Barriers to entry for the co-packing market are few and so CS1 found itself competing with new entrants offering unsustainably low prices. Although these companies always went out of business eventually, CS1 lost their customers in the meantime and so their sales patterns were highly volatile and unpredictable. At this time CS1 realised that its customers were not strategically dependent on them and would change co-packers regularly if it suited their own budgets and targets. The MD and OD knew that CS1 could not compete on price and were trying to differentiate themselves as flexible, reliable and customer intimate and worked to convince customers that although they were not the cheapest, CS1 offered the best all round service and would not let them down. A new pricing strategy was implemented to reflect this and ensure the company was not operating in negative profit again. The customer who had left returned to CS1 one year later having been let down by the co-packing company.

As CS1 was struggling to stay afloat, another of its key co-packing customers approached them with an offer to put all their contract bottling work through the company. CS1 had an outdated bottling line and would require significant investment to enable them to take the contract, and the customer agreed to collaborate with CS1 to provide some of the investment needed. This in addition to the return of the other co-packing customer turned CS1 around in terms of its profits and future prospects.

The close relationships between the OD and other employees at CS1, and these two customers is attributed to the success of CS1 in the contracts. Through the bottling partnership the OD identified a niche in the contract bottling industry where he believed CS1 could position themselves and dominate the market. Around this time the shareholders had been offered a considerable sum of money for the site on which CS1 was located, as it was prime residential land and property developments were booming. The decision was made to relocate CS1 to a new site and invest in a new bottling line that would enable them to compete in this market. The MD and OD identified a site and purchased it with consent from the shareholders. In parallel with this the shareholders offered to sell CS1 to the management team, as the sum from the old site was a considerable return on their investment in a short period of time. The two could not agree a price, however, and the deal collapsed. Not long after, the property market crashed and the sale of the old site also fell through. The MD retired prior to the new site becoming operational and the OD became ill, leaving a leadership void in the company.

The managers continued operating the site as normal, and the new site was commissioned as planned, dedicated to the bottling value stream of the business. By the time the new site was opening the OD was working more or less full time again and the transition between sites was considered to be smooth and relatively straightforward. Bottling began at the new site at the beginning of 2008 and employees were divided between the sites in a new organisational structure, although they were flexible enough to move between sites when necessary to cover sickness and holidays etc. Towards the end of 2008 two major problems emerged. Firstly, a quality problem with whisky that had been bottled during the transition between sites was costly in terms of rework and damage to CS1's reputation. Secondly, a relatively high volume bottling customer took its business to another contractor based on them offering lower prices. CS1 was adamant it would not lower its prices to begin competing in this way, and tried to persuade the customer to stay but highlighting the flexibility and reliability of the service they have always received but it did not work

and subsequently they reverted to lowering prices to win orders. The loss of this customer led to more redundancies in early 2009. In an effort to eliminate quality problems in the future and demonstrate its commitment to quality to its customers, CS1 implemented the ISO9001 quality standard with support from a local regional development agency, and was accredited in April 2009.

The most recent change in the transformation story of CS1 is the appointment of a new MD in January 2010 to grow the bottling side of the business. He was introduced to the business at the beginning of 2009 as Sales Director and will continue to fulfil this function. The OD has gone into semi-retirement and is working with the MD to help build relationships with customers and restructure the organisation. It is envisaged that a new operations manager will be employed and tasked with continuous improvement in production areas to enable the new site to achieve its potential and projected growth targets.

5.1.3.   Summary of transformation

Stimulus

The stimulus for the transformation of CS1 was the desire of the new shareholders to maximise return on their investment in the business, which began with operational improvements for productivity and efficiency gains. Later in the transformation journey the loss of a major customer threatened the existence of the company and so the stimulus for subsequent changes was survival. The business has since stabilised and is focussed on operational improvement projects on its new bottling line to enable growth.

Content

Various elements of the organisation changed during the transformation journey, as listed below;

- New ownership and management team

- Strategy (growth through customer intimacy with few customers)

- Streamlining of customer base

- Reengineering of processes

- ERP system implementation

- Price restructuring

- Strategic repositioning (customer focus)

- Introduction of new value stream (contract bottling)

- Investment in infrastructure and equipment

- Rebranding

- Restructuring of organisation and redefinition of roles and responsibilities

- Conformance to ISO9001 standard

Process

Transformation at CS1 occurred through a combination of proactive changes that were planned at a strategic level (e.g. the decision to streamline the customer base and focus the strategy on excellent customer service, and the KTP projects), and reactive changes, which occurred as a result of unexpected events in the external environment (e.g. the need for redundancies and price restructuring following the loss of a major customer), or issues uncovered by changes made previously (e.g. ERP implementation to support operational improvements). The use of external support was sought where possible, including the involvement in the KTP scheme and interventions from Scottish Enterprise consultants. Communication of changes was sporadic and generally limited to the management team or project leaders (in the case of the KTP projects), thus the process was top-down and changes imposed on employees rather than involving them. The transformation was not driven by a common vision of the future and it does not seem that the intention of the shareholders was to transform the company, until the decision was made to diversify into contract bottling alongside the original co-packing value stream. The OD had identified a niche in the contract bottling market but the resources were not available to pursue the idea further, until a customer offered to invest in the necessary equipment. Thus, this phase of the transformation journey began from an opportunity in the external environment, and was then adopted as a new strategy and subsequent changes planned to make it a reality (e.g. the acquisition of a new site dedicated to the bottling value stream). Although this phase could be considered more proactive than the previous changes, the same approach to communication was adopted in that only the management team was involved in the details of what was happening.

Context

The context is embedded in the transformation story of the organisation and although it can be abstracted to identify specific contextual factors, viewing these in isolation from the situation in which they had an impact loses value and meaning. Thus, the internal and external contextual factors are presented along with the impact these had on the transformation (according to the interviewees).

Table 5.2 – The internal context and impact on the transformation of CS1

Internal context	Impact
Location of business	Close to customers, rapid response and highly flexible. Geographically protected from overseas competition.
Ownership	Short-term strategic thinking of shareholders (year-to-year) until new bottling site investment. Centralised decision making, so any planned changes taking longer to get off the ground. Scepticism among workforce about motives of owners (e.g. uncertainty over long-term employment)
Non-directive leadership style of MD.	No coherence between various changes. Authority not used to enforce new behaviours. Limited communication outside core management team.
Informal style of OD	Continuous involvement in operational tasks. No coherence between various changes, limited time spent on strategic tasks. Authority not used to enforce new behaviours. Employees viewed changes as finite projects. Little communication outside management team. Familiarisation with operational issues.
Experience of OD in whisky industry.	Large number of contacts for gaining new business. Awareness of trends in whisky industry and any opportunities and threats emerging.
Age of the business.	Long established business with 'West of Scotland' culture among permanent employees – "that'll never work", "we tried that before" and unwelcoming to new employees or 'outsiders'. Behaviour changes not embedded and employees returning to old habits, routines and processes. Resistance and negativity de-motivating for those implementing changes. Reluctance of staff to commit time to change projects.

Demographic of the workforce	Large number of agency staff, majority of whom are Eastern European with limited knowledge of English. Difficulty in standardising behaviours, processes and practices. No communication to shop-floor workers of strategic plans or vision of the company. No commitment or loyalty to company or its values or objectives. Procedures and signage translated.
Investment from shareholders.	Small-scale continuous improvements, large investments only made if clear business case identified. Collaborative opportunities sought for knowledge, expertise and financial support. Reliance on few people delivering changes. Perception amongst employees that shareholders did not have long-term commitment to business.
Human resource limitations.	Involvement in KTP programme to bring skills and expertise into the business. No responsibility given to individuals for maintaining some changes, such as performance management. Difficulty coping with sudden increases in demand.
Involvement in KTP programme	New skills and knowledge. Support to deal with specific operational issues. Support for OD to make changes. Short-term behaviour changes while KTP associate took lead.
Communication	Limited communication outside management team, and indeed among management employees. Uncertainty, with employees making assumptions about what the future holds, especially following redundancies. Lack of coherence among managers, sometimes pulling in different directions. Decisions made based on individual employees' assumptions of priorities rather than alignment to strategy or business objectives.
Two instances of major redundancies.	Fear among employees (compounded by lack of communication). Heavy reliance on untrained/unskilled agency workers when orders increase, reducing productivity. Loss of confidence in business stability by customers.
Retirement and illness	OD removed from the business for a long period of time due to illness, MD retiring around same time. Lack of leadership or direction. Less structured implementation of move to new bottling site, quality issues later discovered. Poor reliability and efficiencies in bottling production lines due to lack of planning during installation.
Tendency to promote from within	Highly knowledgeable and experienced staff but lacking in current thinking/techniques in particular areas. Difficulty in changing behaviours or mindsets – "we've always done it that way". Few new ideas for improvements.

Table 5.3 – The external context and impact on the transformation of CS1

External context	Impact
Internalisation of co-packing activities by customers	Reduction in customer base. Contribution to decision to diversify into contract bottling. Unstable production patterns. Redundancies. Refocus on customer service and offering flexibility to persuade customers to outsource co-packing activities.
Price sensitivity, volatility and seasonality of co-packing market	Engagement in price wars with competitors, resulting in small or at times negative profitability. Unstable production patterns. Process reengineering to maximise efficiencies and productivity. Reliance on agency staff, difficulties in making changes stick. Redundancies. Contribution to decision to diversify into contract bottling. Reluctance of management team to buy-out the business (price based on a 'good' year).
Low barriers to entry for competitors in co-packing market	Loss of customers. Redundancies then reemployment when customers return. Unpredictability of production demand. Customers reluctant to enter into long-term contracts.
Customer approaching CS1 for help with contract bottling	Access to funds to invest in bottling capability, leading to development of this value stream. Opportunity for OD to demonstrate benefits of focusing on bottling, leading to investment in new premises and equipment for bottling. More stable production demands easing capacity planning.
"Boys club" culture within whisky industry	New customers won based on recommendations and networking. OD involvement in associations and events to gather information and interpret the implications for the business. Everyone in the industry aware of each others issues, plans, weaknesses etc.
Economic crisis	Collapse of shareholder plan to sell original factory. Reduction in customer orders due to reduction in whisky sales globally. Redundancies. Customers reluctant to enter into long-term contracts. Increasing trend for customers to bring co-packing activities in-house.
Influx of eastern European workers to Scotland	Pool of hard-working staff willing to do menial work (co-packing). Difficulties in communicating. Translation of procedures and signage.
Quality issue discovered by customer	Loss of customer. Damaged reputation. Decision to implement ISO9001 standard. High costs to rectify problem. De-motivating for staff. Focus on operational improvements.

Key findings

The new 'transformed' state of CS1 (in 2009) is the result of a series of reactions to internal and external stimuli, coupled with proactive changes based on an informal objective of revenue growth that guided decision making within the management team. A number of key findings can be drawn from the analysis of this case;

- The knowledge and experience of the Operations Director highlighted opportunities for changes that would grow the business.

- The lack of communication from the management team hindered the adoption of new routines and behaviours and acted as a barrier to cultural change.

- Performance measures were not assigned to new processes or used to embed any changes, acting as a barrier to cultural change.

- The use of external help (KTP programme) proved to be a double-edged sword; it provided resources to concentrate on implementing changes but lacked the longevity to fully embed them into the organisation.

- The susceptibility of the business to market and industry changes led to redundancies in the business but also the strategic decision to pursue a new value stream.
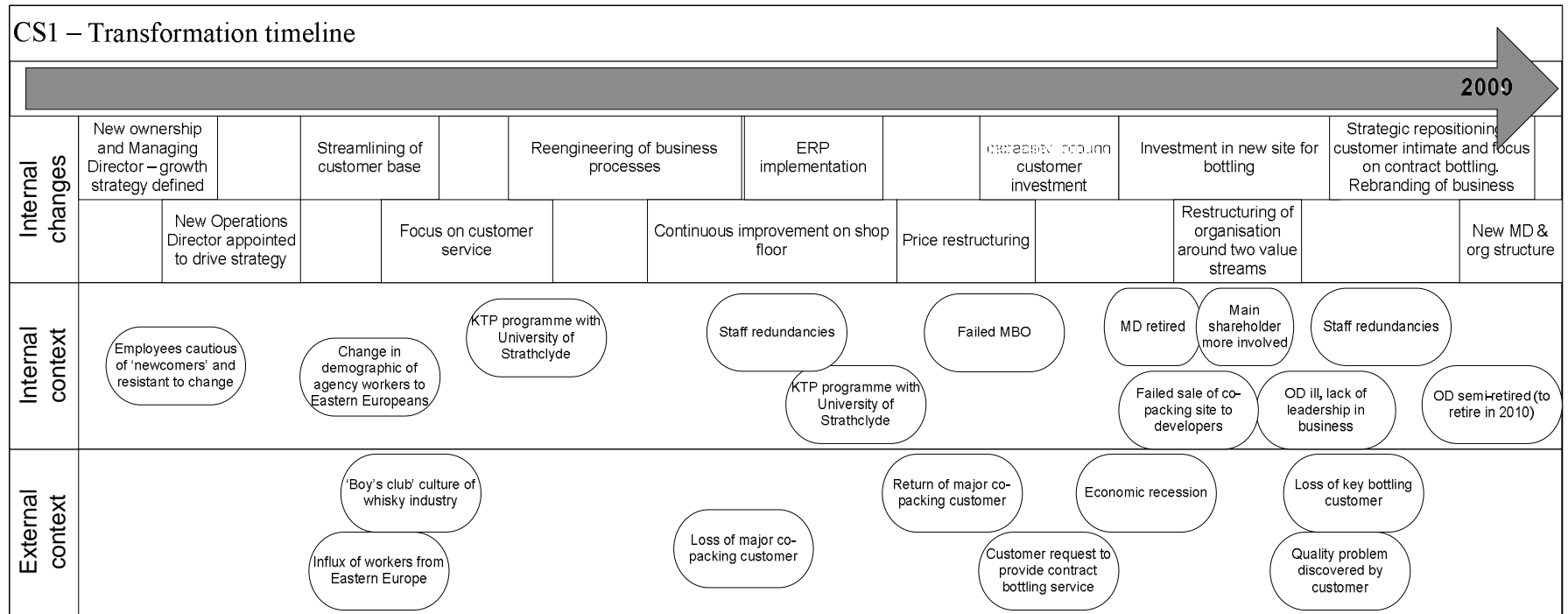
Figure 5.2 – Transformation timeline for CS1 from 2000 to 2009

5.1.4. Comparison with conceptual framework

The similarities and differences between the empirical data from CS1 and the conceptual framework are discussed below according to the constructs of stimulus, content, process and context. These are then summarised in Figure 5.4 at the end of this section.

Stimulus

On taking over the business in 2000, the consortium of shareholders began to transform CS1 (although not with that explicit intention) by introducing a new management team and upsetting the status quo. This stimulus is in agreement with the main internal factor highlighted in the conceptual framework – that a change in ownership or leadership can set the transformation journey in motion. At CS1 there was an additional transformation stimulus that changed the focus of the business, namely the loss of a major customer, threatening CS1's very survival. This second stimulus supports the suggestion from literature that a key external factor driving SMEs to change or transform is a crisis in the competitive environment.

Content

The content of transformation at CS1 has been matched to the content elements of the conceptual framework (Table 5.4), according to the descriptions presented in Section 4.2. Where the content of transformation at CS1 does not match to a content element identified from literature, it is highlighted in the table.

Table 5.4 – Comparison between content of transformation at CS1 and content elements from conceptual framework

Content of transformation at CS1	Content element from conceptual framework
New ownership and management team	
Strategy (growth through customer intimacy with few key customers)	Strategy (inc. value proposition)
Streamlining of customer base	Strategy (operating model)
Reengineering of processes	Processes
ERP system implementation	Systems & resources
Price restructuring	Strategy (profit model)
Strategic repositioning (customer focus)	Strategy (value proposition)
Introduction of new value stream (contract bottling)	Competencies, Strategy (value stream)
Investment in infrastructure and equipment	Systems & resources
Rebranding	Strategy (positioning)
Restructuring of organisation & redefinition of roles and responsibilities	Organisational structure, People & culture
Conformance to ISO9001 standard	Systems & resources

From the comparison shown above, two aspects of the content of transformation at CS1 are highlighted as not matching to the content elements from the conceptual framework. The new ownership and management team could be classified as being a change in competencies, since this change brought new skills and knowledge into the business. However, the researcher believes that classifying a change in ownership and management team within this element does not give sufficient granularity to the analysis, thus the content elements of "**Ownership**" and "**Management team**" are proposed as additional to those identified in literature. The diversification of the business into contract bottling created a new product/service offering for the

business, which has been developed into a separate value stream for the business. 'Value stream' is a constituent element of the 'strategy' element, however the researcher believes that this does not adequately capture the fact that the business introduced a completely new product/service and so suggests that **"Product/Service"** is an additional content element. Several of the content changes have been classified within the 'strategy' element, however they relate to different concepts within this, as stated in the parentheses. The argument could therefore be put forward to deconstruct 'strategy' into its constituents in order to have a more detailed understanding of what has actually changed in the business within the scope of strategy.

The elements of vision, and performance measures from the conceptual framework were not evident as having changed during the transformation of CS1. Further, although 'people & culture' has been matched to the revised roles and responsibilities of the workforce, the culture itself did not change during the transformation period. Whilst carrying out projects to improve operational productivity, and the implementation of ERP, attempts were made to change the culture of the employees to one of continuous improvement through the adoption of new working practices and standard operating procedures. What those making the operational changes found was that when the improvement project was complete, behaviours and practices returned to old ways. The interviewees believed this was as a result of the projects being exactly that, discrete changes with no link to the overall business strategy, driven by individuals for a fixed period of time. If the KTP associates had decided to remain in the company after their programme had ended, the changes may have had time to embed into the routines of the employees. A further barrier to culture change at CS1 is the high number of agency staff employed at busy periods, and the fact that the majority of these are Eastern European. The company did translate signage and procedures into Latvian and Polish but communication was still difficult.

The interviewees spoke about business objectives, but not an overarching vision of the business, therefore there was no evidence that this changed during the transformation period. At CS1 performance measures are informal and inconsistently measured or monitored (outside of standard financial measures). When various changes were introduced key performance indicators were defined and measured for a time, but as with the behavioural changes, these fell by the way-side when there was no one given responsibility for continuing with measurements and monitoring. This links to another issue of limited resources at the company, where the OD was involved in many different operational aspects but had little support for following changes or initiatives through.

Process

The type of transformation process evident in CS1 does not exclusively fit within any of the theories of change discussed earlier, which lends weight to the belief that the boundaries between the approaches are blurred and overlapping. Some of the changes were structured and planned moves from one state to another (e.g. ERP implementation), pointing towards the planned school of thought. However, emergent theory suggests that changes occur as a result of an organisation understanding the impact of shifts in its competitive environment and adapting the business to suit them which has also been the case at CS1. The punctuated equilibrium theory of change states that organisations continuously evolve, but experience large scale radical changes that alter the business. This seems to best describe CS1, where the first few changes in the transformation journey were incremental and small-scale improvements, then the crisis of losing a major customer resulted in a step change in the business in terms of a new strategy and competitive focus. CS1 returned to stability and reengaged in operational improvement projects until the opportunity to move into contract bottling came about, resulting in another step change to a new value stream and investment in infrastructure to support this. Further evidence to place CS1 within this theory of change is the fact that the transformation was not planned or envisaged in any way; shareholders desired

growth and annual strategy meetings outlined how this would be achieved through incremental process improvements and sales strategies, but a longer-term vision for the business was not conceptualised. Since the theories of planned and emergent change are more often used to describe the management of the change process, it seems appropriate to describe the type of transformation process at CS1 as following the punctuated equilibrium school of thought.

The management of the content changes appears to follow a contingent approach, where some changes were planned and highly structured and others emerged as a result of changes in the competitive environment of the business. What is common among the management of all the changes is that they were 'imposed' upon employees (i.e. a top-down approach) with no consultation or even communication at times. As noted previously, the changes did not have a common guiding vision and were implemented in reaction to problems or crises in order to achieve specific goals and thus were viewed as discrete projects. The opportunity to diversify into contract bottling has focused subsequent changes into expanding this value stream and maximising productivity and profit in this part of the business, leaning towards a more proactive approach.

In order to understand how the process of each content change was managed, a matrix of the content changes and process steps identified in the conceptual framework was developed, shown as Table 5.5. A '√' in the cell indicates that the process step was evident during the specific content change at CS1.

Table 5.5 – Comparison between process management steps and content of transformation at CS1.

Phase	Step	Strategy (customer intimacy with few key customers)	Streamlining of customer base	Reengineering of processes	ERP system implementation	Price restructuring	Strategic repositioning (customer focus)	Introduction of new value stream (contract bottling)	Investment in infrastructure and equipment	Rebranding	Restructuring of organisation & redefinition of roles & responsibilities	Conformance to ISO9001 standard
	Analyse organisation and need for change	√	√	√	√	√	√	√	√	√	√	√
	Understand the external environment		√			√	√	√				
	Develop shared vision and common direction	√		√	√	√						
	Create a sense of urgency					√	√					
	Strong leadership											
Planning	Ensure support from management team and key decision makers	√	√	√	√	√	√	√	√	√	√	√
	Develop implementation plan			√	√				√	√		√

	Develop performance measures to assess impact or success of change			√	√			√	√			√
	Assess readiness for change											
Implementation	Communicate and provide information to employees			√	√	√				√	√	√
	Involve employees			√	√						√	√
	Create short-term wins			√	√							
	Change culture by changing behaviour			√ *	√ *					√		√ *
	Implement systems and structure to support change			√		√			√			√
	Use management practices to motivate											
	Teamwork			√	√			√	√	√		√
	Give people tools they need to do the job well			√	√	√			√	√		√
Review/ Consolidation	Monitor progress and adjust strategies as necessary			√	√							√
	Reinforce and institutionalise change											
	Communicate results/progress of change			√	√	√	√		√			√

The absence of a '√' in the above table does not necessarily indicate a weak or incomplete process, simply that there was no evidence of the step occurring in the interview data. Interviewees were not always able to recall particular aspects of certain changes when probed for detail about how the changes actually occurred.

Two process activities were evident in each change at CS1; assessment of the organisation to understand the need for change, and support of management team and key decision makers. The first suggests that all changes were made after CS1 making a decision, i.e. they were planned in some way. The second would be expected since CS1 is owned by a consortium of shareholders who are the key decision makers and approve any major changes to the business, and also since CS1 is a small business the management team is also small thus everyone is involved in any changes being made. Three of the process activities were not evident in CS1 for any of the content changes; strong leadership, assessment of readiness for change, and use of management practices to motivate. Indeed, there was no evidence of any attempt to motivate employees to engage in the changes made in the business. Leadership is discussed as a contextual factor in the following section. In the case of the 'change culture by changing behaviour' activity, this was evident for three of the content changes (process reengineering, ERP implementation and ISO9001 standard conformance) but the changes in behaviour did not last much beyond the length of the change programme, hence the '*' marking in the table. Accreditation for ISO9001 conformance was just awarded at the time of writing so the longevity of the behaviour change is yet to be demonstrated.

There is a clear distinction between the changes involving external support (namely process reengineering, ERP implementation and price restructuring with the KTP associates, and ISO9001 conformance with a regional development agency representative) and the remaining changes that were led and managed by the CS1 employees alone. Those changes involving external support had more process

management activities, suggesting that the change was planned in advance of implementation. In terms of any patterns regarding planning, implementation and review/consolidation phases, there is no bias towards any particular phase across the transformation story, although within the review/consolidation phase the emphasis was on communication of change results with few changes being reinforced or their progress monitored.

The final facet of the process of transformation is the order in which the content elements changed. As discussed in Section 4.3, content models of transformation give little indication of the optimum sequence, however there is consensus that transformation should begin by developing a vision for the future and a strategy for how this will be achieved. This implies a planned transformation, and as noted above the transformation of CS1 was not planned but as Figure 5.3 below illustrates, following the change of ownership and introduction of new management team, the first change was indeed to set a new vision and strategy for the business. The figure below outlines the general order of the content changes at CS1 and the stimuli for the transformation. Of course there was much overlap between these changes so the elements are laid out sequentially for clarity only. Because the transformation of CS1 was not planned, the order of the content changes was dependent on the internal and external context of the business. Changes were driven by problems uncovered by other changes (e.g. the need for ERP implementation following the reengineering of processes) or a crisis in the competitive environment (e.g. price restructuring following the loss of a major customer and profitability issues). This highlights the reactive nature of the transformation of CS1.
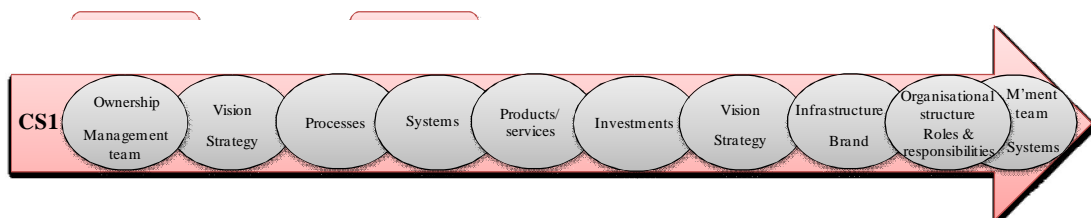
Figure 5.3 – Order of content changes at CS1

Context

The internal and external contextual factors identified from literature are mapped onto the contextual factors identified as relevant to the transformation of CS1 in Table 5.6 below. Where a factor from CS1 does not match with literature, it is highlighted in the table.

Table 5.6 – Mapping of contextual factors from CS1 onto those identified in conceptual framework

		Context of CS1	Factor from conceptual framework
Internal context		Location of business	Organisational demographics
		Ownership	Organisational demographics
		Non-directive leadership style of MD.	Leadership & management style
		Informal style of OD	Leadership & management style
		Experience of OD in whisky industry.	Knowledge, skills & capabilities
		Age of the business.	Organisational demographics, Culture
		Demographic of the workforce	Culture
		Investment from shareholders.	Resources
		Human resource limitations.	Resources, Knowledge, skills & capabilities
		Involvement in KTP programme	Knowledge, skills & capabilities
		Communication	Leadership & management style
		Two instances of major redundancies.	Culture, Organisational demographics (size)

	Retirement and illness	Leadership & management style
	Tendency to promote from within	Knowledge, skills & capability
External context	Internalisation of co-packing activities by customers	Customers
	Price sensitivity, volatility and seasonality of the co-packing market	Market
	Low barriers to entry for competitors in co-packing market	Competitors
	Customer approaching CS1 for help with contract bottling	Customers
	"Boys club" culture within whisky industry	Industry sector
	Economic crisis	Economic (PESTLE)
	Influx of eastern European workers to Scotland	Social (PESTLE)
	Quality issue discovered by customer	Customers

Each contextual factor evident in CS1 can be mapped onto those suggested in the conceptual framework, however the external factor of a customer approaching CS1 with an opportunity to expand its contract bottling capability is more than just a 'customer' factor, thus it is proposed that a new external factor of **"Collaboration"** is included. Also, the internal factor of communication is related to leadership & management style, however the researcher proposes that **"Communication"** is a separate factor as it had such a large impact on the transformation of CS1.

All of the contextual factors identified in the conceptual framework were evident in CS1, apart from power & politics which was not seen as having an impact on the transformation. In particular, leadership & management style, knowledge, skills & capabilities, culture, and organisational demographics were key influencers. The external factors of regulation and legislation, and suppliers identified in literature as impacting on organisational transformation were not evident in this case, whereas customers, competitors, market, industry sector and economic and social factors did have an impact.

As has been mentioned many times, isolating the contextual factors from the content and process of transformation renders them superficial, therefore the effect of the factors identified (using the classification from the conceptual framework) on the content and process characteristics of the transformation is shown in Table 5.7. A '√' represents a positive impact, indicating that the contextual factor was an enabler to the particular aspect of transformation, where as an 'x' represents a negative impact, indicating that the contextual factor was a barrier or constraint. A '/' indicates that the factor did have an impact that was perceived as neither positive nor negative. If the box is empty, there was no perceived impact on the content and process of transformation. Where additional content elements and contextual factors were identified, these have been included in the matrix.

Table 5.7 – Impact of contextual factors on content and process of transformation at CS1

Contextual factor	Contextual factor (from conceptual framework)	Vision	Strategy	Organisational structure	People and culture	Competencies	Systems and resources	Processes	Performance measures	Ownership	Management team	Product/Service	Type of process	Order of content changes	Management: Planning	Management: Implementation	Management: Review
					Conceptual framework content					Proposed content			Process facets				
Location of business	Organisational demographics (location)		√									√					
Ownership	Organisational demographics (ownership)		x		x		√ x		x		√ x	√	/	/	√ x		
Non-directive leadership style of MD	Leadership & management style		x		x				x						x	x	x
Informal style of OD	Leadership & management style		x		x				x						x	x	x

Factor	Category	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14
Experience of OD in whisky industry.	Knowledge, skills & capabilities	√				√	√			√			√		
Age of the business.	Organisational demographics (age), Culture	x		x		x	x						/	/	
Demographic of the workforce	Culture			x			x						x	x	
Investment from shareholders.	Resources	√	/	√			√			√		/			
Human resource limitations.	Resources, Knowledge, skills & capabilities		/	√ x		√	√	√ x					√ x	√ x	√ x
Involvement in KTP programme	Knowledge, skills & capabilities			√ x		√	√	√ x					√ x	√ x	√ x
Communication	Leadership & management style, Communication	x		x		x	x						x	x	x
Two instances of major redundancies.	Culture, Organisational demographics (size)	x	/	x							/	/	x	x	x
Retirement and illness	Leadership & management style												x	x	x
Tendency to promote from within	Knowledge, skills & capability			x			x	x							

Internalisation of co-packing activities among customers	Customers	/				√						/					
Price sensitivity, volatility and seasonality of co-packing market	Market	x		x								/	/	/			
Low barriers to entry for competitors in co-packing market	Competitors	x										/		/			
Customer approaching CS1 for help with contract bottling	Customers, Collaboration	/			√	√						√		/			
"Boys club" culture within whisky industry	Industry sector	/												/			
Economic crisis	Economic (PESTLE)	x		x									/	x	x	x	
Influx of eastern European workers to Scotland	Social (PESTLE)			√ x										x	x	x	
Quality issue discovered by customer	Customers					√							/	/			

The data presented in the matrix can be interpreted in a number of ways; looking at the contextual factors some had a more positive effect on the content and process of transformation than others; leadership & management style was a barrier to any content changes it impacted on, and also had a negative effect on the process of transformation. Culture had a mainly negative impact on the transformation of CS1. The factors of knowledge, skills & capability and resources were mainly enablers to the transformation. The demographics of the organisation acted as both a barrier and enabler, depending on the content element, but appears to mainly inhibit the process. Communication was a barrier to many of the content element changes in the transformation journey. In the majority of occurrences, the external contextual factors were enablers to the transformation content elements, though as one would expect the economic crisis had a negative impact. The customer approaching CS1 to collaborate on providing a contract bottling service had a significant impact on the transformation of the business, as it led to investment in a new site dedicated to bottling, and the training of employees to operate this value stream. Where they did have an impact, the external factors were seen as barriers to the process of transformation; the economic crisis caused a reactive change which did not afford CS1 with time to follow a structured change process. In the case of the influx of Eastern European workers, the language barrier was used as an excuse for not communicating changes.

Considering the table from the perspective of the content elements, a number of interesting points can be highlighted. The attempt to change the strategy of the business to a more customer focused one was hindered by a number of contextual factors, such as the short-term performance targets of the owners which did not support a small customer base strategy, and the lack of communication across the business resulting in employees agreeing to orders from any customer. The continuous introduction of new co-packing competitors and the economic crisis both made it difficult for the business to pursue a strategy of few customers, as the few were not loyal to CS1 and business had to be sought from anywhere in order to keep

CS1 afloat. The attempt to change the behaviour of employees was, on the most part, hindered by the internal context of CS1. Informal management styles, limited human resources, poor communication, the two major redundancies, and the age of the business all acted as barriers to any attempts to change the culture to one of continuous improvement and involvement. The KTP programmes helped to some degree, but once these ended no one was given responsibility for continuing to review and embed the changes and so behaviours reverted back to the status quo. The vision and competencies of the business were not impacted by the context of the business, and the change in organisational structure and management team were only slightly influenced by the internal and external factors. As would be expected, the change in ownership was not influenced by the contextual factors, since this stimulated the transformation in the first place. When the opportunity arose to expand the bottling capability of the business, the internal contextual factors mostly enabled this change. The experience of the OD made him sure that it was a decision that would see growth for the business, and the shareholders (some of whom knew the industry well) also realised this, hence the decision to invest. Clearly, the biggest factor in this change was the commitment from a key customer to invest in some equipment and also to give his bottling business to CS1. The market conditions of co-packing helped to highlight the need for CS1 to find growth potential elsewhere and pushed the owners to act.

Considering the process facets, it was difficult to ascertain whether the contextual factors had a positive or negative impact on the type of process and order of content changes, as there is no 'correct' way to do these. What is interesting is that the order of content changes was greatly influenced by external factors, highlighting the volatility of the market in which CS1 operates as well as its reactive nature. The type of transformation process is also related to factors that caused the business to unexpectedly change direction. In terms of the management of the changes, the contextual factors were mainly barriers to the process steps being followed, especially factors relating to leadership & management style, and culture.

5.1.5.   Summary of CS1 within-case analysis

Having compared the transformation of CS1 to the conceptual framework, a number of conclusions can be drawn for discussion in relation to the other cases and wider literature. This is summarised in Figure 5.4. Grey shading indicates that there was evidence of the element in the case study. Black shading proposes additional elements. Where an element is not shaded, there was no evidence of this in the case study.

- The stimulus of transformation agrees with that identified in literature as a change in ownership or leadership and a crisis in the competitive environment.

- The content elements of 'vision' and 'performance measures' were not evident as having changed during the transformation of CS1, nor did the 'culture' of the business. Three additional content elements are proposed; **Ownership**, **Management team,** and **Product/Service**. It is also proposed that 'strategy' be considered for deconstructing into its constituents, namely value proposition, operating model, profit formula, and positioning.

- The type of transformation process at CS1 follows the theory of **punctuated equilibrium**. The management of the individual changes were contingent on what the change was and was a mixture of planned and emergent approaches. Common characteristics were; top-down approach, lack of communication, little employee involvement and no overall guiding vision. The order of the content changes was influenced by the internal and external contexts, as well as the output of previous changes.

- The internal contextual factors evident as having an impact on the transformation of CS1 were; leadership & management style, knowledge, skills & capability, resources, culture, and organisational demographics (namely

location, age of the business, size, and ownership). The internal factor of **Communication** is proposed as an additional factor. External factors impacting on the transformation were; customers, competition, market, industry sector, economic, and social factors. An additional external contextual factor of **Collaboration** is proposed.

- The contextual factors of CS1 acted as both barriers and enablers to the transformation. Key enablers were the knowledge, skills & capabilities of the employees, and resources in the business. Externally, the opportunity provided by a customer in terms of bottling capability was significant enabler, as was the behaviour of the co-packing market. The barriers to the transformation were mainly 'soft' factors such as leadership & management style, culture, and communication. Externally, the economic crisis had a negative impact on transformation.
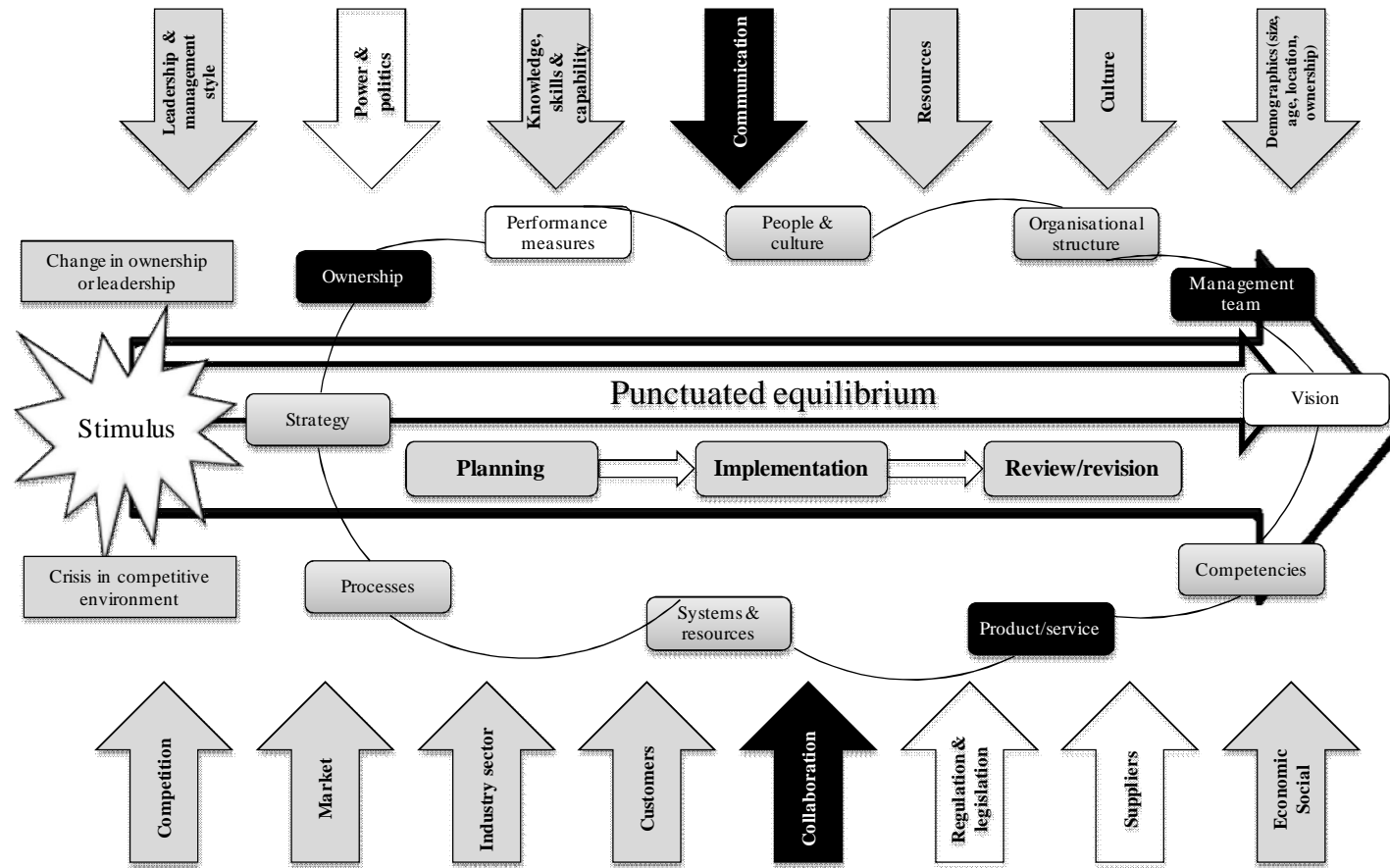
Figure 5.4 – Summary of comparison of transformation characteristics of CS1 and conceptual framework

5.2 Case study 2

5.2.1. Background

CS2 is a family owned and managed business which designs and manufactures precision engineered sound reproduction systems. It was founded in 1972 in response to the perceived lack of quality hi-fi systems on the market. The first product the company manufactured is still in production, and since then the company claims to have led the market with continuous product innovations most recently in Digital Streaming (DS) technology. The site is located on the outskirts of Glasgow in a purpose built facility and currently employs 160 full time staff. The management team is led by the founder's son who took over as Managing Director at the beginning of 2009 following five years as research & development manager/engineering director. The founder chairs a board of non-executive directors who are involved in long-term strategic planning and offer a supporting role as necessary.

The raison d'être of CS2 is to provide its customers with 'music for life' through the design and development of modular, compatible and upgradable components and systems. It strives to achieve perfect sound reproduction and it is this goal that drives the company to new technology and product developments through its dedicated research and development team. It also owns a record label to carry through its ideal by ensuring it produces music at the highest possible quality, thus maximising customer experience with the products. Since its beginnings in record turntable production CS2 has changed its capability and skill set from mainly mechanical engineering to electronics and software in order to offer products aligned with music reproduction technology and trends; firstly CDs then MP3s and now the digital music revolution. Thus, CS2 has continuously changed and evolved throughout its history, however the focus of this investigation is the most recent transformation from 2000 when new product systems were introduced to the market, up to the present day (2009).

Table 5.8 below summarises the transformation of CS2 which is explained in terms of its stimulus, content, process and context in Section 5.2.2.

Table 5.8 – Summary of transformation of CS2 between 2000 and 2009

Organisational element	2000	2009
Leadership	Founder/MD directive and sole decision maker (though influenced by managers at times).	Son of founder/MD participative and guided by inputs from management team.
Vision and strategy	Growth through new product introduction and expansion of value propositions where opportunities arose. Focus on turnover. Record label, TV distribution, Retail viewed as completely separate businesses and not impacting upon the core business.	"Back to basics" approach, music central to the company vision which is focussed on providing 'music for life' for its customers through upgradable, modular products. Single value stream of home audio products. Closer relationship with record label to demonstrate music at the heart of the brand.
Skills and capabilities	Mechanical engineering and electronics with limited software capability, sales and marketing at forefront, support functions in background.	Core capabilities of new technology development and innovation based on open system architectures and modular platform design. More sophisticated electronic and software engineering skills. More balanced organisation with sufficient focus on support functions as necessary.
Organisational structure	Operations and strategy teams working independently with little interaction.	Flat structure with management team reflecting key functions in the business.
Investment	Attempt to move into new skill needs with existing resources. Where necessary outsourcing of software and hardware to interface with in-house designed and built systems.	Skilled employees hired and investment in machinery and equipment made if demonstrated to add value to the business. Open-source systems used to develop software in-house and as much hardware manufactured in-house as possible.

Processes	Traditional production flow with sequential processes, driven by sales forecasts and push system, quality checks performed at the end of the process. New product development carried out independently of past products, innovations pushed to market quickly.	Lean production approach in place, pull system with based on confirmed customer orders, quality built into products from design stage, platform approach adopted to ensure maximum re-use of technology, upgradability of products and consistency across the range, new product introduction still pushed to market but with support of quality inherent in the design.
Roles and responsibilities	Operators skilled in one task, led by team leaders and supervisors, lack of initiative. Managers focused on individual functions with no overall business objectives.	Operators multi-skilled and flexible to meet production demands. Team leaders tasked with continuous improvement. Managers work as a team to achieve business objectives.
Key performance indicators	Revenue driven, targets based on growth in turnover, headcount and sales. Lack of basic financial management and productivity or efficiency targets.	Focus on waste minimisation and profitability. Decisions made based on effects on overall company. Operations run by daily focus on KPIs and teamwork.

5.2.2. Narrative analysis

In early 2000s CS2 launched two new products that were the first real test of their transition from manufacturing mechanical turntables to quite sophisticated electronic and software controlled CD systems and by all accounts the company failed this test. Reliability was poor and interviewees admitted they did not fully understand the technology since they relied heavily on outsourced systems which were interfaced with those designed and built in-house. Large volumes of products were returning to the factory for rework and operational processes were overwhelmed. Amidst this chaos the 'strategy team' had set a target to grow the company to £50m turnover through diversifying its activities and increasing sales. They won a contract with a high-end car manufacturer to design and manufacture the audio system for its latest model. The contract was successful in that it greatly pushed the company towards its growth target but was difficult as it consumed a huge amount of resource in both design and operations, and as a result had a relatively low profit margin. The need for

additional resource resulted in the company growing in headcount by 25% in just one year and the informal, family-like feel of the business was lost due to the need for structures and protocols to deal with such a large influx of people at one time. In 2002 the founder had to step down as MD due to illness and an interim MD was appointed to lead the company.

In 2003 the son of the founder joined the company as Research & Development manager. He had experience in working with smart mobile phone technology development and so quickly identified that CS2 needed to make some fundamental changes to its product development and introduction processes if it was to survive in the long-term. He formed a product strategy group to work on envisioning the future competitive landscape of the industry and how CS2 could position itself within it. In doing so the decision was made to focus on digital streaming and networking technology and to develop technology platforms that were interchangeable between products, upgradable and based upon open source platforms thus not tying CS2 to expensive licensing agreements and giving them more control over their systems. The development project was called 'Volkano' as it was envisaged that it would erupt with high impact products. This new approach to product development was a revolutionary change for CS2 who had previously paid £15000/year to use a proprietary system, but at the same time took the company back to its modular and upgradable product design roots. Design and development staff were very familiar with the proprietary system and so some were resistant to this change; employee turnover in the department was high around this time, but the R&D manager was confident his strategy was the correct one for the business and persevered.

In 2005 the organisational structure of the company was changed from a 'strategy team' and 'operations team' who did not speak to each other, to a directors structure with the R&D manager becoming Engineering Director and the Production Manager becoming Operations Director. This reshuffle also led to some managers leaving the business, citing dissatisfaction with the new direction the company was taking as their reason for leaving. In his new role as Operations Director, the former production manager was given more freedom and scope to make the changes that he was acutely aware were needed. He began by changing the way in which production plans were made, taking the lead away from sales forecasts and building a pull system to react to customer demands. Initially, teething problems led to increased inventory and general negativity among employees but by giving a single person responsibility for setting triggers through the process, and accepting higher levels of inventory at the beginning, the benefits began to be realised. Making small changes in how processes were designed, how production was planned, how operators were trained (multi-skilling), the scope of responsibility of those on the shop floor, all culminated in a change in culture from waiting to be told what to do and working in isolation to proactive, continuous improvement with teamwork across the entire production process.

Late 2006/early 2007 was pivotal for CS2. They lost the contracts for TV distribution and car audio system and in doing so uncovered the true financial state of the company, which the bank was also aware of and threatened to liquidate the company. These contracts had been supporting the core hi-fi business which was not profitable. The breakeven point for this value stream was huge due to the massive overheads the business had needed to support their processes (mostly human resource) so 40% of the workforce was made redundant almost immediately. Even with this reduced headcount the sales projections did not meet company costs so focus was shifted to cost cutting. Interestingly, the Volkano project continued as the Engineering Director and founder believed it to be fundamental to the future success of the company, therefore efficiency gains were sought in operations and elsewhere in the business. In

saying that, the reengineering of the design and product development processes resulted in a more robust approach to quality and leaner processes overall, and the product introductions were pushed forward, contributing to the reduction in costs the company needed to make.

The founder returned as MD to lead the company out of crisis and along with the finance director negotiated a series of loans with the bank to keep CS2 in business, and part of the deal was to bring a company doctor in to oversee its management and direction. The management team at CS2 were sceptical of this, but quickly realised that the consultant was very beneficial to them, particularly the Engineering Director who was being coached into the role of MD. Having 'fresh eyes' look at how the directors were working surfaced issues with teamwork and coherence; each functional director was managing his own area well but there was no real interaction or common vision amongst them. The consultant introduced the idea of a daily meeting to review KPIs across the business, giving all the members of the team a view of how the company was performing overall. This change is quite recent and is still developing, and the interviewees agreed that more work is needed to build a long-term strategy that all directors can buy in to.

