BUSINESS PERFORMANCE MEASUREMENT USE IN A SMALL-TO-MEDIUM ENTERPRISE: A CASE STUDY

A thesis presented in partial fulfillment of the requirements

for the degree of

Doctor of Business and Administration

in

Management

at Massey University, New Zealand

Paige Edward Carlyle

2013

Abstract

This thesis presents findings from a three-year action research case study undertaken to address gaps in our understanding of performance measurement use at the senior management team and board level of small-to-medium sized enterprises (SME). The literature review highlights the complex nature of performance measurement and discusses significant frameworks developed to assist organizations manage their performance. The review revealed that the majority of research is directed into performance measurement design and implementation. Studies into performance measurement use, especially in SMEs, are rare. Gaps in the existing literature are identified.

Action research was chosen as the methodology for this study as it allowed the researcher to be a member of the team planning, acting, observing and reflecting (learning) from each action research cycle to improve the existing performance measurement system and use within the case study company. The mode of access, ethical considerations, and the evolution of the research project are described. The advantages of this method are discussed, as are the limitations of generalizing from this single case action research study.

A detailed description of the case company is presented and the case study mirrors the timeline of the research. The results have implications for both practice and research. The implications for the practice of performance measurement in SMEs are organized under four groupings: strategy, structure, use and risk management. In respect to contributions to scholarship, the study suggests the importance of identifying key indicators as companies' progress towards embedding a performance measurement system. Furthermore, to improve the risk management profile of SMEs, research is encouraged to investigate relationships between how companies frame their performance measures during the design phase of introducing a new performance measurement system, and in particular, the relationship between an organization's attitudes towards success, failure, risk management and performance measurement.

Keywords: *Performance Measurement Use, Small-to-Medium Enterprise (SME), Risk Management, Dashboard Reporting, Failure, Framing*

Acknowledgements

This thesis could not have been produced without the help and support of my family, friends and advisors. I will attempt to do justice to them by passing along my thanks below.

My two supervisors played very different roles in my research process. Thank you Professor Ralph Stablein for guiding me through the initial phase of establishing the research boundaries during the coursework component of the doctorate, providing much needed assistance in shepherding me through the data collection as I navigated my way through the action research process, and particularly over the last 6 months while the final product was being tweaked. Thank you Dr Damian Ruth for playing a significant role in the middle eighteen months of writing up the thesis, especially for your support and encouragement as I struggled to make those hard decisions on what to include and what to leave out from the final thesis – a struggle I believe most doctorate students have. Thank you both for your support in the lead up to the final submit.

Thank you Dr James Lockhart for suggesting that I 'have a chat' with the owner of the Case Study Company as he 'might be interested' in performance measurement. Dr Lockhart was insightful in his suggestion and I thoroughly enjoyed the next 3 years I spent with the owner, his wife, the Board, and Senior Management Team 'inside' the Case Study Company. I am grateful to the owner (who must remain nameless for confidentiality reasons) and his wife for their patience and courage in allowing a completely unknown quantity (me) into their business, opening their books, and making me feel at home as