The DS product range developed through the Volkano project was launched in Summer 2007 and made an immediate impact in the market. Retailers were excited about the new technology and competitors did not have anything similar so the project lived up to its name. The success of this coupled with the operational efficiency gains resulted in the company returning to profit by the mid 2009. Although chairing the management team meetings from the middle of 2008, the Engineering Director (son of the founder) became MD in 2009 and the founder became chairman of the board, having satisfied the company doctor and bank that he could lead the company successfully forward.

5.2.3. Summary of transformation

Stimulus

The loss of the TV distribution and car contracts was the final push for CS2 to transform, however the transformation process had begun much earlier with changes driven by internal performance and capability gaps, as well as changes in customer behaviour with regard to music purchasing and listening habits. A combination of management ambition and crisis drove the transformation process, through dissatisfaction with how the company was operating and knowledge of how it could be improved, and the crisis of losing the only profitable value streams and running out of operating capital.

Content

Various elements of the organisation changed during the transformation journey, as listed below;

- Change in capabilities and skill set from mechanical and basic electrical and software to sophisticated electronics and software engineering

- New value stream in high-end car market

- Restructure of organisation and new management team formed

- Reengineering of design and production processes

- Shift to platform approach in product development

- Reduction in reliance on OEM software and hardware by developing in-house where possible

- Revision of roles and responsibilities in operations (inc. multi-skilling of operators)

- Development of bespoke system to support operations

- New attitudes and approaches to working (continuous improvement & cost minimisation)

- Handing over of control of business to 2nd generation of family

- Revision of KPIs and daily focus on these and data integrity by all those with responsibility across the business

- More emphasis on support functions such as finance and marketing

- New product strategy leading to a defined company vision

- Introduction of new product range

- Reduction in value streams to focus on home audio equipment

Process

Each of the changes listed above were not executed to achieve an overarching vision or grand plan. In the majority of the cases it was a process of fire fighting and making changes in response to a crisis or problem. In these cases the changes were top down and directive with little or no feedback from employees outside management or supervisory roles. This was the case from 2007 when the company was in crisis and needed to change quickly in order to survive. Before this survival mode, changes within the R&D team followed a different approach. A structured plan was put in place through the establishment of the product strategy group, with everyone assigned specific responsibilities. After the competitive landscape had been understood a vision was developed along with a strategy of how it would be achieved. Among the product strategy group there was participation and constant communication, and teamwork was essential. Only those committed to the new vision were involved and so everyone was empowered to drive the strategy forward.

Within operations initial changes were ad-hoc and pushed through by the manager/director, but as the product strategy group began to create the new technology platforms, manufacturing approaches were changed to accommodate these. When the workforce was reduced a more structured approach was used, guided by a change framework that was communicated to everyone involved. Quick wins were sought initially to get buy-in and the director spent time demonstrating benefits of the changes by reminding everyone of how it was before. Therefore, the process of transformation in CS2 was very much contingent on the individual changes. Where there was time, structure, involvement and consensus was key however in the case of the reactive changes a directive, top-down approach was employed with little consultation.

Context

The context is embedded in the transformation story of the organisation and although it can be abstracted to identify specific contextual factors, viewing these in isolation from the situation in which they had an impact loses value and meaning. Thus, the internal and external contextual factors are presented along with the impact these had on the transformation (according to the interviewees).

Table 5.9 – The internal context and impact on the transformation of CS2

Internal context	Impact
Culture of spending to grow.	Diversification of business into several value streams, all competing for resources. Rapid expansion of workforce leading to need for formal policies and procedures. Focus on turnover rather than profit or cash flow. High inventory to meet demand forecasts.
Quality issues with CD products.	High percentage of returns for rework. Fire fighting approach in operations to deal with huge volume of rework. Low staff morale. High costs associated with rework.
Founder stepping down due to	"Lunatics taking over the asylum". Loss of direction and

illness, appointment of interim MD.	focus in the business. Pursuit of high-growth strategy and expansion of workforce.
Expansion of workforce to over 300 employees.	Loss of informal communication and decision making. Introduction of procedures to manage induction and training of so many staff at one time. Huge overheads.
Employment of son of founder as R&D manager.	Introduction of new skill set to business, with experience in technical innovation and product development. Resistance to new approach and ideas resulting in high staff turnover in R&D dept. Political dimension with perception that he was given free reign due to his family connection.
Divisional and functional governance and organisational structure.	Functional silo mentality, individuals concerned with their own departments. Lack of overall vision or strategy. Decisions made based on individual targets and objectives. Lack of management of end-to-end order fulfilment process.
Formation of product strategy group.	Refocus on 'music for life' vision and new strategy developed based on objective research on technology and market trends. Introduction of new approach to product development, filtering down to operations. High staff turnover (voluntary) due to resistance to changes. Development of DS product range.
High staff turnover in management team and employment of new finance director.	Removal of barriers to change and positioning of committed staff in key areas. Experienced FD vital in overhauling financial management processes and practices.
Business losing money	Need to drastically cut overheads. Staff redundancies."Back to basics" approach. Return of founder as MD.
Two instances of staff redundancies.	Streamlining of scope of operations to focus on single value stream. Removal of bureaucracy and return to flexible decision making and information sharing practices. Negative impact on staff morale. Reduction in overheads. Everyone focussed on cost saving improvements.
Return of founder as MD, restructuring of organisation.	Divisions structure broken down to single value stream governed by team of functional directors. Roles and responsibilities across the organisation revised. Son of founder chairing management meetings.
Appointment of company doctor by bank.	Support in coaching son of founder into role of MD. Support in revising KPIs and introduction of daily meeting with all directors to ensure open communication. Confidence from bank that company was financially stable.

Son of founder taking over as MD.	Passion for innovation and technologically advanced products, coupled with business knowledge.

Table 5.10 – The external context and impact on the transformation of CS2

External context	Impact
Changing customer expectations	Initial move into CD products. Development of web presence and online forums. Closer integration with record label. Development of DS product range.
High volumes of returns from customers for CD products.	Damage to brand. Huge volumes of rework which was expensive, demoralising and difficult to manage with other operational pressures.
Difficulties getting source codes from suppliers.	Inability to solve some problems with CD products. Huge amounts of time spent trying to patch-up issues. Realisation that reliance on suppliers for critical technologies within products was risky.
Partnership with high-end car manufacturer.	Expansion of product portfolio. Need for lots of human resource for development and manufacture, thus increase in workforce.
Loss of TV distribution and car audio contracts.	Need for redundancies. Uncovering true financial state of the business. Reduction of company divisions to a single value stream. Fire fighting. Cost reduction initiatives.
Software supplier provides source code for CD products.	Bugs with CD products sorted within a number of weeks. Less time required on rework.
Agreement with bank for short-term lending.	Company able to continue operating. Introduction of company doctor to support survival efforts.
Success of new DS products in market.	Return to profit in 2008. Reestablishment of company as leading brand in home audio systems. Decision to stop manufacturing and selling CD players. Close integration with record label.
Closure of some retailers and distributors.	Strategic talks regarding distribution channels. Development of web presence and online forums for product support and information.

Key findings

The transformation at CS2 was a two-stage process, firstly of specific changes to support a change in product strategy, followed by a major response to a survival-threatening crisis. Key points of note in this transformation are as follows:

- The guiding vision of the business was lost somewhat when the founder appointed an interim MD due to illness.

- The appointment of the founder's son as R&D manager began a new era in the business with the development of a new product strategy.

- The restructuring of the organisation allowed changes to be made in the way the business development and manufactured its products, as well as managed its supply chain.

- In some ways the financial crisis that hit the business was necessary to allow the management team to go back to basics and re-establish the 'music for life' vision.

- The need for redundancies enabled the business to hold onto those who were onboard with the new direction and remove those who would be barriers to change.

- Some of the changes necessary to bring the company back to profit were already underway before the crisis hit, significantly the operational improvements, platform methodology for product development and manufacture, and the development of the digital streaming product line.

- The belief and confidence of the founder in the work of the product strategy group enabled them to continue developing the digital streaming product line even though the business was in financial difficulties.
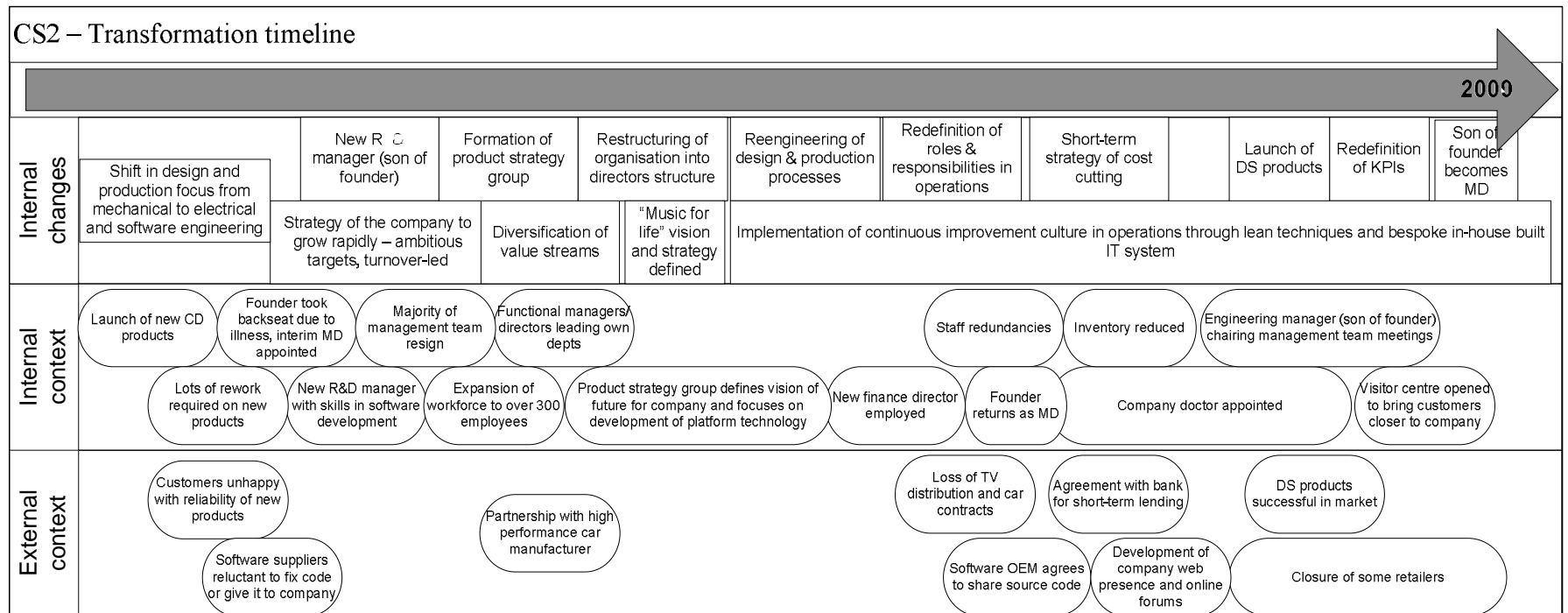
Figure 5.5 – Transformation timeline of CS2 from 2000 to 2009.

5.2.4. Comparison with conceptual framework

The similarities and differences between the empirical data from CS2 and the conceptual framework are discussed below according to the constructs of stimulus, content, process and context. These are then summarised in Figure 5.7 at the end of this section.

Stimulus

The initial stimulus for transformation is different from that suggested by literature. The development of CD technology and resultant change in customer expectations drove the introduction of CD products, one of which marked the beginning of the transformation journey of CS2. Thus, additional external stimuli of **"New technology"** and **"Changing customer expectations"** are proposed. The company experienced a second stimulus which changed its driving force from growth to survival. This was the loss of a major contract, classified as a crisis in the competitive environment, is consistent with the external stimulus in the conceptual framework.

Content

The content of transformation at CS2 has been matched to the content elements of the conceptual framework (Table 5.11), according to the descriptions presented in Section 4.2. Where the content of transformation at CS2 does not match to a content element identified from literature, it is highlighted in the table.

Table 5.11 – Comparison between content of transformation at CS2 and content elements from conceptual framework

Content of transformation at CS2	Content element from conceptual framework
Handing over control of business to 2nd generation of family.	
Change in capabilities and skill set from mechanical and electrical to include software engineering.	Competencies
New value stream in high-end car market	Strategy (value stream)
Restructure of organisation and new management team formed.	Organisational structure
Reengineering of design and production processes.	Processes
Shift to platform approach in product development.	Strategy, Processes, Systems & resources
Reduction in reliance on OEM software and hardware by developing in-house where possible.	Strategy (operating model) Systems & resources
Revision of roles and responsibilities in operations (inc. multi-skilling of operators).	Competencies, People & culture
Development of bespoke system to support operations	Systems & resources
New attitudes and approaches to working (continuous improvement & cost minimisation).	People & culture
Revision of KPIs and daily focus on these and data integrity by all those with responsibility across the business.	Performance measures
More emphasis on support functions such as finance and marketing.	Competencies, People & culture
New product strategy leading to a defined company vision.	Strategy, Vision
Introduction of new product range	
Reduction in value streams to focus on home audio equipment.	Strategy (value stream)

As Table 5.11 shows, all content elements identified in the conceptual framework were changed during the transformation of CS2. The content element of 'handing over control of the business' does not fit within the descriptions of the content elements from literature. Arguably it could be classified as being part of a change in people & culture, however this change has wider implications than those discussed in the literature regarding people & culture changes, thus the researcher proposes that "**Next generational leadership**" as an additional content element. A new management team was formed following the organisational restructure which was a significant change in the business, therefore **"Management team"** is proposed as a content element. Finally, the introduction of a new product range cannot be categorised using the content elements identified from literature; it is more specific than a strategic change and is within the same value stream of home audio equipment, thus "**Products**" is proposed as a content element. The element of strategy is evident in a number of forms including value streams and operating model, therefore it may be of benefit to deconstruct this element into its constituents.

Process

The type of transformation process evident at CS2 is a mixture of planned and emergent changes, contingent on the context at the time, suggesting a contingency theory approach, but this is more descriptive of the management of the individual changes rather than the overall transformation process. The company did operate for periods of relative stability, thus a continuous transformation theory is not applicable in this case, however this stability was interrupted by periods of radical change; firstly through the change in product development to encompass new CD technology, then the overhaul of the product development process and move to a platform approach, and finally the crisis of almost going out of business resulting in major cut-backs and new strategies for survival. This would tend towards the punctuated equilibrium theory of change as describing the transformation of CS2.

As mentioned, the management of each content change in the transformation journey was contingent on the context; the reengineering of the product development processes was highly structured and consultative, whereas the development of a cost-cutting strategy emerged as the result of the loss of a major customer and subsequent uncovering of the financial mess the business was in and was imposed upon employees with no involvement outside the directors. Despite the reactive approach to some changes, there appears to be consistency in terms of communicating any changes and the need for them to all employees. In order to understand how the process of each content change was managed, a matrix of the content changes and process steps identified in the conceptual framework was developed, shown as Table 5.12. A '√' in the cell indicates that the process step was evident during the specific content change at CS2. The absence of a '√' in the above table does not necessarily indicate a weak or incomplete process, simply that there was no evidence of the step occurring in the interview data. Interviewees were not always able to recall particular aspects of certain changes when probed for detail about how the changes actually occurred.

Only two of the content changes did not involve an analysis of the organisation and the need for change, both of which are related. One was the decision to pursue a new value stream (which was made when the founder was ill) and the other was the forced reduction in value streams as the result of losing customer contracts. The majority of the changes involved some understanding of the external environment and most were enacted by creating a sense of urgency for the change to occur. Strong leadership was also a feature in most of the changes. During the implementation phase communication was evident during most changes as already mentioned earlier. The implementation was supported by new systems and structures as well as teamwork and investment in relevant tools needed to make the changes happen. Activities in the review/consolidation phase were least evident at CS2, and mainly in the communication of progress and results.

Table 5.12 – Comparison between process management steps and content of transformation at CS2

Phase	Step	Handing over control to 2nd generation of family	Change in capabilities and skill set	New value stream in high –end car market	Restructure of organisation and formation of new management team	Reengineering of design and production processes	Shift to platform approach in product development	Reduction in reliance on OEM software and hardware by developing in-house	Revision of roles and responsibilities in operations	Development of bespoke system to support operations	New attitudes and approaches to working	Revision of KPIs	More emphasis on support functions such as finance and marketing	New product strategy leading to a defined company vision	Introduction of new product range	Reduction in value streams to focus on home audio equipment
Planning	Analyse organisation and need for change	√	√		√	√	√	√	√	√	√	√	√	√	√	
	Understand the external environment		√		√	√	√						√	√	√	√
	Shared vision and common direction	√		√		√	√		√		√	√		√	√	√
	Create a sense of urgency					√	√	√	√		√	√	√	√	√	√

	Strong leadership	√	√		√	√	√	√		√	√	√		√	√	√
	Ensure support from management team and key decision makers		√	√*	√	√	√	√		√		√		√	√*	√
	Develop implementation plan						√			√				√	√	
	Develop performance measures to assess impact or success of change									√		√		√		
	Assess readiness for change	√														
Implementation	Communicate and provide information to employees			√	√	√	√	√	√	√		√		√	√	√
	Involve employees					√	√	√	√	√	√			√	√	
	Create short-term wins					√				√	√					
	Change culture by changing behaviour					√	√			√	√	√				
	Implement systems and structure to support change					√	√	√	√	√	√	√	√	√	√	
	Use management practices to motivate								√		√					

	Teamwork					√	√	√	√	√	√	√			√	
	Give people tools they need to do the job well					√	√	√	√	√	√				√	
Review/ Consolidation	Monitor progress and adjust strategies as necessary					√	√			√		√			√	
	Reinforce and institutionalise change						√			√		√				
	Communicate results/progress of change					√		√			√	√			√	

The final facet of the process of transformation is the order in which the content elements changed. As discussed in Section 4.3, content models of transformation give little indication of the optimum sequence, however there is consensus that transformation should begin by developing a vision for the future and a strategy for how this will be achieved. The transformation of CS2 did not begin with a plan to transform the business, but the formation of the product strategy group led to a new vision and strategy for new product development and ultimately for the entire business, and subsequent changes were made to achieve this. The crisis of almost collapsing accelerated the transformation as the business would not have survived otherwise. Figure 5.6 below outlines the general order of the content changes at CS2 and the stimuli for transformation.
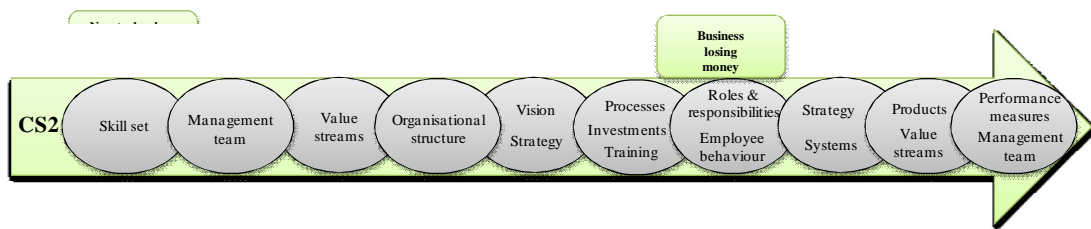
Figure 5.6 – Order of content changes at CS2

Context

The internal and external contextual factors identified from literature are mapped onto the contextual factors identified as relevant to the transformation of CS2 in

Table 5.13. Where a factor from CS2 does not match with literature, it is highlighted in the table.

Table 5.13 – Mapping of contextual factors from CS2 onto those identified in conceptual framework

	Context in CS2	Contextual factor from conceptual framework
	Culture of spending to grow.	Culture
	Quality issues with CD products.	Resources
	Founder stepping down due to illness, appointment of interim MD.	Leadership & management style
	Expansion of workforce to over 300 employees.	Organisational demographics (number of employees), Resources
	Employment of son of founder as R&D manager.	Leadership & management style, Power & politics
	Divisional and functional governance and organisational structure.	Leadership & management style, Organisational demographics (structure)
	Formation of product strategy group.	Knowledge, skills & capability
	High staff turnover in management team and employment of new finance director.	Culture, Knowledge, skills & capability
	Business losing money	Resources
	Two instances of staff redundancies.	Organisational demographics (number of employees), Culture
	Return of founder as MD, restructuring of organisation.	Leadership & management style, Power & politics, Organisational demographics (structure)
Internal context	Appointment of company doctor by bank.	Knowledge, skills & capability
	Son of founder taking over as MD.	Leadership & management style, Power & politics
External context	Changing customer expectations	Market
	High volumes of returns from customers for CD	Customers

	products.	
	Difficulties getting source codes from suppliers.	Suppliers
	Partnership with high-end car manufacturer.	Customers
	Loss of TV distribution and car audio contracts.	Customers
	Software supplier provides source code for CD products.	Suppliers

As the table shows, all of the contextual factors identified in CS2 can be classified according to those factors identified in literature. However, the quality issue relating to the CD products had a major impact on the transformation of the business as it contributed to the decision to overhaul the product development process, hence an additional internal factor of **"Quality"** is suggested. Of the external contextual factors only three were considered to have an impact on the transformation of CS2 – market, customers and suppliers. Clearly the business was operating in a dynamic environment and changes among the other factors occurred, however these did not impact on the content or process of transformation at CS2 during the period under study.

As has been mentioned many times, isolating the contextual factors from the content and process of transformation renders them superficial, therefore the effect of the factors identified (using the classification from the conceptual framework) on the content and process characteristics of the transformation is shown in Table 5.14. A '√' represents a positive impact, indicating that the contextual factor was an enabler to the particular aspect of transformation, where as an 'x' represents a negative impact, indicating that the contextual factor was a barrier or constraint. A '/' indicates that the factor did have an impact that was perceived as neither positive nor negative. If the box is empty, there was no perceived impact on the content and process of transformation. Where additional content elements and contextual factors were identified, these have been included in the matrix.

Table 5.14 – Impact of contextual factors on content and process of transformation at CS2

	Contextual factor	Contextual factor (from conceptual framework)	Vision	Strategy	Organisational structure	People and culture	Competencies	Systems and resources	Processes	Performance measures	Next generational leadership	Management team	Product/Service	Type of process	Order of content changes	Management: Planning	Management: Implementation	Management: Review
						Conceptual framework content							Proposed content		Process facets			
Internal context	Culture of spending to grow.	Culture		√		x								/	/			
	Quality issues with CD products.	Resources, Quality				x	√					√			/			
	Founder stepping down due to illness, appointment of interim MD.	Leadership & management style	/	√		x												
	Expansion of workforce to over 300 employees.	Organisational demographics (number of employees), Resources			/	x	√		x	x								

Employment of son of founder as R&D manager.	Leadership & management style; Power & politics				√ x	√				√		√			/	√	√	√
Divisional and functional governance and organisational structure.	Leadership & management style, Organisational demographics (structure)		x		x			x						/					
Formation of product strategy group.	Knowledge, skills & capability	√	√	√	√ x	√	√	√	√			√					√	√	√
High staff turnover in management team and employment of new finance director.	Culture, Knowledge, skills & capability			√			√				√								
Business losing money	Resources				√		√ x		√	√ x				/	/		√ x	√ x	√ x
Two instances of staff redundancies.	Organisational demographics (number of employees), Culture				√ x														
Return of founder as MD, restructuring of organisation.	Leadership & management style, Power & politics, Organisational demographics (structure)	√	√	√	√					√		√					√		
Appointment of company doctor by bank.	Knowledge, skills & capability				√					√							√	√	√

	Son of founder taking over as MD.	Leadership & management style, Power & politics								√						
External context	Changing customer expectations	Market	x	/			√	√			√		/			
	High volumes of returns from customers for CD products.	Customers				x		x	x					x		
	Difficulties getting source codes from suppliers.	Suppliers		/			/				/					
	Partnership with high-end car manufacturer.	Customers		/	x	x			x							
	Loss of TV distribution and car audio contracts.	Customers										/	/	√ x	x	x
	Software supplier provides source code for CD products.	Suppliers		/												

Considering the contextual factors, leadership & management style, knowledge skills & capability, and power & politics generally had a positive impact on the transformation of CS2, although in some instances a negative impact was identified, for example the divisional and functional governance made it difficult to make operational process changes. In particular it is worth noting the significance of the formation of the product strategy group (classified in the conceptual framework as knowledge, skills & capability), which had an impact on the majority of the content elements of the transformation, as well as the process. The culture of the business was both an enabler and a barrier depending on the particular content element, as was the case with resources. The organisational demographics of size and structure were generally barriers to transformation, however the restructuring of the organisation by the founder on return from illness was perceived to have a positive impact. In terms of external factors, these mainly acted as barriers to the transformation of CS2, with the exception of changing customer expectations which was the stimulus to bring new competencies into the business and investing in systems and resources to enable new product developments that capitalised on technology developments. It is also interesting to note that the external factors impacting on the transformation of CS2 all came from the micro environment, with no macro-environmental factors perceived to influence the transformation, according to the interviewees.

From the perspective of the content elements, the majority of these changes were enabled by the context of the business. The attempts to change the culture of the employees to look for opportunities for continuous improvement and work as a team was hindered by the old leadership & management style and rapid expansion of the workforce, but supported by a new organisational structure and redundancies that reduced employee numbers to a more manageable level and left those employees who were willing to adopt new working practices. The new strategy of the business was greatly influenced by the founder's son joining the business, as well as events in the external environment, as was the introduction of the new product line.

The founder's son taking over as the new leader of the business was supported by the founder returning to the business and mentoring from the company doctor. The financial crisis within CS2 was both an enabler and barrier to this transition – it put the expected hand-over timescale on hold while everyone concentrated on saving the business, but also allowed the founder's son to demonstrate his ability to effectively manage the company. The new vision of the business, and the change in management team did not appear to be greatly influenced by the context of CS2.

Some factors had an influence on the order of the content changes; the quality issues with CD products and the loss of a major customer and subsequent financial crisis led to changes that were reactive to these issues. The growth culture and employment of the founder's son as R&D manager also influenced what changes were made. The crisis-inducing factors also determined the type of transformation process, as these disrupted the continuous evolution of the business. In terms of the process of transformation, it was evident that the son of the founder brought a highly structured approach to developing a new product strategy, and the appointment of the company doctor gave the management team support in being more systematic in thinking about the business and introducing new performance measures. The crisis that hit the company in the form of losing major customers and running out of money created the sense of urgency suggested for making change happen, and forced action to be taken, however the need to act quickly meant that changes were not communicated well.

5.2.5.   Summary of CS2 within-case analysis

Having compared the transformation of CS2 to the conceptual framework, a number of conclusions can be drawn for discussion in relation to the other cases and wider literature. This is summarised in Figure 5.7. Grey shading indicates that there was evidence of the element in the case study. Black shading proposes additional elements. Where an element is not shaded, there was no evidence of this in the case study.

- The stimulus of the transformation at CS2 was the introduction of **new technology** and **changing customer expectations**, which are proposed as additional elements for the literature framework. This was followed by a second stimulus of a crisis in the competitive environment.

- All content elements identified in the conceptual framework were evident in CS2. Three additional content elements are proposed; **Next generational leadership, Management team,** and **Product/Service**. It is also proposed that the element of 'strategy' is deconstructed into its constituents, namely value streams and operating model.

- The process of transformation at CS2 can be described using **punctuated equilibrium** theory. The management of the changes followed a contingent approach depending on the situation. Common to the majority of the changes was an understanding of the need for change and communication to employees. The order of the content changes was influenced by the internal and external contexts, as well as the output of previous changes.

- All internal contextual factors from the conceptual framework were evident as having an impact on the transformation of CS2; leadership & management style, power & politics, knowledge, skills & capabilities, resources, culture, and organisational demographics, specifically size and structure. An additional internal factor of **Quality** is proposed. External factors of market, customers, and suppliers were evident as impacting on the transformation of CS2.

- The key enablers for the transformation were leadership & management style, knowledge skills & capability, and power & politics although in some cases these did act as barriers. In general, organisational demographics of size and structure were barriers, but not exclusively. The culture of the business was perceived as having both a positive and negative impact, depending upon the specific change. Of the external factors, a key enabler was the market conditions. Issues with customers showed to have a negative impact on the transformation of CS2.
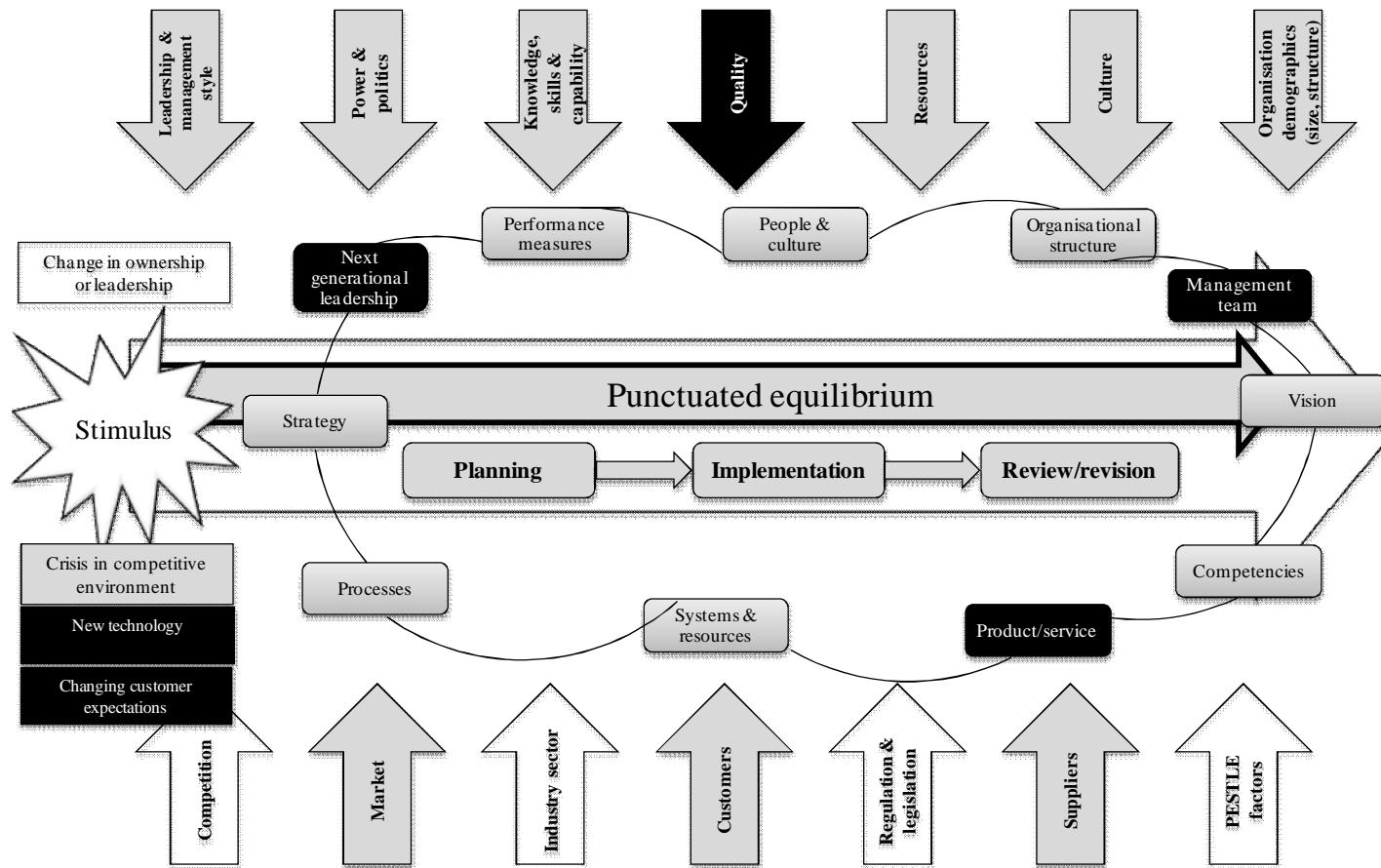
Figure 5.7 – Summary of comparison of transformation characteristics of CS2 and conceptual framework

5.3 Case study 3

5.3.1. Background

CS3 is one of the oldest manufacturing companies in Scotland. It was founded in 1796 to manufacture lawn bowls and continues to operate in the indoor and outdoor bowls market today, although it did diversify into artificial limb manufacture during and after WW1. Today it also supplies peripheral bowls products including shoes, bags, and clothing, all with the CS3 brand. The company exports over 50% of what it produces, mainly to Australia where the sport is most popular. It is the number one manufacturer of bowls in terms of market share in almost every country to which it sells (UK is 70% market share, Europe is 60%, Australia is 50-55%, New Zealand is 50%, South Africa is 50% and Canada is 30-40%) and this selling is done through dedicated agents in each country.

The founding family managed the company until 1992 when the fifth generation decided his sons were not going to continue in the business, and so decided to sell. It was bought by an individual who had experience in running a printing business with his brother, resulting in an injection of investment and enthusiasm in the company that has brought it from the brink of collapse to the position it is in today. Although the bowls market has considerably declined since the popularity of the sport reached a peak in the 1980s, CS3 has increased its turnover year on year though continued investment, improved quality and production efficiency and the introduction of innovative product developments. They were the first company to introduce coloured bowls and had to heavily campaign to the governing bodies to legalise their use in the professional game. The interviewees believe this was the turning point for the company as it opened up the Australian market for them, but also in the long term it is encouraging younger players to get involved in the sport and so helping to secure the company's future. The management of CS3 has recently been passed onto the second generation of the new family (2008), who has worked in the company since 2002 as production manager. Currently, CS3 employs 42 full-time staff, the majority

of whom have been with the company for more than ten years. This study will focus on the transformation of CS3 from when the new family took over in 1992 until 2009. Table 5.15 below summarises the transformation of CS3 which is explained in terms of its stimulus, content, process and context in Section 5.3.2.

Table 5.15 – Summary of transformation of CS3 between 1992 and 2009

Organisational element	1992	2009
Leadership style	Weak, influenced by employees wants, MD sole decision maker.	Participative among management team, authoritative when making changes.
Organisational structure	Excessive employee numbers for output, segregation of processes and no teamwork, MD not delegating.	More formal management team, functional specialists, employee awareness of entire production process, team responsibility for quality.
Investment	Limited, reluctance to invest in automation if it would make jobs redundant. No investment in branding or advertising. No sponsorship.	Latest technology developments sought to improve manufacturing processes (CNC, engraving), IT and design software upgraded as necessary. Investment in visitor centre to promote brand, sponsorship of professional players and community events.
People	Reluctance to make anyone redundant, no staff development, employees given job for life, no appraisal process, staff bonus based on production volume.	Redundancies made if necessary, job for life if employees perform, no formal staff development but on the job training as necessary, no appraisal process, staff bonus for overall company performance.
Culture	Complacent, negative towards change, no respect for management.	Teamwork, mindful of importance of quality & continuous improvement, conformance.
Value streams	Outdoor bowls and some peripheral products. Focus solely on CS3 within Glasgow.	Outdoor and indoor bowls for different global markets, all peripheral bowling products (bags, shoes, clothing). 'Acquire to grow' approach adopted, if appropriate.

Reengineering of production processes	Unmeasured, non standard.	Planned, standard operating procedures in place, measured and controlled.
Customer base	Mainly UK, lower end of the market.	Global with majority share in all markets.
KPIs	Mainly financial, production targets.	Structured and deliberate, designed for the needs of the company.
Vision and strategy	Uncertain and non-specific.	Informal but beginning to be formalised. Vision to be world leader in bowls manufacturing through a strategy of product innovation.
Value proposition	Cheapest product in the market.	Technical innovation.

5.3.2. Narrative analysis

When he purchased the company, the new owner saw it as a nice investment to take him to retirement. Straight away, however, he realised that running the business was not going to be an easy job and major changes were needed to ensure the company survived. To finance the purchase the MD had remortgaged his own home and gone into partnership with an investment company, so a lot was at stake for him personally. The business had not been particularly profitable; its products were at the low-cost end of the market and were not particularly good quality, resulting in no professional bowlers using the CS3 brand. Overheads were high as the previous owner had not wanted to make any staff redundant, but the production levels were not sufficiently high to justify so many employees. As a result, the culture among the workforce was laid back, dominant (they would demand benefits from the former MD until he gave in) and complacent to the situation they had. Inventory was high with half-finished goods that customers did not want, and the production team continued to make products despite lack of demand as their bonus system rewarded

production numbers. In short, according to the interviewees, the company was a mess.

The challenges identified by the new owner were numerous; lack of marketing in the company resulting in limited penetration into domestic and international bowls markets; resistance of the workforce to change; informal human resources practices; poor quality and repeatability in production; and a huge amount of half-finished stock on the shelves. All these problems were a priority so the MD decided to assemble a team around him to lead specific change simultaneously. The shop floor supervisor was promoted to general manager and was tasked with improving productivity and efficiency in production processes. To support this, an external consultant was employed to assist the MD in developing new contracts and terms of employment for the workforce and engage with them to make the changes happen more smoothly. The reality of the situation was quite different however. The operations staff resisted the new approach to the extent that they attempted to unionise the company, they had an unofficial strike and the company was brought to two industrial tribunals accused of unfair dismissal. The MD was not the pushover that the previous owner had been and was willing to fight his corner against the employees as he knew CS3 was in the right, and also as it demonstrated to the majority of the workforce that he meant business. With support from Scottish Engineering the company enforced the new contracts and employment terms, and successfully fought and the tribunals. After approximately ten years of infighting, cajoling, and ten redundancies in total, the MD believed that the workforce were on board with his vision for the company.

In parallel with the human resource issues, the general manager was working to improve operational efficiency. The half-finished stock was sold off at a reduced price to free up space and generate some funds to invest in automation. Bowls manufacture predominantly involved hand carving and CS3 bowls had been known

for their inconsistency, so the focus for production was to change this perception and design and produce bowls using modern technologies such as Computer Aided Design (CAD) and CNC lathes. Conscious of the need to have backing from professional players the MD had persuaded a Scottish international player to work with CS3 in developing a new model that he would use. This partnership was successful and CS3 began to be recognised again as a prominent brand, helped by the televised competitions which brought the brand to a wider audience.

As sales increased and production moved almost entirely to CNC machining the general manager turned his attention to product development and the idea of producing coloured bowls. The issue had always been with finding an appropriate material and numerous tests were carried out until a suitable powder was found in the late 1990s. The company produced a set of blue and purple coloured bowls for the Scottish team to play a televised competition in Australia against the home nation, hoping that the audience would see this revolutionary new product (previously only brown or black bowls were used) and want to own a set themselves. Initially the bowls governing body banned the team from playing but persuasion from the competition sponsor (whose corporate colours matched those of the Scottish team) and no clear rule against the use of coloured bowls, the team were allowed to compete. Overnight the order book filled as CS3 was the only manufacturer to make coloured bowls. Further investments were made in CNC lathes and later in engraving machines that allowed the company to mass customise its bowls by offering a wide range of graphics that could be engraved on the face of each bowl.

In the background of these changes the MD was battling with the political dimension of manufacturing products for a professional sport. Bowls is quite a traditional sport and adheres to rules devised at its establishment over 100 years ago. There is an international governing body but each country has its own body that is responsible for local decisions and enforcement of rules. When CS3 first tried to expand its

export market it was met with fierce opposition from an Australian manufacturer who dominated the world bowls market and was adamant that CS3 would not take any of its share. Export tax rates were favourable to this company who had to pay 6% when exporting to the UK against the 35% that CS3 was charged to export to Australia. With help from Scottish Engineering, CS3 lobbied the UK government to provide an even playing field and eventually the tax was reduced to 6%, allowing CS3 to enter the Australian market competitively. After the reception of players to coloured bowls, CS3 began a campaign to officially legalise their use across the world, as well as the use of coloured clothing. It gained the support of all countries except Australia, but won the case in spite of this. Each time CS3 releases a new colour or design for its bowls it has to go through this process of legalisation but is determined that this will not deter them company from new product development. Bowls is a declining sport and the company sees itself as having an important role in encouraging future generations to play, and believes that changing the image of the game as "out-dated and for old people" is vital.

In 2002 the son of the new owner was employed as Production Manager with the intention of him taking over as MD when the owner retired. His experience in the oil and gas industry gave him a different approach to production processes, which was useful to bring the company forward as all the other production employees had been with the company since they left school. He worked alongside the general manager to change the way production plans were made, established a research and development department to accelerate new product developments and employed a KTP associate to lead this. Further growth was enabled through the acquisition of a small competitor in 2006 and one of the company's peripheral product suppliers in 2008, with the intention of further acquisitions as the opportunities present themselves. The production manager became MD in 2008 when his father resigned, although his father still retains majority ownership of the company and acts as an advisor.

5.3.3. Summary of transformation

Stimulus

CS3 began its transformation journey when the business was sold and the new owner realised the need to completely change the way in which the business operated in order to ensure its survival and a return on his investment.

Content

Various elements of the organisation changed during the transformation journey, as listed below;

- New leadership style and approach from new family ownership

- Restructuring of organisation & redefinition of roles and responsibilities

- Investment in IT systems

- Investment in automation and product design packages

- Expansion of product range

- Reengineering of production processes

- Expansion of business through acquisition

- Addition of value stream; supply of peripheral bowls equipment and clothing

- Establishment of R&D department and increased focus on new product development

- Expansion of sales internationally and to new markets

- New KPIs for quality control

- Deliberate development of vision and strategy

- Culture change from complacency and disinterest to teamwork and quality

- New management team and managing director

Process

The process of transformation at CS3 was a mixture of planned and specific changes, and reactions to the context at the time. When the MD purchased the company he identified straight away the areas that needed attention, and the priority was driven by what was causing the business the biggest financial threat. As changes were made, new problems arose which were evolutionary and generally about continuous improvement. The initial intention was to involve the workforce and communicate plans to them, however following the negative experience of the first meeting it was decided to take a more directive and top-down approach. More recent changes have been more participative and depending on the change, employees are encouraged and willing to get involved.

Context

The context is embedded in the transformation story of the organisation and although it can be abstracted to identify specific contextual factors, viewing these in isolation from the situation in which they had an impact loses value and meaning. Thus, the internal and external contextual factors are presented along with the impact these had on the transformation (according to the interviewees).

Table 5.16 – The internal context and impact on the transformation of CS3

Internal context	Impact
Business making a loss	Decision to transform and plans made for growth.
Determination and drive of new owner	Investments made to bring business back to profit. Networking with industry bodies and players to let CS3 become known again in the market. Perseverance with troublesome employees.
Employees effectively running the business	Inflated bonus system. Low productivity levels. No authority from management. Difficult to make any changes.
Appointment of consultant to help with employee relations	Support to MD/owner to make changes. Skills and experience in employment policies and procedures. Development of new terms and conditions for employees.
Promotion of supervisor to general manager	Support to MD/owner to make changes. Vast knowledge and experience of business so knew what changes to make and how to do it to maximise impact on productivity and profitability.
Strike by shop-floor employees	Winning over of employees to new contracts.
Redundancies	Removal of barriers to change. Clear path for new culture to begin to embed in working practices.
Increased market share in Australia	New orders. Increased exposure of brand. Expansion of product portfolio.
Reduced stock levels	Extra capacity for expansion of sales. Demonstration of new approach to production.
Introduction of coloured bowls	Immediate increase in orders. Increased turnover, investment in more capacity. Gaining market share.
Acquisition of competitor	Increased market share in Australia. Second brand.
Owner/MD's son employed as production manager	New ideas, skills and knowledge. Investments in new machinery. Foundation of R&D department to investigate innovative product development opportunities.
New culture of teamwork and entire process responsibility	Increased productivity and so profitability. Better working environment for everyone.

Retirement of quality manager	Large increase in quality issues. Realisation of need for passing on tacit knowledge before someone retires. Introduction of new quality KPIs and management process.
Employment of KTP associate	New skills & knowledge for NPD.
High returns of peripheral products due to quality issues	Demotivating for staff. High costs. Decision to switch to premium clothing supplier.
Acquisition of bowling shoe supplier	More control over quality of products. Larger portfolio under CS3 brand.

Table 5.17 – The external context and impact on the transformation of CS3

External context	**Impact**
Barriers to entry in Australian market reinforced by competitor	Very little presence in industry's biggest market. MD engaged in lots of discussion with bowls associations in Australia to attempt to remove barriers. Enlisted help of Scottish Engineering to lobby government regarding high export tax to Australia.
Decline in popularity of sport	Limited growth prospects.
Signing of sponsorship deal with professional player.	Exposure of brand to potential customers. Perception that brand is high quality. Access to user ideas for new product development. Introduction of CAD tools for NPD.
Change of export tax rate to Australia	Employment of additional sales representatives in Australia and growth in market share.
Use of coloured bowls by Scottish team in televised Australian competition	Instant interest in coloured bowls from both amateur and professional players. Large orders for coloured bowls and enquiries about other customisations. Banning of bowls by governing body.
Numerous governing bodies in the sport	Lack of coherence or consensus regarding rules. Politics. Need for company presence on different bodies to get new developments accepted in game.
Collaboration with local councils to promote sport	New generation of players using CS3 brand. Increased awareness of brand.

Key findings

When the new owner took over CS3 he quickly realised that he needed to transform the business in order to get any return on his investment. Initial changes were focussed on returning the business to profit, followed by opportunistic changes to expand markets and establish CS3 as the leading brand in the bowls industry. Key findings from this transformation analysis are as follows;

- The drive and determination of the new owner not to let the business fail (fuelled in part by his personal financial commitment) made the transformation happen.

- The business direction and scope is greatly effected by the governing bodies in the sport, therefore networking is a huge part of the business.

- The workforce was the biggest hurdle to overcome in the transformation of CS3, and the MD employed an external consultant to help introduce employee-related changes.

- Promoting the shop-floor supervisor to general manager gave him the scope to make operational improvements and try new product ideas.

- The collaboration with a successful bowls player and the use of coloured bowls in a televised competition was a major turning point in the transformation of CS3, as it exploded sales figures virtually overnight.

- Employing the owner's son as production manager brought new skills and ideas to the business and allowed the owner to mentor his son for eventually taking over leadership of the company.
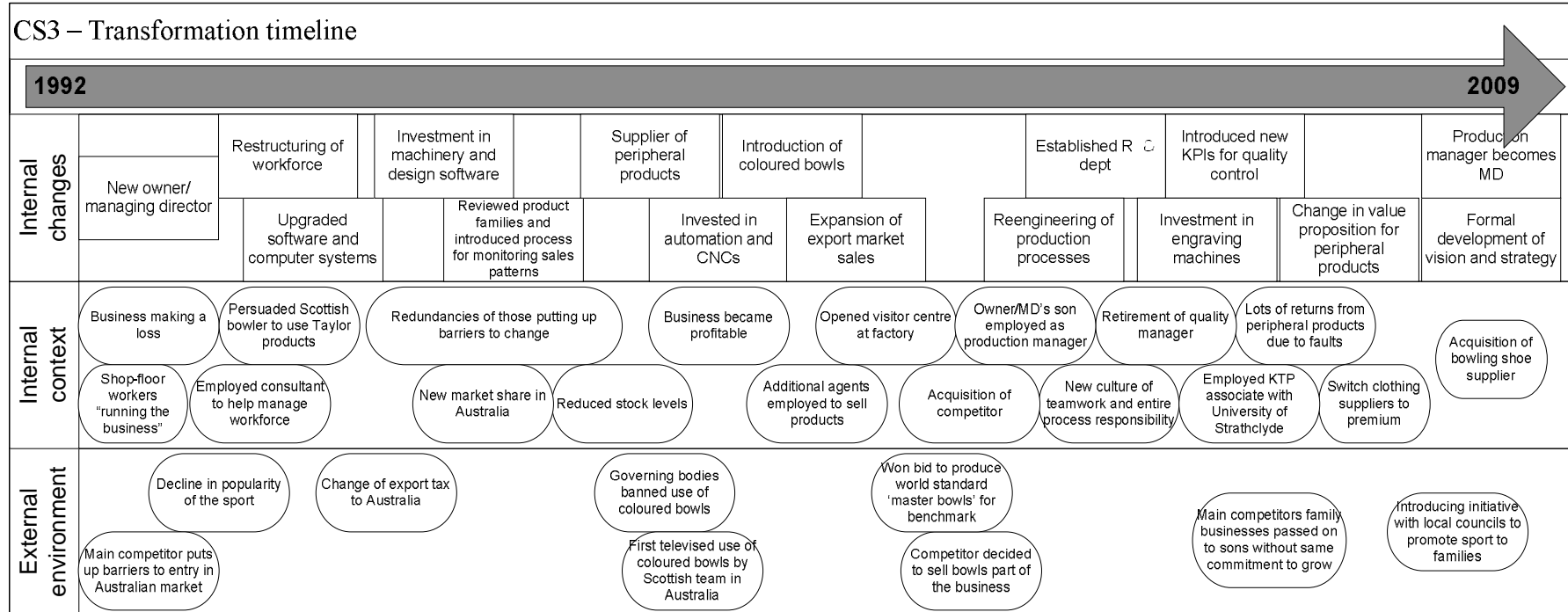
Figure 5.8 – Transformation timeline of CS3 from 1992 to 2009.

5.3.4. Comparison with conceptual framework

The similarities and differences between the empirical data from CS3 and the conceptual framework are discussed below according to the constructs of stimulus, content, process and context. These are then summarised in Figure 5.10 at the end of this section.

Stimulus

CS3 transformed due to the ambition and vision of the new owner to turn the business around and ensure that he made a return on his investment. The internal stimulus identified in literature describes this to some extent, but does not encapsulate the poor financial position of the business, therefore an additional internal stimulus of **"Poor performance"** is proposed.

Content

The content of transformation at CS3 has been matched to the content elements of the conceptual framework (Table 5.18), according to the descriptions presented in Section 4.2. Where the content of transformation at CS3 does not match to a content element identified from literature, it is highlighted in the table.

Table 5.18 – Comparison between content of transformation at CS3 and content elements from conceptual framework

Content of transformation at CS3	Content element from conceptual framework
New leadership style and approach from new family ownership	
Restructuring of organisation & redefinition of roles and responsibilities	Organisational structure, People & culture
Investment in IT systems	Systems & resources
Investment in automation and product design packages	Systems & resources
Expansion of product range	
Reengineering of production processes	Processes
Expansion of business through acquisition	Strategy
Addition of value stream; supply of peripheral bowls equipment and clothing	Strategy (value stream)
Establishment of R&D department and increased focus on new product development	Strategy, Organisational structure, Competencies
Expansion of sales internationally and to new markets	Strategy (operating model)
New KPIs for quality control	Performance measures
Deliberate development of vision and strategy	Vision, Strategy
Culture change from complacency and disinterest to teamwork and quality	People & culture
New management team and managing director	Competencies

Each of the content elements identified in the conceptual framework were evident as being part of the transformation at CS3. The new style and approach brought about by someone new taking over the business could not be classified according to the elements identified in literature, therefore the researcher proposes a new element of "**Ownership**". Similarly, the expansion of the product range cannot be easily classified, hence "**Product/service**" is also proposed as a new content element. The new management team has led to a change in competencies for the business, however the researcher does not believe that this categorisation gives enough granularity, thus proposes "**Management team**" as an additional transformation content element. Further, the new managing director is the son of the owner, bringing with him a new leadership style and pressures of taking over the family business, thus the element of **"Next generational leadership"** is also proposed. Different constituents of 'strategy' were evident as changing in CS3 (namely value stream and operating model), hence it is proposed that this element be deconstructed.

Process

The type of transformation process appears to follow the punctuated equilibrium model. Before the new owner bought the company it was in relative stability, albeit unprofitable. When he took over and realised the need for transformation he made a number of radical changes straight away to make the business financially stable, then focussed on operational improvements and product development in an effort to grow. This evolution was punctuated by the instant success of the coloured bowls which vastly increased the order book overnight and resulted in immediate investments in machine capacity. Having readjusted the business to deal with the new products it continues to operate in relative stability, making incremental changes where necessary. Collectively, the way in which the content elements were changed was contingent on the situation at the time; the initial changes were planned and directive and guided by a clear sense of urgency; to keep the business afloat. Following this initial crisis, the need for changes emerged from opportunities and threats in the

internal and competitive environments though they were still top-down and directive with little communication or involvement of employees outside the management team. As the culture of CS3 changed, however, the management team began to communicate the need for changes to staff and encourage participation. In order to understand how the process of each content change was managed, a matrix of the content changes and process steps identified in the conceptual framework was developed, shown as Table 5.19. A '√' in the cell indicates that the process step was evident during the specific content change at CS3.

The absence of a '√' in the above table does not necessarily indicate a weak or incomplete process, simply that there was no evidence of the step occurring in the interview data. Interviewees were unable to recall particular aspects of certain changes when probed for detail about how the changes actually occurred. For each change, the need was analysed suggesting that the changes were chosen to happen by the business, rather than happening to them as a result of external forces. Another common feature of the management of the changes was the presence of strong leadership, in this case from the new owner who was determined and persistent to make changes happening in the business and had a clear vision of what the company needed to look like in order for it to succeed. The crisis situation of almost going out of business meant that a sense of urgency existed for many of the changes. Other than these activities, the presence of different steps in the management process was sporadic. Only one change (the introduction of new KPIs) had evidence of activities from the review/consolidation phase. Indeed, this process was the most 'complete' according to the activities identified from literature, which is expected since the change was led by the KTP associate in the company who is used to managing projects in a structured way.

Table 5.19 – Comparison between process management steps and content of transformation at CS3

Phase	Step	New leadership style and approach	Restructuring of organisation & redefinition of roles and responsibilities	Investment in IT systems	Investment in automation and product design packages	Expansion of product range	Reengineering of production processes	Expansion of business through acquisition	Addition of value stream; supply of peripheral bowls equipment and clothing	Establishment of R&D department and increased focus on new product development	Expansion of sales internationally and to new markets	New KPIs for quality control	Deliberate development of vision and strategy	Culture change from complacency and disinterest to teamwork and quality	New management team and managing director
Planning	Analyse organisation and need for change	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Understand the external environment				√	√		√	√	√	√			√	
	Shared vision and common direction	√	√							√			√		√
	Create a sense of urgency		√	√	√	√	√					√		√	
	Strong leadership	√	√	√	√	√	√	√	√	√	√	√	√	√	√

	Ensure support from management team and key decision makers														
	Develop implementation plan														
	Develop performance measures to assess impact or success of change				√		√	√			√				
	Assess readiness for change														
Implementation	Communicate and provide information to employees	√				√						√		√	
	Involve employees						√		√		√				
	Create short-term wins			√	√						√				
	Change culture by changing behaviour						√		√		√				
	Implement systems and structure to support change						√		√		√				
	Use management practices to motivate			√	√	√	√				√		√		
	Teamwork								√		√		√		
	Give people tools they need to do the job well			√	√		√				√		√		

	Monitor progress and adjust strategies as necessary											√				
Review/ Consolidation	Reinforce and institutionalise change															
	Communicate results/progress of change											√				

The final facet of the process of transformation is the order in which the content elements changed. As discussed in Section 4.3, content models of transformation give little indication of the optimum sequence, however there is consensus that transformation should begin by developing a vision for the future and a strategy for how this will be achieved. Following the change in ownership at CS3 this was indeed the case; a strategy (albeit an informal one in the head of the owner) was developed to achieve the goal of returning the business to profit. Once the business was financially stable the owner turned his attentions to product development, leading to the manufacture of a prototype set of coloured bowls. The immediate success of these in the market allowed the owner to think longer-term and a vision and strategy was developed around making CS3 the number one brand in the market. Following this, subsequent changes were in pursuit of this vision. Figure 5.9 below outlines the general order of the content changes at CS3.
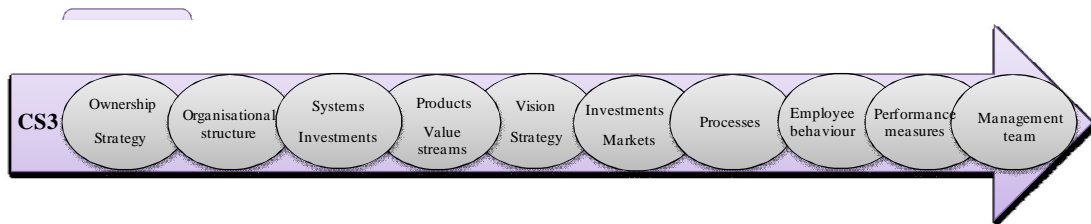
Figure 5.9 – Order of content changes at CS3

Context

The internal and external contextual factors identified from literature are mapped onto the contextual factors identified as relevant to the transformation of CS3 in Table 5.20. Where a factor from CS3 does not match with literature, it is highlighted in the table.

Table 5.20 – Mapping of contextual factors from CS3 onto those identified in conceptual framework

	Context in CS3	Contextual factor from conceptual framework
	Business making a loss	Resources
	Determination and drive of new owner	Leadership & management style, Power & politics
	Employees effectively running the business	Culture, Power & politics, Organisational demographics (age)
	Appointment of consultant to help with employee relations	Knowledge, skills & capabilities
	Promotion of supervisor to general manager	Leadership & management style, Power & politics
	Strike by shop-floor employees	Culture
	Redundancies	Organisational demographics (number of employees), Culture, Power & politics
	Increased market share in Australia	
	Reduced stock levels	Resources
	Introduction of coloured bowls	
	Acquisition of competitor	Knowledge, skills & capabilities, Resources
	Owner/MD's son employed as production manager	Knowledge, skills & capabilities, leadership & management style
	New culture of teamwork and entire process responsibility	Culture
	Retirement of quality manager	Knowledge, skills & capabilities
	Employment of KTP associate	Knowledge, skills & capabilities
	High returns of peripheral products due to quality issues	Resources
Internal context	Acquisition of bowling shoe supplier	

	Barriers to entry in Australian market reinforced by competitor	Regulation & legislation, Competition
	Decline in popularity of sport	PESTLE (social), Customers
	Signing of sponsorship deal with professional player.	
	Change of export tax rate to Australia	Regulation & legislation
	Use of coloured bowls by Scottish team in televised Australian competition	Customers
	Numerous governing bodies in the sport	Industry sector
	Collaboration with local councils to promote sport	

(left-hand row label: External context)

As shown by the shading above, a number of contextual factors that had an impact on the transformation of CS3 cannot be classified using the factors identified in the conceptual framework. Getting into the Australian market and increasing sales in this region allowed the business to make more investments in machinery and gave the brand much more exposure to the bowling world, hence was significant in their transformation. Therefore, the internal factor of **"Market share"** is proposed. Similarly, the introduction of coloured bowls into the market effectively changed the rules of the game in the bowls industry and established CS3 as a world leader, so **"New product introduction"** is proposed as an internal factor. The acquisition of a supplier gave the business greater control over the quality of this peripheral product and generated a significant income for the business, therefore **"Acquisitions"** is proposed as a factor. This could arguably be seen as an external factor, however the decision came from within the business and so it is positioned within the internal environment of the business. When the MD agreed a contract with a professional bowls player to use the CS3 brand, it was the beginning of the reestablishment of the business as a strong competitor and also led to new product developments by understanding the players needs. Also, the partnership with a local council to

promote the sport is a collaborative venture that cannot be classified using factors in the conceptual framework, hence the external factor of **"Collaboration"** is proposed.

Of the six internal factors in the conceptual framework, all were evident as having an impact on the transformation of CS3. Within 'organisational demographics' it was the size of the business (i.e. number of employees) that was significant. The external factors from the conceptual framework evident as having an impact were competition, industry sector, customers, regulation & legislation, and society.

As has been mentioned many times, isolating the contextual factors from the content and process of transformation renders them superficial, therefore the effect of the factors identified (using the classification from the conceptual framework) on the content and process characteristics of the transformation is shown in Table 5.21. A '√' represents a positive impact, indicating that the contextual factor was an enabler to the particular aspect of transformation, where as an 'x' represents a negative impact, indicating that the contextual factor was a barrier or constraint. A '/' indicates that the factor did have an impact that was perceived as neither positive nor negative. If the box is empty, there was no perceived impact on the content and process of transformation. Where additional content elements and contextual factors were identified, these have been included in the matrix.

Table 5.21 – Impact of contextual factors on content and process of transformation at CS3

	Contextual factor	Contextual factor (from conceptual framework)	Vision	Strategy	Organisational structure	People and culture	Competencies	Systems and resources	Processes	Performance measures	Ownership	Next generational leadership	Product/Service	Management team	Type of process	Order of content changes	Management: Planning	Management: Implementation	Management: Review
			Conceptual framework content								Proposed content				Process facets				
Internal context	Business making a loss	Resources		/							/			√		/			
	Determination and drive of new owner	Leadership & management style, Power & politics	√	√	√	√		√	√		/	√	√	√		/			
	Employees effectively running the business	Culture, Power & politics, Organisational demographics (age)		x		x										/	x	x	x

Appointment of consultant to help with employee relations	Knowledge, skills & capabilities		√		√ x										/				
Promotion of supervisor to general manager	Leadership & management style, Power & politics		√		√ x		√	√				√	√		/	√	√		√
Strike by shop-floor employees	Culture, Power & politics				√ x										/				
Redundancies	Organisational demographics (number of employees), Culture, Power & politics		√		√														
Increased market share in Australia	Market share		√				√												
Reduced stock levels	Resources						√												
Introduction of coloured bowls	New product introduction	√				√	√	√				√			/	/			
Acquisition of competitor	Knowledge, skills & capabilities, Resources					√													

			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	Owner/MD's son employed as production manager	Knowledge, skills & capabilities, leadership & management style	√	√	√		√	√	√	√			√	√		/	√	√		√
	New culture of teamwork and entire process responsibility	Culture	√			√				√							√	√		√
	Retirement of quality manager	Knowledge, skills & capabilities								√ x						/				
	Employment of KTP associate	Knowledge, skills & capabilities	√				√		√	√			√				√	√		√
	High returns of peripheral products due to quality issues	Resources		√						x										
	Acquisition of bowling shoe supplier	Acquisitions		√					/											
External context	Barriers to entry in Australian market reinforced by competitor	Regulation & legislation, Competition	x	x												/				
	Decline in popularity of sport	PESTLE (social), Customers											√							

Signing of sponsorship deal with professional player.	Collaboration		√				√					√					
Change of export tax rate to Australia	Regulation & legislation	√	√									√					
Use of coloured bowls by Scottish team in televised Australian competition	Customers	√	√				√					√					
Numerous governing bodies in the sport	Industry sector											x			/		
Collaboration with local councils to promote sport	Collaboration											/					

Taking the perspective of the contextual factors, there were many aspects of the internal context of CS3 that enabled the transformation. The determination and drive of the new owner, and the employment of the owner's son as production manager had a positive impact on many aspects of the transformation. Key factors were size of the business, increased market share, acquisitions, knowledge, skills & capabilities, resources, and leadership & management skills. The factors of power & politics, and culture were both barriers and enablers depending on the content element, and indeed at times acted as both a barrier and enabler on the same change. For example, the strike by shop floor employees demonstrated their resistance to change to the proposed employee conditions, however this gave the MD the power to enforce his changes and so begin the cultural change he was aiming for. There were no internal contextual factors that exclusively had a negative impact on the transformation of CS3. Considering the external factors, these were mostly enabling to the transformation, especially the collaboration with the professional bowls player and the exposure of the new coloured bowls products through customers using them for televised competitions. Regulation & legislation was initially a barrier to transformation due to export taxes, but the change in this enabled the business to compete in the Australian market. The industry sector was a barrier to transformation due to the numerous hurdles CS3 had to overcome to legalise its new products, and the sheer number of governing bodies that have to be consulted and persuaded of any changes.

Considering the content elements, the strategy of growing the business to become a leading brand in the market, and the introduction of new products were largely enabled by the context of the business, both internal and external. Improved systems and resources (in the form of new machinery), as well as process improvements in operations, were supported by the internal contextual factors of CS3. A few content element changes did not appear to be influenced by the context of the business, namely the change in organisational structure, new ownership (as would be expected since this started the transformation journey), and next generational leadership.

The type of transformation process was only perceived to be influenced by the introduction of coloured bowls, since this resulted in a step change in the development of the business, in line with the punctuated equilibrium theory of change. The order of the content element changes was greatly affected by the internal context, suggesting that individual changes had a knock-on effect and stimulated other changes in the business. When the owner's son joined the business, and the employees began to work more effectively in teams the management of changes was more participative and engaging, hence the positive impact identified in the table. This was also the case when the KTP associate joined the company, as she worked closely with employees on the shop floor. The culture of the business when the new owner took over was such that it was impossible to involve employees in any changes, and communication was futile, hence the negative impact on the management of change.

5.3.5.   Summary of CS3 within-case analysis

Having compared the transformation of CS3 to the conceptual framework, a number of conclusions can be drawn for discussion in relation to the other cases and wider literature. This is summarised in Figure 5.9.

- The stimulus for the transformation of CS3 was a new owner with the objective of returning the business to profitability, coupled with the fact that the business was in a poor financial position, thus **poor performance** is proposed as an additional internal stimulus.

- All content elements identified in the conceptual framework were evident in CS3. Four additional content elements are proposed; **Ownership**, **Next generational leadership, Product/Service** and **Management team**. It is also proposed that strategy is deconstructed into its constituents of value streams and operating model.

- The process of transformation at CS3 can be described using **punctuated equilibrium** theory. The management of the changes followed a contingent approach depending on the situation. Common to the majority of the changes was an understanding of the need for change and strong leadership from the owner. The order of the content changes was influenced by the initial objective of returning to profitability, followed by the achievement of a growth strategy centred on exploitation of new product developments.

- All internal factors identified in the conceptual framework were evident as impacting on the transformation of CS3; leadership & management style, power & politics, knowledge, skills & capabilities, resources, culture, and organisational demographics, specifically size and age. In addition, a number of factors are proposed; **Market share**, **New product introduction**, and **Acquisitions.** Of the external factors suggested in the conceptual framework, competition, industry sector, customers, regulation & legislation, and social factors were identified as having an impact. An additional external factor of **Collaboration** is proposed.

- The key enablers to the transformation of CS3 were leadership & management style, knowledge, skills & capability, acquisitions, resources, new product introduction, and increased market share. Externally, collaboration and customers were key enablers. In terms of barriers, there were no exclusive barriers identified however the culture of the employees and the power & politics interlinked with this was a barrier to some element change. In the external environment, the industry sector (in terms of bowls governing bodies) and competitors had a negative impact on the transformation.
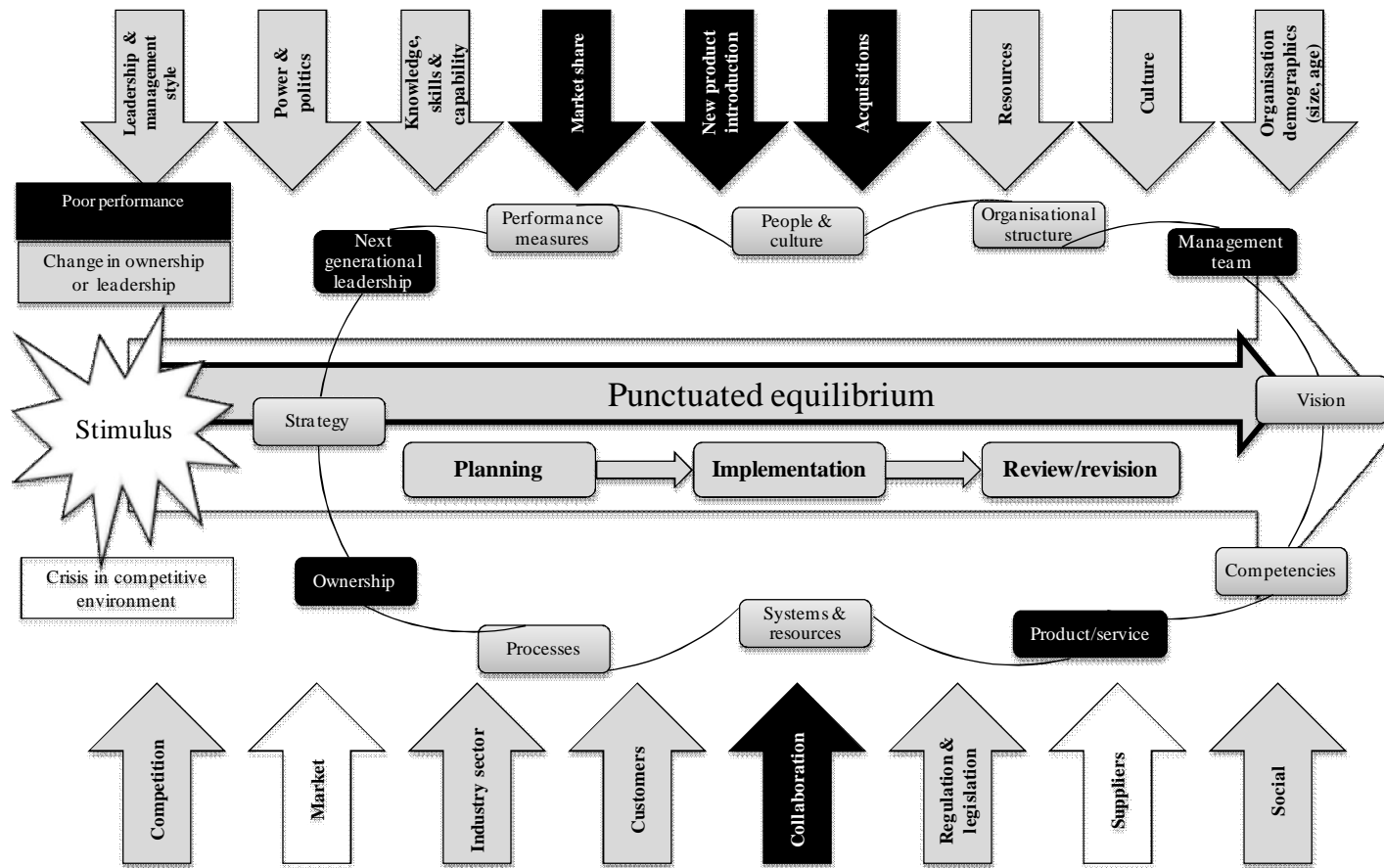
Figure 5.10 – Summary of comparison of transformation characteristics of CS3 and conceptual framework

5.4   Case study 4

5.4.1.   Background

The company was founded in 1951 as tool makers for the textile industry, supplying tools, jigs and fixtures to the then booming industry of Glasgow. As the company grew and its reputation became established, the industries it supplied also expanded to include automotive and aerospace. In 1963 CS4 moved to a new site in another location in Glasgow and in doing so changed its focus from a tool shop to precision engineering company. The founder was passionate about new technology and made investments in the latest machining technologies before many others in the sector. As the industrial landscape of Glasgow changed so too did the customer base of CS4 and it eventually left behind its textile roots, however its presence in aerospace, automotive, oil and gas and defence sectors continued to grow. The company was the first in Scotland to introduce CNC machines into its factory and this helped to reinforce its position in the market as an innovative and high quality engineering firm. The founder passed away in the late 1980s leaving the company under the direction of his wife and the general manager at the time. The business continued to be profitable however there was not the same level of investment and forward thinking that had previously driven the company forward and kept it ahead of its competitors. The second generation of the family took over the company in 1992 and since then has transformed it into a world leader in precision engineering, reigniting the passion created by his father in the 1950s. The company currently employs 132 full time staff, including 31 apprentices. The management team consists of the managing director and a number of functional managers, the majority of whom have worked their way through the ranks of company. Although an always evolving and continuously changing company, this study will focus on the latest transformation story, starting from the son of the founder taking control of the business in the early 1990s until 2009. Table 5.22 below summarises the transformation of CS4 which is explained in terms of its stimulus, content, process and context in Section 5.4.2.

Table 5.22 – Summary of transformation of CS4 between 1992 and 2009

Organisational element	1992	2009
Strategy and vision	Cost minimising and maximum productivity from employees.	To be the best, offering highest quality to customers and continually innovate.
Investment & infrastructure	Minimal, only if absolutely necessary. Long process of persuading general manager that investment was required.	As required to ensure the company is at the forefront of technology in the industry and that employees can do their jobs well. Bespoke, in-house built and managed IT system for managing operations. New factory premises.
Processes	Production planning process causing in-fighting.	Reengineering of production planning process and SOPs.
Attitudes and approaches to working (culture)	Employees do what they are told and no more, no opportunity for participation, no team-working.	Open, participative, continuous improvement culture. Employees work as a team and are interested in the company and its evolution.
Training and development of staff	Ad-hoc, dependent on the trainers liking the apprentices, other staff only trained if it was directly required for the job.	New apprenticeship training scheme, investment in class room facilities and dedicated trainers, all staff have opportunity for personal development.
Support functions	Engineering/production was focus and little attention was paid to other parts of the business other than what was needed to operate.	Importance of focus on support functions recognised and adequate investment in areas such as finance, sales and marketing.
Organisational structure	Owner, supported by general manager and supervisors on shop floor. Decisions made by owner or general manager without participation of others.	Balanced management team reflecting all areas of the business. Weekly meetings and participative decision making. Structure also supports feedback and participation at all levels in the business.

5.4.2. Narrative analysis

CS4 was profitable and highly regarded by its customers when the new MD took over in 1992, but his experience in other companies convinced him that if CS4 did not begin to invest in new technology and put some focus on supporting business processes outside engineering and production then it would not survive in the long-term. Thus the stimulus for transformation was the MD's vision of the company as a world leader in precision engineering.

He began by making small changes to the way things were done in the company; almost immediately he invested in three new CNC machines much to the horror of the engineering team who were used to penny pinching and making do with what they had. Orders had not been confirmed to fill the capacity this investment would bring, adding to the scepticism of the employees but the MD was determined that orders would come if they had the capacity to fulfil them. As he predicted, the three machines were utilised and the engineering staff began to trust the MD's instincts and approach. At this time the MD spent a lot of time communicating the need for specific changes to his workforce in an effort to persuade them to come on board with the changes and help him in creating a better working environment for everyone. At this stage he did not proclaim a new vision for the company or paint a picture of the future, he was making small changes here and there to change his employees' mindset, laying the foundations for an announcement of more disruptive changes that would need significant buy-in. To support this the MD put a lot of emphasis on developing his staff by investing in training courses, overhauling the apprenticeship training scheme and promoting from within to demonstrate the potential rewards for doing a good job. Cleaning the factory areas and investing in new social areas were planned to show everyone that there was another approach to working in engineering and the status quo was not a given.

As well as changes in the technical side of the business the MD brought in staff to focus on 'putting the frills on the business' in terms of sales and marketing, finance and IT. In his previous job the MD had been developing a bespoke production control system and knew that such a system would be revolutionary for CS4. It was developed over a number of years and is now promoted by CS4 as a key differentiating factor amongst its competitors. This was one of the most significant changes made at the company and has contributed to embedding a continuous improvement culture, reducing lead times, improving efficiency and improving quality standards.

This system was linked to other functional systems to bring a more joined-up approach to the company and break down functional barriers that had been encouraged by previous management. Following the first few changes the MD changed his communication style to a more informative rather than persuasive style and spoke of a common vision for everyone to work towards – striving for perfection to make CS4 a world leader. By that time the majority of employees had faith in the MD and his way of doing things, most importantly those in supervisory and management roles, and these key players influenced their subordinates to follow. Retirements enabled old-fashioned and negative thinking to be minimised and the younger generation of apprentices were able to grow and develop in the new culture of continuous improvement.

5.4.3. Summary of transformation

Stimulus

CS4 transformed deliberately due to the MD's vision of the company becoming a globally leading precision engineering business. There was no crisis in the external environment, and the business was financially stable. The stimulus was the drive and commitment of the MD and his understanding of the future business environment in which his company would operate.

Content

Various elements of the organisation changed during the transformation journey, as listed below;

- New ownership and leadership

- New strategy and vision

- Investment in machinery, systems and infrastructure

- Reengineering of processes

- New attitudes and approaches to working (continuous improvement culture)

- Training and development of staff (including new apprenticeship program)

- Financial management

- Development of bespoke production control system

- New performance measures (enabled by production control system)

- New sales and marketing skills

- Expansion of product/service portfolio

- Restructuring the organisation and promotion of employees to management team

Process

The process of transformation at CS4 followed a planned and structured approach. The MD had a clear idea of where he wanted the company to be and the changes needed to get there, and the order of these changes was determined by the perceived greatest need. Few barriers existed for the MD, however he did find it difficult at the beginning to persuade people to think differently about the company and how it could operate. Demonstrating quick wins was an important factor in changing employees' minds. His determination and strong character was cited by interviewees as being vital to keep pushing changes through despite strong opposition from managers. Thus process of transformation was one of directive, top down changes to demonstrate the benefits of doing things differently, followed by the communication of a new vision of the company and subsequent participative changes in a new culture of continuous improvement. Constant communication to all employees was evident in all changes.

Context

The context is embedded in the transformation story of the organisation and although it can be abstracted to identify specific contextual factors, viewing these in isolation from the situation in which they had an impact loses value and meaning. Thus, the internal and external contextual factors are presented along with the impact these had on the transformation (according to the interviewees).

Table 5.23 – The internal context and impact on the transformation of CS4

Internal context	Impact
Sound financial standing	Access to funding for investments. Good relationship with bank.
Location of business	Close to customers, rapid response. Tradition of engineering, access to skills.
Culture of command and control, and cost saving	Fear amongst employees that investment meant job losses. No opportunity for new ideas. Little improvement. "Business standing still."
No structured approach to apprentice training	High turnover of apprentices. No consistency in skills of trainees. Low job satisfaction.
New leadership style	Constant communication. Development of internal newsletter. "Better place to work".
Highly skilled workforce	Promotion from within. Opportunity to take on specialist jobs from customers.
Quality issues with products	Investment in automation and increased capability designed into IT system.
New apprenticeship training scheme introduced	Investment in training facilities. Low turnover of apprentices. Highly sought after apprenticeship. Consistency of skills and knowledge development. Higher job satisfaction.
Retirement of older staff on shop floor	Removal of barriers to change. Loss of knowledge and skill.
Culture of continuous improvement	New ideas generated and implemented. Open communication among all levels of employees. Improved efficiencies and productivity.
Investment in bespoke system	Increased control of jobs and parts. Increased quality and traceability. Selling point.
Additional premises added to site	Increased capacity. Investment in new machinery. Confidence among workforce that jobs are secure.
Retirement of general manager	Freedom for MD to restructure organisation. Promotion of two supervisors to management roles.

Table 5.24 – The external context and impact on the transformation of CS4

External context	Impact
Buoyant job market	High turnover of staff. Loss of skills and experience.
Decline in automotive industry	Reinforced focus on other industry sectors.
New material development	Need to develop new skills and competencies. Need for investment in new machinery.
Increasingly higher quality demands from customers	Investment in automation to ensure precision. Clean-up of factory areas and development of IT system.
Customer enquiries into new machining techniques	Investment in highly innovative machinery.
Economic recession	Competitors going out of business, increased opportunity for sales. High demand for apprenticeship places so can choose best students.
Customer demands for wider service scope	Taking on more risk and cost burdens. Demonstration of customer service commitments.

Key findings

The transformation of CS4 took place in a relatively stable external environment and was executed in order to "be the best" by reinstating the core values on which the MD's father had founded the business. Key findings from the narrative analysis are as follows:

- The new MD realised that there were high levels of technical knowledge and capability in the business, and that his role was to "put the frills on the business" in terms of support process for the core competencies.

- These "frills" were in the head of the MD, who had a long-term vision of how the business would transform, although this was not communicated to other employees until he was sure they trusted him.

- Initial changes were introduced to give the MD quick-wins in order to demonstrate his understanding of the business and ability to take it forward. During this time the MD invested a great deal of effort informing and persuading employees of the benefits of change, since there was no crisis to make people think change was necessary.

- Employees who had been in the business for a long time recognised the desire of the MD to return the business to the innovative company it was when his father ran it, and so were engaged with his vision.

- The penny-pinching culture of the former leader was an enabler for the transformation as it meant the company had no debt and sound finances through which investments in new technology could be made.

- The "frills" that have been put on the business have set it apart from competitors in terms of its leadership in new machining technology, production control systems, quality, and employee conditions.

- The drive and commitment of the MD was cited by interviewees as the reason why CS4 is the business that it is today. All employees interviewed shared the same understanding of the vision of the business and were proud to work for the company.
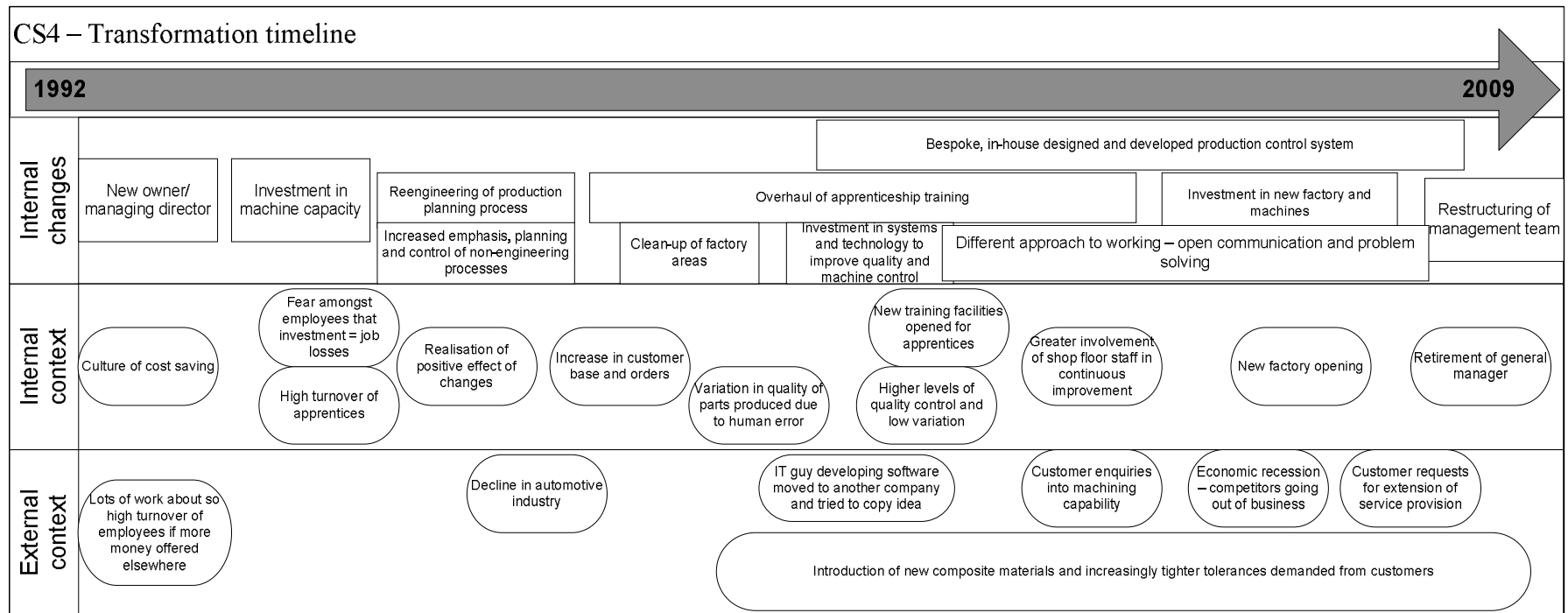
Figure 5.11 – Transformation timeline of CS4 from 1992 to 2009

5.4.4.　　Comparison with conceptual framework

The similarities and differences between the empirical data from CS4 and the conceptual framework are discussed below according to the constructs of stimulus, content, process and context. These are then summarised in Figure 5.13 at the end of this section.

Stimulus

The change in ownership and leadership stimulus identified in literature agrees with the transformation stimulus at CS4, where a new owner/manager took over the business with a vision of transforming it into a world class precision engineering company.

Content

The content of transformation at CS4 has been matched to the content elements of the conceptual framework (Table 5.25), according to the descriptions presented in Section 4.2. Where the content of transformation at CS4 does not match to a content element identified from literature, it is highlighted in the table. All of the content elements identified in the conceptual framework were evident as having changed during the transformation of CS4. There were a number of content changes that could not be categorised using those identified in literature, therefore a number of new elements are proposed. "**Ownership**" is proposed to encompass the new ownership and leadership of the business, and in addition the new owner is the son of the founder, hence **"Next generational leadership"** is also suggested as an element. "**Product/Service**" is proposed to describe the expansion of the product (or in this case machining capability) portfolio. Finally, "**Management team**" is proposed to describe the promotion of employees into the management team at CS4.

Table 5.25 – Comparison between content of transformation at CS4 and content elements from conceptual framework

Content of transformation at CS4	Content element from conceptual framework
New ownership and leadership	
New Strategy and vision	Vision, Strategy
Investment in machinery, systems and infrastructure	Systems & resources
Reengineering of processes	Processes
New attitudes and approaches to working (continuous improvement culture)	People & culture
Training and development of staff (including new apprenticeship program)	Competencies
Financial management	Competencies
Development of bespoke production control system	Systems & resources
New performance measures (enabled by production control system)	Performance measures
New sales and marketing skills	Competencies
Expansion of product/service portfolio	
Restructuring the organisation and promotion of employees to management team	Organisational structure

Process

The transformation of CS4 cannot be easily categorised according to the process theories discussed in Section 4.3. It seems to have followed a planned or processual approach since the business has evolved to where it is today through a series of individual changes, each of which was executed to contribute to the owner's vision for the business. It could be equally be argued that the transformation process was emergent, as the order of the content changes was dependent upon previous changes or opportunities from the external environment. It seems that the transformation

process was both planned as the owner was clear on the things he needed to do to bring the business towards his vision and this plan (although not formalised or communicated), and emergent as it was affected by opportunities and threats both inside and outside the business. For this reason, the researcher proposes that the transformation process of CS4 can be described as following a contingent approach; the plan to achieve the vision set the transformation goal but the path taken was emergent and contingent on the internal and external environments of the business. In order to achieve the transformation, the owner deliberately made some changes that he knew would give quick-wins and so help to persuade the workforce to buy-in to future changes he had planned. The owner spent a lot of time communicating benefits and informing everyone of the need for change during the first few years of the transformation journey. Once he knew people were on board, he communicated his overall vision to make the company a world leader in its industry and was more comfortable to delegate responsibility for changes to managers. A key element in all the changes at CS4 is communication, initially persuasive but turning to informative as everyone began working towards the same vision.

To understand how the process of each content change was managed, a matrix of the content changes and process steps identified in the conceptual framework was developed, shown as Table 5.26. A '√' in the cell indicates that the process step was evident during the specific content change at CS4. The management of the changes follow many of the steps outlined in literature. Common themes are; understanding the need to change, establishing a sense of urgency, strong leadership, communication, changing culture by changing behaviour, implementing systems and structures to support changes, using management practices to motivate and giving people the tools they needed. The benefits of the change were also communicated in the majority of the changes in order to foster the culture of continuous improvement and demonstrate why change was important. On entering the business, the MD understood that the workforce was not ready for change, hence the reason for trying to get quick wins through initial investments. After this, he did not need to 'assess the readiness for change' as the culture necessary to make it happen had been established.

Table 5.26 – Comparison between process management steps and content of transformation at CS4

Phase	Step	New ownership and leadership	New Strategy and vision	Investment in machinery, systems and infrastructure	Reengineering of processes	New attitudes and approaches to working	Training and development of staff (including new apprenticeship program)	Financial management	Development of bespoke production control system	New performance measures (enabled by production control system)	New sales and marketing skills	Expansion of product/service portfolio	Restructuring the organisation & promotions to management team
	Analyse organisation and need for change	√	√	√	√	√	√	√	√	√	√	√	√
	Understand the external environment		√	√				√	√		√	√	
	Shared vision and common direction					√	√	√	√			√	√
	Create a sense of urgency			√	√	√	√	√	√	√	√	√	
Planning	Strong leadership		√	√	√	√	√	√	√	√	√	√	√
	Ensure support from management team												

Phase	Activity												
	and key decision makers												
	Develop implementation plan	√						√					
	Develop performance measures to assess impact or success of change												
	Assess readiness for change		√										
Implementation	Communicate and provide information to employees			√	√	√	√	√	√	√	√	√	√
	Involve employees				√	√	√	√	√	√	√	√	
	Create short-term wins			√	√				√				
	Change culture by changing behaviour			√	√	√	√	√	√	√	√		√
	Implement systems and structure to support change				√	√	√		√	√	√	√	√
	Use management practices to motivate			√	√	√	√	√	√	√	√	√	
	Teamwork				√		√		√	√		√	
	Give people tools they need to do the job well			√	√	√	√	√	√	√	√	√	√

Review/ Consolidation	Monitor progress and adjust strategies as necessary								√				
	Reinforce and institutionalise change												
	Communicate results/progress of change		√	√	√	√	√	√	√	√	√	√

The final facet of the process of transformation is the order in which the content elements changed. As discussed in Section 4.3, content models of transformation give little indication of the optimum sequence, however there is consensus that transformation should begin by developing a vision for the future and a strategy for how this will be achieved. This was the case in CS4, with subsequent changes made to support the vision and strategy. Figure 5.12 below illustrates the general order of the content changes during the transformation of CS4.
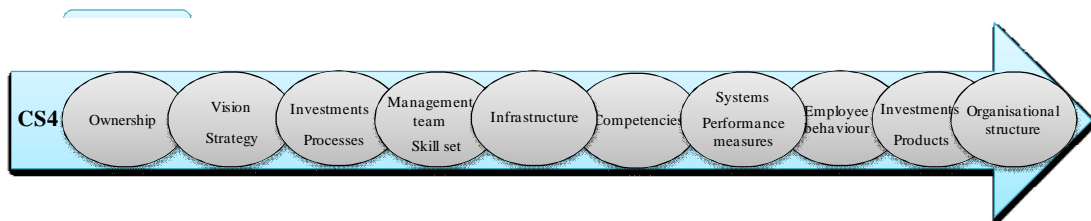
Figure 5.12 – Order of content changes at CS4

Context

The internal and external contextual factors identified from literature are mapped onto the contextual factors identified as relevant to the transformation of CS3 in Table 5.27. Where a factor from CS3 does not match with literature, it is highlighted in the table. All of the internal contextual factors were evident as impacting on the transformation of CS4, however the factor relating to the quality issues does not match with any factor in the conceptual framework. The quality issues led to the decision to invest in automation and develop the production control system, hence **"Quality"** is proposed as an additional internal contextual factor. The external factors identified in literature were not all evident in the case of CS4. Customers, market, industry sector and the PESTLE factors of technology and economy were considered influential on the transformation of the business.

Table 5.27 – Mapping of contextual factors from CS4 onto conceptual framework

	Context in CS4	Contextual factor from conceptual framework
	Sound financial standing	Resources
	Location of business	Organisational demographics (location)
	Culture of command and control, and cost saving	Culture
	No structured approach to apprentice training	Knowledge, skills & capability
	New leadership style	Leadership & management style, Power & politics
	Highly skilled workforce	Knowledge, skills & capability
	Quality issues with products	
	New apprenticeship training scheme	Knowledge, skills & capability
	Retirement of older staff on shop floor	Knowledge, skills & capability, Culture
	Culture of continuous improvement	Culture
	Investment in bespoke system	Resources
	Additional premises added to site	Resources
Internal context	Retirement of general manager	Knowledge, skills & capability, Culture
	Buoyant job market	Industry sector
	Decline in automotive industry	Market
	New material development	PESTLE (technology)
	Increasingly higher quality demands from customers	Customers
	Customer enquiries into new machining techniques	Customers
	Economic recession	PESTLE (economic)
External context	Customer demands for wider service scope	Customers

As has been mentioned many times, isolating the contextual factors from the content and process of transformation renders them superficial, therefore the effect of the factors identified on the content and process characteristics of the transformation is shown in Table 5.28. As before, '√' represents a positive impact, an 'x' represents a negative impact, and a '/' indicates that the factor did have an impact that was perceived as neither positive nor negative. If the box is empty, there was no perceived impact on the content and process of transformation. Where additional content elements and contextual factors were identified, these have been included in the matrix.

The internal contextual factors on the most part have had a positive impact on the transformation of CS4, specifically leadership & management style and resources. The culture that existed in the business when the new owner took over was a barrier that had to be overcome in order to transform the business, as was the lack of structured training for apprentices. When these issues were resolved, the culture and knowledge, skills & capabilities of the workforce were enablers for the remaining changes. The external factors were also mainly enablers for the transformation, however the buoyant job market during the 1990s meant that the business lost some skilled workers to competitors. This has been reversed in the current economic climate and the company can pick and choose the best apprentices and skilled workers that it requires. It is interesting to note that none of the contextual factors were perceived to be both enablers and barriers for a particular change – they were all one or the other. This suggests that the changes made were in aligned to the context of the business at the time and did not conflict with the internal or external situation of the business at the time.

Table 5.28 – Impact of contextual factors on content and process of transformation at CS4

	Contextual factor	Contextual factor (from conceptual framework)	Vision	Strategy	Organisational structure	People and culture	Competencies	Systems and resources	Processes	Performance measures	Ownership	Next generational leadership	Product/Service	Management team	Type of process	Order of content changes	Management: Planning	Management: Implementation	Management: Review
								Conceptual framework content			**Proposed content**				**Process facets**				
	Sound financial standing	Resources						√				√			/	/			
	Location of business	Organisational demographics (location)										√							
Internal context	Culture of command and control, and cost saving	Culture		x		x	x	x				√			/		√	√	√
	No structured approach to apprentice training	Knowledge, skills & capability				x	x									/			
	New leadership style	Leadership & management style, Power & politics	√	√	√	√	√	√	√	√		√	√	√	/	/	√	√	√

	Item	Category	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
	Highly skilled workforce	Knowledge, skills & capability	/	√		√						√						
	Quality issues with products	Quality		x				√	√							/		
	New apprenticeship training scheme introduced	Knowledge, skills & capability				√	√											
	Retirement of older staff on shop floor	Knowledge, skills & capability, Culture				√												
	Culture of continuous improvement	Culture							√						/	√	√	√
	Investment in bespoke system	Resources	/	√		√		√	√	√		√						
	Additional premises added to site	Resources	/	√		√		x				√						
	Retirement of general manager	Knowledge, skills & capability, Culture				√							√					
context	Buoyant job market	Industry sector																
	Decline in automotive industry	Market		√			√											

Description	Category																			
New material development	PESTLE (technology)					√	√						√							
Increasingly higher quality demands from customers	Customers		/			√	√			√										
Customer enquiries into new machining techniques	Customers						√						√							
Economic recession	PESTLE (economic)				√	√														
Customer demands for wider service scope	Customers								/				√							

From the perspective of the content elements, the majority were enabled by the context of CS4. The attempts to change the culture of the company was hindered by the command and control approach of the previous MD and the lack of investment in structured training but as mentioned, when the new MD demonstrated his participative approach and made investments for the wellbeing and development of employees they engaged with his new way of working. These barriers also impacted on the skill set of the workforce and were reversed in the same way. The organisational structure, and new management team were not greatly affected by internal or external contextual factors. Next generational leadership was positively influenced by the culture that dominated when the new MD took over, as he was determined to return the business to its roots and rebuilt it on the principles that his father had when he founded it. As one would expect, the change in ownership was not influenced by the contextual factors identified as it was the stimulus for the transformation.

The type of transformation process was influenced by the fact that the business had a sound financial standing, and so could the new MD could enact the changes he envisioned. The order of the content changes were in some way impacted by opportunities that arose from the external environment, as well as issues that presented themselves within the business (e.g. the quality problems). Where the context had an impact on the management of the changes, it was the culture that positively influenced the MD to follow a more structured and defined approach to planning, implementing and consolidating changes. The culture of the business when he took over demanded clear communication of reasons behind changes and of their benefits, and when the culture changed to one of continuous improvement, this was structured around a defined process.

5.4.5. Summary of CS4 within-case analysis

Having compared the transformation of CS4 to the conceptual framework, a number of conclusions can be drawn for discussion in relation to the other cases and wider literature. This is summarised in Figure 5.13.

- The stimulus for the transformation of CS4 was a new owner with the vision of transforming the business into a world leading precision engineering business.

- All content elements identified in the conceptual framework were evident in CS4. Four additional content elements are proposed; **Ownership**, **Next generational leadership**, **Product/Service** and **Management team**.

- The process of transformation at CS4 can be described as a contingent approach. The management of the changes was structured and planned with constant communication, but specific changes emerged as a result of internal and external stimuli. Initial changes were directive and pushed by the new MD to demonstrate the credibility of his actions and get buy-in. Following this, the overall vision for the future of the business was communicated and changes became more participative, with communication used to inform rather than persuade. All changes were made to achieve the vision of the company.

- All internal contextual factors identified in the conceptual framework were evident as influencing the transformation of CS4. An additional internal contextual factor of **Quality** is proposed. The external factors of customers, market, industry sector, technology and economy were seen as impacting on the transformation.

- The key enablers to the transformation of CS4 were leadership & management style, and resources. The culture of the business was a barrier, however when this was changed it became an enabler. The industry sector was an external barrier to transformation, but the other external factors of customers, technology, economics and market had a positive impact on the transformation.
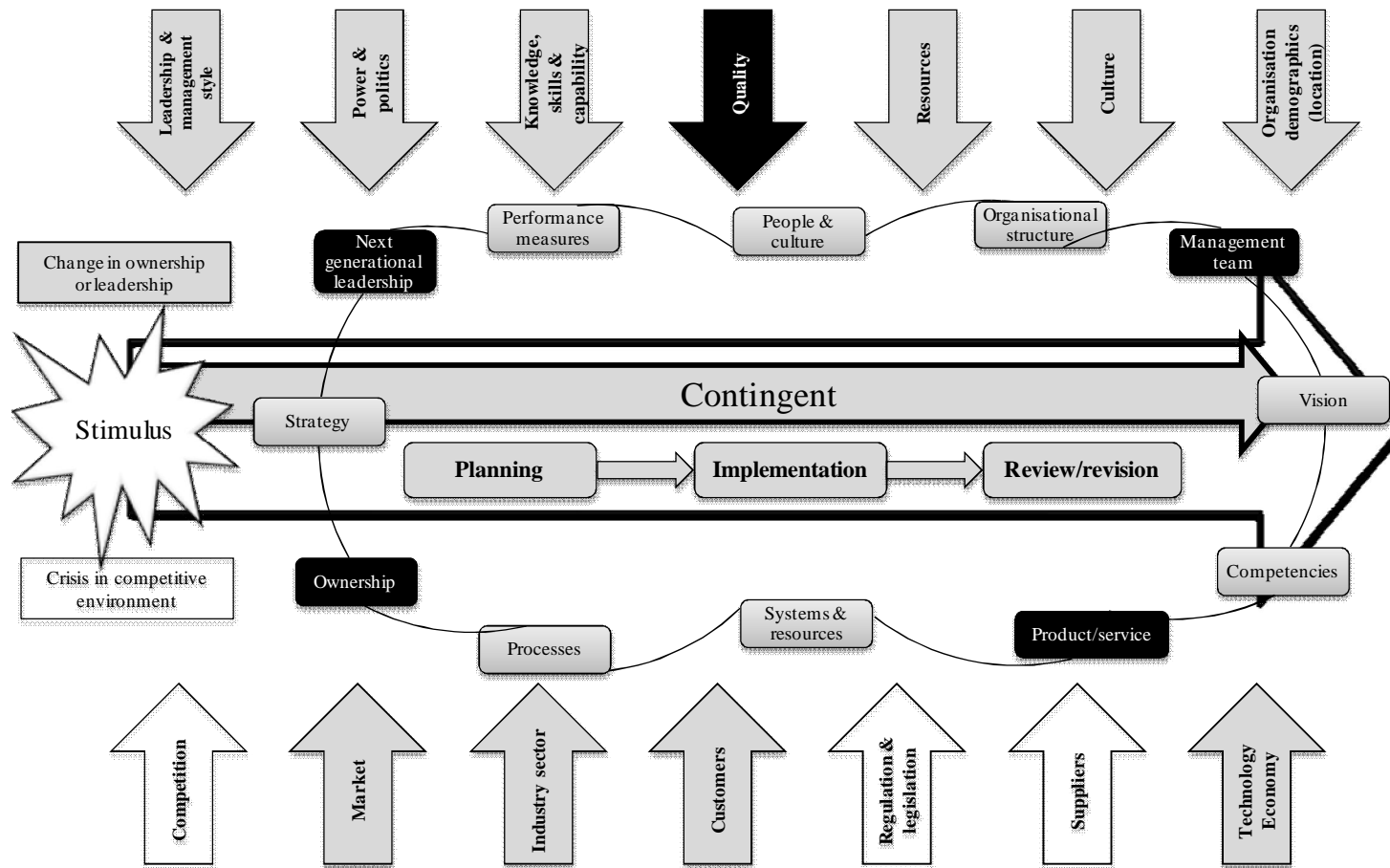
Figure 5.13 – Summary of comparison of transformation characteristics of CS4 and conceptual framework

The figure contains the following labels:

Top downward arrows: Leadership & management style; Power & politics; Knowledge, skills & capability; Quality; Resources; Culture; Organisation demographics (location)

Middle elements: Performance measures; People & culture; Organisational structure; Next generational leadership; Management team; Change in ownership or leadership; Stimulus; Contingent; Strategy; Vision; Planning; Implementation; Review/revision; Crisis in competitive environment; Ownership; Competencies; Processes; Systems & resources; Product/service

Bottom upward arrows: Competition; Market; Industry sector; Customers; Regulation & legislation; Suppliers; Technology/Economy

5.5 Chapter summary

This chapter has presented a within-case analysis for each of the four cases under study in this research. Each was concluded with list of key findings from the narrative analysis, and then a comparison made to the conceptual framework developed in Chapter Four. The key findings from this comparison were then stated. Rather than rehearse these summaries here, the reader is guided to Chapter Six, which will present a cross-case analysis of the four cases. By way of a general summary, however, the following points are noted;

- The stimulus for transformation of the four cases was either a change in ownership or leadership (CS1, CS3, CS4), a crisis in the competitive environment (CS1, CS2, CS4), new technology and changing customer expectations (CS2), or poor performance (CS3).

- Each content element identified in literature was changed during the transformation of the four cases with the exception of CS1 which did not change its performance measures or vision, or the culture of the business (within the people & culture element).

- A number of additional content elements are proposed; ownership (CS1, CS3, CS4), management team (CS1, CS2, CS3, CS4), product/service (CS1, CS2, CS3, CS4), and next generational leadership (CS2, CS3, CS4). It has also been suggested that 'strategy' be deconstructed into constituent elements of value proposition (CS1), operating model (CS1, CS2, CS3), value stream (CS1, CS2, CS3), positioning (CS1) and profit formula (CS1).

- The type of transformation process can be described by the theory of punctuated equilibrium (CS1, CS2, CS3) or contingency theory (CS4).

- The order of content element changes across the four cases varied depending on individual contexts.

- The management of the process changes varied depending on individual contexts, although each case did showed evidence of carrying out steps in each of the three phases; planning, implementation and review/consolidation.

- Each internal contextual factor identified in literature was evident as impacting on the transformation of the cases. Five additional internal factors are proposed; communication (CS1), quality (CS2, CS4), market share (CS3), new product introduction (CS3), and acquisition (CS3).

- Each external contextual factor identified in literature was evident as impacting on the transformation of the cases, however within the PESTLE factors, political, legal, and environmental factors were not considered to be relevant. The additional external factor of collaboration (CS1, CS3) is proposed.

- The classification of the factors as either barriers or enablers is dependent on the specific case, however in general, culture was a barrier to transformation (CS1, CS3, CS4), and enablers were leadership & management style (CS2, CS3, CS4), knowledge, skills & capabilities (CS1, CS2, CS3), and resources (CS1, CS3, CS4). The impact of external contextual factors was very much dependent on the case.

Chapter 6 - Cross-case analysis

The aim of this chapter is to present the analysis of the case study findings across the four cases with reference to the conceptual framework proposed in Chapter Four. Sections 6.1 to 6.4 present the analyses of the stimulus, content, process and context of transformation respectively. Each is structured according to the constructs in the conceptual framework, and concludes with a summary of the key findings from the analysis. Section 6.5 then presents an overall summary of the findings from the cross-case analysis, represented using the conceptual framework diagram.

6.1 Transformation stimulus

Change in ownership or leadership

At both CS1 and CS4 the aspirations of the owners to grow the business drove the transformation, and in both cases the owners had just taken over the company. CS3 began its transformation journey when the business was sold to a new owner, however the evidence from the data suggests that he did not intend on 'making his mark' on the business in any significant way, but viewed it as a good investment for his retirement. The reality of the financial state of the business quickly changed this objective. Although the change in ownership was not the prime trigger for the transformation, it is still significant in stimulating it, as the previous owner knew the state of the business but was not willing to do anything about it. It took someone with fresh ambition and determination to decide to turn the business around.

Crisis in competitive environment

None of the four cases began their transformation due to a crisis in the competitive environment. In CS1 the loss of a major customer was a secondary stimulus which forced the company cut the workforce in order to survive, but the strategy remained one of profitability growth. As with CS1, a second stimulus occurred in CS2 in the form of a crisis when the company lost two key contracts. It was then realised that these were supporting the other value streams of the business which were largely unprofitable, and the business was in financial crisis. This changed the focus of the transformation from growth to survival.

New technology, changing customer expectations, and poor performance

CS2 began its transformation journey by launching new products that required a new set of skills and competencies, based upon technology advances and changing customer demands. When he took over, the new owner of CS3 realised the business was in crisis. It was operating at a loss, was lagging well behind its competitors in terms of market share and had huge levels of unfinished stock of products that customers did not buy. The extent of the problems had been masked by the previous owner who buffered the business with his own cash. In short, the transformation stimulus was poor performance.

Table 6.1 summarises the transformation stimuli across the four cases. A '1' indicates the primary transformation stimulus, and a '2' indicates a secondary stimulus.

Table 6.1 – Summary of transformation stimulus across four case studies

	Internal		External		
	Change in ownership or leadership	Poor performance	Crisis in competitive environment	New technology	Changing customer expectations
CS1	1		2		
CS2			2	1	1
CS3	1	1			
CS4	1				

As the table shows, the initial transformation stimulus was from inside the company for three of the four cases. It could be argued that CS2 actually decided to transform based on a desire to grow the company (an internal performance related stimulus), and the only way to do this was through the adoption of new technology, however in conversation with the founder of the company the research realised that if the company could have been sustained through the manufacture and sale of its original product, the company would not have moved into the manufacture of CD players, thus the stimulus was the demand from customers for this new technology.

6.2 Transformation content

To understand the content of transformation across the four cases a summary of the elements that changed during the transformation of each case is presented in Table 6.2 and discussed thereafter.

Table 6.2 – Comparison of content of transformation across the four case studies

	Organisational structure	People and culture	Systems and resources	Processes	Management team	Product/Service	Strategy	Competencies	Vision	Performance measures	Ownership	Next generational leadership	Strategy (operating model)	Strategy (value stream)	Strategy (value proposition)	Strategy (positioning)	Strategy (profit formula)
CS1	√	√*	√	√	√	√	√	√			√		√	√	√	√	√
CS2	√	√	√	√	√	√	√	√	√	√		√	√	√			
CS3	√	√	√	√	√	√	√	√	√	√	√	√	√	√			
CS4	√	√	√	√	√	√	√	√	√	√	√	√					

The comparison table shows that there is a great deal of overlap between the content of transformation in the four case studies. Each company changed their organisational structure, systems and resources, processes, management team, product/service portfolio, strategy, and competencies. A change in people & culture is shown to have occurred in each case which is valid, however as noted previously CS1 only changed the roles and responsibilities of its employees and not the

underlying culture of the business. There was an attempt made to change the culture to one of continuous improvement however this was unsuccessful beyond the life of the process improvement project that drove it.

All cases but CS1 changed the vision of the business; indeed there was no evidence of the business having a vision at all. The shareholders set strategic objectives but an underlying vision or 'raison d'être' of the business was not known by the interviewees. Again, all cases but CS1 changed performance measures to reflect other changes in the business (CS2, CS4) or introduced measures as the business became more mature in its management of performance (CS2, CS3). Performance at CS1 is mainly measured in financial terms. When the KTP programmes were in progress KPIs were introduced and recorded, but as with the attempted cultural change, these fell by the wayside when there was no responsibility given to someone to manage them. Three of the four cases had a change in ownership, each at the beginning of the transformation journey, and each with a desire to do things differently according to their own way of thinking. At CS2 the management team and organisational structure changed a number of times but the founder is still at the head of the company, though now as non-executive chairman (with his son as MD). Following on from this, CS2, CS3 and CS4 are all family owned and managed businesses, and all had a change in leadership to the next generation of the business owner during the transformation period. In CS4 this was the stimulus for the transformation, however in CS2 and CS3 the handover occurred quite recently (2007 and 2009 respectively). In saying that though, both 'next generational leaders' were directors/managers in the business for a number of years prior to taking over their respective businesses and so had significant influence on the transformation of the companies.

Considering the proposition to deconstruct 'strategy' into constituent elements, Table 6.2 shows that two of these elements were evident as changing in three of the four cases, and so it seems justifiable to instate them as content elements in their own right. CS1 changed its operating model to focus on a few key customers, directing its 'sales' efforts into developing close working relationships to suggest improvements or enhanced service offerings. Having been burned by poor reliability from a software supplier, CS2 redesigned its products to enable as many components to be manufactured in-house, and reengineered its supply chain processes to ensure it had as much control as possible over every aspect of each component. CS3 changed their operating model to enable global sales, especially in the biggest bowls market in Australia. Products for home markets follow a make-to-stock production strategy whereas export products are make-to-order. CS1, CS2 and CS3 changed their value streams but in different ways; CS1 diversified into bottling in addition to its co-packing service. CS2 expanded to provide a stereo for the luxury car market but later consolidated its value streams to a single offering of home audio equipment. CS3 supported its growth through the supply of branded peripheral bowls equipment such as clothing and bags, and has also acquired a bowls shoe manufacturer. CS4 has continued to offer machining and engineering services through a single value stream, but has expanded its portfolio of services through continued investment in new machines and technologies. Three other constituents of strategy (value proposition, positioning, and profit formula) were only evident as having changed in CS1.

In summary, the four case studies largely agree with the content elements identified in the conceptual framework. In addition, five additional elements are proposed to constitute the content of transformation in manufacturing SMEs:

- Ownership or leadership

- Management team

- Product/service portfolio

- Operating model

- Value streams

The proposed content elements of 'ownership' and 'next generational leadership' have been coupled since a change in ownership inevitably brings with it a change in leadership thus having both is confusing, and the 'next generational' prefix has been dropped to make the findings more generalisable to non-family owned/managed businesses.

6.3   Transformation process

Type of process

The theory of punctuated equilibrium is proposed to describe the type of transformation process evident in manufacturing SMEs in this study. The transformation of three of the four cases (CS1, CS2, CS3) was comprised of a series of continuous incremental changes, punctuated by instances of radical change caused by internal (CS3) or external (CS1, CS2) crises. CS4 stands alone within the cases as the only company whose transformation was defined and planned. This plan was influenced by internal and external contextual factors, but a specific goal was set and each change executed with this in mind. Of all the cases, CS4 operated in the most stable external environment, and also had the most stable internal environment in terms of its financial standing, which greatly influenced the type of transformation process. This is further discussed in Section 6.4 as a contextual factor.

Order of content changes

Although the four cases display many similarities in the discrete content elements of their transformations, the order in which these individual changes occurred is

different for each. This would suggest that the specific contexts of each company had an impact on the transformation journey. Figure 6.1 below illustrates the order of the content changes for each case, along with the stimulus of the transformation.
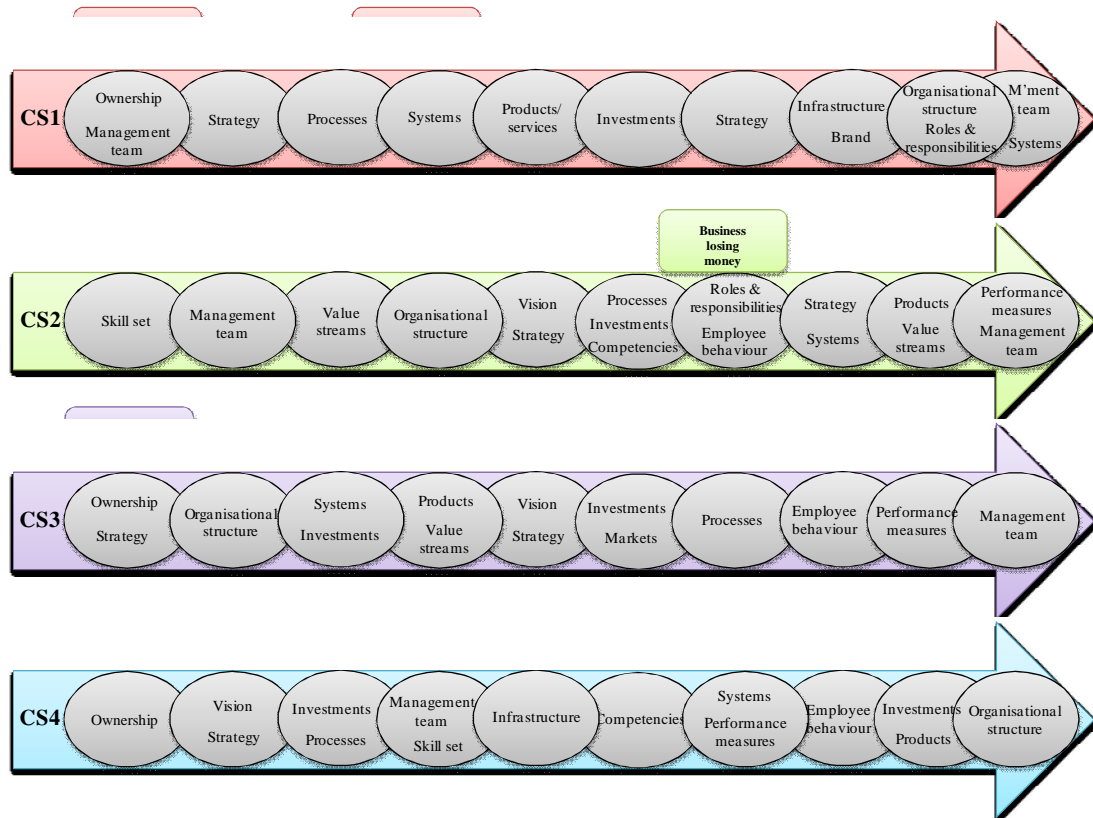

Figure 6.1 – Content of transformation in the four case studies

For the cases that began transformation with a change in ownership (CS1 CS3, CS4), the subsequent change was vision and/or strategy. In each case, processes were reengineered and/or investments made soon after the vision and strategy was changed, suggesting that the change in direction or focus of the business required a change in the processes, or support via investment in new technology or machinery. For those cases where employee behaviour changed during the transformation journey (CS2, CS3, CS4), it occurred towards the end of the process. In each case the change was to team-working and a continuous improvement culture in order to

benefit from changes in processes. At CS2, roles and responsibilities, behaviour and systems were all changed concurrently to reinforce each other. At CS3 changing the mindset of employees was a long and hard-fought battle, eventually realised when older staff members retired and the new processes and systems had been in operation for some time, driven by the production manager. Again in CS4 the MD started to change the mindsets of the employees soon after taking over the business. The culture of the company was considered to have changed (by the interviewees) after investment in new machinery, the clean up of the factory and new IT systems was implemented. In CS1 and CS2 a second transformation stimulus occurred, in both cases threatening the survival of the business. At CS1 the vision and strategy of the business remained as it was until a few years later when a new value stream was introduced. At CS2 the vision and strategy that was set previous to the crisis also remained, but was more relentlessly pursued following it, as the crisis forced the company to go 'back to basics' and refocus its operations on its core vision. Although a new vision and strategy had been set within the product development group a year or so previous, it was not being followed by the overall business.

It is difficult to discuss the order in which the content of transformation occurred without considering the context of each case study company. As noted above, there are few obvious patterns emerging when comparing the transformation journeys of the cases; it appears that new ownership will lead to a change in vision and/or strategy. It also could be deduced that after changing the vision and/or strategy, business processes need to be reengineered and investments are required. Where employee behaviour changed, it occurred following many other content element changes however as discussed, the process of changing the behaviour began long before any results were evident. Outside of this the order in which the content elements were changed appears to be a function of the context of the individual case, as will be discussed in Section 6.4.

An alternative way of comparing the order of content changes it to consider them from the point of view of the tangibility of the element, i.e. whether it is 'hard' or 'soft' as described in Table 4.1. Hard content elements are those which are tangible and easily identifiable or measurable. Soft content elements are intangible and generally immeasurable. The content changes for each case were coded as 'H' or 'S' and listed sequentially, in Figure 6.2. The secondary stimuli for CS1 and CS2 are also indicated. The analysis suggests that during times of turbulence or crisis, the content changes are all hard elements. CS4 did not experience a crisis during the transformation period, and the changes here are a mixture of hard and soft, as opposed to the bunches of hard elements evident in the other cases.
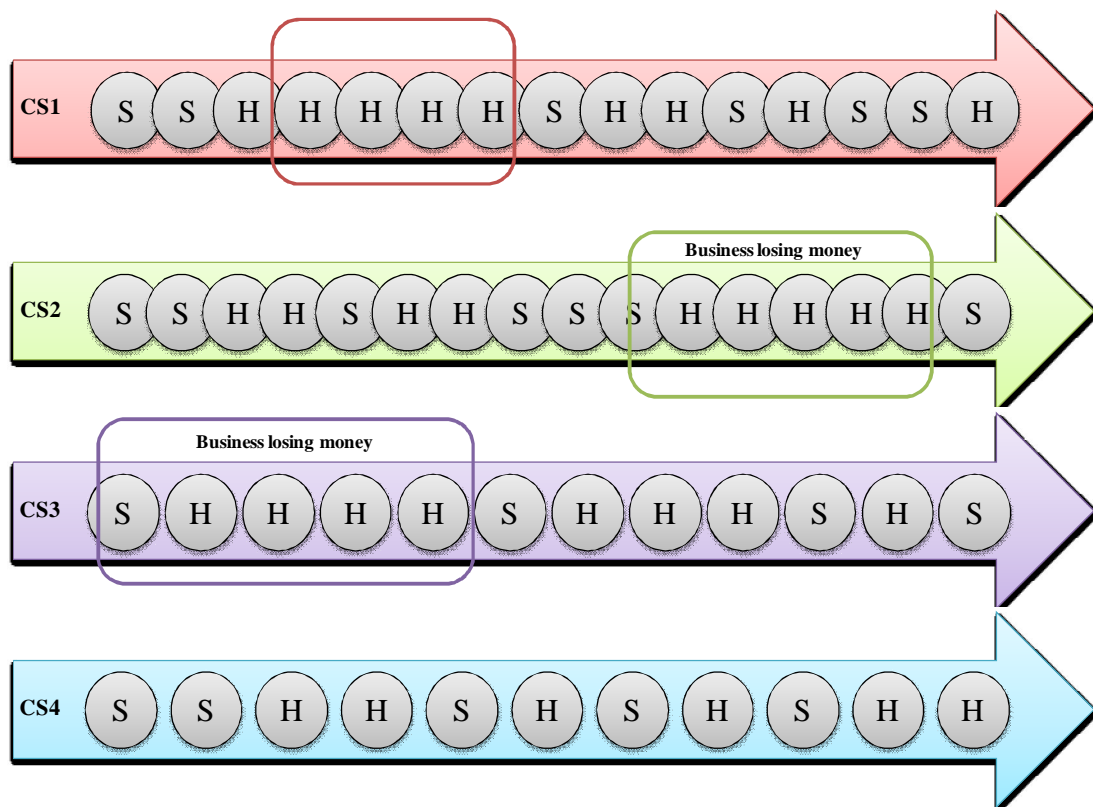

Figure 6.2 – Comparison of hard and soft content element changes

This figure also raises another point regarding the time to transform. CS1 and CS2 transformed during the period 2000 – 2009, whereas CS3 and CS4 transformed during the period 1992 – 2009. Looking at the number of changes as indicated by the number of circles in the diagram above it would appear that those times should be reversed, since more changes occurred in the cases with the shorter timeframe. In order to understand the pattern it is necessary to consider the context of the cases. CS1 and CS2 operate in more turbulent environments relative to CS3 and CS4 and were affected by external changes more often. This resulted in repetitive element changes, e.g. CS1 changed its strategy a number of times, and in CS2 strategy, value streams and competencies were each changed twice. Since CS3 and CS4 took a longer time to change all elements of the organisation, it could be suggested that if viewed over the same time period as CS1 and CS2 that these cases would not have actually transformed. It is therefore proposed that transformation occurs faster in more turbulent environments.

Management of each element change

Although the process steps identified in literature were used to analyse the management of the process of each change in the within-case analyses, the same approach will not be used here. As discussed in the process sections of Chapter 5, each individual change within each case had a different profile in terms of the process steps involved. Further, it was noted that obtaining data about the management of each change was difficult as interviewees could not always recall the detail of how the changes had occurred. Thus, this section will discuss the general characteristics emerging from each case.

When considering the overall transformation story, the process of transformation was a combination of planned and emergent change. The most structured was that of CS4, where the MD had a clear idea of the strengths and weaknesses of the business

and thus where changes needed to be made, but this was not formalised nor communicated with the management team. He did know that the business needed to be transformed in order to meet the aspirations he had for its future. This was also evident at CS2, but not at the beginning of the transformation journey. It did not occur until the son of the founder joined as R&D manager and realised how much the business needed to change if it was to compete as a technological leader in the audio equipment market. On taking over CS3, the new owner identified the need to completely transform the business, firstly to ensure its survival then later to grow and ensure a return on his investment. At CS1 the focus was always on short term improvements and individual changes and it was not apparent that an overall plan or future vision was pursued, therefore in this case transformation is a label placed on the journey the company has travelled rather than a description of a journey they embarked on. Since CS2, CS3 and CS4 are family owned and managed businesses it would seem that the longer-term vision of the company and motivation to change the company to reach this is a trait of this type of business. CS1 is owned by a consortium of shareholders who (until recently) had no involvement in the running of the business and sought short-term return on the investment they had made.

Another similarity among the cases was that the changes were implemented through the determination and continuous involvement of those leading the change. At CS1 the individual changes were driven by various people in the organisation; mostly the Operations Director but also with the help of two KTP associates. The problem here however was that when a project was completed or the leader moved his attention onto something else the changes did not stick and employees often reverted back to old habits or routines. The lack of overall vision or strategy seems to have acted as a barrier to employees seeing changes as more than finite projects. At CS3 the new owner was experienced in running his own business and was not scared of upsetting the status quo. He had made significant personal investment in the company and was adamant that the business would not fail, no matter who he annoyed along the way. He was willing to make investments that would give longer-term benefits and put a

management team around him to support decision making and to whom he could delegate specific change and improvement tasks. Although he and his management team had a vision of the future, this was not communicated to the employees as it was considered pointless – on beginning at the company the new owner held a 'town hall' meeting and was verbally abused by the shop-floor staff.

At both CS2 and CS4 the vision driving the change was based on that of the founder of the business. In CS2 the son of the founder was keen to refocus the company on the values and core vision that his father had built the business upon. He initially did this within his own scope of power (research and development department) and later brought this to the management team when the new directors structure was introduced. Now he is leading the business as MD and is keen to ensure that every employee in the business is aware of the vision and values and makes decisions every day with these in mind. The MD of CS4 took over the business a number of years after his father (who had founded it) passed away. In the interim a general manager was leading the company and the new MD felt he had taken it in a different direction from what his father had envisioned. He was determined to reinstate the innovative and creative culture and made this happen through the various changes he made. Although he had a management team, he did not communicate the extent of his vision until he had demonstrated a number of quick wins to them. This was a deliberate strategy to generate buy-in from the employees and show them that he knew what he was talking about. After a few changes had been made he then spoke about longer-term strategies with his management team and spent less time persuading them and more in consultation.

Employee involvement was limited during the transformation process in each case. The changes were top-down and on the most part decided by the MD or owner of the company. At CS4 the MD believes that he has now created a culture of idea generation and continuous improvement from his apprentices through to the

management team and the opportunity is given to employees to make suggestions about new ways of doing things through the in-house designed and built IT system. Although the employees were not involved in deciding the changes, they were involved in their implementation and so needed to be persuaded of the benefits. As noted above, the MD spent a great deal of time communicating to the entire workforce the need for change and how it would make their jobs easier, and following a number of successes only needed to inform (through a internal newsletter and team meetings) rather than convince. At CS1 changes were pushed through regardless of employee buy-in, which may be a contributing factor to many changes not being embedded. The large number of agency workers and high proportion of overseas staff also made it difficult. Changes were supported by the relationship with Strathclyde University and the KTP associates who led a number of changes in the business. At CS3 the owner initially attempted to communicate his plans for the business, but afterwards decided that he needed to solve the problem of "the staff running the company, not the managers". A number of employees were identified as being major barriers to any change and these employees were eventually removed from the company, allowing the other members of staff to be influenced by people the MD had convinced of the benefits of his plans. As the business became profitable again and working conditions improved the employees were more open to any changes introduced by the production manager and it became less of a battle to push changes through. At present, the employees will still say "it'll never work" but will be willing to try and see. At CS2 the changes were pushed from the top and at the beginning were met with much scepticism and negativity – in fact many employees left the company as they did not agree with its direction. Changes were implemented much like in CS3; the person leading the change battling with the "it'll never work" attitude but gaining support and respect as improvements were made and employees' jobs were made easier.

In all four cases changes in certain elements led to problems being uncovered in other parts of the business and so many changes were reactive. For instance, in CS2

the change in strategy to an open-source modular platform approach for the design and manufacture of products meant that the processes needed to be reengineered, investments made in new machinery and equipment, and staff retrained. In CS3 the success of coloured bowls meant that investments needed to be made in machinery to cope with increased demand, and new markets were created to sell this new product. In CS1 the objective of improving the efficiency of operational processes highlighted weaknesses in the business systems and led to ERP implementation. At CS4 the MD realised that making investments in machine capability was not enough to attract new customers to the business. The new skills he brought into the company in the areas of sales and marketing led to a glossy brochure, impressive website and his investment in cleaning up the shop floor areas. In summary, the process of transformation in the four cases can be characterised as shown in Table 6.3.

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Table 6.3 – Summary of the process of transformation in the four case studies

Case	Type of process	Process management	Characteristics
CS1	Punctuated equilibrium	Mostly emergent and reactive. Planned changes involved external partnerships.	Top-down approach, lack of communication, little employee involvement and no overall guiding vision.
CS2	Punctuated equilibrium	Contingent on situation, both planned and emergent.	Top-down, communication to employees but limited involvement. Strong leadership from founder.
CS3	Punctuated equilibrium	Contingent on situation, both planned and emergent.	Top-down, strong leadership, little communication or involvement.
CS4	Contingent	Mostly planned, influenced by internal and external context. Led by overarching vision from MD.	Top-down with constant communication to persuade then inform. Participative. Strong leadership.

6.4 Transformation context

The context of transformation can be divided into internal and external environments of the business, each of which will be discussed separately for ease of understanding. Although codifying the contextual factors into discrete constructs loses the linkages they have with the content and process of transformation, there are some general findings that can be drawn from such a comparison. Therefore, the cross-case analysis presented is done so with the caveat that richness is sacrificed for generalisabiliy, and the reader is advised to concentrate on the within-case contextual analysis for each case study if wishing to understand the full impact of context on organisational transformation.

6.4.1. Internal context

Table 6.4 below summarises the impact of the internal contextual factors on the content and process of transformation in each case. The discussion thereafter elaborates on the classification of the factors as enablers (had a positive impact, '√'), barriers (had a negative impact, 'x'), both enablers and barriers ('√x') or had an impact in some way that could not be classified as either positive or negative ('/'). Where the cell is blank, this factor was not considered to have an impact.

Leadership & management style

In CS2, CS3, and CS4 the content changes were pushed through, supported and encouraged by strong, focused and determined leaders and so in these cases the contextual factor of leadership & management style was mainly an enabler to the changes that were made. In contrast, the leadership at CS1 was relatively weak in comparison which was perceived to make changes more difficult to achieve, and in some cases even prevent them. Since CS1 is the only case that is not family owned and managed, it may be that the difference in leadership style is related to the ownership of the companies.

Considering the impact on the process of transformation, it varied across the cases. In CS1 the informal and relatively 'weak' leadership style was evident when analysing the process steps that were followed when enacting changes. For the most part, few of the steps were carried out, planning was sporadic, communication limited and measurements or review of the changes non-existent. In CS2, CS3 and CS4 the leadership & management style had a positive impact on the process; generally the need for change was understood and communicated, employees were involved when necessary or practicable, and the result of the changes reviewed and benefits discussed.

Power & politics

This factor was not evident in CS1, but in the other three cases it was an enabler to the content of transformation. In CS2 this factor is related to the founder of the business returning to the company when it was in crisis and leading it to recovery with his son. The new owner of CS3 refused to be bullied by the workforce and used his position as MD to introduce new employee contracts and remove those who were barriers to his vision. This factor was influential in a less explicit manner in CS4; the new owner did not demand changes were made since he was the boss, however his position led the employees to respect his ideas and go along with changes (supported by constant communication). Perhaps the difference between the use of power in the cases is the fact that both CS2 and CS3 were in financial difficulties and had to make changes quickly, whereas in CS4 the business was financially stable and there was no crisis driving the changes.

Table 6.4 – Summary of the impact of internal context on the content and process of transformation

		Leadership & management style	Power & politics	Knowledge, skills & capability	Resources	Culture	Organisational demographics (size)	Organisational demographics (age)	Organisational demographics (location)	Organisational demographics (ownership)	Organisational demographics (structure)	Market share	New product introduction	Acquisition	Quality	Communication
CS1	Content	x		√x	√x	x	x	x	√	√x					√	x
CS2	Content	√x	√	√	√x	√	√x				√x					
CS3	Content	√	√	√	√	√x	√	x				√	√	√		
CS4	Content	√	√	√x	√	√x		√							√	
CS1	Process	x		√x	√x	x	x	/		/						x
CS2	Process	√	√	√	√x	/					√					
CS3	Process	√	x	√	/	√x		x					/			
CS4	Process	√	/	/	/	√									/	

Although there is agreement between CS2, CS3 and CS4 that power & politics positively influenced the content of transformation, when considering the process each showed evidence of a different impact. In CS2 it was the appointment of the founder's son as R&D manager (who was considered by others to have more influence in the business) that brought a more structured approach to the changes made by the product strategy group. In CS3 the barriers put up by the employees, including the strike action, meant that initial changes were forced upon them by the owner without communication or consultation. In CS4 the factor of politics & power was not considered to influence the management of the changes, but did have an impact on the type of transformation.

Knowledge, skills & capability

There is general agreement across the four cases that this factor was an enabler to their respective transformations. In CS1 the tendency to promote from within was considered detrimental to the transformation as the employees tended to be stuck in their ways with few ideas for improvement, however their experience and customer relationships are an asset to the business and how it operates. In CS4 the approach to apprentice training was unstructured and inconsistent until the new owner overhauled the scheme and made it compulsory for all staff to be trained on each area of production, making the CS4 apprenticeship one of the most sought after in the industry. The impact of knowledge, skills & capability on the process of transformation was again generally a positive one across the four cases. In CS1 involvement in the KTP scheme meant that changes were well structured and planned, with the associates involved continuously along with shop floor employees, however when the programmes ended, the changes were not fully embedded and no one was assigned to ensure this happened. In CS4 the factor influenced the order of content changes, as the discovery of the shortcomings in apprentice training led to the MD implementing changes to resolve this.

Resources

In the four cases, resources were an enabler to the transformation, as would be expected, and in each case the resources necessary to make changes were available for the most part. A lack of human resources CS1 contributed to the difficulties in sustaining changes made, as noted previously. In CS2 the crisis induced when two major customers left the business resulted in a lack of resources, both financial and human (as redundancies had to be made), making the changes required to keep the business going all the more difficult. In CS1 the lack of human resource had a positive impact on the process of transformation, as it led to the involvement in the KTP programme and so a structured approach to implementing change. When resources were limited however, this resulted in changes occurring in a more ad-hoc manner. In CS2 when the business was fairly stable changes were more participative and communication was good, however when in crisis a top-down, directive approach was adopted to being the business back on an even keel. In all cases resources impacted on the order in which changes were made.

Culture

Culture is a factor that enables or acts as a barrier to transformation depending on the case. In CS1 the culture of "it'll never work" made it difficult to embed changes and for new routines or behaviours to be adopted, hence was a barrier to both the content and process of transformation. Conversely, the culture at CS2 was an enabler to the content of transformation; employees were engaged and willing to go along with changes (and those that were not left the business or took redundancy). Looking at these two cases comparatively, CS1 is a fairly low-skilled business, whereas CS2 employees highly skilled and knowledgeable workers, which is perhaps attributable to this difference.

In CS3 and CS4 culture both enabled and hindered transformation, and in both the barriers came from the culture that existed when the new owners took over. The MDs in CS3 and CS4 worked to change the respective cultures and succeeded in doing so, thus the culture became an enabler to subsequent changes. Culture was considered to impact positively on the process in these cases, as employees participated in changes and took responsibility to implement them and feedback results.

Organisation demographics

Five different aspects of organisational demographics were identified as having an impact on the content and process of transformation in the cases. Firstly, the size of the business (in terms of employee numbers) was considered a barrier in CS1 as has been mentioned previously in terms of the lack of human resources to fully implement and embed changes, as well as the need for the OD to perform a number of different roles in the business, which contributed to a lack of leadership during the transformation. In CS2 the expansion of the workforce by around 40% in just two year was a major barrier to attempts to improve operational processes, and the new process proposed by the product strategy group. The instances of redundancies, however, removed this barrier and returned the workforce to a more manageable size and more flexible to implement changes quickly when they needed to. In CS3 the removal of those employees who were considered the largest barriers had a positive impact on the subsequent changes that were made. What permeates all the cases, but was not explicitly discussed by any interviewees (although implied in CS2), is the fact that the organisations are SMEs, enabling them to make changes quickly, i.e. their small size made them flexible. In each case there was no need to formalise proposed changes into cost benefit analyses; decisions were made quickly due to high involvement of the MDs and loose decision making and communication structures. CS1 is a slight exception to this in that the shareholders had to be persuaded on any decisions regarding capital expenditure, as would be the case in a large organisation, however the MD and OD were given autonomy for the most part. This flexibility was discussed by the interviewees of CS2 when explaining the

impact of the huge leap in employee numbers and the negative impact this had on communication, training, general administration and process management.

The second organisational characteristic identified was that of the age of the companies. This factor was only evident as impacting on CS1 and CS3. CS1 is actually the youngest of the four cases, but this was considered long enough to bring inertia to the organisation in terms of not wanting to change the status quo. In this case, the impact of the age of the business is closely linked to the culture. CS3 is the oldest of the four cases, and is in fact one of the oldest manufacturing companies in Scotland and the age of the business was a barrier to transformation in the same way as it was for CS1, again tied closely to the culture factor. Although not coded as an influencing factor, a similar situation existed in CS4, with employees stuck in their ways and often heard saying "but that's the way we've always done it", but the new MD would not stand for this attitude, therefore did not consider it as a barrier to any changes as it was quashed almost immediately.

The location of CS1 and CS4 are considered to be enablers to the respective transformations. CS1 is geographically protected from overseas competition since Scottish whisky must be bottled and packaged in Scotland. In terms of the physical location of the factories, both are located close to major transport routes, and the bottling site is in the same industrial estate as one of the company's main customers, thus enabling it to provide the close customer contact and focus on which it is trying to compete. CS4 serves the oil and gas, nuclear and aerospace industries which are clustered around the Glasgow area, and across Scotland. Therefore, the business is close to customers and so understands their needs, which led to investment in new machining capability, and can provide a rapid turnaround of parts.

The remaining organisational characteristics of ownership and structure were only evident as impacting on single cases. The fact that the owners of CS1 are not involved in the daily operation of the business was considered a barrier to change as they did not fully understand the business and the MD and OD had to persuade them to make any investments. Conversely, it was also seen as an enabler as the experience and knowledge of the shareholders provided expertise that did not exist within the management team. As with the characteristic of size, implicit to the other three cases is the fact that they are family owned and managed businesses, which has already been suggested as influencing the transformation of these companies in terms of the longer-term view of the MDs and drive and determination to ensure the business is a success. In CS2 the structure of the business around a number of business units or value streams was considered a barrier to the changes proposed by the product strategy group, as well as operational process improvements as each business unit was in competition with each other and communication was poor. Once the structure changed to a directors structure that was organised functionally across the business units this barrier was removed.

Additional internal factors

Five additional internal contextual factors were proposed from the within-case analyses, evident in individual cases. The transformation of CS3 was affected by the increased market share the business began to win, as it provided resources for investment in new machine capability and new product development. The introduction of coloured bowls, coded as new product introduction had a huge impact on the business, again in terms of resources for investment and exposure of the company to new customers. Finally, the acquisition of a competing manufacturer allowed the business to expand its export sales, building brand awareness and provided more resources for investment. The quality issues with the CD products were traced to a third party supplier of software code, and large amounts of resources were spent trying to get this code from the supplier and rectify the problems it was causing. This contributed to the decision of the business to move to open source

providers and bring as much of the supply chain as possible in house. In CS4 issues with quality and reliability on the shop floor led to many changes; investments were made in automation on the machines, the development of the bespoke production control system was fuelled by the need for operators to have complete transparency of the parts they are machining, training was provided to ensure operators understood how to read design drawings and how these translated into numerical codes for the CNCs, and the company went so far as to go into partnership with one of its main machine suppliers to standardise the control systems in order to minimise human error. The nature of this business is such that precision is key and tolerances are tight, hence the importance of quality as a factor. The final additional factor proposed is communication. In CS1 the lack of communication was considered one the main barriers to transformation, and attributed to the fact that the culture of the business did not change.

Summary

The internal factors identified in the conceptual framework were evident as impacting on the transformation of the four cases. Within the organisational characteristics factor, the size of the business in terms of number of employees was most significant to the cases under investigation, but other demographic factors were also evident; location, age, ownership, structure. Additional factors evident as impacting on the transformation of the cases were; quality, communication, new product introduction, market share, and acquisition. To generalise about the positive or negative impact of the internal factors is not possible since it is specific to the case in question, however the individual discussion of these impacts can be found in Chapter Five.

6.4.2. External context

Table 6.5 summarises the impact of the external contextual factors on the content and process of transformation in each case. The discussion thereafter elaborates on the classification of the factors as enablers, barriers, both enablers and barriers, or had an impact in some way that could not be classified as either positive or negative. Where the cell is blank, this factor was not considered to have an impact.

Competition

Competitors only had an impact on the transformation of two of the four cases, and as would be expected this was negative. For CS1 there is a constant threat of new entrants in the co-packing industry as it is relatively easy to set up such a business. Consequently, customers are drawn to these new players who offer a lower price than CS1. This had a negative impact on the customer focus strategy, as customers failed to see how customer focus was better for them than a lower price and so switched service providers. This factor also impacted on the decision to move away from co-packing as the core service offering of the business. In the case of CS3, the biggest bowls manufacturer when the new owner bought the business was an Australian company who was very close to the governing bodies of the sport. When CS3 attempted to break into the Australian market (which is the biggest bowls market in the world) and lobbied to lower the tax rate that was preventing this, the competitor lobbied to keep it the same. When CS3 introduced coloured bowls and had to persuade the governing bodies to change the rules to allow them in competitions, the competitor lobbied against this too. The perseverance and personality of the owner is attributed to CS3 not letting the competitor stand in the way of the company growing.

Table 6.5 – Summary of the impact of external context on the content and process of transformation

		Competition	Market	Industry sector	Customers	Suppliers	Regulation & legislation	PESTLE - political	PESTLE - economic	PESTLE - social	PESTLE - technology	PESTLE - legal	PESTLE - environmental	Collaboration
CS1	Content	x	x	/	√				x	√x				√
CS2	Content		√		x	/								
CS3	Content	x		x	√		√x			√				√
CS4	Content		√		√				√		√			
CS1	Process	/	/	/	/				x	x				/
CS2	Process		/		x									
CS3	Process	/					/							
CS4	Process				/						/			

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Market

The volatility and general characteristics of the co-packing market were a barrier to the strategy change desired by CS1 as well as the attempted cultural change; co-packing is seasonal and relatively unpredictable, thus CS1 relies on agency staff at short notice to cope with busy periods and so attempting to establish set behaviours and working practices for workers who are continuously changing or not at the site for months at a time is difficult for the company. The changing customer expectations in terms of music players forced CS2 to rethink its product development strategy and in doing so enabled the business to re-establish itself as a technological leader in the market. At CS4 the decline in the automotive industry actually enabled the transformation as it pushed the business to focus on other more lucrative markets and in turn expand the competencies of the business to serve these customers. The market trends in CS1 and CS2 had an impact on the order of the content changes.

Industry sector

In CS1 the culture of the whisky industry influenced the networking behaviour of the OD which in turn led him to believe that the company should be customer focused and move towards contract bottling as a service offering. The fact that the bowls sport is regulated by a fragmented group of governing bodies was a barrier to changes that CS3 wanted to implement, most significantly the manufacture of coloured bowls and sale of coloured peripheral items such as shoes, t shirts and trousers. Time was the issue, as each body had to be approached and asked for approval for using the products in competitions under their jurisdiction. There was no evidence of industry sector impacting on the transformations of CS2 and CS4.

Customers

As one would expect, customers were highly influential in the transformations of each case. In CS1, CS3 and CS4 this factor was considered an enabler; the customer who approached CS1 with a proposal to expand its contract bottling capability set in motion a chain of events that led to this new value stream being established in a dedicated factory and becoming the core service offering of the business. In CS3 customers quickly bought into the idea of using coloured bowls and peripheral equipment, most significantly the Scotland team who played a televised event in Australia using the first set of coloured bowls ever used in competition. This helped to persuade the legalisation of the bowls and thus enabled CS3 to grow its market share worldwide. The high precision demands of customers, coupled with demands for more sophisticated machining capability led to investment in automation, the production control system, new machines and an expanded factory to house them. In the case of CS2, customer behaviour was a barrier to transformation. The partnership with the luxury car manufacturer actually proved to be detrimental to efforts to improve processes and achieve the new product strategy as fulfilling this contract consumed a high percentage of human resource and was quite inefficient operationally. In each case, customers impacted on the order of content changes, and in CS2 the factor was considered to negatively impact the management of change, specifically when the business lost the two major contracts and was in crisis.

Suppliers

This factor was only evident as impacting on the transformation of CS2; the issues with the CD products were traced to bugs in software code that came from an overseas supplier who refused to give CS2 the source. This resulted in CS2 wasting time trying to recreate the code themselves in order to fix the problem and contributed to the decision to reduce reliance on suppliers as much as possible. It did not directly impact the transformation but was significant, hence is considered neither an enabler nor a barrier.

Regulation & legislation

CS3 was the only case where regulation and legislation was considered to impact on its transformation. This factor is considered both a barrier and enabler; initially the high export tax rate prevented CS3 from competing in Australia, but once this was lowered it became an enabler to the company entering this market.

PESTLE factors

Three of the six PESTLE factors were significant in the transformations of the cases. The economic downturn in the past few years was a barrier to CS1 becoming a customer focused business as customers began to bring co-packing work in-house and so custom was sought from any available source to ensure the business did not collapse. Interestingly, the same factor has proved lucrative for CS4. Many of the company's competitors have gone out of business meaning they have increased orders, and also a high waiting list for their apprenticeships, so can choose the best students. In CS1 the influx of overseas workers has proven both useful and detrimental to the business. Positively, it has provided the business with a pool of enthusiastic and hard-working employees who are not unwilling to partake in such low-skilled work. On the other hand, many of them do not speak good English and so attempts to implement standard working practices was considered difficult. In CS3 the decline in popularity of bowls has spurred it on to develop new products that will entice a new generation of players, hence it is considered as an enabler. New developments in materials for the oil and gas and aerospace industries, was used as an enabler for CS4 to further differentiate itself from its competitors by investing in new equipment and develop competencies in machining these materials with the greatest precision.

Additional external contextual factors

One additional external factor is proposed as evidenced in CS1 and CS3. Collaboration was a significant enabler to transformation in both cases; in CS1 the partnership with a customer to install a bottling line was the beginning of the development of this core value stream. At CS3 the new owner realised early on that if the company was to survive, competitive players would have to use the brand in order to demonstrate their confidence in the product. Therefore, convincing a successful international player to collaborate with CS3 in developing a new product and using it competitively was pivotal in the turnaround of the business.

Summary

Of the external factors suggested in the conceptual framework, customers and market had an impact in the majority of cases. Industry sector, competition, economics and social factors were evident in two of the four cases. The other external factors only had an impact on individual cases (regulation & legislation and suppliers), and for political, legal, and environmental factors there was no evidence in any cases of these impacting on the transformation. The additional external factor of collaboration was evident in two of the four cases and so is proposed as an addition to the conceptual framework. To generalise about the positive or negative impact of the external factors is not possible since it is specific to the case in question, however the individual discussion of these impacts can be found in Chapter Five.

6.5   Summary

Figure 6.3 illustrates the findings from the cross-case analysis mapped onto the conceptual framework proposed at the end of Chapter Four. As before, no shading represents lack of evidence from the cases, grey shading shows agreement with the construct and black shading proposes an additional element. Further, the number of cases showing evidence for each construct is displayed in the diagram in parentheses.

The key findings from this chapter are as follows:

- The stimulus for organisational transformation in the manufacturing SMEs in this sample was either a change in ownership or leadership (CS1, CS3, CS4), or new technology and changing customer expectations (CS2).

- The content elements identified in the conceptual framework were evident in the cases, and five additional elements are proposed; ownership or leadership, management team, product/service portfolio, operating model, and value streams.

- The process of transformation generally follows the theory of punctuated equilibrium, however one case followed a contingent approach (CS4).

- The order of content changes is a function of the individual case, however commonalities across the cases suggest that new ownership will lead to a change in vision and/or strategy; that after changing the vision and/or strategy, business processes need to be reengineered and investments are required. Where employee behaviour changed, it occurred following many other content element changes.

- When in crisis, manufacturing SMEs tend to focus on changing 'hard' or more tangible content elements, and to transform more quickly than those in more stable environments.

- The management of the content changes showed evidence of steps suggested in literature, however data in this area was scarce. In general, the planning, implementation and review of changes was emergent, top-down and contingent on the situation; at times participation was encouraged whereas other changes were enacted by a more direct approach.

- The transformation of the cases was influenced by their particular internal and external contexts. In general, the internal factors identified in the conceptual framework were evident as impacting on the transformation of all cases, and specifically the size of the business within the organisational demographics factor. Additional internal factors of quality, communication, market share, new product introduction, and acquistion is proposed.

- The external factors of competition, customers, market, industry sector, economics, society and technology were shown to impact on the transformation of the cases. An additional external factor of collaboration is proposed.

- Generalising on the positive or negative impact of the contextual factors across the cases is not possible since this impact was dependent on the individual cases. This will be further explored in answering RQ3 in Chapter Seven.
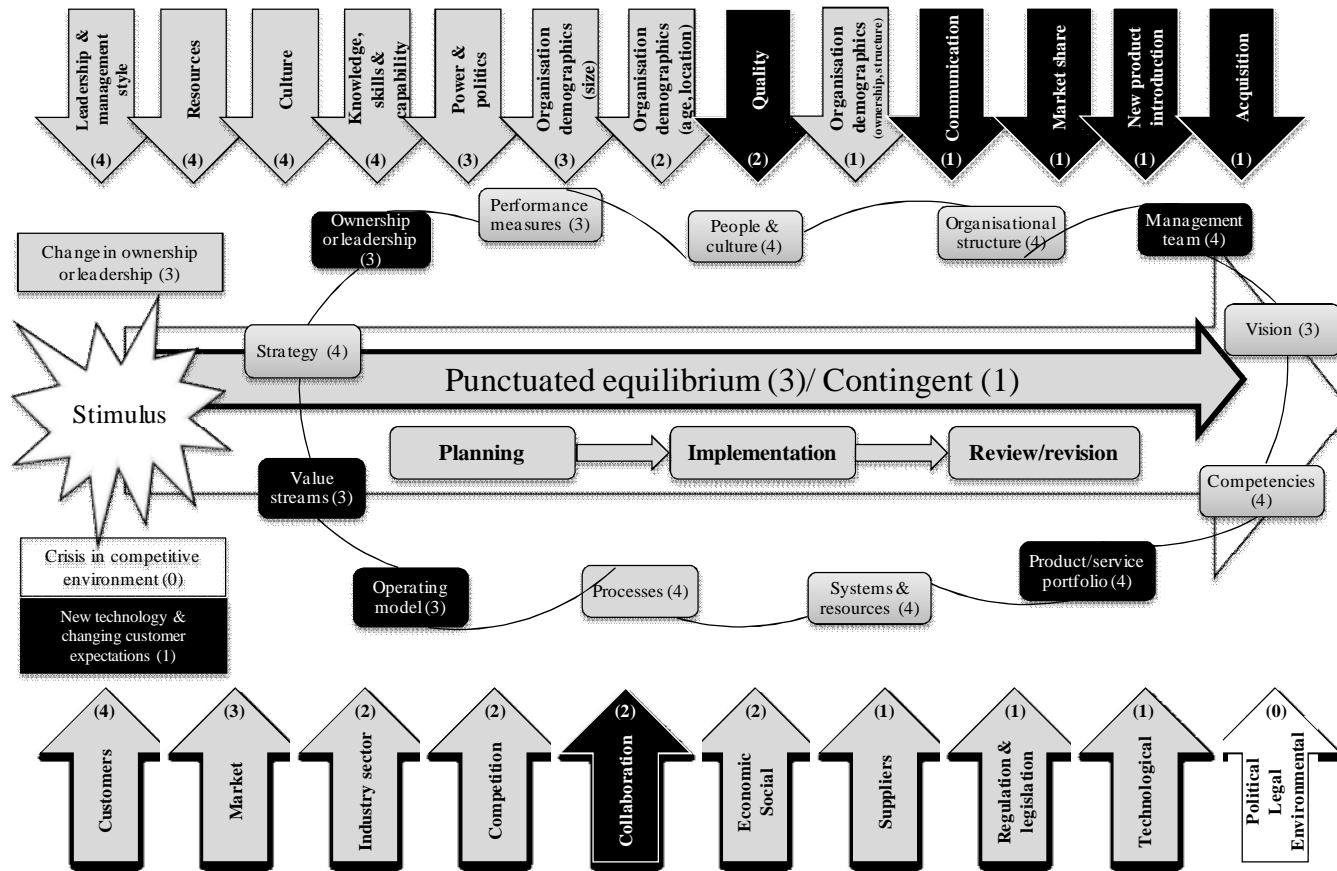
Figure 6.3 – Empirical framework of organisational transformation in manufacturing SMEs

Chapter 7 -   Discussion

The aim of this chapter is to present a discussion of the findings from this research in the context of the research questions posed. Sections 7.1 to 7.3 begin with a statement of the research question and subsequent discussion, concluding with a summary of the answer. Section 7.4 then presents a series of propositions emerging from the study.

7.1   RQ1: How do manufacturing SMEs transform?

This work has approached the research question by assuming that organisational transformation can be understood through the investigation of its content, context and process (Pettigrew, 1987), and that the constructs of content and process describe how transformation occurs. As introduced in Chapter Two, the researcher believes that it is also necessary to understand why the transformation occurred, i.e. the transformation stimulus, in order to fully understand how it happens.

Organisational transformation occurs when a decision is made to make a change to the business as a result of some sort of stimulus arising from the internal or external environment of the business. The initial decision to change may or may not be to the extent of wanting to 'transform' the business, it can simply be an incremental adjustment or adaptation. For the cases under investigation, the transformation of three was stimulated by a change in ownership; for the fourth it was changing customer demands and new technology. Of the three new owners, two had a long-term vision of transforming the business. The third envisaged short term improvements to maximise return on investment. CS2, whose transformation journey began with the introduction of new CD products, did not set out to transform the business in order to meet this new customer demand, but this set the wheels in motion. SMEs are commonly believed to be highly reactive and the external

environment (Badri et al, 2000; O'Regan et al, 2008), and in this study two of the four cases were faced with a crisis and had to react by making changes in the business. However, this occurred during the transformation journey, and was not the trigger for the transformation, suggesting that these SMEs are masters of their own destiny and have characteristics that enable them to dictate their own direction.

This finding raises an interesting question about how to scope organisational transformation – i.e. how do we define its start and end points. The transformation of these two cases could have been investigated from the point that the crisis occurred, and hence the stimulus would have been stated as such, however there were changes made in the business prior to this that underpinned the subsequent changes and enabled transformation. For example, in the case of CS2 the loss of major customers led to numerous changes in order to prevent the business from collapse, including strategy, employee numbers, roles and responsibilities, processes, systems, and products. The new product range, process reengineering, redefinition of roles and responsibilities and system implementation had all begun before the crisis occurred; the crisis simply made them happen much faster. This would suggest that studies focusing on crisis-induced change and transformation may be neglecting the impact of prior changes that were crucial in supporting the changes needed during turbulent times. This supports the suggestions that any study of organisational transformation needs to take into consideration the history of the business in order to understand the phenomenon (Pettigrew, 1987; Dyck, 1997)

For all the cases, the end point was taken as 2009 (the time at which the interviews took place). Had the interviewees taken place in 2010 or 2011 this may well have been the end point and the transformation analysed over a longer period of time, with most likely more changes occurring, thus one could deduce that the transformations of the case studies are incomplete. Indeed, a recent conversation with the MD of CS2 revealed imminent plans for an overhaul of the company's infrastructure. Scholars

have raised this issue of whether organisational transformation does indeed have an end point or if it is ubiquitous (see Dyck, 1997 for such a debate), which links to the various theories of transformation and change outlined in Section 4.3. Three of the cases in this study were described as following the punctuated equilibrium theory of change (Gersick, 1991; Romaneli and Tushman, 1994), whereby they were engaged in continuous incremental change and adaptation to the shifting environment, but this was disrupted by events that caused a revolutionary change to the business. In CS1 these punctuations were in the form of losing a major customer and the expansion into contract bottling. In CS2 the introduction of the new product strategy and loss of major customers disrupted the incremental evolution of the business. In CS3 the new owner immediately disrupted the status quo by changing working practices and product strategies. Subsequently, the introduction of coloured bowls resulted in another step change in terms of production planning, process and supply chain management.

Punctuated equilibrium theory would suggest that each of these punctuations was a transformational change in the business (Dyck, 1997) however this does not fit with the definitions of transformation discussed in Section 2.1 and the outcomes of these punctuations in the case studies. Perhaps, since the cases under investigation are SMEs, the number of organisational elements that change because of a disruptive event is less than that in a larger company (upon which the theory is based), or indeed that what is seen as a disruptive event in an SME is considered a minor disturbance in a large organisation. In this study, the researcher let the interviewees decide when the transformation began and ended; clearly the beginning was constrained by the tenure of the employee in the business, however since multiple interviews were conducted in each case, it was possible for the scope to be defined according to various viewpoints. In each case, the interviewees did not consider that there was an end-point to transformation, and questions were asked about the future plans for the business (outlined in case study reports, Appendix 2). For this reason, each transformation timeline ends in 2009 when the interviews took place. What may

be the case is that manufacturing SMEs continuously change and that retrospectively it is possible to put a boundary around a series of changes and label them as a 'transformation' when there has been a radical shift in vision, goals or direction. Over the course of an organisation's history, it will be possible to segment the development path into a number of transformations, how many perhaps dependent on the volatility of the market in which it operates or the age of the business. As mentioned above it seems that the crises in CS1 and CS2 made their transformations happen faster, so one could deduce that the dynamics of the business environment impact on the frequency of transformation. Clearly, this proposition requires further investigation to validate. For a single episode of transformation as investigated in this study, it would appear that the theory of punctuated equilibrium describes how this occurs in manufacturing SMEs, but that the punctuations are not transformational in their own right; they contribute to the various changes made to adapt to the business environment in order to achieve the vision or the goals of the business.

Considering the content of transformation, manufacturing SMEs transform by changing various elements of the business over a period of time. The focused literature review suggested a number of content elements; vision; strategy; organisational structure; people and culture, competencies, systems and resources; processes; and performance measures. These elements were evident as changing during the transformation period in each case, with the exception of CS1. Attempts were made to change the behaviour and overall culture of the business to one where employees were participative in continuous improvement and willing to give more than just their eight hours to get the job done, but this was never achieved. A number of reasons have been discussed in Chapter Five, mainly due to internal contextual factors. Also, the business attempted to introduce systematic performance management and new measures but failed due to similar reasons. The vision of the business was determined not to have changed, however this is due to the lack of evidence regarding the existence of a vision at all from the interviewees. The researcher believes that the owners began with a vision to make as much money from

the business as possible then sell it on, and as a result of various factors have changed this vision to focus on growing the contract bottling value stream, therefore although this element was not evidenced in the case, it is assumed that it did change. Referring back to the definition of transformation proposed in Chapter 2 - *"the change in state of an organisation as a result of a series of changes in key organisational elements, including strategy, behaviour, structures, and systems"* one could argue that CS1 did not actually transform, but the fact that attempts were made to change these various elements (and that in all likelihood the vision of the business has changed) may suggest that the transformation is not as complete or successful as it could have been. The question of 'success' in transformation has not been addressed in this work, but may be worth exploration in future studies.

In addition to the content elements identified in the literature, the analysis of the cases has suggested a number of additional elements that describe how transformation occurs; ownership or leadership, management team, product/service portfolio, operating model, and value streams. As noted in relation to transformation stimulus, three of the four cases experienced a change in ownership, and the fourth had a change in leadership (the son of the founder becoming MD in CS2), which contributed to the new or transformed state of the business. Since this was the stimulating factor in the majority of cases, it would seem that changing this element is critical to transformation, perhaps in terms of bringing someone with new ideas or skills in order to turn the business around (e.g. CS3), providing a different way of thinking about the business (CS4), or simply to improve revenue (CS1). In the case of CS2, the eventual new leader of the business played a pivotal role in bringing the business to where it is today. In the case of large companies, new CEOs are brought in when revitalisation or turnaround is required in the business (Romanelli and Tushman, 1994; Tichy, 1996; Boeker, 1997; Greiner et al, 2003), and it can be said that the same is true in the case of manufacturing SMEs. For three of the cases, the former owner did not have the desire, motivation, or ability to bring the company forward, and it took someone new to come in, see the potential in the business, and

overcome the organisational inertia to begin making changes towards the new vision. Similarly, in each case the composition of the management team changed through a combination of promoting existing staff members and hiring new employees with particular skills and experience. This impacted on the transformation of the business either by expanding the competencies and thus ability to pursue alternative strategies (CS1, CS2), or supporting the MD in making changes (CS3, CS4).

The expansion of product or service portfolio is also an important content element of transformation that was not identified in the conceptual framework. The reason why organisations change and transform is to remain competitive by adapting to changing environments, and part of the environmental shift was new technology and customer behaviours. A common theme across each case was the introduction of a new product or service offering to the customer which has shaped the way in which each business operates. CS2 competes on innovation and technology leadership, thus it is expected that the business will introduce new products continuously in order to maintain its competitive edge. This would not be expected of the other cases, thus suggesting that regardless of industry, transforming the business involves new product or service introduction.

The remaining additional content elements identified by the empirical analysis are more of a suggestion to deconstruct 'strategy' into some of its constituent parts. The term 'strategy' means different things to different people, and in particular SMEs are considered to under appreciate the scope of what 'strategy' actually encompasses (Beaver and Prince, 2004). In the context of this study, the transformations of the cases included strategic change (taken in its general meaning of business goals, objectives, and plans for achieving them), as well as changes in operating model and value streams. The researcher is cautious about proposing these as content elements in their own right, as it begs the question "what about all the other constituents of strategy?", and rightly so. Three other constituents were evident as changing in CS1

but not in the other cases, however they are likely embedded within other changes and were simply not explicitly discussed during interviews. Considering the question driving this discussion – how do manufacturing SMEs transform? – it is sufficient to include 'by changing their strategy' in the answer, without going into the myriad of ways in which this could be done. What is pertinent, however, is to ensure that the definition given to this within the transformation framework is according to that used in this investigation, as in Table 4.1.

Further than changing individual elements of the organisation, it is suggested that organisations transform by aligning these changes together towards an objective, goal or overarching vision. The content models presented in Section 4.2 are constructed as interlinking parts, implying the tensions and constraints between them – changing one will impact on the others – and generally vision is presented at the centre or core of the model. Apart from CS4, the transformation of the cases did not occur by defining an end point or new organisational state and making changes to bring the company towards this. Each had a vision in mind, be it in the head of the owners (CS3), explicitly defined and communicated (CS4), or somewhere in between (CS1, CS2) but each was also influenced by internal and external events that altered strategies or impacted on the desired path. No matter how defined the goal was or whether it was explicitly tied to the changes being made, the commonality across the cases was that each change was made with consideration for the raison d'être of the business. Thus, it is appropriate to conclude that individual content changes comprising transformation are executed to achieve a particular goal or vision.

The order in which the changes happen is dependent upon the transformation stimulus, the outcomes of the content changes themselves, as well as the internal and external context of the business. A set formula for how manufacturing SMEs transform is therefore not possible to prescribe, however an interesting pattern

emerged from the cross-case comparison of the order of content element changes. Classifying the elements as 'hard' or 'soft' as per Table 4.1 suggests that when a business is in crisis, it focuses on changing hard or tangible elements, and that softer elements are neglected, or unnecessary to change until the business is stable (relatively). This is contrary to the majority of the change management literature which emphasises softer issues when dealing with change, and agrees with the findings of Sirkin et al (2005) who attribute some change failure to the loss of focus on 'harder' elements. In the context of organisational transformation in manufacturing SMEs, this emerges as a proposition for future study.

The discussion thus far has focused on what the transformation looks like in terms of organisational element changes. The process of transformation has been touched upon through the discussion of punctuated equilibrium, which describes the macro way in which manufacturing SMEs transform. Considering the micro level, or the nitty gritty of change, the empirical findings in this study do not provide a detailed view of how change occurs. An attempt was made to determine whether or not the process steps identified in literature were carried out for each content element change. This approach has been employed previously in the investigation of the transformation of Highland Spring (Bititci et al, 2010), where Kotter's 8-step change process (Kotter, 1996) was used as an organising framework for each wave of change. The analysis provided useful insights into how each change was managed and concluded that the framework could be useful to successfully manage change. The study was conducted using a longitudinal case study methodology, thus data on how changes were implemented was collected in real time. In this study, the data is retrospective and this has proven a disadvantage in trying to understand the process of individual changes, particularly those that occurred some years ago. On asking interviewees to describe how changes were implemented, answers were unspecific and based on assumptions, especially since in many cases it was not the actual interviewees who had implemented the change. Common themes did emerge from

the interviews within cases, however, which allowed for general characteristics to be determined, and these are discussed below.

A common theme emerging from the cross-case analysis is the evidence of both emergent and planned changes, contingent on the particular change. Some were viewed as finite projects with defined start and end points and a set of specific deliverables. Others were reactions to uncontrollable events that required quick implementation. Of those that were planned, the process appeared to be more systematic, with communication lines open and progress monitored (e.g. ERP implementation in CS1, new product strategy implementation in CS2, quality KPIs development in CS3). The exception is CS4 where the majority of changes seemed to follow a more planned approach as a rule, rather than the exception.

In CS2, CS3, and CS4 the determination of those leading change made it happen. Despite grumblings from other managers and employees these leaders had confidence in their chosen strategy and persevered. In each case effort was made to communicate reasons for change, demonstrate the benefits of the change to employees in order to get buy-in and to make subsequent changes easier by building trust. This aligns with many of the change models which cite strong leadership and quick-wins as important elements of the process (e.g. Kanter et al, 1992; Kotter, 1996; Mento et al, 2002). In the case of CS1 it seems that the lack of leadership, communication and general employee awareness of business goals and objectives prevented the cultural and performance measurement changes attempted, as well as made the implementation of any change a painful process. The difference may lie in the ownership of the company; the fact that CS2, CS3, and CS4 are family-owned would suggest that they have more invested in the business in terms of personal wealth and family legacy, and so are likely to be heavily involved in ensuring business success. Comparing this to CS1 where the shareholders are not involved in the running of the business, the change leader does not have so much at stake.

In some cases such a direct approach to change is necessary, e.g. in CS3 the initial changes were imposed upon employees until the business was stable enough to spend time winning hearts and minds. In CS2 when the company fell into financial difficulty the senior management team made daily decisions that were also imposed on employees, and this was necessary for survival. Now that the business is stable again, participation and communication are evident. The variation in how changes are managed concurs with the work of Dunphy and Stace (1993) who found that organisations choose different approaches to change based on the particular situation.

Summary

In summary, the question "how do manufacturing SMEs transform?" can be answered in the following statements:

- Manufacturing SMEs transform when a decision is made to change the organisation in some way because of a stimulus from the internal or external environment; often this is a change in ownership or leadership which brings with it a fresh perspective on the business and how it operates.

- Manufacturing SMEs transform by changing a number of organisational elements; vision; strategy (including the components of value proposition, value streams, operating model, profit formula, and positioning); organisational structure; people and culture, competencies, systems and resources; processes; performance measures; ownership or leadership; management team; and product/service portfolio.

- These organisational elements are aligned to achieve the vision or objective of the manufacturing SME, although this alignment may not be explicitly communicated.

- The macro process through which manufacturing SMEs transform can be described by the theory of punctuated equilibrium, where the organisations transform by continuously making a combination of incremental and radical changes to adapt to the business environment, in order to achieve a vision or goal.

- The micro process of transformation in manufacturing SMEs is contingent on the particular organisation, change, and person implementing it, however common characteristics are strong leadership, open communication, and adapting the approach to the situation.

- During a crisis, the focus of the transformation is on 'hard', tangible content elements as opposed to 'soft' intangible elements, until the business returns to stability.

- Manufacturing SMEs that experience a crisis during the transformation period transform more quickly than those who do not.

- It is proposed that manufacturing SMEs are continuously changing, and that an organisation will go through a number of transformations in its lifetime, each defined by a radical shift in the vision, goals, or direction of the business.

In conclusion, at a high level there are a number of generic content and process elements describing how manufacturing SMEs transform, but when you start to look into how these fit together, when they happen, how long it takes, and so on, it appears to be very much dependent on the specific situation of the business and the characteristics of those involved. Therefore, a prescriptive recipe for transforming manufacturing SMEs is not proposed. What this discussion does provide, however, is an indication of the key organisational elements that need to be aligned if wishing to transform, an indication that the evolutionary path of manufacturing SMEs follows the theory of punctuated equilibrium where these organisations adapt to the changing

business environment, and the proposition that a contingent approach to managing individual content changes is most appropriate, underpinned by strong leadership and open communication. The question of context and how this influences the transformation behaviour of manufacturing SMEs is considered in the following research question discussions.

Weaknesses in answering this research question

- There is uncertainty as to the scope of transformation and whether it can be defined as having a beginning and end. The approach taken in this study was to let the interviewees determine the scope of the transformation.

- The answer provided to the question provides a broad understanding of how manufacturing SMEs transform, but does not suggest how manufacturing SMEs *should* transform since the concept of success was not considered in this study. Future work in the area should consider what success means in the context of transformation in manufacturing SMEs.

- The investigation of the process of transformation through a retrospective case study method has proven inadequate in this study. As suggested by scholars in the field, a longitudinal approach would be favourable in order to accurately capture the behaviours and practices of those planning, implementing and reviewing individual changes in the transformation in real time.

7.2 RQ2: What are the internal and external contextual factors affecting organisational transformation in manufacturing SMEs?

Internal contextual factors

Six internal contextual factors were identified from the literature review as impacting on the transformation of manufacturing SMEs; leadership & management style; power & politics; knowledge, skills & capability; resources; culture; and organisational demographics. Each was evident as impacting on the transformation of the cases, specifically the size of the organisation in terms of number of employees within the demographics factor. Other organisational demographic factors were identified in individual cases, but were not evident across the cases, namely location, ownership, structure, and age. The cross-case analysis concluded that the additional internal factors of quality, communication, new product introduction, market share, and acquisitions were significant. Communication was considered important in CS1 as it was lacking for the most part and was a barrier to the sustainability of changes. In CS3 the increased market share provided much needed resources for the business to invest in new machinery; this could have been coded as 'resources' however this was considered more an output of the contextual factor in this instance. The same is true of new product introduction, which had a significant impact on the subsequent activities in the business. On a similar vein, acquisitions have enabled CS2 to increase market share, have greater control over the quality of some products, and increased revenues to allow for further investment. It is important to state here that lack of commonality across the four cases in the study does not mean that the contextual factors are not important to the transformation of manufacturing SMEs, as has been touched upon in the description of their impact.

External context

The conceptual framework proposes seven external contextual factors that impact on transformation in manufacturing SMEs; competition, market, industry sector, customers, regulation & legislation, suppliers, and PESTLE factors. The analysis of the four cases suggests that some of these factors do not impact on transformation, namely regulation & legislation, suppliers, political, legal, and environmental factors. As above, this is generalised to the majority across the four cases. Although the latter three were not evident in any of the four cases, regulation & legislation impacted upon CS3 while suppliers caused major headaches for CS2 when trying to solve issues with CD products. In addition to those identified in the conceptual framework, the analysis of the cases suggests that collaboration is an external factor that influences transformation. In the two cases in which it was evident, it proved significant in the future direction of the business. Within the transformation and change literature the researcher did not find any discussions on the impact of collaboration on transformation. The collaboration literature was not examined as part of the study, however in consultation with colleagues who have published in the area (e.g. Bititci et al, 2004), it seems that collaboration has not been explicitly linked to transformational change. Of course, collaboration is widely considered to be an enabler for innovation in SMEs (e.g. Davenport et al, 1999), and the edges between innovation and change in terms of its outputs are blurred, therefore the body of literature on innovation in SMEs may offer some insight. Clearly, the proposition that collaboration is an important contextual factor for transformation in manufacturing SMEs requires further research.

Summary

The internal and external contextual factors that affect organisational transformation in manufacturing SMEs are summarised in Table 7.1 below, ordered according to the number of cases in which they had an impact (stated in parentheses). The number of

cases does not imply a statistical significance, rather it demonstrates those factors that were more common across them.

Table 7.1 – Factors impacting on transformation in manufacturing SMEs

Internal factors	External factors
Leadership & management style (4)	Customers (4)
Knowledge, skills & capability (4)	Market (3)
Resources (4)	Competition (2)
Culture (4)	Industry sector (2)
Power & politics (3)	PESTLE – economic (2)
Organisational demographics (size) (3)	PESTLE – social (2)
Organisational demographics (age) (2)	Collaboration (2)
Organisational demographics (location) (2)	PESTLE – technology (1)
Quality (2)	Suppliers (1)
Organisational demographics (ownership) (1)	Regulation & legislation (1)
Organisational demographics (structure) (1)	PESTLE – political (0)
Market share (1)	PESTLE – legal (0)
New product introduction (1)	PESTLE – environmental (0)
Acquisition (1)	
Communication (1)	

The fact that some factors are more prevalent across the cases than others suggests that there may be a higher order set of contextual factors that are more universal than

a lower order set. A broader study of contextual factors impacting on transformation in manufacturing SMEs would confirm or deny this proposition. For the purposes of this study, only those factors identified in at least two cases are included in the framework, but on proposing the framework as a description of organisational transformation in manufacturing SMEs it will be made explicit that the contextual factors do not represent an exhaustive list. Considering these factors as isolated constructs only tells half the story; the discussion on the answer to the third and final research question provides more in the way of explanation and meaning in relation to the context of transformation, i.e. how the factors impact on the content and process.

Weaknesses in answering this research question

- The factors identified above do not provide an exhaustive list of possible factors that impact on organisational transformation in manufacturing SMEs. If a different sample of cases was investigated it is assumed that alternative factors would emerge as significant. To address this weakness, a broader sample of manufacturing SMEs should be studied.

- Similarly, the study was conducted within the organisational change domain; if it had been carried out using strategy or innovation literature as its foundation some of these factors would have been in the theoretical framework and not proposed as additions, and also other additional factors may have been proposed. It is therefore suggested that the findings presented here be examined with respect to alternative theoretical bases of transformation to further understand the phenomenon.

7.3 RQ3: What is the association between these contextual factors and how manufacturing SMEs transform?

It has been emphasised many times throughout this thesis that the contextual factors are intertwined with the content and process of transformation, and indeed that the content and process are at times contextual factors in themselves as they influence why and how subsequent changes in the transformation journey occur. The contextual factors presented above were analysed within each case according to the way in which they influenced the transformation of the cases; as enablers (having a positive impact on a change), as barriers (have a negative impact on a change), as influential (neither positive nor negative), or as not impacting at all. However, on conducting the cross-case analysis it was impossible to generalise about the association between the contextual factors and the transformation behaviour – by their very nature contextual factors have particular impacts on specific cases.

Internal contextual factors

What can be generalised, however, is the characteristics of the contextual factors and how these impacted on transformation across the cases. For instance, the internal factor of leadership & management style was in general an enabler in CS2, CS3 and CS4. Common characteristics of leadership & management style in these cases are the fact that they are family owned businesses, the owner/leader was heavily involved in the transformative changes, and showed determination and perseverance to achieve goals and objectives. In contrast, leadership & management style was considered a barrier to the transformation of CS1. This organisation is privately owned by a consortium of shareholders who leave leadership to the management team. There did not appear to be the same level of commitment to change, or of someone continuously monitoring and reviewing progress to ensure changes were implemented and embedded. The need for strong leadership is well documented in change literature (e.g. Kanter,et al, 1992; Kotter, 1996; Mento et al, 2002), and specifically in family business literature the influence of the owner is highlighted as

determining the development of the organisation (Chan et al, 2006; Howorth et al, 2006; 233). The approach adopted by both leaders in CS3 and CS4 agrees with the suggestion by Dunphy and Stace (1993) that transformation requires dominant leadership at first to overcome organisational inertia, which then moves to a more participative style once people are on board. This links closely to the internal factor of power & politics, and the findings from this study further support the view. This factor was an enabler to transformation in the three family-owned/managed cases in terms of the power the owner/leader had to make things happen. There was no evidence of this factor impacting on the transformation of the non-family business (CS1).

Having the necessary knowledge, skills & capabilities was, as would be expected, an enabler to transformation and there was evidence of this in each case. Conversely, in CS1 where there were perceived skills gaps, this factor had a negative impact. Thus, this research supports other studies that place importance on knowledge, skills & capability for transformational change (e.g. Todd, 1999). Considering the characteristics of manufacturing SMEs cited in Section 2.2.2, it could be inferred that that these organisations are generally led by technically trained people with limited business or management training, which would be a barrier to transformation. However, in the cases examined in this study, managers with particular functional skills and experience were hired when deemed necessary. In CS2, CS3, and CS4 the decision to do this did not seem to require much thought – expertise was needed and so was sought. The exception was in CS1 where the MD and OD found it difficult to persuade the shareholders to invest in more people, complicated by the volatility of the co-packing market and uncertainty of orders. Now that the business is focusing on contract bottling the shareholders appear more committed to growing the business and have recently employed a number of new staff members with particular expertise.

Similarly, having access to resources necessary to achieve a change is cited as having a significant impact on its implementation (Trahant et al, 1997; Beaver and Prince, 2004). In CS1 the short-term outlook of the shareholders meant that they were reluctant to make significant investments to the business which was a barrier to some of the changes. In all other cases the resources were made available when necessary in order to bring the business towards its goals or objectives. This again could be related to the businesses being family-owned and managed, as in some instances it seemed counter-intuitive to invest; in CS2 when the business became unprofitable after losing two major contracts, the development of the new DS product range continued and was highly resource intensive. The interviewees stated that this was due to the belief that the new products were essential for the long-term survival of the business. This could also be linked to the fact that the son of the founder lead the new product strategy group and the question could be asked whether the investment would have continued if he was not involved. In CS3 the new owner, who had just remortgaged his home to purchase the business, searched for new sources of finance to invest in automated machinery as he recognised the need for this to grow the business beyond short-term cost-saving measures. CS4 was the only case in the sample which had an abundance of resources to drawn on when wanting to invest. Considering this at a general level, it seems that a contingent factor in the transformation of manufacturing SMEs is having access to the necessary resources to enable the changes (whether they are personal reserves or through external parties).

Culture is notoriously difficult to define, and in this study it has been taken to mean 'the way things are done' in the business and the behaviour of employees. Interviewees were asked if they believed the culture of the business had an impact on its transformation and each was able to answer without requesting clarification. In CS3 and CS4 the culture changed during the transformation into something more desirable to the owners, and so the factor was initially a barrier, changing to an enabler when the new behaviours and attitudes were in evidence. In CS3 there is an extreme example of how resistant employees can be to change – although not

unionised the employees went on strike when the new owner tried to enforce new employment contracts. He knew from the outset that he needed to completely reverse the attitudes of his workforce and employed an outside consultant to support him in this. The unofficial strike worked to his advantage as it gave him legal power to enforce his change, but he was keen to prevent such behaviours in the future by removing those identified as 'ringleaders'. As this happened, and the employees realised that it was not the aim of the MD to make their lives miserable, they became more engaged and as the company has evolved the culture is considered to be "healthier". In CS2 the culture of the business changed to employees working together as teams and viewing their work across the process and not just functionally. The previous culture of competing for resources and poor communication across functions was not considered a barrier to particular changes, but fostered a negative atmosphere in general. This was reinforced by the huge growth in employee numbers over a short period of time, which placed structure on communication and decision making that was previously informal but rapid and effective. When the organisational structure was changed, and especially when redundancies were made, the roles and responsibilities of employees were redefined and they worked together across the order fulfilment process. This enabled the management team to empower employees to get involved in continuous improvements and share ideas and information for the benefit of the overall goals and objectives of the business.

In CS1 the culture of the business was a barrier to change, and remained so during the transformation period as attempts to change it failed. The two KTP projects introduced new routines and behaviours, and while they were focused on implementing and monitoring them, the practices of employees changed. However, as discussed before this was not supported by the rest of the management team, nor was anyone given responsibility to embedding changes when the KTP associates completed their projects. The attitude of the workforce is to go to work, do their eight hours and leave, and perhaps this owes to the nature of the job which is low-skilled and monotonous. Further stifling aspirations for a more positive attitude from

employees is the lack of communication and general direction from leaders of the business. Performance results, future plans, and strategic objectives are not shared outside the management team, and at times even outside the shareholders and MD/OD. This leaves employees to speculate about the priorities of the business and its future, especially in turbulent times. When the new bottling site was opened the co-packing staff did not (and still do not) know if the intention is to wind down that side of the business and make redundancies. Its not surprising, therefore, that when changes are attempted employees are reluctant to engage, cynical about the reasons for the changes, and happy not to upset the status quo. Considering this case, despite the barriers in place from the culture of the workforce, transformation has still happened, begging the question of whether it is always necessary to win over employees' hearts and minds in order to transform the business. This relates to whether the transformation is deliberate (i.e. the business has an end-goal) or if its simply the evolution of the business over time. CS1 has arrived at the transformed state having proactively made some changes for productivity improvement but mostly by being forced to change due to events in the external environment in order to remain profitable. In contrast, CS2, CS3, and CS4 have had more deliberate and defined transformation journeys that were not necessarily planned, but where changes were aligned to a vision or goal. Thus, this study is in coherence with others that suggest that an enabling culture supports transformation attempts (Child and Smith, 1987; Todd, 1999) and proposes that cultural barriers will stifle proactive change efforts, but not necessarily prevent a business from transforming.

The number of employees in the business was shown to impact on transformation behaviour in the cases; both CS1 and CS2 were forced to make redundancies in reaction to crises which limited the scope of potential changes that could be made and de-motivated employees. In CS1 the lack of human resource was identified by the customers interviewed as damaging the former close relationships they had, which is the basis on which CS1 believes it competes. In CS2 the increase in employee numbers had a negative impact on working practices, and so the

redundancies were actually an enabler to the reengineering of production processes and eased rapid communication and decision making when it was needed. In CS3 the number of employees reduced slightly following a few targeted redundancies, but this was necessary to remove the major barriers to transformation among the workforce and so had a positive impact on the transformation of the business.

Studies of SMEs suggest that their size enables flexibility and exploitation of new opportunities (Beaver and Prince, 2004), and this is confirmed through the cases in this study. CS1 was able to capitalise on the offer of a customer to collaborate on expanding bottling capacity and the business was organised in order to achieve this in a relatively short period of time. The case of CS2 demonstrates the constraints of being too big, as when the workforce grew to over 300 employees the interviewees noted how difficult it was to work in the creative and innovative way they had before as everything had to be documented and reported to ensure that information was not lost. Previously the design team sat together in an office and talked about developments as they were made, but the expansion meant that such discussions only happened in formal meetings, slowing down the entire process. CS2 is still at the medium end of the SME scale, but is comfortable that the size suits how the business operates. In CS3 production processes were altered to deal with the new material required for manufacturing coloured bowls, which happened virtually over night.

The ability of the cases to be so agile was also supported by the fact that they were not constrained by systems or structures. CS2 and CS4 operate bespoke, in-house production control systems to enable them, to make changes as necessary without depending upon third parties. Also at CS2 the structure of the organisation was changed when it was realised that it was inhibiting the strategy of the business, regardless of the perceived politics this would generate. At CS3 the machines are all customised in some way to suit the way in which the company manufactures its bowls, and again to allow for rapid changes when new products are developed and

need to be tested. The exception to this is at CS1. The implementation of an ERP system was intended to improve efficiency in operations. When the company expanded to a new bottling site, the system was migrated in part but the benefits of it have been lost as it does not exactly match to the requirements of the new value stream.

Other organisational demographic factors were evident in individual cases. One factor that was not explicitly linked to the transformation of the cases is ownership, but as has been discussed many times the fact that three of the businesses are family-owned and managed appears to have influenced the way in which they transformed when compared to the non-family business in the sample. Leadership style in CS1 was weak compared to the other cases, and transformation did not follow any kind of strategic goal or objective, which supports a recent study by Ghobadian and O'Regan (2006) which found that "independent" SMEs, in this case, family owned, more often demonstrated transformational leadership and were more likely to engage in strategic planning and implementation. In CS1 and CS3 the long-established employee behaviours (coded as the age of the business) link to the culture of the business in terms of the difficulty in overturning the status quo, described as 'organisational inertia' by some scholars (Kelly and Amburgey, 1991). Perhaps the coding of these factors as relating to the age of the business is incorrect since they more closely describe the culture of the business, and since these two cases are at the extremes of the age range of the sample, with CS1 being the youngest and CS3 the oldest. A more telling factor may have been the tenure or length of time the employees have been in the business. In CS1 the majority of permanent staff have been with the business over ten years, in CS3 employee tenure is also long, with some employees at the company over fifty years. The staff turnover at CS2 was not discussed, however in CS4 the MD is keen to nurture and develop staff to enable promotion from within the business, and so many employees have been with the business for many years. This was not considered a barrier to transformation, however the retirements of older staff on the shop floor did ease the implementation of new

processes, increased technological sophistication and the encouragement of employee involvement in continuous improvement.

The additional factor of quality proposed at the end of the cross-case analysis was evident in two of the cases (CS2 and CS4), but also had an impact on CS1 albeit not specifically on the transformation. Shortly after moving to the new bottling site a customer discovered a major quality issue with some products, and the batch was traced to one that was prepared during the transition to the new site. This resulted in resources being stretched during an already busy period for the business in order to rectify the issue, as well as the loss of the customer and damage to the brand (since the whisky industry is so close-knit, such stories travel fast). Thus, it seems sensible to propose this as an additional internal contextual factor.

The other propositions of market share, new product introduction, and acquisition were only evident in CS3 and so it is not possible to generalise on this, however they were significant factors for this case and so cannot be ignored as irrelevant to transformation simply because they were not evident in the other cases. The factor of market share could be grouped along with quality under the umbrella term of 'performance' as both as aspects of the performance of the business. This links to the literature describing the stimulus of transformation as poor performance results which was cited as a reason why transformation occurs in the first place (Burke and Litwin, 1992; Boeker, 1997). Communication was highlighted as a specific influencing factor in CS1, and as has been discussed above proved a major barrier in its transformation. Although it permeates many of the other factors such as culture and leadership, it is significant to separate it from these due to its impact on this case. As discussed in relation to RQ2, the factors of new product introduction and acquisition may be 'lower-order' factors and so are not proposed for inclusion in the framework.

Summary of impact of internal contextual factors

The discussion of how internal contextual factors impact on how manufacturing SMEs transform has led to the following conclusions:

- High determination and involvement of the leader is an enabler to transformation in manufacturing SMEs.

- Having people with the appropriate knowledge, skills and capabilities is an enabler for transformation in manufacturing SMEs.

- Transformation in manufacturing SMEs is contingent on access to resources necessary to enact the changes.

- The culture of a manufacturing SME can both enable and hinder its transformation, but it does not necessarily prevent it from occurring.

- Manufacturing SMEs can rapidly exploit opportunities and react to events in the competitive environment due to their size, and this is further enabled when they are not constrained by structures or systems.

- Family owned/managed manufacturing SMEs transform in a more defined and deliberate way than non-family SMEs due to long-term vision and leadership characteristics.

- The tenure of employees in manufacturing SMEs has an impact on the transformation behaviour that is closely linked to the organisational culture.

- Additional internal contextual factors are proposed; 'performance', and 'communication'.

External contextual factors

SMEs are considered to be hugely affected by their external environments (Badri et al, 2000; O'Regan et al, 2008) and the analysis of the impact of external factors in the four cases of this study show that they are influential, but perhaps not to the extent that is implied in the literature. Customers had an influence on the transformation of the cases, mainly by requesting new product or service offerings that led to the cases expanding their portfolios (CS1, CS3, CS4). In CS1 and CS2 customer behaviour had a negative impact on the business and consequently altered the transformation journey. CS1 lost a major co-packing customer and had to make a series of redundancies. The growing trend of customers to take co-packing activities in-house has also make the market a difficult one for CS1 to operate within, however, it has encouraged the pursuit of the bottling value stream, and indeed it was the request and subsequent collaboration with a customer that introduced this capability in the first place. In CS2 customers approached the business with an option to expand its product offerings to include high car music systems, impacting on its transformation in terms of increased employee numbers, processes, structures and systems. The same customer, along with another in a separate value stream, withdrew their contracts with CS2 later in the journey, plunging the business into financial crisis. SMEs tend to operate on short-term contracts and rely on few customers therefore this finding is expected. In CS3 the collaboration with a professional bowls player gave the business renewed presence in the market and led to new product developments and reengineering of production processes. Collaboration was not a factor specifically identified in the conceptual framework as impacting on the transformation of manufacturing SMEs, however it is significant in two of the four cases in this study. Collaboration has not been explicitly linked to organisational transformation, though the use of external consultants is discussed in change literature as an enabler (Todd, 1999), and this was evidenced in CS3 where the MD hired a consultant (who he knew previously) to help with human resource issues. On the whole, however, the changes in the business were introduced and led by employees within the business.

Competition did not impact on the transformation of the cases as much as the researcher expected. In CS1 the constant threat of new entrants in the co-packing market hindered the pursuit of a customer focused value proposition, as customers were willing to move to a new co-packing service provider if the price was lower. The market leader in bowls manufacture (when the new owner took over at CS3) attempted to prevent the company from expanding into his market strong-holds but the MD was not intimidated and continued to strive for market dominance. For CS2 and CS4, both are considered leaders in their industry and have been over the period of the transformation therefore this may be the reason why this factor did not appear to have any significant impact. The wider market and industry sectors in which the cases operate did have an impact, however. As mentioned before, CS1 operates in a very dynamic and unpredictable market (for co-packing) and so changes were needed to react to its movements. The whisky industry as a whole geographically protects CS1 from overseas competition, but also constrains its growth potential unless the decision is made to diversify into different products. For CS2 the market provided the stimulus for transformation in terms of consumer trends away from record players towards CD technology. Now, CS2 is leading the market with its new DS technology and so its not susceptible to sudden changes that may otherwise cause reactive changes. Similarly, a decline in the successes of the automotive market led CS4 to focus on more lucrative and higher-value markets that differentiated the business from its competitors, again allowing the company to be the master of its own destiny. CS3 is unique in this study in that it is heavily influenced by the governing bodies of the sport of bowls (which would be equivalent to consumer groups for other products) and these presented numerous barriers to product developments that CS3 wished to introduce to the market. For this case, networking and continued presence on these bodies is vital to ensure that its products are endorsed by them, and that the company can continue to lead the way in terms of product development.

Two factors from the micro-environment were not evident as generally impacting on transformation in the manufacturing SMEs under investigation. The issue with the supplier of software code to CS2 was mentioned above, in that it caused resource issues and contributed to a decision to decrease reliance on third-parties. Regulation and legislation from the governing bodies in bowls influenced the introduction of new products in CS3, as has been discussed.

The discussion thus far has focused on the micro-environmental factors impacting on a business, as characterised by Porter's five-forces model (Porter, 1990). For the four cases in this study, the micro-environmental factors were more significant to the transformations than macro factors. Indeed, of the six PESTLE factors only three were evident in the cases. The current economic crisis has not had an impact (so far) on the cases, out with CS1. Its success is dependent upon that of the whisky industry, and at the moment whisky stocks are high and demand is low, therefore it is proving difficult for the company to secure orders more than a few weeks in advance. A decline in orders led to redundancies in early 2009. Conversely, the economic crisis has proven beneficial to CS4. Some of its competitors have gone out of business therefore its contracts have increased. The increasing rate of unemployment means that an apprenticeship at the company is highly sought-after therefore the highest calibre apprentices can be employed. Further, the business has just made a £6m investment in additional factory space and machinery at a time when few are doing so, therefore space is less expensive and machinery more negotiable. The economic crisis has not enabled this investment, it was the sound financial standing of the company allowed it to approach the bank for support, but it has provided the MD with an opportunity to maximise the return on his investment. New technology was the stimulus for transformation at CS2, and developments in sound reengineering both in-house and across the world have enabled the launch of a leading-edge product range. By focusing on more high-tech markets such as aerospace and oil & gas, CS4 has been influenced in its capability development by materials engineering, as customers produce increasingly more sophisticated materials to be machined into

components. The interviewees at CS4 believe that it is vital they keep up with these advances and work together with customers to build machining capabilities so they can always offer a service and not encourage customers to move such tasks in-house. Relative to CS1 and CS3, the cases of CS2 and CS4 are technology oriented so it would be expected that these factors were significant. Societal factors had an impact on the transformation of CS1 as a result of the influx of Eastern European workers to Scotland, providing the company with a pool of capable workers but brought with it cultural and communication issues. A decline in the popularity of bowls has not had a negative impact on CS3, rather it has pushed the company towards an innovation strategy where new product developments are made to revitalise interest in the sport and persuade a new generation of its appeal.

The PESTLE factors of politics, legal issues and environment were not evident as impacting on the transformation of the manufacturing SMEs in this work. The factor of regulation and legislation overlaps with the 'legal' factor here, therefore perhaps it is unnecessary to state 'regulation and legislation' as a separate factor. Despite the growing focus on environmental impact, none of the cases mentioned this in any conversations regarding transformation. The nature of the industries in which the cases operate would not suggest that they should be affected by any political issues, as one might expect had the businesses been involved in the defence industry for example.

Summary of impact of external contextual factors

The discussion of the impact of external contextual factors on how manufacturing SMEs transform has led to the following conclusions:

- Customers positively and negatively impact on transformation in manufacturing SMEs by requesting new products/services that leads to an expansion of the

existing portfolio, or by ceasing to do business with the company thus impacting on its financial situation.

- Collaboration is an enabling factor for transformation in manufacturing SMEs and is proposed as an additional element for the conceptual framework.

- Changes in markets and industry sectors provide opportunities to manufacturing SMEs but can cause reactive changes in those organisations which follow the market rather than lead it.

- The impact of suppliers and regulation and legislation is considered less significant to the transformation of manufacturing SMEs than the other micro-environmental factors discussed.

- The impact of PESTLE factors on transformation of manufacturing SMEs is dependent upon the market and industry sector in which they operate.

The aim of this question was to determine the impact of internal and external contextual factors on how manufacturing SMEs transform. Overall, the context is highly influential on the transformation behaviour, and impacts on when changes occur, how they occur and how well they are implemented and embedded into the organisation. Key elements enabling transformation have been identified as high levels of determination and involvement of leaders, appropriate knowledge, skills and capability in place, access to necessary resources and flexible structures and systems that enable rapid response to opportunities and threats. Other than the converse of the statements above, a key barrier has been identified as the culture of the business if it is not aligned with the new behaviours required to make the changes happen. This is influenced by the tenure of employees and the extent of communication of change objectives and overall company vision or goal. The external environment does not necessarily enable or inhibit transformation, more it provides opportunities or threats that the business internalises and reacts to, or that directly impact on the financial situation of the business.

Weaknesses in answering this research question

- The discussion presented above has gone into detail about particular stories of transformation and how it has been affected by the context of the case in question. Little in the way of generic associations has been presented, however this was never going to be possible with such a small sample size. It could be suggested that a survey be prepared based on these findings and a large sample of manufacturing SMEs be targeted in order to validate these results or suggest further insights, however it is only through understanding the particular details of each case that the associations discussed above can be deduced, therefore the researcher does not consider a survey methodology to be the best approach. Understanding generic associations between contextual factors and how transformation occurs may be missing the value in studying the phenomenon at all, therefore further consideration as to the benefits of searching for generalisations is advised.

- The analysis of the impact of contextual factors on the transformation of the cases was conducted by mapping each factor to the content elements of change in the particular case, and determining if the factor had an impact based upon evidence from the case study data. Placing this structure on the analysis limited its scope to the specific content changes and may have resulted in contextual influences on the overall development of the cases being ignored, however the researcher attempted to comment on any perceived influencing factors out with those mapped onto particular content change in the discussion presented above.

7.4 Emerging propositions

In discussing the analysed data and presenting answers to the three research questions, a number of propositions regarding the transformation of manufacturing SMEs have been put forward. A summary of these propositions and evidence supporting them is presented in Table 7.2, along with possible research questions and suggestions as to how they could be investigated.
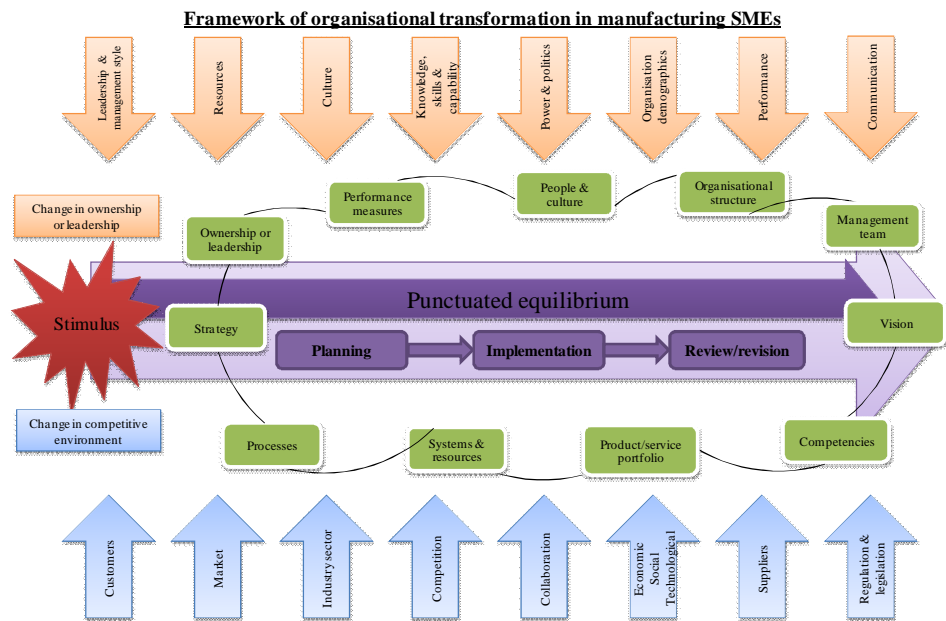
Table 7.2 –Propositions emerging from this work

Proposition	Foundation for the proposition	Possible research questions	Investigative approach
Manufacturing SMEs continuously change and undergo a number of transformations during their lifetime, each defined by a shift in vision, goals, or direction.	Difficulty in scoping the transformation and suggestion that transformation does not have an end-point.	In what way do episodes of transformation coincide with internal and external events? What impacts on the frequency and time span of transformation?	Historical (retrospective) study of the development of manufacturing SMEs over lifetime in context, in order to understand influencing factors.
Successful management of transformation occurs through a contingent approach; i.e. change leaders adapt the approach to the particular change and situation.	A combination of directive, participative, planned, emergent, and top-down changes were evident across the four cases and were related to particular changes.	How is 'success' defined in managing transformation? What is the difference between the approaches to managing change in successful and unsuccessful transformations in manufacturing SMEs?	Comparative study of the management of transformation in organisations that successfully transformed, and those that did not.
Following a crisis, it is necessary to focus on changing 'hard' organisational elements in order to return to relative	Those cases that experienced a crisis changed a number of hard elements following this and returned to relative stability, before any	What organisational elements are changed in manufacturing SMEs following a crisis in the business?	Comparative study of a number of manufacturing SMEs who have survived a crisis in their business.

stability.	changes to soft organisational elements were made.		
Manufacturing SMEs that experience a crisis during the transformation period transform more quickly than those who do not.	Those cases that experienced a crisis transformed during a shorter period of time than those which did not (9 years vs 17 years)	What is the impact of a turbulent business environment on time to transform in manufacturing SMEs?	Comparative study of a number of manufacturing SMEs in turbulent and stable environments, who have transformed.
Family owned/managed manufacturing SMEs transform in a more deliberate way than non-family SMEs due to long-term vision and leadership characteristics.	Three of the cases were family businesses, and in comparison to the fourth case which was not, the transformations were more deliberate. They also showed stronger leadership characteristics and a longer-term vision.	How do family owned/managed manufacturing SMEs transform? How does the transformation of these types of SMEs differ from non-family owned/managed manufacturing SMEs?	Comparative study of family and non-family manufacturing SMEs in terms of the content, context and process of transformation (using the framework developed in this study). Study as above with leader as unit of analysis rather than organisation, as leadership appears to have dominant influence.
Collaboration is an enabling factor for transformation in manufacturing SMEs.	In two of the cases collaboration was pivotal in the transformation of the business.	What impact does collaboration have on transformation in manufacturing SMEs?	Broader study of manufacturing SMEs that have transformed, asking if collaboration played a part and how; could be a survey to determine significance.
There are a set of 'higher-order' contextual factors that impact on manufacturing SMEs, regardless of specific characteristics.	Some of the contextual factors had an impact on all the cases, whereas others only influenced the transformation of one or two.	What are the generic contextual factors impacting on the transformation of manufacturing SMEs?	Broader study of manufacturing SMEs that have transformed, asking which factors impacted on transformation; could be a survey.

Chapter 8 - Conclusion

The findings from this study have led to the refinement of the empirical framework proposed at the end of Section 6.5. This framework of organisational transformation in manufacturing SMEs, the answers to the three research questions, and the series of propositions outlined in Section 7.4, are summarised in Figure 8.1 and presented as the conclusion of this work. Section 8.1 then presents a discussion of the contribution of this conclusion, and its implications for theory and practice. Section 8.2 presents a discussion of the quality of this research in terms of validity of findings, appropriateness of the methodological approach, and limitations. Section 8.3 outlines future work that could be conducted based on the findings in this thesis, and finally, Section 8.4 presents the personal reflections of the researcher.

Framework of organisational transformation in manufacturing SMEs

Arrows (top, internal factors): Leadership & management style; Resources; Culture; Knowledge, skills & capability; Power & politics; Organisation demographics; Performance; Communication

Boxes: Change in ownership or leadership; Ownership or leadership; Performance measures; People & culture; Organisational structure; Management team

Stimulus — Punctuated equilibrium

Strategy; Planning → Implementation → Review/revision; Vision

Change in competitive environment; Processes; Systems & resources; Product/service portfolio; Competencies

Arrows (bottom, external factors): Customers; Market; Industry sector; Competition; Collaboration; Economic Social Technological; Suppliers; Regulation & legislation

RQ1: How do manufacturing SMEs transform?
- By bringing a new owner or leader into the business, or reacting to a change in the external environment.
- By changing key organisational elements to adapt to the shifting business environment in order to achieve a vision or goal (elements as above).
- Through a series of incremental and radical changes that are managed in a way contingent on the particular change and situation, but underpinned by strong leadership and open communication.

RQ2: What are the internal and external contextual factors affecting organisational transformation in manufacturing SMEs?
Internal factors: leadership & management style; power & politics; knowledge, skills & capability; communication; performance; resources; culture; and organisation demographics.
External factors: competition; market; industry sector; customers; collaboration; regulation & legislation; suppliers; economic, social, and technological factors.

RQ3: What is the association between these contextual factors and how manufacturing SMEs transform?
- The context impacts on when changes occur, how they occur and how well they are implemented and embedded into the organisation.
- Transformation is enabled by high levels of determination and involvement of leaders, appropriate knowledge, skills and capabilities in place, access to necessary resources and flexible structures and systems that enable rapid response to opportunities and threats..
- Culture is a barrier to transformation if it is not aligned with the new behaviours required to make the changes happen. This is influenced by the extent of communication of change objectives and overall company vision or goal.
- The external environment does not necessarily enable or inhibit transformation, more it provides opportunities or threats that the business internalises and reacts to, or that directly impact on the financial situation of the business.

Emerging propositions
- Manufacturing SMEs continuously change and undergo a number of transformations during their lifetime, each defined by a radical shift in vision, goals, or direction.
- Successful management of transformation occurs through a contingent approach; i.e. change leaders adapt the approach to the particular change and situation.
- Following a crisis, it is necessary to focus on changing 'hard' organisational elements in order to return to relative stability.
- Manufacturing SMEs that experience a crisis during the transformation period transform more quickly than those who do not.
- Family owned/managed manufacturing SMEs transform in a more deliberate and planned way than non-family SMEs due to long-term vision and leadership characteristics.
- Collaboration is an enabling factor for transformation in manufacturing SMEs.
- There are a set of 'higher-order' contextual factors that impact on manufacturing SMEs, regardless of specific characteristics.

Figure 8.1 – Summary of findings from this research

8.1 Contribution and implications

8.1.1. Discussion on contribution

The contribution of this work is discussed from three perspectives; firstly, the way in which the work confirms existing theory on organisational transformation; secondly, how this work has extended theory in the field of organisational transformation; and finally, the general insights that this work has generated on the transformation behaviour of manufacturing SMEs.

Confirmation of theory on organisational transformation

The theory of organisational transformation has been presented in this thesis as comprising of content, process, and context elements. The study of these constructs has shown that they provide a useful framework with which one can understand the transformation behaviour of manufacturing SMEs. The content, process and context of transformation was reviewed in the transformation, change, and strategic change literature, and summarised into a conceptual framework. In comparing the transformations of four case studies to the framework, it was concluded that:

- The content elements of transformation do change when manufacturing SMEs transform.

- The process of transformation in manufacturing SMEs can be described by the theory of punctuated equilibrium.

- The internal contextual elements were evident as impacting on the transformation of manufacturing SMEs.

- The external contextual elements were evident as impacting on the transformation of manufacturing SMEs (except political, legal, and environmental factors).

- The study attempted to investigate the management of the change processes in terms of the particular activities or steps those leading change enact to make each content change happen, however the data on this was inconclusive and it is proposed as an area for further attention. What is confirmed, however, is the benefits of strong leadership and communication to enable transformation.

Extension of theory on organisational transformation

In addition to confirming the elements of the conceptual framework developed from the literature, this study has uncovered a number of additional constructs that are significant in the transformation of manufacturing SMEs. These individual elements extend the theory on organisational transformation in the context of manufacturing SMEs within the organisational change theory domain. Further, the arrangement of the content, process, and contextual factors into a framework describing organisational transformation in manufacturing SMEs is a contribution in itself and can be used as the foundation for future studies in the field.

The additional constructs identified in this study are as follows:

- Content elements; ownership or leadership, management team, and product/service portfolio.

- Internal contextual factors; performance and communication.

- External contextual factor; collaboration.

The stimulus for transformation is considered in the literature within the context of transformation, however the researcher found it beneficial to separate this and discuss it individually as it had an impact on the initial content element changes. It is believed that manufacturing SMEs are mainly reactive and transform due to challenges posed in the external environment, but findings from this study suggest that these organisations are masters of their own destiny and the decision to transform comes from within the business, generally following a change in ownership or leadership.

The contextual factors proposed in the transformation framework do not represent an exhaustive list; rather they describe those factors that appear to impact on the transformation of the majority of organisations. The question of whether or not the factors can be divided into 'higher-order' and 'lower-order' categorisations depending upon their generalisability was raised and proposed as a future area of study.

Although the theory of punctuated equilibrium was shown to best describe the transformation of the manufacturing SMEs in this study, it does so with the modification that the punctuation in itself is not transformational, but in combination with the incremental changes that precede and follow can lead to the business transforming.

Generation of insights into transformation behaviour of manufacturing SMEs

Aside from the contributions resulting from answering the research questions of this study, the analysis and discussion of the empirical data has led to a number of insights into the transformation behaviour of manufacturing SMEs that may be the foundation for further investigation. Firstly, the suggestion that transformation does not necessarily have an end-point, and that manufacturing SMEs are continuously changing. This was borne from the observation that the scope of the transformation studied for each case could have been widened and the option of the interviewees that they were not at the end of the journey. Secondly, of the four cases studied two transformed in less than half the time of the other two, and in both cases there was a crisis in the business, leading to the suggestion that transformation happens faster in more turbulent environments. Further, the crisis itself did not result in transformation (as noted above in relation to punctuated equilibrium theory), changes made before it occurred were essential to enable the changes required during the chaotic times. Another interesting pattern relating to this was the fact that the three cases which experienced a crisis all changed a number of hard or tangible organisational elements following the crisis, before any softer or intangible changes were made.

The analysis of how manufacturing SMEs transform suggested that the leaders changed their approach to managing each change depending on what it was and the situation at the time. This is in agreement with the contingency theory of change which some scholars believe undermines the choices that leaders have to craft the change to suit their own style or approach (e.g. Burnes, 1996); it seems that in the case of the manufacturing SMEs studied here that the contingent approach does hold true. The impact of collaboration on the transformation of the cases has been discussed above, and it seems that this is yet to be explicitly explored in either general transformation literature or SME literature. Its significance in the transformation of two of the cases in this study lends weight to the argument that it requires further investigation. Finally, three of the cases in this study are family-

owned and managed, and although not a valid sample these organisations appear to transform in a more deliberate and planned way when compared to the case that is not family-owned/managed. This finding warrants further study of family-owned/managed manufacturing SMEs in particular, as the contribution of family businesses to economies is becoming increasingly understood and their study as the unit of analysis more popular (e.g. Howorth et al, 2006).

8.1.2. Discussion on implications

Implications for theory

The overall driver for this work was to understand why some manufacturing SMEs fail in their attempts to transform. This work has provided a theoretical foundation for examining success/failure in transformation in this context through insights into how manufacturing SMEs transform, the factors that impact on this, and the way in which these factors have an impact. This work has also provided evidence for studying family-owned/managed businesses as a specific unit of analysis in terms of how they transform, as it is suggested in this work that their transformation behaviour is different from that of non-family-owned/managed manufacturing SMEs. Discussions at a family business seminar (Liverpool, 2010) raised this lack of understanding as a gap to be filled within the family business field.

From a methodological point of view, this work has demonstrated the difficulty in understanding the process of transformation and change without having experienced it or directly observed it in real time. Thus, it is proposed that future studies of the process of transformation and change are conducted longitudinally, with the researcher involved or observing events taking place. Clearly this is not a straightforward task (or the researcher would have taken such an approach in this study!), however it seems to be the most effective manner for investigating this phenomenon (Pettigrew et al, 2001; Dawson, 2003). Related to this is the finding that

a significant factor in the transformation of manufacturing SMEs is strong leadership and communication leads to the proposition that it may be useful to view the change leader as the unit of analysis when conducting future studies of transformation, rather than the organisation itself. This would lead to insights into how the transformation actually happens in terms of the actions of the person driving it.

A further methodological consideration this work has highlighted relates to the scope of transformation. Since there appears to be an association between the turbulence of the business environment and the time taken to transform, it is necessary to conduct a historical analysis of the case being studied to ensure that the period of time being analysed is capturing the entire transformation story. This is also supported by the finding that crisis-induced change is not necessarily the starting point for transformation, as previous changes underpin those that follow.

Finally, this work suggests that in order to understand organisational transformation in manufacturing SMEs, it is necessary to consider the stimulus, content, process and context of transformation. The framework developed from this study provides the foundation for future investigations in this area.

Implications for practice

The findings of this work can be offered as advice or guidance to those supporting manufacturing SMEs to transform, or indeed to the change leaders themselves. The framework could be used as a thinking tool, and the basis for discussion and planning when considering or faced with the need to transform the business. It provides a holistic view of the various organisational elements that should be considered and may need to be changed, as well as offers insights into where particular focus or effort is required. The framework could be operationalised by adding a series of questions that the change leader should consider, for example; *is the leadership style suitable to the context? Do we have adequate resources? Should we employ additional employees with particular skill sets?*, and so on.

In summary, the practical implications of the work are as follows:

- The framework provides a high-level roadmap for transformation in manufacturing SMEs by highlighting the organisational elements that should be considered when transforming, and the contextual factors that may impact on the transformation.

- The evolutionary path of manufacturing SMEs is punctuated by radical changes caused by shifts in the business environment, thus these should be expected.

- Surviving a crisis in the external environment is supported by having made changes to the business previous to the crisis occurring; i.e. manufacturing SME leaders should identify the need to transform before being forced to.

- Key enabling factors to transformation have been identified as strong leadership and communication; appropriate skills and capabilities, and accessing necessary resources.

- The culture of the business is a barrier to transformation if it is not aligned with the new behaviours required to enact the changes comprising it.

- Manufacturing SMEs are more flexible to react to opportunities and threats in the external environment if they are not constrained by structures or systems in the business.

- Collaboration with external parties could enable transformation.

8.2   Quality of this research

This section looks at quality from perspective of the validity of findings, appropriateness of methodological approach, and limitations of the study.

8.2.1.   Validity of findings

In Chapter Three a framework was presented to test the validity of case study research (Yin, 2003) which identified four tests of validity; construct, internal, external, and reliability. Each of these will be discussed in turn in the context of this work.

Construct validity

This test of validity is focused on the appropriateness of the constructs studied in order to answer the research questions. The approach of investigating the stimulus, content, process, and context of transformation of the four cases allowed the transformation stories of each to be discussed and analysed, thus enabling the research questions to be answered. Further, multiple interviews were conducted in each case, and the case study reports written according to the constructs were reviewed by the interviewees to ensure they accurately represented the

transformation of the company, and did not ignore any significant elements of the events that took place during the time period studied.

Internal validity

Internal validity is a test of explanations built from the data analysis and any causal relationships identified. In this work, internal validity was achieved by ensuring explanations were supported by evidence from multiple interviewees in the cases. Findings were also discussed with peers who have experience with the case study organisations in order to validate explanations. Cause and effect relationships were not identified in this work, more perceived impacts, associations or influencing factors were discussed and justified by evidence from the interview data. The chain of evidence from the discussions back through findings, cross-case analysis, within-case analysis, case study report, and interview data is clear and logically ordered in this thesis.

External validity

This test considers the context in which the findings from this work are applicable. Clearly, evidence from four manufacturing SMEs does not constitute a universal understanding of transformation in this type of organisation, however the findings are supported by a number of supplementary cases. Three organisations were initially intended to be used as part of the main study, however circumstances such as lack of response from company contact after initial meeting, difficulty accessing interviewees (e.g. one company went into administration in 2007), and time constraints, prevented their inclusion. For each case, a semi-structured interview was carried out with the owner/managing director of the business to discuss the overall development of the business and any periods of transformation. In addition to these three, the researcher has worked with a number of manufacturing SMEs on other research projects during the past three years (EPSRC funded "Managing the manage

processes, 2006-2009, GR/T25897/01 and EC FP7 "FutureSME", 2009 - present, CP-IP 214657-2FutureSME) and thus has also had insight into the characteristics and behaviours of these companies, though not necessarily in relation to transformation.

The findings discussed in this chapter were not contradicted by any of the supplementary cases, rather they were reinforced. For instance, the transformation of two of the cases was triggered by a new owner or leader in the business. The case which went into administration did so because it failed to transform to meet changing market and customer demands. The interview with the former MD was focused on reasons why the transformation had failed, the key factors identified by him as; lack of commitment from owners and management team to make changes; poor communication among the management team and with the owners; long tenure of key employees who did not want to do things differently; culture of resistance to upsetting the status quo; distrust of outsiders coming into the business. These factors support the findings of this study in relation to the internal contextual factors which impact on transformation. Another of the supplementary cases was founded on a scientific breakthrough and although successful was not achieving its full potential as the leaders were scientists with limited business experience. They sold part of the business to a partnership of venture capitalists who assumed directors positions in the company and have transformed it into the most successful company in its sector (in terms of market share). The transformation was enabled by these new skills and experience coming into the business, as well as the availablity of resources (accumulated from the pervious success of the company) to invest for growth.

Again, these supplementary cases do not deliver generalisabilty to the findings, but since they do not contradict them this gives the researcher confidence that the conclusions made are a valid foundation for future work.

Reliability

The test of reliability assesses whether the same results can be replicated by following the methods used in this work. A tactic employed to increase reliability is the use of a case study protocol for collecting data. This was developed and used in this study, as shown in Appendix 1. Further, the use of a theoretical framework for analysing the case study data, coupled with explicit definitions for each construct would enable replication. The structured method for analysing the data by way of tables and matrices (as for each case in Chapter five) provides a chain of evidence for reaching the conclusions of this work, again adding to their reliability.

8.2.2. Appropriateness of methodological approach

This work employed a case study methodology and qualitative methods for data collection; namely semi-structured interviews; secondary documentation; and general observations; and for data analysis; narrative analysis, and coding.

As has been discussed previously in relation to the investigation of the management of the process of transformation, retrospective questioning of interviewees on this construct did not provide the evidence required to analyse the activities and steps taken. Interviewees failed to recall specific activities taken, and in some cases were not involved in the actual implementation of the changes and so were only able to speculate on what seemed to have occurred. Further, literature in the area of investigating change process warns against such an approach as people recall events according to how they would like to remember them (Collins and Rainwater, 2005; Dawson and Buchanan, 2005). Real-time observations or participation in the particular changes is required to better understand this construct (Pettigrew et al, 2001).

Outside of this, however, the methods used in this study have proved appropriate for understanding the content of transformation and the factors that had an impact upon it. Secondary documentation provided supporting evidence for contextual factors and key events in the development of the cases during the transformation period, and observations by the researcher on visiting the sites (along with informal chats with employees) gave an insight into intangible elements such as culture.

Alternative approaches could have been taken to answer the research questions of this study. A longitudinal study, as mentioned many times, would be optimal for researching transformation in manufacturing SMEs, however the opportunity or time for this was not available. Now that relationships have been established with the four cases, the researcher hopes to continue studying the companies to build upon the findings from this work. Crossing the qualitative boundary, a survey method could also have been used to test whether the constructs identified in literature were present in the transformations of manufacturing SMEs, and the associations between them. This would have increased generalisability of findings and allowed a larger sample of manufacturing SMEs to have been investigated. The nuances of the transformations and linkages between the constructs of the four cases presented here were uncovered from detailed discussions with interviewees, so the researcher is sceptical as to whether a survey could capture such associations. It has been proposed, however, in Section 7.1.4 that a survey method could be used to validate some of the findings emerging from this research.

8.2.3.   Limitations

The findings of this study are limited to the four cases which have been studied, however the issue of generalisability has been discussed and those findings that support existing theory are considered to be widely applicable. The findings that extend transformation theory, and the general insights into the transformation behaviour of manufacturing SMEs are propositions that are plausible in the context of the bodies of literature in which they are positioned, but require further empirical validation.

The four cases have a geographical bias to Scotland, and more specifically to Glasgow and its surrounding area. The "West of Scotland" culture in the manufacturing sector is one which is spoken about widely by practitioners and policy makers, and this was evident in some of the cases, thus limiting the generalisability of the findings relating to culture. That said, the conclusions of this study are not related to the location of the organisations and do not have any Scottish linkages and so the effect of this bias is considered minimal. Clearly, future studies could take the framework developed in this study and test its applicability in a different geographical context.

The final limitation of this work is that the researcher was unable to interview each person involved in the transformation of the cases. Where possible, those still employed in the business were interviewed, but in many cases the persons had moved to different companies. For the most part the leaders of the changes were the MD or ODs of the companies and these employees were interviewed in each company, therefore the data collected is still considered a valid reflection of the transformation journey. Conducting a longitudinal study in real-time would remove this limitation since the research would have access to all those involved.

8.3   Future work

This study has provided the foundation for further research towards answering the overall motivator for this work, namely the reasons why some manufacturing SMEs fail in their attempts to transform. Further, the propositions outlined in Table 7.2 are presented as springboards for future empirical investigation. In summary, the main areas of future work following on from this study could be:

- A comparative study of successful and unsuccessful transformations in manufacturing SMEs to determine critical success factors, using the transformation framework developed here.

- A comparative study of transformation in family-owned/managed manufacturing SMEs and those which are non-family-owned/managed in order to determine the specific transformation behaviour of family businesses. Again, the framework developed in this study could be used.

- Historical and/or longitudinal study of manufacturing SME development in order to test the proposition that these organisations are continuously changing and undergo a number of transformations during their lifetime. This study could also test the proposition that following a crisis, hard organisational elements are changed, and also that a crisis speeds up the transformation process.

8.4 Personal reflections

Having reached the end of this thesis, I can say that it has been the most challenging but also enlightening experiences of my life, both professionally and personally. I am an engineer at heart and have struggled with the transition into the dark arts of social science research but now believe that I have gained an appreciation for the 'grey' area between black and white, that I am ontologically and epistemologically constrained, and that there isn't always a correct answer. Working closely with local manufacturing firms has made me realise the value of academic study into their behaviours and the relationships established will enable me to continue to use them as my personal laboratory.

Like any researcher beginning the PhD journey, I thought I was going to change the world. In fact, right up to Chapter six I thought I was going to change the world. "You can't change the world, but you can make a dent." My journey has given me the tools, and this thesis is my dent on the manufacturing SME 'black box' …and we all know how noticeable a dent can be. Now that I've learned how to use my hammer and chisel, I can work towards opening the box completely, and move onto others. A wise friend once told me that doing a PhD was like climbing Ben Lomond on a foggy day. The fog has now lifted, I've made it to the top, and the view is wonderful!

We shall not cease from exploring
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time.
T.S. Eliot (1888 – 1965); Four Quartets

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Appendices

Appendix 1 – Case Study Protocol

Overview

This case study protocol has been developed to provide a structured approach to the collection and documentation of data to ensure reliability and validity. The aim of the research is to understand the transformation behaviour of manufacturing SMEs, thus the data collected will be used to answer, empirically, the three research questions;

RQ1: How do manufacturing SMEs transform?

RQ2: What are the internal and external contextual factors affecting organisational transformation in manufacturing SMEs?

RQ3: What is the association between these contextual factors and how manufacturing SMEs transform?

Data is collected in the form of semi-structured interviews as well as secondary documentation internally from the company, and externally through media and academic documentation. The data collection and documentation process comprises of four stages, illustrated in Figure 1 below. Each stage is explained in greater detail in the main body of the report.
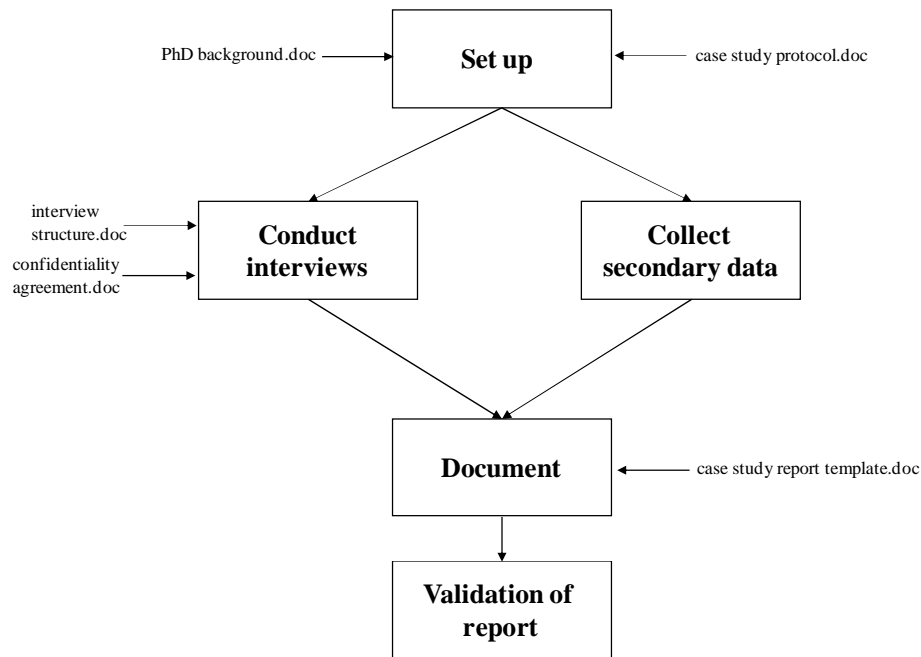
Figure 1 – Phases of data collection and documentation

Set up

Identification and selection of case study company

The research is focused on manufacturing SMEs as the unit of analysis, thus potential cases must fulfil a number of criteria:

The company must be classified as an SME according to the EC definition (2003); an organisation with less than 250 employees and/or turnover of less than EUR50million and/or an annual balance sheet total of less than EUR43million

The company must be classified as a manufacturing business according to the definition proposed by the researcher; one that is involved in the production of a tangible good for customers through research and development, design, production or assembly, or after-sales service.

The company

The research uses a combination of interviews and secondary data collection methods thus the company must be willing to make available relevant personnel for interview, as well as provide the researcher with relevant documentation.

Desk research

On selection of a potential company, some desk research should be carried out in order to understand the company history and background, to determine if the company has indeed transformed and to enable the interview strategy to be developed. This should begin with the company website and any other published sources of information that are freely available.

First contact

Refer to PhD Background.doc. The aim of this is to introduce the research to the main contact in the company and arrange a face-to-face meeting to discuss the data collection process.

The initial meeting with the company contact should cover the following points:

Interviewees

- Relevant personnel – owner/MD; management team, long-standing employees

- Timescales – approximately 1 hour per interview

Confidentiality

Throughout the research confidentiality will be maintained both with the case study organisation and the individuals participating in the interview. It is therefore important that the company contact and all others are ensured of this fact at the outset. A key point to emphasise is that *data gathered from any individual person or the company will not be used in any way in any research report or publication that may incriminate them or identify them as an organisation or an individual without their express permission.* If required, a formal confidentiality agreement is available that can be amended and signed by the research team and the company or the individual concerned (Appendix B).

Overview of organisation

- Brief history of the business - i.e. when did it start, change of ownerships, significant changes etc.

- Size and ownership – number of people, governance)

- Products and services offered (past, present and future)

- Markets – including: Customers, Competitors and Suppliers

- Future direction and plans

- Organisational structure and management team

- Culture

Site visit

To gain a greater understanding of the company's operations and make some observations on such things as:

- How organised and smoothly do things seem to run

- What is the atmosphere like – taking the chance to speak to people as the tour progresses

- State of things (i.e. in a factory how new, clean, facilities available to staff etc)

Conduct interviews

A semi-structured interview approach is adopted for this research in order to allow the transformation stories to emerge. The guidelines listed below should be used as such, they are not a prescriptive set of questions but a series of prompts to guide an interviewee to discuss a certain topic or elaborate on specific points. It is necessary to ensure that the general points are covered by each interviewee in order to triangulate the data collected.

The interview strategy for each interviewee will vary depending on the data gathered through desk research and the interaction with other interviewees, however the guidelines should be followed to give a general scope to the discussions.

Interview guidelines

Orientation

- Interviewee name, position in the company and main responsibilities

- Company size, age, turnover, products, lifecycle position etc.

- Overview or history of the company since the interviewee has been there

Transformation story

- Do you think the company has transformed, and if so, how?

- What are the main drivers for the transformation?

- Who was involved in the various changes?

- How were the changes achieved?

- What were the barriers to the transformation?

- How did the external business environment impact on the changes?

- What made the transformation happen?

- Do you think it was necessary?

Collect secondary data

If the discussions refer to documentation from within the company that provides supporting evidence, request to see the documentation, and make a copy if allowed.

Document

Interview notes

Following the interview use any written notes and the digital recordings to produce a mind map of the discussions in the words and connections of the interviewee. Additional thoughts can be added as a separate branch and should be identified as such. To preserve anonymity ensure that no names or job titles are used to identify statements in version submitted for inclusion in thesis appendix.

Case study report and validation

The case study report should be written according to the template (Case study report template.doc) and based upon the interview notes. Anonymity of both interviewee and case should be ensured. On completion of the case study report, it should be emailed to the main contact at the company for validation. It is their choice as to whether it can be passed around all interviewees, but request that this happens. If any comments are returned suggesting changes, ensure that they do not contradict the evidence from the interviews. If not, update the report and agree completion with the company contact. If the feedback contradicts evidence from the interviews, discuss this with the company contact in order to reach consensus as to the accurate reflection of the business.

Appendix 2 – Case Study Reports

Case study report

CS1

November, 2009

CONFIDENTIAL

1.0   Introduction

The following report is a summary of information gathered from a set of interviews and discussions at CS1. Four members of the organisation participated, along with three key customers;

- Operations Manager/acting Managing Director (9 years with company)
- Sales Director/new Managing Director (less than 1 year with company)
- Production Manager (Bottling)
- Production Manager (Co-packing)
- Production Planning employee (Bottling)
- Three customers (one bottling, two co-packing and bottling)

The report is focused on the information gathered regarding the transformation story of the business. It begins by describing the background of the company then goes on to discuss the transformation story in terms of the stimulus for transformation, its content, the process through which it was achieved and the context in which the transformation took place, both inside and outside the company. The planned or perceived next phases in the evolution of the company are then discussed. Finally, the transformation story of the company is summarised to highlight the key events and influencing factors from this case.

2.0   Company background

CS1 was founded in 1988 to offer bonded warehousing capacity to producers, exporters and importers of alcoholic drinks. It soon diversified to offer a co-packing service when they identified this as a gap in the market. Co-packing involves placing the core product (e.g. a bottle of whisky) inside special packaging and sometimes with additional items (e.g. a glass) for promotions etc. It is a highly labour intensive job and the majority of drinks producers outsource this service. The company evolved to

provide decanting and batch bottling services, again based on identifying the need for this small scale capability amongst its customers. It effectively operates as an extension of its customers' business; The customer provides the raw materials (products, packaging, bottles, spirit) and organise the dispatch of the finished product and CS1 performs a process within the overall whisky manufacturing process.

In 2000 the company was sold to a consortium of investors, some of whom had experience and expertise in the Scottish Whisky industry. They introduced a new management team to run the company, and had minimal involvement in its operation. The new team set about improving the productivity and profitability of the company as directed by the shareholders. In 2006, on the request of (and with investment from) a customer, CS1 expanded its bottling capability to offer contract bottling as a key service in parallel with the co-packing value stream. To support this, the company has separated the two value streams into different factories; co-packing at its original site and bottling at a custom-designed site which began production at the beginning of 2008. The company is bottling approximately 150000 cases of whisky annually and aims to grow this to 400000 over the coming years.

This study will focus on the transformation of the company from its sale in 2000 until today.

3.0   Transformation timeline

Figure 1 below illustrates the key changes in the company during the period under study. These are discussed in the sections following.

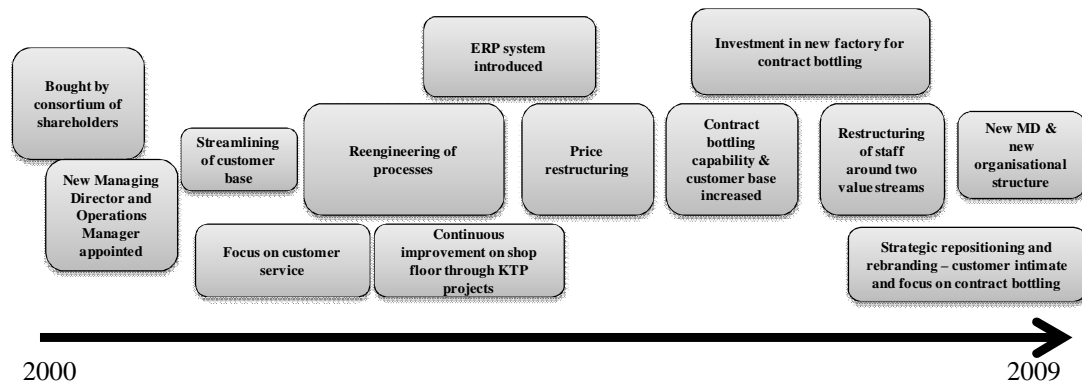*Figure 1 – Transformation timeline of CS1*

4.0   Transformation story

4.1   Transformation stimulus

When the consortium of shareholders purchased CS1 in 2000 they had the intention of improving profitability to be able to sell the company on a number of years later and so gain a favourable return on their investment. The new managing director was put in place to lead this improvement, and the introduction of a new operations director in 2001, who had vast experience and contacts in the Scottish whisky industry, was a strategic decision to enforce the required changes. The transformation stimulus changed in 2004 from being one of growth for shareholders to one of survival, when a major customer took all its business to a competitor. In recent years, the company has stabilised to some degree and is beginning again to focus its attention on a growth strategy set by the shareholders, centred on its bottling capability.

4.2   Content of transformation

The new ownership and managing director did not have an immediate impact on the way in which CS1 operated. To all intents and purposes it was business as usual, however the growth aspirations of the shareholders were not matching the profitability of the company and so in 2001 an operations director was appointed from outside the business with the task of increasing productivity, efficiency, and so profitability. The operations director (OD) had previously worked for many of the major whisky producers and bottlers in the Glasgow area and so had deep understanding of the industry, the processes involved and importantly a number of key contacts.

With a new management team in place, a new approach to running the business was introduced, beginning with a yearly strategic review with shareholders to set the direction for the business. The nature of co-packing is such that it requires close customer contact and trust between the co-packer and customer, but this need for

customer focus had been lost by CS1. In its first strategic review the company developed a strategy to refocus its attention on customers and service provision and based on this the first change introduced by the new OD was to streamline CS1's customer base. Co-packing is a highly labour intensive process and set-up times are long, thus switching between lots of small batch orders is costly. It was the intention of the OD to have around three major customers and carry out all their co-packing work for them, and doing this gave two major benefits to CS1. Firstly it helped to smooth out the volatile production patterns in the co-packing market to some degree, as being close to few customers brought with it some consistency in orders and allowed CS1 to stagger production runs. Secondly, having a small customer base allowed CS1 to develop close working relationships with each of them, and so become a customer intimate business. This is beneficial in the whisky industry as it is relatively small and incestuous and many decisions are made based on informal meetings and networking.

Streamlining the customer base uncovered the causes of inefficiency in the process, mainly poor information management systems and lack of standard operating procedures. This problem was further compounded by the fact that CS1 employed a large number of agency staff during peak production periods (since co-packing is a largely seasonal industry), and that the majority of these workers were from Eastern Europe. As a first pass a bespoke system was designed using standard Office tools such as Microsoft Excel and all production related information was recorded to a single source. It allowed the OD and importantly the production staff to track customer orders throughout the process and quickly identify any potential problems with stock shortages, production clashes or meeting order dates. Also at this time the OD became aware of a knowledge exchange program with the University of Strathclyde, where a graduate was placed in the company for two years to complete a specific project, part funded by the company and by the Knowledge Transfer Partnership (KTP). The OD recognised as an excellent opportunity to have access to the latest thinking in production techniques and management thinking, with minimal

cost to the business. In 2002 a KTP associate began working with CS1 on a project focused on reengineering business processes. As a starting point the basic co-packing process was mapped and a number of standard operating procedures produced. Permanent staff members were trained on the new procedures and these were used to train agency staff as necessary. It was generally the case that the same agency staff repeatedly returned to CS1 and so training requirements were minimal. The KTP associate worked hard to create a continuous improvement culture to ensure that constant productivity gains were made, however the outdated systems and ad-hoc information management practices led to employees reverting back to old ways of working to avoid errors or confusion. Through meetings with the academic advisor on the project and the OD, ERP was identified as the mechanism that would make the changes stick.

The OD made a case to the shareholders and MD for the investment in an ERP system to link all bespoke spreadsheet based information and give complete transparency to the entire order fulfilment process. He believed it would reduce errors made by transferring information from one place to another, prevent duplication of work and give employees a clear idea of how the business operated as a whole, not just in their individual functions. This would then enable employees to understand and embrace the changes in production processes. The shareholders and MD agreed to the investment and the system, which would be used for finance, production planning, and interface with the stock management system used in the bonded warehouse.

The tenure of the KTP associate ended whilst the ERP system was being implemented, but another project was undertaken by CS1 through the KTP scheme and a second associate joined the company. Implementation was a straightforward as the processes in CS1 are not particularly complex or specialised, leaving the KTP associate to focus on another project. His task was to focus on process improvements on the shop floor, effectively picking up where the previous associate had left off, but

with quite aggressive targets of achieving £10000 worth of savings each month. The manufacturing process was reengineered to improve productivity, material flows were changed, and training programmes introduced. The aim was to again change the culture into one of continuous improvement. This was successful when the KTP associate drove the change however when his KTP programme ended no one else was given responsibility for continuous improvement and so the systematic approach was lost. The year or so that people were working in this way was not long enough to embed the approach. The MD did offer a permanent position to the associate following his KTP programme however he had different career aspirations and declined.

Not long after the ERP system went live in Summer 2004, CS1's biggest co-packing customer moved all its business to another co-packing company. This amounted to a huge loss in sales and profit and meant the company had to make a number of redundancies. On reflection the management team put the loss of the customer down to a lack of consistency in how it tried to compete in the market. Although trying to be customer intimate and offer high service levels, CS1 was also trying to out-price its competitors and offer the cheapest service. Co-packing is not a highly skilled or technical job and the barriers to entry for competitors are few, therefore CS1 has always been under pressure to enter a price war to maintain or grow its share of the market. The informality of relationships with customers (since everyone in the industry knows each other) led to informality creeping into the management of customer accounts and pricing procedures being ignored. In an effort to keep a customer's business, CS1 would offer a price without having calculated whether it would actually make any profits and so on a number of occasions CS1 was actually producing at a loss. The two approaches of customer intimacy and cost minimisation were mutually exclusive and forced the management team and shareholders to rethink the fundamental competitive basis of the company. Co-packing companies regularly came and went and it was clear that those competing on a price minimising strategy were unsustainable in the longer term.

Thus, CS1 abandoned any notion of trying to be the cheapest in the market and worked on restructuring the prices of its services to reflect the quality, reliability, flexibility, and consistency they provided. The KTP associate created a database of production costs and pricing strategies and analysed it to understand the actual costs of carrying out each job and the profits (or losses) associated. This was then reviewed by the management team who completely restructured the pricing process and made the information available to all relevant staff, thus allowing the company to offer a price for a job that was both competitive and profitable. Those involved were trained on using the process, which was run from a bespoke Excel-based system. Approximately one year after they had left CS1, the customer returned as the co-packing company they were using were inconsistent, unreliable and eventually went out of business.

In the early 2000s co-packing was highly profitable if managed efficiently and so the small capacity the company had for decanting and bottling was reduced (servicing only one customer) to provide extra capacity for co-packing activities. Now understanding the volatility of the co-packing industry, the OD was convinced that the only avenue for growth for CS1 was through bottling. He realised that there was a niche in contract bottling, somewhere between the high speed volumes of mass producers and the batch production of cottage industry-type producers. About this time one of their co-packing customers requested bottling capacity from CS1, as their contract bottler had let them down. The OD knew that CS1 could not offer bottling as a service until they made significant investments in infrastructure and equipment, but the customer was happy to collaborate with CS1 to provide this. They were not put off by the aging premises out of which CS1 operated (as other customers may have been), and offered £60000 of investment in tooling and storage vessels to enable CS1 to provide them with the bottling service. The return of the co-packing customer and this new venture into larger-volume bottling resulted in the company becoming profitable again and enabled them to expand their workforce.

As mentioned above, the premises of CS1 were outdated and in need of modernisation if the company was serious about expanding its service to offer a competitive contract bottling capability. The site is located on the outskirts of Glasgow close to the airport and major transport links, which beneficial for its customers in terms of transporting products to and from CS1, and also since the majority of the products are exported. The site is also located in a mainly residential area and thus on prime residential development land. Around the time of the move into more contract bottling work, shareholders were offered a substantial sum for the land on which the site was located. This led to the MD and OD looking for new premises to which the company could move its co-packing service, as well as develop new bottling lines to grow this side of the business.

The offer on the site led the shareholders to decide to sell the business, so they attempted to negotiate a management buy-out with the MD and OD; on selling the existing site they would have made a good return on their investment in a relatively short period of time, in spite of the volatile sales and profitability of the company. Fully aware of the unpredictable nature of the business the management team believed the price for the business was too high, as it was based on the sales and profit figures of a 'good' year in the company. The two sides failed to reach an agreement and the deal collapsed. The MD was reaching retirement and so decided this was the best time to leave the company. In the meantime new premises were identified and purchased and plans made to relocate. However, this was all happening in the backdrop of a looming worldwide economic crisis. Before the original site was sold to developers the market collapsed and the sale was cancelled. So, shareholders were left with the old site in need of upgrade, and a new site in need of equipment.

Still confident that bottling was the future for the company, the OD (now acting as MD) pushed forward and won grants to give financial support to the company's plans.

Necessary equipment was purchased and commissioned, CS1 began bottling from its new site in early 2008, and new customers were won quickly. The decision was made to effectively split the business in two in terms of production, with co-packing remaining at the first site and bottling exclusively carried out in the new premises. Production staff were also separated into co-packing and bottling, however in busy periods and to cover holidays and sickness, staff are moved between the two sites. The company developed and launched its first website which included rebranding CS1 to give it a more professional look.

The move was hailed a success and did not seem to cause any major problems, however a major customer (in terms of volume) decided to move its business to a bottling competitor in summer 2008, though CS1 would continue servicing them until December when the competitor was ready to take the business. The reason for the move came down to cost, and again CS1 did not want to compete in this way. They attempted to persuade the customer to stay by stressing its stability and experience with their products, but the customer maintained its decision. The management team are hopeful that the customer will return within 18 months as they do not expect the competitor who took the business to sustain the low prices it is offering.

In addition to this setback, a serious quality issue was discovered by another customer late in 2008. Investigations showed it to have occurred during the transition period and the cause was attributed to the move. It took a lot of effort to put right the problem and reassure the customer of CS1's commitment to quality, but considerable damage to their reputation had been done and a considerable amount of money was required to compensate the customer. This happened during the run up to Christmas which is a much busier period for CS1, and consequently the company found its resources stretched, particularly at supervisor and management levels. Interviewees stated that they were in constant fire-fighting mode.

The busy period highlighted many operational issues that were not ironed out following the move into higher bottling volumes and to the new site. In an effort to increase revenues the company has slipped back into its old strategy of winning as many customers as possible, and in doing so is neglecting those who have been long standing customers and who chose CS1 for its close customer focus. On talking to the customers it is clear that they see a change in the way in which CS1 does business and feel that the company is not in control. As they work so closely with CS1 they see how resources are stretched and it seems that the company is not making the necessary commitment to sustaining its business by investing in people and skills. This is acting as a barrier to the customers giving CS1 increased volumes of work, as they are unconvinced that the company could cope with it. CS1 has recently been accredited ISO9001 status, and this standard was pursued to help bring its processes to an acceptable level, however the OD recognises that this is not enough to eliminate the concerns of their customers. Therefore, CS1 has recently begun to work with Scottish Enterprise and the University of Strathclyde to improve productivity, efficiency and customer relationship management. The loss of the customer in the summer of 2008 resulted in a large decline in production volume, therefore it was necessary to make some redundancies among shop floor employees after the Christmas peak period (Jan/Feb 2009). The problems within production, the lack of human resource to take time to plan and resolve issues, and the redundancies on the shop floor have resulted in low morale and a general feeling of negativity among employees at all levels. The management team is aware of this and is hoping the collaboration with Scottish Enterprise and the university will begin to show improvements and so boost morale.

On opening the new site CS1 also employed a new sales director to increase the customer base and help to grow the business. He has since been promoted to MD and the OD/acting MD has gone into semi-retirement, working part time in the business to support the MD and production managers. One of the main shareholders has started taking more of a hands-on role in the business and is involved in regular management

meetings. He is keen to grow the bottling capability of the business as much as possible in the coming years, without making too much investment (since the new premises has yet to yield returns).

In summary, the content of transformation at CS1 is as follows:

- New ownership and management team

- New vision and strategy

- Streamlining of customer base

- Reengineering of processes

- ERP system implementation

- Price restructuring

- Strategic repositioning (customer focus)

- Introduction of new value stream (contract bottling)

- Investment in new infrastructure and equipment

- Rebranding

- Restructuring of organisation

- Refocus on customer service strategy

4.3   Process of transformation

The transformation at CS1 began shortly after the company was sold to the shareholder consortium, when then appointed a new OD to the management team to focus on growing the business. The first step was the development of a strategy for CS1 which the OD would execute with support from the MD at the time. There was no real sense or urgency or burning platform to make changes in the business; co-packing was a profitable market and CS1 had an established reputation for flexibility, reliability and quality. However, the shareholders believed there was potential for rapid growth and the strategy was geared at achieving this. Knowing the Scottish whisky industry well, the OD was certain that streamlining the customer base to three key customers, and providing them with excellent customer service, would result in

the customers giving all or the majority of their co-packing work to CS1. So, a vision of excellent customer service was set, and the strategy for achieving this planned. Outside the management team the new vision and strategy was not communicated, and only those directly affected were informed (e.g. sales employees).

Eliminating small, 'bitty' orders in itself would increase productivity on the shop floor since changeovers would be reduced, but the OD also recognised the potential for improving efficiency by reengineering all production processes. The majority of employees at CS1 had been with the company for many years and had limited experience of new production techniques or management philosophies. The OD himself did not have the time to begin analysing and proposing improvements for the production line, but the shareholders were reluctant to invest in skilled staff. When the OD discovered the KTP scheme he saw it as the perfect way to bring the skills he needed into the company without needing to persuade the shareholders to employee someone else.

Using KTP associates to introduce changes to CS1 was a double-edged sword. On the one hand it was highly effective in providing short-term gains and demonstrating how approaches like continuous improvement and standardisation would improve profitability. On the other hand, bringing an outsider into the company for a fixed period of time reinforced the notion that the changes were finite 'projects' with a beginning and end. Once the associate finished his programme the employees reverted to old ways of working; sufficient time had not elapsed to fully embed the changes into the culture of the company, and no one was appointed to continue driving the new approaches. The systems introduced to support the changes (such as ERP and the pricing database) did bring some degree of consistency and control to processes, therefore there were long-term benefits.

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The culture of CS1 had a large effect on the way in which changes were introduced. CS1 could be described as a 'typical West of Scotland' manufacturing company where employees came to work, did their eight hours and left, without wanting to take an interest in any aspect of the business outside their own task. This was not true of all employees, but in general employees work in functional silos and are unwilling to engage in activities not directly related to their role. The employees are considered to be very hard working which is admired by the management team, however the lack of initiative is frustrating to them. As a result, all changes made during the transformation process were top down and communication was informative rather than participative and involving. During ERP implementation, relevant staff were involved and trained and when standard operating procedures were introduced on the shop floor the staff were trained on these and the reasons behind the change explained. Due to the large numbers of eastern European staff, procedures and notices were also translated to ensure none of the employees were excluded.

Although the management team had annual strategy meetings with shareholders, the volatility of the co-packing market meant they were often operating to short-term plans and targets rather than aligning the business to the vision that had been set. The close customer contact and excellent customer service approach was not systematically pursued and the business found itself entering into price wars with competitors in order to win new customers and sustain profits. This was detrimental to the service provided to existing customers, who also began to demand reduced prices. When the major co-packing customer left the business in 2004 the MD and OD realised that if they continued to compete on price the company would go out of business. The loss of the customer provided the burning platform for CS1 to make major strategic changes.

Having been in with the company for four years, the OD realised that it would be impossible to grow the business based on its co-packing service. The market was

extremely volatile with no obvious reason behind the peaks and troughs in sales. Barriers to entry for competitors were low and so they would always loose customers to companies offering a lower price for the service. Although these companies all eventually went out of business and the customers came back, it was an unsustainable and highly stressful way to operate. There was also a growing trend for whisky producers to bring co-packing activities in house, therefore some customers were no longer strategically dependent on CS1. In conversations with members of the Scottish whisky community, the OD identified a niche in the contract bottling market, between large volume production and one-off specialist cask bottling. Although this was considered the only way for CS1 to grow, the loss of the major customer meant that they were losing money and so did not have any revenue for investing in a bottling capability. Fortuitously one of their customers agreed to partner with them and invested in the necessary equipment for CS1 to provide a bottling service to them.

External investment is a key enabler for allowing changes to happen in CS1; the KTP associates are part funded by the scheme, the bottling customer investment as mentioned above, and the new bottling site which benefited from an RSA grant. The OD has also participated in a number of research projects with the University of Strathclyde which contribute finance to the time he spends on these, as well as knowledge and expertise in different areas. The support from Scottish Enterprise and local development agencies has also proved invaluable, enabling CS1 to send its staff on training courses and implement ISO9001.

The most significant change in the company was the move to the new bottling site in 2008. The layout of the new production area was designed by the OD and production managers and the transition considered a success.

In summary, the process of transformation for CS1 was top down changes mainly executed as projects. The current position of the company was not envisaged at the beginning of the transformation journey and changes were generally made as a result of problems or issues highlighted by previous changes, or by influences from the external environment (mostly customers). Attempted changes to culture have ended in failure, and this is considered a major challenge to future growth in the company.

4.4   Context of transformation
4.4.1   Internal

The new MD and management team did not have a significant impact on the way the business was operated at CS1. Inevitably leadership style was different, but this did not translate into a different working environment for employees. The OD was more visible on the shop floor than management predecessors and took time to get to know the staff. This was both in an effort to engage them in the changes that were being made and also to make himself 'one of the them'. The culture of CS1 was described as being hostile to newcomers and a difficult environment to break into and feel welcomed. Both KTP associates felt this and the OD believes it was contributing factor to them not continuing with the company at the end of the programme.

The seasonality of co-packing meant that CS1 employed a large number of agency staff. The constant turnaround of staff made it difficult to introduce changes and make them stick, but a large number of the agency workers would repeatedly come to CS1 and so the problem was not as bad as it could have been. A further obstacle to change was the large number of eastern European agency workers who had limited knowledge of the English language. To tackle this, CS1 translated standard operating procedures and signage into Latvian and Polish to both make the workers feel part of the company and ensure they could comply with processes and standards.

The new owners wanted a quick return on their investment and so were reluctant to make further investment in the company. Some investments were made, e.g. ERP system and involvement in KTP scheme and recently the investment in the new bottling site has demonstrated the shareholder's long-term commitment to the company. Because of this large investment the shareholders do not want to make further investments until they see some return, so the current issues the company is facing will need to be resolved without their financial backing.

Although the management team were having annual strategic meetings with shareholders, internal meetings were not systematic and fell to they wayside when the business was busy. This resulted in different functions pulling in different directions and a lack of focus on the strategy or vision. Internal communication was not effective and management were not working as a team. Redundancies in 2004 and again in 2009 left employees feeling fearful of their jobs and uncertain of the future of the company. At both instances management did not communicate with employees to explain the reasons behind the redundancies or to try to minimise negative feeling. Around the time the new site was opened for production the MD retired and the OD was quite ill, therefore there was a clear lack of leadership in the company. The new site led employees to speculate over the future direction of CS1 which had not been communicated to anyone outside top management. The recent appointment of a new MD is set to rectify this issue and bring some coherence to the business.

Among the workforce there are pockets of highly skilled and experienced employees, particularly in the bonded warehouse. Other areas of the business suffer from lack of knowledge and although the employees work hard and do their jobs well, there could be efficiency and productivity gains if more skilled or trained people were introduced with knowledge or experience of different approaches or methodologies. Employees in a supervisory role have worked for CS1 for over 10 years and so bring with them the existing culture of short-termism and negativity about the future. These people are

influential to the employees they supervise and the OD is conscious that they need to be coached to reflect the new vision of the business, or that new people need to be employed who bring with them new ideas and a drive for improvement.

4.4.2   External

The transformation journey of CS1 has been greatly influenced by a number of significant changes in their external environment. Customer behaviour has changed over the past five years in that more co-packing activities are being brought in-house. Those customers who do still want to outsource are reluctant to use a single contactor so will divide their business between two or three companies. This was detrimental to CS1's key customer strategy as it meant that they could not grow the business with such a small number of customers. Customer expectations have also changed; they expect flexibility with high quality and at a low price. This type of operation was unsustainable for a company like CS1 since their major overhead was human resource, the cost of which was increasing all the time. The OD's plan was to have few customers that were strategically dependent on CS1, but customers did not see co-packing as a strategically important part of their business.

As mentioned previously, there are low barriers to entry for competitors to enter the co-packing market, and so companies offering lower costs were continuously taking customers from CS1. It was only when these competitors let the customers down in terms of quality or flexibility that they came back to CS1, but by that time CS1 may have had to make redundancies or take work from elsewhere and so at times did not have the capacity to take on the business again. Therefore, relationships that had been developed over a number of years were lost. In bottling there are fewer competitors and higher barriers to entry, therefore the company now believes that this strategy is correct and with correct management will allow the company to grow according to shareholders' aspirations and be highly profitable.

The nature of the co-packing market is that it is price sensitive, seasonal and volatile and this impacted greatly on the way in which CS1 transformed. Ultimately it led to the strategic decision to focus on contract bottling, but before this it contributed to the need for price restructuring and production process reengineering. Contract bottling is also seasonal but not to the same extent as co-packing. It is also more stable from year to year, which allows CS1 to be more systematic in production planning. For both services, the majority of products are exported and CS1 has highly skilled workers in the dispatch and warehousing side of the business which gives them significant competitive advantage over new competitors. CS1 has been operating a bonded warehouse for many years and is fully aware of tax and other legal regulations which takes hassle from the customer. In many cases customers will ask CS1 for advice on such matters. The whisky industry could be described as being an old boys club; relationships are vital and networking an essential part of the industry. The past experience of the OD was vital in maintaining relationships with customers, finding out about opportunities or threats to the company and making decisions on its future directions.

The recent economic crisis has had an effect on CS1, Firstly the proposed sale of the co-packing site was cancelled due to the collapse of the property market. Secondly, the whisky industry as a whole has suffered since the majority of its sales are outside Scotland. The supply chain is full of stock and so production volumes have decreased, in turn effecting co-packing and bottling demand. There is still opportunity for growth for CS1, but whisky producers are cautious at the moment and reluctant to engage in long-term contracts.

The expansion of the European Community led to a massive influx of workers from Eastern Europe. A low-skilled, repetitive, manual job like co-packing is not favoured by many people so before this influx CS1 had a high turnover of staff and found it

difficult to fill positions. The workers from Eastern Europe were happy to do the job which was of great benefit to CS1 and at one point meant that they employed more workers from outside Scotland than locals. In recent years this trend has declined but there a still a large number of permanent employees at CS1 from Eastern Europe. The effect of this was described above in terms of communication barriers, and the resultant translation of documents and signage into Latvian and Polish.

4.5   Next phase

CS1 is entering into a new phase of transformation. The new MD has only recently been appointed and is tasked with turning the bottling side of the business into a highly profitable operation. He has also come from the whisky industry and has lots of contacts and knowledge of the future direction of the industry. The new MD has plans to restructure the business and change roles and responsibilities across the board. These changes are expected to be difficult for many people to come to terms with and the OD is anticipating many people to oppose the changes, but this is seen as necessary and beneficial to create the culture change required to take the business forward. The current recession may prove beneficial in getting people to buy-in to the change, as they will not easily find employment elsewhere and will be reluctant to leave.

The shareholders have partnered with other companies located at the co-packing site to develop plans for residential development at the site in anticipation of the property market growing and stabilising in the next few years. The intention then is to close the site and transfer co-packing activities to the bottling site, or sell the co-packing side of the business to a competitor, depending on the market at that time. This strategy will not be communicated outside the management team as it is keen not to cause fear among the workforce or indeed deter co-packing customers from giving CS1 their business.

5.0   Summary

The transformation story of CS1 has been discussed in terms of its content, process and context over the past 9 years. The table below summaries the content of the transformation in terms of the situation before 2000 and how it is today. It provides only a snap shot of what parts of the business have transformed and should be considered in relation to the transformation story presented above.

The process of transformation for CS1 was top down changes mainly executed as projects. The current position of the company was not envisaged at the beginning of the transformation journey and changes were generally made as a result of problems or issues highlighted by previous changes, or by influences from the external environment (mostly customers). Attempted changes to culture have ended in failure, and this is considered a major challenge to future growth in the company.

Content of transformation	2000	2009
Ownership and management team	Privately owned and managed by the founder.	Owned by consortium of shareholders, new MD recently appointed to drive through new strategic direction.
Vision and strategy	Provide flexibility and quality service to customers. Achieve growth by taking on all customers if capacity was available.	Flexibility and quality through close customer relationships with few key customers. Growth through focus on expansion of bottling capacity and production efficiency.
Value proposition and value streams	Attempting to be both customer intimate and price minimisers in co-packing.	New vision leads to customer intimate value proposition supported by operational

	Limited capacity for contract bottling.	excellence. New value stream of contract bottling expanded. Company rebranded to reflect both bottling and co-packing services.
Price restructuring	Ad-hoc pricing process resulting in company losing money on some orders.	Transparent and structured process for pricing orders.
Processes	Production processes poorly planned and unsystematic. Back office processes managed using bespoke systems and personal approaches.	Reengineering of production and planning processes. Standard operating procedures introduced. Bespoke systems still used for some functions although ERP system is in use for finance.
Investment and infrastructure	Facilities run down and outdated. Machinery generally second hand.	Recent investment in new bottling site, but limited investment in new machinery on production lines. New MD appointed with plans to bring new skills into the company.
Organisational structure	Owner managed and all decisions made by him. Limited management team, supervisory roles put in place as necessary.	Professional management team led by shareholders. New MD about to restructure company to reflect two value streams and strategy of the business.

6.0 Concluding Remarks

Many thanks to those who participated in interviews for this research project. Should the reader wish to offer corrections or dispute any element of this report, please contact the researcher directly.

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Case study report

CS2

December 2009

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1.0 Introduction

The following report is a summary of information gathered from a set of interviews and discussions at CS2 between May and December 2009. Four members of the organisation participated;

- Managing Director (6 years at company, son of founder)
- Operations Director (16 years at company)
- Research & Development Manager
- Supply chain manager

The report is focused on the information gathered regarding the transformation story of the business. It begins by describing the background of the company then goes on to discuss the transformation story in terms of the stimulus for transformation, its content, the process through which it was achieved and the context in which the transformation took place, both inside and outside the company. The planned or perceived next phases in the evolution of the company are then discussed. Finally, the transformation story of the company is summarised to highlight the key events and influencing factors from this case.

2.0 Company background

CS2 is a family owned and managed business which designs and manufactures precision engineered sound reproduction systems. It was founded in 1972 in response to the perceived lack of quality hi-fi systems on the market. The first product the company manufactured is still in production, and since then the company claims to have led the market with continuous product innovations most recently in Digital Streaming (DS) technology. The site is located on the outskirts of Glasgow in a purpose built facility and currently employs 160 full time staff. The management team is led by the founder's son who took over as Managing Director at the

beginning of 2009 following five years as research & development manager/engineering director. The founder chairs a board of non-executive directors who are involved in long-term strategic planning and offer a supporting role as necessary.

The raison d'être of CS2 is to provide its customers with 'music for life' through the design and development of modular, compatible and upgradable components and systems. It strives to achieve perfect sound reproduction and it is this goal that drives the company to new technology and product developments through its dedicated research and development team. It also owns a record label to carry through its ideal by ensuring it produces music at the highest possible quality, thus maximising customer experience with the products.

Since its beginnings in record turntable production CS2 has changed its capability and skill set to sophisticated electronics and software design and manufacture in order to offer products aligned with music reproduction technology and trends; firstly CDs and now the digital music streaming revolution. Thus, CS2 has continuously changed and evolved throughout its history, however the focus of this investigation is the most recent transformation from 2000 when new product systems were introduced to the market, up to the present day.

3.0 Transformation timeline

Figure 1 below illustrates the key changes in the company during the period under study. These are discussed in the sections following.
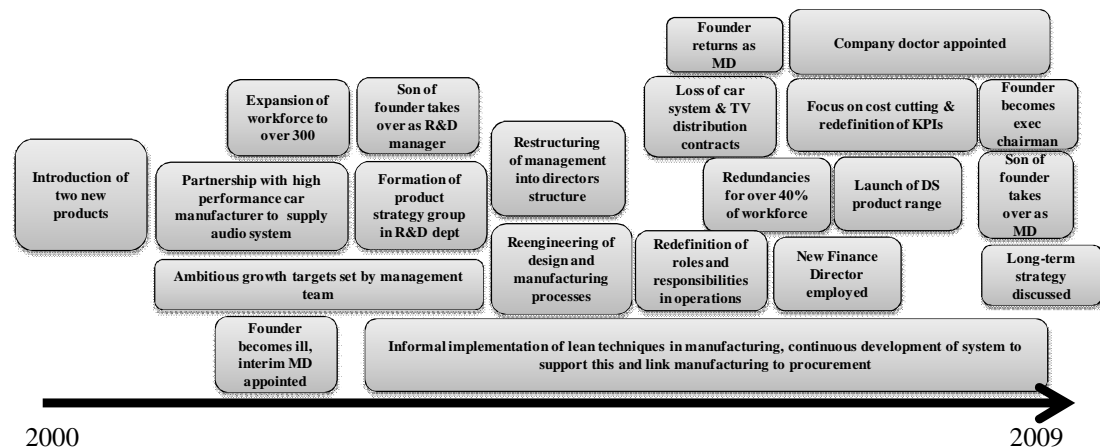
Figure 1 – Transformation timeline of CS2

4.0 Transformation story

4.1   Transformation stimulus

The transformation story begins in 2000, however it is necessary to understand the situation of the company before this in order to fully appreciate the subsequent changes. CS2 is built upon the entrepreneurial and innovative spirit of its founder. The ethos of the company was always to lead the market in sound reproduction technology that would allow listeners to hear music as it was intended to be heard. The first product introduced by CS2 in 1972 was considered the best of its kind right up to the introduction of compact discs in the 1990s. Although insistent that CDs were detrimental to sound quality, sales of their flagship record player were declining and the company realised that it had to move into this new technology if it was to remain competitive in the market. Having made the decision to design and manufacture CD players the company was determined to make the best in the industry. Thus, CS2 changed from being a mainly mechanical engineering company with some electronics capabilities to needing to develop skills and competencies in more sophisticated digital electronic and software engineering. Just before this product strategy change a new factory was opened, purpose designed and built by a renowned architect, around a modular, flexible manufacturing concept.

Shortly after the millennium CS2 introduced a revolutionary product to the market. It was the first of its kind, playing all forms of disc regardless of their format (e.g. CD, DVD etc). The industry had been waiting for CS2 to launch some new product releases and the product was well received, exceeding sales expectations. Not long after, the company also released a surround sound system to support the disc player and again this was popular among customers. On the face of it the product launches had been highly successful, however behind the scenes it was a different story. Of all the disc players sold in the first year, almost 100% were returned for rework due to reliability issues. Similar issues were manifesting in the other system and the company was overwhelmed financially and operationally. Problems were attributed to a number of issues:

- incomplete understanding of the product technology (some parts were from OEM suppliers and coupled together with in-house components);
- inaccessibility to OEM component software to identify and correct errors;
- lack of capability in specialist engineering techniques demanded by new products
- poor design process with lack of quality procedures in place
- overcomplicated designs and systems in new products, excessive functionality

The new product releases were pushed quickly as there had already been delays in promised launches and the company was keen to show its dominance in the market for product innovation. Following this, it was evident to the management that the company could not continue operating as it had before and needed to make radical changes to many areas of the business. IT systems were outdated and conflicting information was being used by different managers, inventory was excessively high,

the poor reliability of the products had already damaged the brand and the company had huge overheads that were not being covered by existing sales, thus CS2 was no longer profitable. The transformation stimulus was one of survival.

4.2   Content of transformation

As the company transitioned from mainly mechanical engineering to a more electrical and software focus, the culture, practices and operational structure of CS2 remained the same. Skills that were not existing in the company were brought in by hiring specialists and if necessary specific sub-systems were outsourced e.g. electrical boards and software code. The entrepreneurial drive remained and new products were pushed for release as soon as possible; the approach was one of continuous innovation and new product introduction. Pleased with the resurgence in revenue through the success of the product releases in 2000, the management team set ambitious targets to grow the company to £50m turnover in a few years. This was supported by the decision to partner with Aston Martin to develop the stereo system for their new Vanquish model. The company had already diversified into TV distribution in the mid-90s and so this contract expanded its portfolio further outside its core competency of home audio products.

Behind the scenes, the operations department was struggling to keep up with demand. The new products were highly resource intensive, and more worryingly had poor reliability resulting in huge volumes of returns for rework. In addition, the Aston Martin contract required a lot of development work and so a lot of resources were tied to this contract. The existing workforce could not cope and so additional workers were continuously employed, at one point in early 2000s the company grew to over 300, with over 60 additional employees joining CS2 in less than a year. This rapid growth in employees was difficult for CS2 to cope with. The previous informality of decision making and prioritisation disappeared as structures and

protocols had to be introduced to allow this influx of resources to be managed. This put much more pressure on those in a supervisory role and resulted in lots of unnecessary bureaucracy. Plans were made and followed almost blindly, regardless of changes in demand, resulting in a large inventory and delays in customer orders for certain products.

With hindsight the interviewees stated that the company had bitten off more than it could chew. It did not really understand the new technology, outsourcing key components meant that they did not have control over their own products, and their current operational processes could not cope with this change in working. CS2 was trying to compete in a consumer electronics market using the same approach as it had with its high margin turntable. In an effort to gain some control, the production manager introduced informal quality management approaches into the production process. A product verification group was set up to act as a buffer between design and manufacturing that would identify reliability or other issues with products before they got to the customer. This did reduce errors but was a short-term solution; what was really required was a change in the design process to build quality into products from the outset but the company did not have the time or resources, or indeed the intent to do this. The direction from the management team was to push sales to increase revenue to the £50m target, not to cut back and redesign processes. The structure of the company at the time also acted as a barrier for making any major changes or improvements; the operations team was separate from the strategic team and the two did not communicate therefore there was only scope for changing things within functional departments, provided it did not require any investment.

In 2003 a new research and development manager was appointed. He was the son of the founder and had come from a highly technically innovative environment in the area of operating system development for mobile phones. His experience allowed

him to identify straight away the issues in the way in which CS2 approached its research and design processes. The company had reached its limit in knowledge of technology and was heavily dependent on external suppliers of critical systems within their products. He was tasked by the MD to create a product strategy group that focussed on reviewing the current portfolio of products in the company, new technology developments, market trends and future scenarios. The output of the PSG was a grass-roots R&D project, with a focus on in-house software, named 'Volkano' as it was expected it would erupt with a new wave of product innovations for CS2. Over a period of 18 months the group met regularly to discuss the outputs of its research and then made a decision as to the future direction the company should take in terms of new product development. The 'music for life' vision was re-established, delivered through upgradable platforms common across the product range. The R&D manager believed that the CD player had lost the original ethos of the company which the turntable product embodied; an upgradable high quality product in which the customer made a long term investment and was a customer for life. The new product strategy was a return to these core values. The group had identified that digital streaming and networking was the future of music in the home. As this was happening, CS2 underwent an organisational restructure and the existing management team was reformed into a director structure. The R&D manager became Engineering Director and the production manager became Operations Director. Because of the founder's health issues, a new MD was appointed to lead the company after the reshuffle. Many of the management team left the company over this period, attributed to unease with the direction in which the new MD was leading the company, and many engineers left the research and development department due to the new approaches to product design and development introduced by the Engineering Director, as well as resistance to developing new skills or approaches necessary for achieving this vision.

With the decision made to focus on networking technology and digital music streaming, the Volkano project began to develop the technology necessary to turn the vision into a tangible product family. The Engineering Director had much experience in software and technology platforms and made the decision to use this platform approach for CS2. It also brought the company back to the founder's original vision of modular, upgradable products that would last customers a lifetime, regardless of technology changes. At his joining the company it was spending hundreds of thousands of pounds per year to work from a proprietary development platform but he knew the same output could be achieved by using open source providers. He also knew that the majority of problems from existing products came from software and hardware provided by OEMs and that CS2 had no power to influence them to fix the problems. With the help of a grant from Scottish Enterprise the director was able to invest in technology and skilled employees that were necessary to design and build as many components and systems in-house to bring the control of the products back to CS2, and thus make the new product strategy a reality. The design process was reengineered to build testing into every step, ensuring that problems were identified at the source and not later in the manufacturing process. The move to an open system architecture for product development and manufacturing completely transformed the product delivery process for CS2. The capabilities of the company were expanded further back in the supply chain through the development of core expertise in operating software that would previously have been resident in proprietary, bought-in subsystems. The procurement processes were transformed since the company was buying more 'raw' materials and less subsystems and although the company incurred relatively more development costs they were actually reducing overall product costs, thus improving price vs performance value for their customers.

As the new product development approach was being introduced, the Operations Director was making more and more strides towards a lean approach to production, now having the authority and freedom to make changes in his new role. This lean

approach was not part of a grand plan decided with the other directors and was happening independently of the Volkano project. It was driven by the knowledge that problems would be reduced, they could move out of fire-fighting mode, and everyone's job would be easier if processes and systems worked to support operations. The flexible manufacturing and assembly system designed into the new factory in the late 1980s was the enabler for continuous improvements to be made, coupled with the new product strategy of modular design and technology platforms. The starting point of improvements was the way in which production plans were made. Traditionally the company operated a push system, setting production plans a month in advance according to sales forecasts, regardless of what customers actually wanted. This resulted in large numbers of surplus stock and on occasion delays in customer orders as the product they actually wanted was not planned for a few weeks. The planning was then changed to a weekly system, with plans fixed for five weeks. This improved things a little but the same problem existed. Eventually the decision was made to use a pull system, where orders were made according to customer demand and not optimistic sales forecasts. Techniques such as kanban were introduced but caused problems due to inconsistencies in set up and utilisation of IT systems. All of this culminated in increased inventory, increased work in progress and general inefficiency.

As the Engineering Director was developing the new products and the Operations Director was battling with improving production, the company ran out of money. The relentless pursuit of growth through increasing turnover was at the expense of profitability. The products were quite low margin and very resource intensive, and the resulting in large overheads for CS2. These overheads were not being matched by product sales, and product reliability issues still existed, so as a result the company was not profitable. Stock was running out of control. The TV distribution business helped to offset these losses but was not enough to carry the company, and it too began haemorrhaging cash in 2006. The Aston Martin business was considered

successful but again was highly resource intensive. Although these profitability issues existed for some years, their effects were not fully felt until 2007 when CS2 lost both the TV distribution and Aston Martin contracts. As a result, the company reduced its workforce by 40% over two years, through natural attrition, voluntary redundancy and enforced redundancy, and focused on cost cutting to save the company from collapse. In hindsight, the crux of the problem was considered to be the inaccuracy of management information systems resulting in a widespread ignorance of key metrics within the management team, thus the continued pursuit of damaging strategic goals.

This was described as being a chaotic time for CS2. The loss of the TV and Aston Martin contracts and subsequent redundancies had been difficult but were also useful in the sense that they allowed the company to go back to basics and focus on its core capability of home audio equipment. Within research and development the redundancies came at the time when they were heavily involved in development of the platforms and systems for the digital streaming products. The Volkano project continued in spite of this as it was believed to be vital for the long-term survival of CS2, but it was pushed to release products more quickly than perhaps would have happened if the company was not in crisis. As this continued, the Operations Director focussed heavily on efficiency in both manufacturing and utilisation of people. Production teams were notorious for in-fighting, team leaders would not share resources and the operators they supervised did what they were told without showing much initiative. The director changed the roles and responsibilities of operations staff to give more responsibility to operators and free-up team leaders and supervisors to focus on continuous improvement. Operators were multi-skilled and so could be moved to wherever they were needed across the entire production process. A single person was given responsibility for triggering material flow in the process and slowly inventory began to come down. To support this the procurement team was given responsibility for deciding when to purchase parts, taking control

from the sales team who did not fully understand the implications of their forecasts. The system (which was always a bespoke, in-house built system) was standardised across the operations function and allowed all employees to work without having to wait to be told what to do next.

The reduction in employee numbers in turn reduced the overheads of the company and made breakeven point achievable. Focussing on a single value stream of home audio equipment enabled them to work on perfecting the processes involved in this rather than juggling several conflicting approaches. In 2007/8 the company negotiated additional support from the bank that enabled CS2 to continue operating. Part of the agreement was the appointment of a company doctor at CS2 to oversee its management and provide support where necessary. Shortly after the loss of the TV and Aston Martin contracts the MD left the company and the founder returned as MD. The company doctor provided a focus on operational excellence to support the management team who, though initially sceptical, found it an extremely beneficial intervention.

In Summer 2007 CS2 launched its new digital streaming (DS) product which was an immediate hit in the market and the first of its kind. In early 2008 the Engineering Director became chairman of the management team, though the founder officially remained MD and Chairman. The company doctor identified that team leaders were not working together, but were very much focussed on their own functions. In an effort to change this, he introduced a daily meeting with a KPI board for each function to allow everyone to have visibility and understanding for how the company was performing in each area. It has led to KPIs being updated to reflect the current situation of the company, and the Operations Director introduced a similar daily meeting for the manufacturing teams. The sales from the DS products and careful financial management provided by the Finance Director resulted in CS2 becoming

profitable by the time audited accounts to June 2008 were published. The Engineering Director officially became MD at the beginning of 2009. The company doctor no longer works with CS2 and the bank is satisfied with its strategy and financial footing.

At the time of writing the company had just announced its cessation of the production of CD players. It is the first company in the market to do so, and is confident that its vision of the future of music is one that customers should and will adopt. The decision is a combination of this vision, along with more operational considerations regarding the costs of developing a new platform for this technology. Sales of CD players do not justify the investment required in upgrading the technology. To further support CS2's networked vision of the music world, it has forged closer links with its subsidiary company, an independent record label that produces and sells studio master quality tracks that only a CS2 system can optimally play.

The vision set within the product strategy group has slowly filtered out to the entire company and digital streaming is the focus of sales and marketing campaigns. The company has recently opened a visitor centre at its site on the outskirts of Glasgow to allow customers to experience for themselves the superior sound quality of its products. This re-education of customers is seen as vital to support the brand and demonstrate the possibilities of music players to the 'iPod' generation.

In summary, the content of transformation at CS2 is:
- New leadership approach from 2nd generation of family
- Change in capabilities and skill set from mechanical and electrical to include software engineering

- Restructure of organisation

- Reengineering of design and production processes

- Shift to platform approach in product development

- Reduction in reliance on OEM software and hardware by developing in-house where possible

- Revision of roles and responsibilities in operations (inc. multi-skilling of operators)

- New attitudes and approaches to working (continuous improvement & cost minimisation)

- Revision of KPIs and daily focus on these and data integrity by all those with responsibility across the business

- More emphasis on support functions such as finance and marketing

- New product strategy leading to a defined company vision

4.3   Process of transformation

Each of the changes discussed above were not executed to achieve an overarching vision or grand plan. In the majority of the cases it was a process of fire fighting and making changes in response to a crisis or problem. In these cases the changes were top down and directive with little or no feedback from employees outside management or supervisory roles. Within the R&D team the changes followed a different approach. A structured plan was put in place through the establishment of the product strategy group, with everyone assigned specific responsibilities. After the competitive landscape had been understood a vision was developed along with a strategy of how it would be achieved. Among the product strategy group there was participation and constant communication, and teamwork was essential. Only those committed to the new vision were involved and so everyone was empowered to drive the strategy forward. The manager/director leaned heavily on his experience in the

smart phones industry, as well as a book on product strategies that provided a framework for operationalising the strategy.

Within operations initial changes were ad-hoc and pushed through by the manager/director, but as the product strategy group began to create the new technology platforms, manufacturing approaches were changed to accommodate these. When the workforce was reduced a more structured approach was used, guided by a change framework that was communicated to everyone involved. Quick wins were sought initially to get buy-in and the director spent time demonstrating benefits of the changes by reminding everyone of how it was before. Slowly, by letting new approaches become embedded and employees evolve with these approaches, the Operations Director believes that staff are empowered to make suggestions for improvements and think about ways in which efficiencies could be improved. These changes were driven by a combination of cutting costs and reducing overheads where possible and enabling the re-emerging vision of flexible manufacture on modular platforms.

In 2002 CS2 evolved into a group structure to manage the various value streams it was operating in. In all there were six subsidiaries, each with its own operations management team, who all reported to a core strategy team and MD at group level. This occurred around the time the founder became ill, and was thought to be the correct decision to allow him to continue leading the company. The product strategy group (PSG) was formed around this time, but it soon became apparent that the group structure was overly complicated and detrimental to the vision and goals of the PSG. The interim MD had no product engineering background so it was seen as necessary by the founder to give the then research and development manager a company-wide remit to set future direction through this forum, and lead the company from an engineering- and product-perspective. This led to a restructure in 2005 to

form an Executive Management Team of Directors lead by the new MD and responsible for full business, with the son of the founder as Engineering Director and leading the PSG. The founder stepped up to Executive Chairman and set up the CS2 Board. When the crisis hit in 2007 the company phased out its subsidiaries to focus on its core business of home audio products and the founder returned to lead the executive management team as MD, with support from the company doctor. The redundancies allowed the company to move to a flatter management structure that suited the operations of the business. In 2009 the founder officially became Executive Chairman of the CS2 board of non-executive and executive directors, and his son took over the business as MD (although he had been chairing the management team since mid-2008).

4.4   Context of transformation
4.4.1   Internal

At the beginning of the transformation story, the culture of CS2 was one of spending to grow. The success of the flagship turntable product was assumed to be true of any CS2 product due to the superiority of its technology but when this turned out not to be the case and problems arose with the products that were launched in early 2000s the management team did not know what to do. As problems increased, employees started to cover their backs and a blame culture began to emerge. It was described as being a difficult environment to work in. Increasing sales was considered to be the solution to problems and subsequently more employees were recruited to keep up with production demand and the thirst for new products to bolster sales. The decline in sales, loss of peripheral contracts and resultant redundancies forced CS2 to become more cost aware and a culture of continuous improvement and cost saving began to emerge. The reduction in staff has enabled the more informal approach to decision making to return, as well as a return to the flexible manufacturing strategy which is more suitable for the market in which the company operates.

The direct and consistent approach of leadership from the founder of CS2 was lost when he had to step down due to illness. The new MD and management team did not display the same level of leadership or control and the company was lacking coherence and direction. The company was founded on the vision of 'music for life' but when he took a back seat in the company in early 2000s this seemed to get lost. An interim MD was appointed and within six months the majority of the management team had left the company. The establishment of a product strategy group went some way to bring the company back to its core values, and the change of structure helped to some degree in that each functional area had someone to guide it, however these directors were not working together on a collective vision or strategy, nor did they have an adequate information system to give transparency over the entire business. In the past few years systems have been overhauled to ensure consistency of data and give everyone in the company a view of its performance in all areas. The daily management meeting introduced by the company doctor also supports this. Being an owner managed company brings with it certain expectations in the way decisions are made and can result in a command and control type of leadership approach, however the new MD (the founder's son) is keen to have a more involved and participative relationship with his directors and the executive board.

When the founder's son joined the company in 2003 he brought with him an entirely new skill set and built upon this by employing specialists as necessary. His joining also brought with it the assumption that he would eventually take over the company from his father. This brought a political dimension to the changes he was trying to make in the research and development department and some long-standing employees took exception to his apparent free-reign. From the interviewees point of view these employees were threatened by the new approach to working that was alien to their knowledge or skill set and used the fact that the manager was the

founder's son as their excuse to leave. Being the founder's son gave the Engineering Director a deeper understanding of the fundamentals of the business and why it was started and so bringing CS2 back to basics was believed to be the absolute right thing to do. It also gave him a more profound desire to see the business that his father had created move out of the crisis it was in and flourish. By 2006 it was clear to the founder that his son would become MD. As part of his transition into the role, the Engineering Director travelled to Harvard to complete an executive MBA. He believes that it was essential to give him the management and business knowledge required to lead the company and has drawn on many of the learnings from the course.

4.4.2 External

When CS2 began production of its first product, record players were the focal point of the living room and customers understood that paying a premium for a product meant better sound quality. From the introduction of cassettes and CDs and especially now with MP3s and music downloads a stereo or hi-fi system is no longer the most sought after appliance at home; it has taken a back seat to television and its technological advances and premium priced music systems are valued only by those who have a deep understanding or interest in sound reproduction. Even at that, these customers have become more expectant in terms of quality, reliability, and continuous innovation so when CS2 was experiencing reliability issues in the early 2000s its reputation and brand image were damaged. In recent times CS2 has invested in its website to enable forums and blogs as well as live chats with the MD to bring its customers closer to the business and demonstrate its commitment to them for high quality and customer focus.

This online interface has also proved invaluable for providing customer service that is lacking from some of CS2's distributors and approved retailers. The expectation has always been that they advise customers on using the products and if necessary go to the customer's home to install a system but it seems that some have simply been 'box shifting'. Many have been unable to adapt to the new technology and the different approach needed to sell this to customers and CS2 is working more closely with its network to educate them on its products. Another issue is the increasing number of retailers and distributors going out of business in the current economic crisis. CS2 realises that one of the major challenges it faces in the near future is overhauling its routes to market.

As mentioned previously, external companies supplying software and hardware systems to CS2 were in a more powerful position in that they were not dependent upon the business CS2 generated. Therefore, when the biggest reliability issue with the CD system was found to be software related, CS2 could not persuade the supplier to fix the bugs or give them the source code to do it themselves. Eventually, after much negotiation and the Engineering Director going to the headquarters personally the code was passed on and the problems fixed within six weeks. Years of fire-fighting and bad product image could have been avoided had CS2 chosen a supplier it could work in partnership with, and so the decision was made not to get in such a situation again.

A similar situation was the main cause of the loss of the Aston Martin business. After the success of the Vanquish system the companies began collaborating again for the next Aston Martin model, the DB9, however at this time Aston Martin's culture had become dominated by its parent company, Ford.. So, CS2 moved from working with a small team of designers and being given creative control, to being questioned on every part and every design and having to cut costs at the expense of performance.

CS2 was not an important partner for Ford, and fundamentally the values of the two were not compatible, eventually contributing to an end to the contract.

Interviewees did not discuss competitors to any great degree, since the company stands alone in the premium niche it occupies and with its recent product innovations. When it began to compete in the CD player market CS2 found it harder to justify a premium in the consumer's mind than with its turntables, since CD technology was advertised by mass market consumer electronics companies as "pure, perfect sound forever" so any CD player was often considered "Good enough" by the consumer. Today its products have returned to the forefront of technological innovations in sound reproduction. Competitors for CS2 are once again cheaper alternatives which customers view as equal in performance and so its task is to demonstrate and educate people on sound quality.

The recent economic crisis has not had a significant impact on the company; its sales for the DS products have exceeded expectations and it is continuing to build up market share that it has lost in UK and USA, as well as expand its sales network to areas it has little or no penetration.

4.5   Next phase

Having brought the company back to profit the management team is keen to start looking towards a more long term strategy to galvanise the workforce, and management team, and give them a common goal to work towards. They also realise that there are still improvements to be made and problems to resolve, especially in their long standing products where technologies are becoming outdated and in need of an overhaul. As mentioned above, the distribution network and route to market will be reviewed in the near future to enable CS2 to reach more customers and

demonstrate the benefits of paying a premium for a music system. The subsidiary record label is now becoming more core to the company as it demonstrates that music is at the heart of the brand. Closer working relationships are expected to generate new ideas to keep CS2 at the forefront of the industry.

5.0 Summary

The transformation story of CS2 has been discussed in terms of its content, process and context over the past nine years. The table below summaries the content of the transformation in terms of the situation before 2000 and how it is today. The process of transformation was one of reactive changes to solve problems and bring the company out of crisis, alongside simultaneous changes that were more structured and planned and had a longer-term vision and focus.

Content of transformation	2000	2009
Leadership	Founder/MD directive and sole decision maker (though influenced by managers at times).	Son of founder/MD participative and guided by inputs from management team.
Vision and strategy	Growth through new product introduction and expansion of value propositions where opportunities arose. Focus on turnover. Record label, TV distribution, Retail viewed as completely	"Back to basics" approach, music central to the company vision which is focussed on providing 'music for life' for its customers through upgradable, modular products. Single value stream of home audio products.

	separate businesses and not impacting upon the core business.	Closer relationship with record label to demonstrate music at the heart of the brand.
Skills and capabilities	Mechanical engineering and electronics with limited software capability, sales and marketing at forefront, support functions in background.	Core capabilities of new technology development and innovation based on open system architectures and modular platform design. More sophisticated electronic and software engineering skills. More balanced organisation with sufficient focus on support functions as necessary.
Organisational structure	Operations and strategy teams working independently with little interaction.	Flat structure with management team reflecting key functions in the business.
Processes	Traditional production flow with sequential processes, driven by sales forecasts and push system, quality checks performed at the end of the process. New product development carried out independently of past products, innovations	Lean production approach in place, pull system with based on confirmed customer orders, quality built into products from design stage, platform approach adopted to ensure maximum re-use of technology, upgradability of products and consistency

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	pushed to market quickly.	across the range, new product introduction still pushed to market but with support of quality inherent in the design.
Investment	Attempt to move into new skill needs with existing resources. Where necessary outsourcing of software and hardware to interface with in-house designed and built systems.	Skilled employees hired and investment in machinery and equipment made if demonstrated to add value to the business. Open-source systems used to develop software in-house and as much hardware manufactured in-house as possible.
Roles and responsibilities	Operators skilled in one task, led by team leaders and supervisors, lack of initiative. Managers focused on individual functions with no overall business objectives.	Operators multi-skilled and flexible to meet production demands. Team leaders tasked with continuous improvement. Managers work as a team to achieve business objectives.
Key performance indicators	Revenue driven, targets based on growth in turnover, headcount and sales. Lack of basic financial management and productivity or efficiency targets.	Focus on waste minimisation and profitability. Decisions made based on effects on overall company. Operations run by daily focus on KPIs and teamwork.

6.0 Concluding Remarks

Many thanks to those who participated in interviews for this research project. Should the reader wish to offer corrections or dispute any element of this report, please contact the researcher directly.

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Case study report

CS3

December 2009

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1.0 Introduction

The following report is a summary of information gathered from a set of interviews and discussions at CS3. Four members of the organisation participated;

- Former Managing Director (1992 – 2008; new family)

- Managing Director (8 years at company; 1 as MD)

- Production Manager (24 years at company)

- Sales and purchasing employee (37 years at company)

The report is focused on the information gathered regarding the transformation story of the business. It begins by describing the background of the company then goes on to discuss the transformation story in terms of the stimulus for transformation, its content, the process through which it was achieved and the context in which the transformation took place, both inside and outside the company. The planned or perceived next phases in the evolution of the company are then discussed. Finally, the transformation story of the company is summarised to highlight the key events and influencing factors from this case.

2.0 Company background

CS3 is one of the oldest manufacturing companies in Scotland. It was founded in 1796 to manufacture lawn bowls and continues to operate in the indoor and outdoor bowls market today, although it did diversify into artificial limb manufacture during and after WW1. In recent years it began to supply peripheral bowls products including shoes, bags, and clothing, all with the CS3 brand. The company exports over 50% of what it produces, mainly to Australia where the sport is most popular. It is the number one manufacturer of bowls in terms of market share in almost every country to which it sells (UK is 70% market share, Europe is 60%, Australia is 50-

55%, New Zealand is 50%, South Africa is 50% and Canada is 30-40%) and this selling is done through dedicated agents in each country.

The founding family managed the company until 1992 when the fifth generation decided his sons were not going to continue in the business, and so upon his retirement put the company on the market. It was bought by an individual who had experience in running his own printing business with his brother, resulting in an injection of investment and enthusiasm in the company that has brought it from the brink of collapse to the position it is in today. Although the bowls market has considerably declined since the popularity of the sport reached a peak in the 1980s, CS3 has increased its turnover year on year though continued investment, improved quality and production efficiency and the introduction of innovative product developments. They were the first company to introduce coloured bowls and had to heavily campaign to the governing bodies to legalise their use in the professional game. The interviewees believe this was the turning point for the company as it opened up the Australian market for them, but also in the long term it is encouraging younger players to get involved in the sport and so helping to secure the company's future. The management of CS3 has recently been passed onto the second generation of the new family (2008), who has worked in the company since 2002 as production manager. Currently, CS3 employs 42 full-time staff, the majority of whom have been with the company for more than ten years.

This study will focus on the transformation of CS3 from when the new family took over in 1992 until the present day.

3.0 Transformation timeline

Figure 1 below illustrates the key changes in the company during the period under study. These are discussed in the sections following.
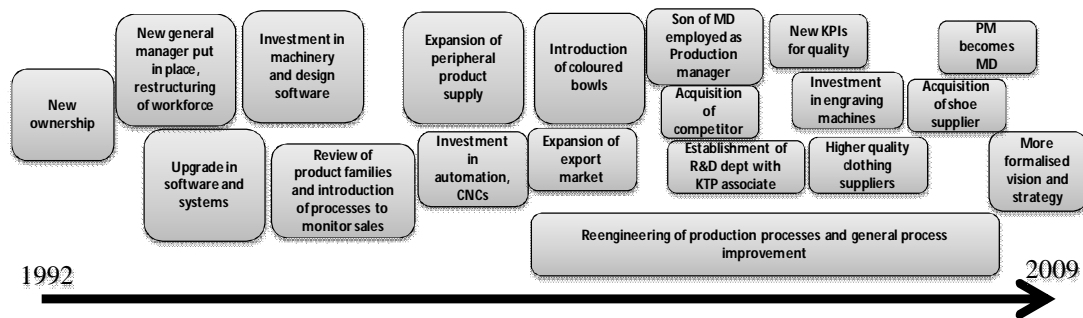

Figure 1 – Transformation timeline of CS3

4.0 Transformation story

4.1   Transformation stimulus

When the company was sold in 1992 it was in third place behind its competitors in terms of market share and was on the path to failure. The products were at the cheaper end of the market, not particularly accurate or high quality and no major bowls players used the brand at competition level. Its low levels of profitability were disguised by the fact that the previous owner kept pumping money into the business to cover overheads. Inventory levels were high and unmoving, as the majority of products in stock were those not being bought by customers. These products were also unfinished and so would need further work to even make them sellable. Staff

numbers were high in relation to actual production levels and further, production levels were high in relation to actual customer demand. Keen to recoup the investment he had made in the company, the new owner knew he had to transform CS3 and so began to make changes almost immediately.

4.2   Content of transformation

The first step was to promote the shop floor supervisor to general manager (GM) to enable him to improve efficiency both in operational processes and with the workforce. As he started delving into the workings of the company he realised that it was very informal, that the former owner had little control over his staff and that policies and procedures were encouraging a complacent workforce. He employed a consultant to help put a new employee bonus scheme in place (the existing scheme was attributed to the inflated production levels and high inventory), to develop a 'rule book' or employee policy and procedures handbook, and to put some specifics into employee contracts which were vague and ambiguous. Not long after he had taken over, the MD spoke to the operators to let them know of the changes affecting them. He explained during interview how he was 'verbally abused' by the audience who were used to the former owner's softer approach and to getting their own way. It was the first and last time the MD ever spoke to them as a group. Four staff in particular were identified as being troublesome and influential to the other operators and so the MD was keen to remove them from the business, but reluctant to pay them off. The consultant was also tasked with improving employee relations and worked closely with the MD and general manager. Overall ten staff were made redundant or left the company, some of whom caused problems and brought CS3 to industrial tribunals but with the help of his lawyers and Scottish Engineering the owner made sure he followed correct procedure and the company won each case. This was also a political victory as it demonstrated to the rest of the employees that such behaviour would not be tolerated.

Having the consultant and general manager focused on employee issues and operational efficiency allowed the owner to start developing the CS3 brand and increase his own understanding of the business and market. He began attending international bowls committee meetings and realised that the dominant brand in the industry was an Australian company that almost completely served their home market and had a large portion of the UK market. He also quickly realised the influence that this company had in the international bowls community and that this would be a barrier to CS3's growth potential. At one of the meetings the MD of this competitor actually told CS3's owner that the company would be gone in a matter of years. Being the type of person he is, the new owner took this as a challenge and was even more determined to turn CS3 around.

Bowls was quite a popular sport in the 1980s and early 1990s and most major events were televised, giving instant advertising to bowls manufacturers whose name and logos were engraved on bowls and embroidered on clothing. The poor quality of CS3 bowls was making it impossible to get any successful players to use the products. The owner used his contacts to have a meeting with a professional Scottish bowls player and understand from his point of view the problems with CS3's bowls and what would be needed to get him to adopt CS3 as a sponsor. Through several meetings and prototype tests the player finally agreed to use CS3 bowls at his next competition. In the process the company had improved its manufacturing process by digitising the bowl design (with help from a local technical college) and using a CNC lathe (which was already in the company) rather than making the bowls by hand. Some employees on the shop floor were resistant to this change, as "that was the way bowls had always been made at CS3" but the change was pushed through despite this. CS3 also sold the stock that was gathering dust in its stores quite cheaply (since it was unfinished and unwanted by customers) to generate some capital for reinvestment.

By the mid 1990s the brand was remerging as a quality brand in the sport and CS3 diversified into peripheral bowls products such as clothing, shoes and bags, all displaying the CS3 brand. As he became more familiar with the industry the owner identified some opportunities for the company to grow. It had primarily manufactured lawn bowls and was not exploiting the indoor bowl market, but the investment in digitisation and use of CNC machining meant that it could design a bowl for this market and start taking market share from its competitors. There was also massive potential for growth in exporting its products. The company had a small presence in Australia but was relatively non existent compared to its main competitor. The MD investigated how he might grow this market and discovered that to export his products from the UK to Australia would incur a tax of 35%, compared to 6% for the Australian company exporting to the UK. The new owner had become a member of Scottish Engineering and through this was able to ask for help in lobbying government to reduce this tax, and eventually won his case to reduce the tax to 6%. Some new sales staff were employed in Australia and sales here began to grow.

Supporting this growth was increased control and quality in operations. Investments were made in upgrading the computer systems both in the office and shop floor. As sales increased and markets were expanded the MD invested in more automation and machinery. The move into the indoor bowls market smoothed production plans to some degree but the growth in the Australian market also helped to reduce seasonality as lawn bowls have a much longer season here compared to the UK. From the mid-late 1990s the company also began to grow its markets in New Zealand and South Africa as well as in the UK.

A major turning point in the fortunes of the company came in 1998 when they introduced coloured bowls to the industry. The owner and production manager had been looking for the necessary materials to enable coloured bowl manufacture; the phenyl-formaldehyde used in black bowls had poor UV stability and eventually faded in the sun (especially those for the Australian market), and if this powder was coloured the fading was almost immediate. Eventually the correct material was sourced and some prototypes made, which performed well under testing. CS3 was sponsoring the Scottish bowls team in a competition against Australia that was being played there and was being televised, and saw this as a perfect opportunity to ascertain the reaction to colour. The team were given blue bowls with the Scottish flag engraved on them, and blue and purple clothing to match. On arrival at the competition the team was promptly banned from competing for going against competition rules of white clothing and brown or black bowls. On hearing this the owner flew to Australia to contest the ban and point out to the officials that the rules did not explicitly ban the use of colour. In the meantime, the main sponsor of the competition threatened to withdraw its sponsorship if the team was not allowed to play. Fortuitously, the sponsor was a bank whose founder had been Scottish and whose corporate colours matched those of the Scottish team. When the owner arrived, ready to fight his corner, the officials informed him that the team were allowed to play and the competition went ahead. The Scottish team won and CS3 had orders straight away for hundreds of sets of coloured bowls. It took much negotiation with the world bowls organisation to officially legalise their use and predictably Australia (still influenced by the bowl manufacturer there) boycotted the plans, however they went ahead. Almost overnight sales went through the roof as CS3 was the only manufacturer.

The increased demand led to more investment in CNC lathes and engraving technology and by this time the business had grown sufficiently to enable the new MD to have 100% ownership. The workforce had bought into the new way of doing

things and realised that the interventions of the new owner were necessary for their long-term employment at CS3. The MD was continuing to involve himself and the company in local and world bowls communities and through this helped to standardise the testing process for all bowls manufacturers, with CS3 winning the opportunity to produce the master bowls for testing in 2002. During one such event the MD tried to persuade a small competitor to sell the bowls part of his business to CS3. The competitor refused, but a few years later contacted the MD and offered him the business. The majority of the competitor's business was in Australia and the intention was to take over the brand with CS3, however it was quite well established and so the decision was made to sell under its original name but manufacture the bowls at the Glasgow site.

In 2002 the MD's son was employed in the business as Production Manager (PM) with the intention of him taking over when his father retired. He had a background in mechanical engineering in the oil and gas sector and brought with him a new way of thinking about manufacturing techniques and operational processes. The new PM saw potential for further product development at CS3 and established a research and development department to investigate new materials, bowls designs and new manufacturing methods. He partnered with the University of Strathclyde in the Knowledge Transfer Partnership (KTP) scheme to employ a KTP graduate to work on research and development and the associate has remained with the company beyond the programme. Along with the GM the PM worked to improve productivity without further investment in machinery or staff. The new product developments changed the production mix from low variety, low volume to high variety, low volume and so efficiency gains were identified in production planning. Change over times between products are long so running small batch sizes introduces a lot of unproductive time into the process. To improve productivity, larger batch sizes were scheduled based on longer-term forecasts, effectively following a make-to-stock manufacturing strategy. Although this increased inventory levels, the benefits gained

from minimising changeovers made it a worthwhile compromise. Part of the investment made by the owner was for an information management system, implemented and managed by a new office manager and accountant. This gave traceability of stock levels, customer orders and production schedules and also allowed the management team to track sales patterns and product success. Production plans were completed by the PM using a bespoke spreadsheet and updated as necessary, and are still completed by him in his role as MD.

In the past five years a number of key people have retired from the business, exposing some knowledge gaps amongst the employees left behind. In particular, the retirement of the quality manager resulted in a massive hike in product failures. It transpired that he had been using many informal measures that were not passed on to his replacement and that no one really knew what he had done or how he had done it. As part of the KTP programme the associate was tasked with identifying a number of key quality measures and general production measures, and a quality procedure put in place to check the bowls at various steps in the production process. It took almost 18 months for the company to bring quality levels back to where they had been, but the interviewees believe they have much more transparency and control and that the forced change in approach has been beneficial.

In 2008 a strategic decision was made to change suppliers of clothing and shoes from cheap, low quality to higher quality products. There were lots of returns of peripheral items which was time consuming and demotivating for staff, as well as damaging to the CS3 brand. The company considered acquiring a supplier that produces bowls shoes and decided this would support its commitment to higher quality peripheral products, as well as allow the company to grow further. In conjunction with the purchasing manager (who had a background in fashion retail) they sourced new suppliers. Thus, CS3 became a supplier of high quality sportswear, emblazoned with

the CS3 logo, to further demonstrate its proposition of a quality sports brand. This change reduced sales but had increase margins and so revenue did not fall, plus the reduction in returns saved time and hassle for CS3 staff.

Also in 2008 the MD stepped down and handed control of the business to his son. He is still the major shareholder and is involved in the business on the periphery, but sees his role as advisory and leaves decision making up to the management team. The company has recently been in contact with Scottish Enterprise to help develop a visible and specific vision and strategy for the company in the longer-term. The new MD is aware that there is only so much scope for product development in bowls, but sees technical innovation as the key differentiator for CS3 in the market. Their main competitors are led by businessmen, not engineers, with limited imagination about how the sport could develop in the future. CS3 pushed the boundaries with the introduction of coloured bowls and fully intends to continue doing this with a few material innovations in the pipeline.

In summary, the content of transformation at CS3 from 1992 to 2009 is as follows:
- New leadership style and approach from new family ownership
- Restructuring of staff to improve efficiency
- Investment in IT systems
- Investment in automation and product design packages
- Reengineering of production processes
- Expansion of business through acquisition
- Addition of value stream; supply of peripheral bowls equipment and clothing
- Establishment of R&D department and increased focus on new product development
- Expansion of sales internationally
- New KPIs for quality control

- Formal development of vision and strategy
- Culture change from complacency and disinterest to teamwork and quality

4.3   Process of transformation

The process of transformation at CS3 was a mixture of planned and specific changes, and reactions to the context at the time. When the MD purchased the company he identified straight away the areas that needed attention, and the priority was driven by what was causing the business to lose money fastest. As changes were made, new problems arose (e.g. new contracts and terms of employment leading to industrial disputes and a strike). The starting point was the MD recognising that he could not transform the company himself and appointing a consultant to help with employee relations, and promoting the supervisor to general manager.

The company became profitable after two years of the new ownership and has grown since. This increased confidence and enabled the MD to take more risks in terms of capital investment and new market penetration and changed the guiding vision from survival to growth. The introduction of coloured bowls provided an instant boost to CS3 in terms of increased sales and global recognition and came at a time when the cultural change had begun to dominate among the workforce. The intention was always to improve production processes but some improvements were made out of necessity, e.g. when the quality manager retired. Outside the management team, employees were not consulted on any changes thus the changes were top down in each case and pushed through by perseverance. Benefits gained from each change were highlighted to staff by the general manager, but informally. If any problems did occur with staff refusing to adopt new practices, the GM, PM and if necessary MD would talk to them to try to make the employee understand why things were being

changed. As the years have passed resistance has decreased, attributed to the realisation of the workforce that management are trying to make things better for them and sustain the success of the company. This has been especially important in recent years as many manufacturers are making redundancies in Glasgow. The approach to change may have been more participative at the outset but after the shop floor employees were abusive to the MD when he first addressed them, the decision was made to not communicate in this way again.

4.4   Context of transformation
4.4.1   Internal

When the new owner bought the company in 1992 the internal context was not conducive to change. Employees effectively ran the business as the former MD gave in to their requests and had little authority over them. The leadership style of the new MD was both authoritarian (which was needed for the employees) and participative among the managers he engaged to help transform the business. This new power from the top caused the shop floor employees to resist everything that was suggested. The unofficial shop steward (the company was not unionised) requested a meeting with a union to seek representation for the operators. The MD agreed and a meeting was held. The union representative was surprised that the employees were upset by the changes as he knew the levels of pay, working conditions, bonus scheme and general terms of employment were as good and in some cases much better than other member companies and so refused to accept CS3. When the new contracts and terms of employment were released the 'shop steward' had a meeting with the MD, consultant and GM to refuse the terms outlined. The management team would not budge as they were confident the contracts and terms were legal and fair. It is the belief of the MD that the employee then went to the shop floor and persuaded everyone to go on strike. The employees downed tools and stopped working. When the MD realised what was happening, he told the employees to leave the site, since a strike meant they should not be there. Although it was a

difficult situation, he saw the unofficial industrial action as an opportunity to remove disruptive employees and consulted his lawyer and Scottish Engineering on what to do next. On their advice he sent a letter to each employee inviting them back to work on Monday if they signed the new contracts. Everyone returned apart from the shop steward, who was called to see the MD (and consultant and GM). The MD had every intention to dismiss the employee, but he explained the reasons behind his disruptiveness and accepted the new regime. The MD thought that having won this particular employee over, anyone could be changed to follow the new company direction so kept the employee, and actually gave him a new role as supervisor so that he would help to reduce or eliminate the impact of other troublesome workers and persuade the staff that the changes were needed. Over his first 10 years as MD, the new owner and management team were able to remove the employees that were barriers to change and bring the workforce around to his way of working.

From a financial point of view the business was not profitable when it was sold but the initial changes and investments began to pay off in 1994 and the company has been profitable ever since. The mid-late 1990s saw a great decline in the sport as televised events were becoming less frequent, however CS3 was just beginning to take market share from its competitors at this time and did not feel the effects of this until more recently when growth has slowed. CS3 believes it has some responsibility to promote the sport and has been involved in sponsorship of local events, competitions and an initiative to bring families into the sport by providing bowls to local councils. In the early 2000s a visitors centre was opened at the factory to describe the history of the company and offer visitors a chance to see how bowls are made. They often host school visits and are keen to demonstrate that the rich manufacturing heritage of Glasgow is still going strong.

The increased sales and introduction of coloured bowls increased production at CS3, but this has been achieved without an increase in headcount. This was the result of the combination of the experience of the GM and fresh approach of the PM to reengineer processes and make investments with immediate or short term payback. The participation in the KTP scheme and subsequent employment of the associate has also been beneficial to the company in terms of new skills and capabilities. Conversely, a large proportion of the workforce is reaching retirement and so experience, tacit knowledge and skills are being lost. The GM retires at the end of 2009 and a new production manager has been employed to replace him. Learning from the experience with the quality manager, the MD brought the new manager in early to work with the GM for a few months before his retirement. This is also supported by the more transparent and standardised processes on the shop floor which have been developing over recent years with the help of the KTP associate.

The move to higher quality clothing was aided by the purchasing manager who had experience in fashion retail, but who is also an amateur bowls player. This link to the customer has proven invaluable in being new styles and designs to market and getting feedback on the products.

What seems to be most influential in the transformation of CS3 is the belief and drive of the MD to turn the fortunes of the company around. This came from both the fact that he had invested heavily in the venture and would lose a lot if it failed, and also that he had experience in running his own business before and "knew how to play the game". He was not intimidated by his employees, by the bank, by competitors or by the governing bodies of the sport that tried to prevent the product developments he was introducing. He ensure that the company was always represented at any meetings or events that would affect them and in doing so built a strong network that

provided him with information on the competitive environment and ideas for future growth.

4.4.2   External

CS3 has quite a unique external context in that it is greatly affected by the vision, direction and politics of the bowls associations and governing bodies across the world. At the same time, as a leading producer of bowls, it also has influence over them. Bowls is a traditional sport with traditional values. In the UK equal rights between men and woman do not exist; woman can only play at certain times and may not be allowed into the club house on particular days. When CS3 first introduced coloured bowls they were immediately banned, along with bowling outfits that were not white. The company had to battle with the bowls committees to legalise these products and has been successful in doing so, but it has taken much effort and some legal proceedings. Complicating matters further is the vast number of official governing bodies in the sport, none of whom particularly agree on certain matters that would allow the sport to grow, e.g. making it an Olympic event. The MD had great presence among the bowls community and was able to exert influence to achieve his desired changes. As mentioned above, the MD pushed for changes in taxation to allow CS3 to compete in the Australian market.

Although the sport is declining, there is still a core following that CS3 needed to penetrate in order to survive and grow. The MD realised that he needed to get professionals to play with CS3 bowls to get brand recognition and improve its perception in the market. He managed to convince a Scottish player to use a newly developed product, marking the beginning of the climb in market share the company now has. CS3 ensures that it has presence at all televised events, and as already described it was one such event that put the company firmly on the map when customers saw coloured bowls.

During its transformation CS3 has been fortuitous. Each bowling manufacturer produces a bowl with a slightly different line (the path it follows when rolled). It just so happens that CS3 bowls have a line that suits the majority of players and is easiest to learn with as it gives most variation in shot. In saying that, however, they are the only manufacturer that has engineers designing bowls rather than producing from trial and error so can boast the highest quality product. Once CS3 resolved its quality issues and began manufacturing using CNCs the poor performance image of the product was removed and the company began to take market share from its competitors. Presently, CS3 has two main competitors who are in tenuous positions. An English competitor is a family owned and managed business but the next generation have no interest in taking it over, so in the next few years the owner will have to sell. The competitor in Australia (who tried to prevent CS3 from entering the Australian market) is also family owned and managed, and the MD is also reaching retirement. His sons will take over but the interviewees believe that they do not have the passion or drive of their father, and so will cause problems for the business. CS3 meets with its competitors at events and in doing so gets insights into their businesses, so competitor intelligence is informally gathered through them and the wider bowls network.

4.5   Next phase

Having only recently taken over as MD, the next phase in the transformation story of CS3 is for the new MD to develop his vision and strategy for the long-term future of the company. As discussed, there are some product developments on the horizon that will take the company strides ahead of the competition. Whilst working as PM the new MD began to build up his own network in the industry and is ensuring that CS3 is still represented as it needs to be. There are still improvements to be made operationally and it is hoped that the new Production Manager will achieve this.

There are also tentative plans to expand the factory or indeed move to new premises if future product developments are successful.

5.0 Summary

The transformation story of CS3 has been discussed in terms of its content, process and context over the past 17 years. The table below summaries the content of the transformation in terms of the situation before 1992 and how it is today. The process of transformation was one of reactive changes to solve problems and bring the company out of crisis, followed by specific changes to achieve growth.

Content of transformation	1992	2009
Leadership style	Weak, influenced by employees wants, MD sole decision maker.	Participative among management team, authoritative when making changes.
Organisational structure	Excessive employee numbers for output, segregation of processes and no teamwork, MD not delegating.	More formal management team, functional specialists, employee awareness of entire production process, team responsibility for quality.
Investment	Limited, reluctance to invest in automation if it would make jobs redundant. No investment in branding or advertising. No sponsorship.	Latest technology developments sought to improve manufacturing processes (CNC, engraving), IT and design software upgraded as necessary. Investment in visitor centre to promote brand, sponsorship

		of professional players and community events.
People	Reluctance to make anyone redundant, no staff development, employees given job for life, no appraisal process, staff bonus based on production volume.	Redundancies made if necessary, job for life if employees perform, no formal staff development but on the job training as necessary, no appraisal process, staff bonus for overall company performance.
Culture	Complacent, negative towards change, no respect for management.	Teamwork, mindful of importance of quality & continuous improvement, conformance.
Value streams	Outdoor bowls and some peripheral products. Focus solely on CS3 within Glasgow.	Outdoor and indoor bowls for different global markets, all peripheral bowling products (bags, shoes, clothing). 'Acquire to grow' approach adopted, if appropriate.
Reengineering of production processes	Unmeasured, non standard.	Planned, standard operating procedures in place, measured and controlled.
Customer base	Mainly UK, lower end of the market.	Global with majority share in all markets.
KPIs	Mainly financial, production targets.	Structured and deliberate, designed for the needs of the company.
Vision and strategy	Uncertain and non-specific.	Informal but beginning to be formalised. Vision to be world leader in bowls manufacturing through a

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		strategy of product innovation.
Value proposition	Cheapest product in the market.	Technical innovation.

6.0 Concluding Remarks

Many thanks to those who participated in interviews for this research project. Should the reader wish to offer corrections or dispute any element of this report, please contact the researcher directly.

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Case study report

CS4

October 2009

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1.0 Introduction

The following report is a summary of information gathered from a set of interviews and discussions at CS4 September and October 2009. Five members of the organisation participated;

- Managing Director (15 years at company)
- Finance Manager (13 years at company)
- Engineering Works Manager (over 30 years at the company)
- Engineering Projects Manager (over 30 years at the company)
- Apprentice Training Manager (over 40 years at the company)
- Office Supervisor (16 years at the company)

The report is focused on the information gathered regarding the transformation story of the business. It begins by describing the background of the company then goes on to discuss the transformation story in terms of the stimulus for transformation, its content, the process through which it was achieved and the context in which the transformation took place, both inside and outside the company. The planned or perceived next phases in the evolution of the company are then discussed. Finally, the transformation story of the company is summarised to highlight the key events and influencing factors from this case.

2.0 Company background

The company was founded in 1951 as tool makers for the textile industry, supplying tools, jigs and fixtures to the booming industry of Glasgow. As the company grew and its reputation became established, the industries it supplied also expanded to include automotive and aerospace. In 1963 the company moved to a new site in another location in Glasgow and in doing so changed its focus from a tool shop to precision engineering company. The founder was passionate about new technology and made investments in the latest machining technologies before many others in the sector. As

the industrial landscape of Glasgow changed so too did the customer base of CS4 and it eventually left behind its textile roots, however its presence in aerospace, automotive, oil and gas and defence sectors continued to grow. The company was the first in Scotland to introduce CNC machines into its factory and this helped reinforced its position in the market as an innovative and high quality engineering firm.

The founder passed away in the late 1980s leaving the company under the direction of his wife and the general manager at the time. The business continued to be profitable however there was not the same level of investment and forward thinking that had previously driven the company forward and kept it ahead of its competitors. The second generation of the family took over the company in 1992 and since then he has transformed it into a world leader in precision engineering, reigniting the passion created by his father in the 1950s. Although an always evolving and continuously changing company, this study will focus on the latest transformation story, starting from the son of the founder taking control of the business in the early 1990s up to the present day.

3.0 Transformation timeline

Figure 1 below illustrates the key changes in the company during the period under study. These are discussed in the sections following.
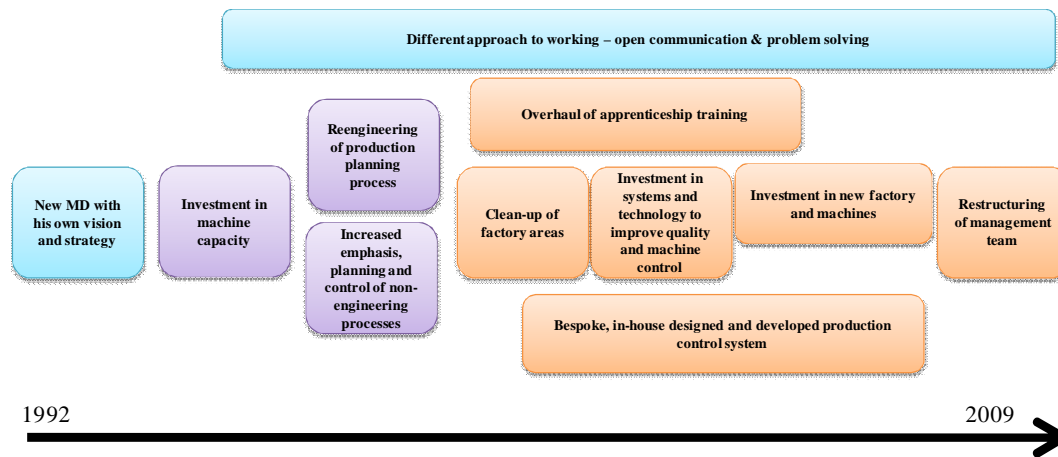
Figure 1 – Transformation timeline of CS4

4.0 Transformation story

4.1   Transformation stimulus

When the son of the founder joined the company he was aware that big changes were needed to bring the company forward and re-establish it as a key player in the precision engineering field. The company was built upon engineering skill and expertise, and this still existed, however the supporting business environment, activities and processes were outdated and detrimental to growth aspirations. In the words of the MD, he needed to "put the frills on the business". With experience in other businesses and sectors the MD believed that if changes were not made the company would run itself into the ground. The stimulus did not come from performance results, as the company was very profitable, nor was it the result of customer behaviour, since the company was still highly regarded among the sectors it served. It came from the foresight and vision of the new MD who believed that the manufacturing/engineering world was changing and was no longer only about technical skill, as well as the wishes of many employees who had known the previous innovative approach of the founder and were frustrated that the company was standing still.

4.2   Content of transformation

The first major change in the company was to develop a strategy to take the business forward. It was centred on building competitive advantage in all areas, not only core technical ability. Previous to his taking over, the company was all about cost and profit, reluctant to invest and operating according to short-term targets and tightly controlled budgets. The new vision of the company was to strive for perfection; to be the best at everything it did and to invest in technology and people, provided it contributed to the development of the company, skills of the workforce and ultimately delivered value to the customer in the way they wanted.

The new vision and attitude were demonstrated early on with investment in three new CNC machines. Employees were initially concerned about such risk taking, unsure that they would have demand from customers to justify the new capacity. The MD had to work to change the culture of "penny pinching" and cost minimising into one that encouraged long-term thinking and acceptable risk taking. Prior to the MD joining the company, there was very much a command and control culture set by the general manager at the time; employees did what they were told and had no opportunity to voice opinions or ideas. Office staff were not allowed to talk to operators or to each other in the office. It was a constant battle to get new equipment, even tools that were required for jobs, and staff would always ask themselves "do I really need that" before requesting something. Operators were reluctant to report problems for fear of being blamed. Understandably when the new MD arrived and started spending money, the employees were unsure how to react and took some time to change their mindset. Now those interviewed believe that there is a culture of creativity, continuous improvement and openness. All employees are encouraged to suggest ways of improving the way things are done; the phrase "that's how we've always done it" is banned. When a problem occurs it is reported and is not signed off until some action has been taken to eliminate it or minimise its effects.

Around the time of the initial machine investment, a production planning process was also introduced. Previously, foremen effectively battled for time on the machines and this resulted in lots of in-fighting and rivalry among teams. The new process meant that jobs were scheduled in advance and everyone had a common plan to work from. This change reinforced the MDs ethos of teamwork as well as his view of the entire company as a system, since it brought other functions such as procurement and dispatch into the production realm.

The new MD brought a broader range of skills in marketing, accounting and IT to CS4 when he took over, and in general a systems thinking and a continuous improvement approach, both in terms of philosophy and technology. In the past few years the MD has discovered the work of Deming and believes it to mirror his own philosophy (thus claiming that he thought of it first!). The MD brought this thinking and approach into how he managed all parts of the business and now having, all employees at management level were given a copy of Deming's book to read so that they understood where the MD was coming from, and so they could instil the same philosophy of working into their practices and those of their subordinates.

As mentioned above, the introduction of a production planning process was the first step in demonstrating the linkages between all functions in the company. To support this, the MD invested heavily in a production control system which was entirely designed and built in-house. In his previous employment he began to develop the software out of frustration with existing off-the-shelf options. On taking over at CS4 he, along with specialist employees, fully developed this system to allow real-time monitoring and control of production processes, as well as incorporate supporting functions to give an entire view of the order fulfilment process. The system reduced duplication of work and scrapping of parts as all information, drawings, costings etc relating to each product or job are contained in a central database and so revisions or changes are visible to everyone. The system is continually upgraded and its latest

version includes 3D solid models of each part, and a simulation package which runs the machining process virtually to allow operators to see how the part will be machined before any metal is cut.

Investment in new machines and production technology has been continuous over the past fifteen years and interviewees believed this sets CS4 apart from competitors. Visual management techniques are used extensively on the factory floor and in-machine cameras mean that operators can manage two machines at a time. To reduce human error in machining, probing tools were introduced to the machines to automatically measure and adjust the work piece as necessary. All data is recorded in the production control system to improve traceability and error reporting and so allow for tooling designs to be improved. CS4 operates a system of offline-programming to minimise machine downtime and the simulation software, as previously mentioned, allows the projects staff and operators to test program codes prior to any metal being cut. One of the most significant changes to production was the introduction of standard controls in all machines. CS4 purchases the majority of its machines and control systems from single manufacturers and so was able to partner with them in customising the controls to have a standard layout and functionality where possible. This resulted in quicker and more effective training of apprentices on multiple machines.

The strength of CS4 has always been in its engineers and operators, however training and apprenticeships were inconsistent in the past and very much depended on personal relationships. Apprentice and employee turnover was high as a result of the dominant and controlling culture and some of those who remained became increasingly apprehensive about going to work each day. In saying that, though, employees were still proud to be part of the company since it was highly respected in the industry. Today, a CS4 apprenticeship is one of the most highly regarded and employees across the business are treated as assets rather than cogs in the machine.

Almost all managers and supervisors have been with the company for over fifteen years and most technical management roles are filled by past apprentices. This is seen as vital to carry the traditional values of the company forward to the next generation of apprentices, who will become the managers and supervisors of tomorrow. It also demonstrates to the apprentices and younger members of staff that there is the opportunity for career progression in the company.

As part of a recent investment the company founded an apprentice training school on site and in partnership with a local further education college offers qualifications at four levels. The MD sees this investment as vital for the growth and sustainability of the company and the use of veteran staff members as trainers ensures that tacit knowledge transfer is taking place.

Investment in people goes beyond training and development at CS4. The working environment was as one would expect for a traditional engineering machine shop; dirty, smelly and generally unpleasant. The MD quickly changed perceptions that this was the only way it could be by upgrading machines to prevent oils spills and introducing processes and policies for cleanliness. Brand awareness and pride was supported by painting the workshop and office areas in company colours and providing staff with branded 'uniforms'. As well as making it a better environment for the employees, the clean-up also had an effect on the perceptions of customers and other visitors to the factory. Although engineers are used to traditional machine shops, it was increasingly common for sales and procurement employees of customers to negotiate contracts and so dirty facilities gave the impression of disorganisation. Now, visitors consistently comment on how organised and clean the factory is and hail it as the best they have seen. New canteens have also been provided for staff in an effort to demonstrate the commitment of the company to their wellbeing.

Practically speaking, the backbone of the changes made to the company has been its sound financial standing. The tight control of budgets in the past, although detrimental to organisational development, meant that the company had a good relationship with lenders and did not have any outstanding debt when the new MD took over. This allowed for investments to be made quickly and also for the company to build a business case for major investments in the future. Prior to the economic crisis the MD had planned a £6m investment in a new factory adjacent to the existing premises, and new machines to give the company competitive advantage in specific machining capabilities. The downturn in the economy did not dissuade the company from continuing with the plan, but did mean they had to increase their financial gearing which had previously been at zero. Their good relationship with lenders meant that they were supported in the investment, which has recently been finished and the machines commissioned. The announcement to the workforce of this new move was met with some scepticism, especially from production staff, as there was no guarantee that orders would be generated for the new machines. This did not result in resistance to the change, however, since all previous changes introduced by the MD had been successful and employees trusted his instincts.

The most recent change in the transformation story of CS4 is the restructuring of the management team. Until this change the organisation operated as it had done since its establishment; the founder governing the company with sole decision making powers and the day-to-day management under control of a 'general manager' who took charge of all functions including office staff, engineers and apprentices. Managers and supervisors were in place as needed, but any strategic decisions were made by the owner and his general manager. When the new MD joined the company, a new general manager was appointed (internally) and the governance structure continued as before. The expertise of the company was expanded by appointing more sales and marketing staff, who helped to broaden the customer base of the company and promote it as a world-class precision engineering firm. During the interviews the

researcher was shown how the sales brochure of CS4 has changed over the years and it was clear to see a more professional style being introduced after the new MD took over. The MD would have liked to have made changes to the organisational structure earlier, however it required a number of retirements of older employees to allow this to happen. When the general manager retired in autumn 2009 the MD appointed two engineering managers from within the company; one focused on projects and the other on production; and brought these along with the finance manager, quality manager and sales & purchasing manager into a management team. The team meets every week and has a roundtable discussion about any issues or general information about their respective areas.

In summary, the content of the transformation at CS4 is:

- New Strategy and vision

- Investment in machinery, systems and infrastructure

- Reengineering of processes

- New attitudes and approaches to working (continuous improvement culture)

- Training and development of staff (including new apprenticeship program)

- Financial management

- New sales and marketing skills

- Restructuring the organisation

4.3   Process of transformation

As mentioned in the previous section, the MD has his own philosophy and principals about how to manage a business, and as such had these in mind when he took over the company and started making his mark. As one would expect, when the MD communicated his intended changes employees were resistant and sceptical about his plans. In order to convince them prior to each change initiative he carried out a number of presentations to discuss the reasons behind the plans and the expected benefits. As people began to see the results of the changes and how it made their jobs

better, the MD needed to spend less time convincing and could concentrate on implementation.

For the initial changes the MD had to be slightly more domineering and go ahead with his plans even if people were against him – e.g. investing in three new machines early on. He was convinced it was the right thing to do and knew that he would have to demonstrate his conviction by giving the employees a quick win, and start the ball rolling for the culture change that his vision required. The MD is very much a believer of evolution and continuous change rather than revolution, so although he had a plan of how the business would need to change in all its elements, this was not spelled out to the workforce. This prevented employees from viewing the changes as one big project with a beginning and endpoint, and instilled in them the idea of continuous improvement and the endless pursuit of perfection. It was only after some initial changes were successfully made (new machinery and production planning) that the new vision for the company was used as a driver for subsequent changes. Employees were believed to be more open to evolution having seen the benefits of the changes and so got on board more quickly than they perhaps would have if the vision was communicated early on.

To deal with the "that'll never work" attitude the MD allowed employees to come around to changes slowly. Keen not to impose his ideas as the previous GM had done, the MD believed that it was only when people made the decision to see things differently themselves would there be true cultural change. He gave opportunities for feedback and discussion, encouraged everyone to suggest ideas and tried to rearrange the organisational structure to allow for participation at every level. This also began to embed the systems thinking approach, showing how important all functions were to the delivery of customer demands and breaking down the "them and us" divide that had been encouraged by previous management. The MD believes that teamwork was vital for the transformation of the company to where it is today. Aware that he could

not change everyone's mind, older workers were allowed to naturally retire giving the younger workers the chance to make up their own minds and not be overly influenced by people set in their ways.

Having communicated the vision, all subsequent changes were shown to support or contribute to its realisation. New systems such as the production control system, an upgrade in PCs and the clean up of the factory area demonstrated that the MD was serious about wanting to set CS4 apart from its competitors and achieve perfection for its customers. The message was always consistent – we want to be the best and so to achieve that we need to do x, y, and z. The new training school was a key development for this and again demonstrated the MDs commitment to bringing the business forward and safeguarding jobs in the local community (where the majority of staff come from). As the second generation of a family business, the MD was aware of the pressure that came with his taking over the company since many of the employees had worked with his father. This gave him more commitment and determination to continue to grow the business so that his own children could take over in the future.

The transformation did not follow a grand plan, but individual changes were made with the aim of putting the company in a position to be a world-leader in its area. Prioritisation was given to the areas of the business the MD considered to be most in need of changes at the time, and also guided by his own approach and beliefs he knew the importance of convincing people early on. So, the process of transformation was not a prescriptive one but was informed by previous experience and sound business understanding.

4.4   Context of transformation
4.4.1   Internal

The culture of CS4 has been discussed in the other sections of this report, but it is an important contextual element in the transformation story. Pre 1992, the command and control approach of the GM fostered a culture of conformance. Employees were there to be productive 100% of the time they were in the factory. Breaks were strictly enforced, talking on the job was frowned upon or indeed forbidden in the office areas, employees were not given the opportunity to voice ideas for improvements and every penny that was spent had to be justified. Cost and profit drove the company. If mistakes were made someone took the blame and little action was taken to find the root cause of the problem. This was very typical of a manufacturing company in the West of Scotland and got the job done. Fast forward 15 years and the contrast is stark. Employees work as a team to deliver excellence to the customer. The main objective is not to cut costs but to move closer to perfection. Employees are a key asset and as such are trained, encouraged to participate, and provided with facilities to make the work environment a pleasant place to spend nine hours per day. A continuous improvement culture is now believed to exist, where everyone is involved in making things easier, more efficient or more innovative. The high involvement of the MD means his personality has a big influence over how the company 'feels' and how things are done (for example the use of Deming by managers and banning the phrase "that's how we've always done it"). Clearly cultural change did not happen instantaneously but gradually over the past 17 years as other changes were introduced to support it.

A change in those running a company inevitably results in a change of leadership style. The previous approach was directive; everyone knew where they stood, no time was wasted on getting to know staff (and sometimes even their names), or letting them get to know each other. The GM was heavily involved in all aspects of the business and did not delegate responsibility to anyone. When the current MD took over and put a new GM in place, the leadership style became more participative as they believed teamwork was important for success in the future. The creation of a management team and new organisational structure allowed the MD and GM to

delegate tasks, allowing them to deal with more strategic issues in the business. Although there is no longer a command and control approach, the MD is a directive leader, with a clear idea of where he wants his company to be in the future and how it will get there. He does seek advice and knowledge from those who are experts in their areas, evident by the weekly management meetings, but this information is to support his plans and not necessarily to change them. Being the second generation of a family business he is passionate about maintaining and growing the legacy his father created so he can pass it onto his own children.

CS4 tends to promote from within and not employ outsiders into management or supervisory roles. The company sees this as beneficial as it operates in markets which require highly skilled employees, and it takes a long time to build the skills and knowledge of those who have worked there all their lives. This is true of the engineering side of the business, but not so in other support areas such as finance, sales, and marketing. The new MD recognised the need to expand the capability of the company in these areas and employed some new employees to fulfil these roles. As changes were being made, older engineers came to retirement age which enabled new apprentices to come in and be trained within the new culture that was trying to be created. Letting older staff naturally leave meant that younger staff could embrace the changes more readily without the negative attitudes acting as barriers to the changes being made.

As the new MD became more trusted by his employees and they could see the benefits his changes were having in the company, resistance to change was greatly reduced and there was less need to prepare people so much before a change was introduced. Changes were still communicated, but not as often or with as much explanation. The MD began to produce an internal newsletter as a medium to communicate how changes were progressing and any future plans, which, in a lot of cases, replaced town hall type meetings with presentations.

The internal context in which all the changes were made was one of profitability and success – there was no burning platform in terms of loss of market share, customers or reduction in profits. The key internal contextual factor during the transformation period was the new MD and his determination to make his company a leader in the provision of precision engineering expertise.

4.4.2   External

The customer base for the company has changed little over the time the transformation has taken place in terms of industry sectors, however now the company supplies more customers than before. The automotive industry suffered a decline in early 2000s but it was never a major market for CS4 and so it did not greatly affect them. The changes to the aerospace industry resulted in tighter quality specifications for the products supplied to these customers and so more emphasis on this side of operations was required and achieved by expanding the quality team and investing in new machinery, introducing new processes and systems and adding the probing technology to each machine.

New innovations in materials and manufacturing technology has required CS4 to continually invest to enable them to meet customer demands faster and better than their competitors. Previously the company would have added more capacity or introduced new machines to its portfolio in response to solid customer orders, however the new MD does not believe in waiting for an order before making an investment. His most recent purchases have included a 5-axis machine and vertical grinder and were not based on confirmed orders, but knowledge of where trends in certain industries were going and what his customers would be asking for in the future. By investing early, he believes the company is always ahead of the competition as they can begin machining parts as soon as the customer realises they need them.

CS4 operates from Glasgow which has a rich industrial history. Many key aerospace, defence and oil and gas companies are located within reach of CS4 making it ideally positioned to offer efficient lead times and also to interact with customers face-to-face. They extend the service they offer to design for manufacture if it helps to save machining time and so money for the customer. The expectations of these customers have changed to expect this kind of service, along with very high quality and also some risk taking on the part of CS4. One of their biggest customers has asked them to supply the entire part, including sourcing raw material and any post-machining finishes, which previously would have been organised by the customer. Due to the nature of the parts this is a huge financial commitment for CS4, but their well controlled finances and processes for procurement make them confident to be able to meet this demand without too much risk to the company.

The current economic climate is not believed to have affected CS4 much. The MD claims to have expected the recession at some time, and so ensured that the company had healthy finances for whenever it would happen. The new investment in machinery and factory space was planned before the crisis and was able to continue as a result of the financial position of the company and good relationships with lenders. What the recession has done is reduce the number of competitors in the market, thus increasing the potential for CS4 to grow. The affect on its customer base has been minimal as the customers it serves are themselves in strong positions. If customers did start to disappear, the MD does not see this as a problem – he described CS4 as being the flea on the dog; if the dog dies, the flea finds another dog, and the reputation and expertise of the company means that it will not have any problems finding another dog.

4.5   Next phase

The next phase in the story of CS4 is to continue growing and investing. Specific plans were not discussed, but the increase in capacity on the factory floor gives scope for new customers to be sought and new markets explored.

5.0 Summary

The transformation story of CS4 has been discussed in terms of its content, process and context over the past 17 years. The table below summaries the content of the transformation in terms of the situation before 1992 and how it is today. The process of transformation was one of directive, top down changes to demonstrate the benefits of doing things differently, followed by the communication of a new vision of the company and subsequent participative changes in a new culture of continuous improvement.

Content of transformation	1992	2009
Strategy and vision	Cost minimising and maximum productivity from employees.	To be the best, offering highest quality to customers and continually innovate.
Investment & infrastructure	Minimal, only if absolutely necessary. Long process of persuading general manager that investment was required.	As required to ensure the company is at the forefront of technology in the industry and that employees can do their jobs well. Bespoke, in-house built and managed IT system for managing operations. New factory premises.
Processes	Production planning process causing in-fighting.	Reengineering of production planning process and SOPs.
Attitudes and approaches to working (culture)	Employees do what they are told and no more, no opportunity for participation, no team-working.	Open, participative, continuous improvement culture. Employees work as a team and are interested in the company and its evolution.
Training and development of staff	Ad-hoc, dependent on the trainers liking the apprentices, other staff only trained if it was directly required for the job.	New apprenticeship training scheme, investment in class room facilities and dedicated trainers, all staff have opportunity for personal

		development.
Support functions	Engineering/production was focus and little attention was paid to other parts of the business other than what was needed to operate.	Importance of focus on support functions recognised and adequate investment in areas such as finance, sales and marketing.
Organisational structure	Owner, supported by general manager and supervisors on shop floor. Decisions made by owner or general manager without participation of others.	Balanced management team reflecting all areas of the business. Weekly meetings and participative decision making. Structure also supports feedback and participation at all levels in the business.

6.0 Concluding Remarks

Many thanks to those who participated in interviews for this research project. Should the reader wish to offer corrections or dispute any element of this report, please contact the researcher directly.

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Appendix 3 – Interview mind maps

Available on request from author.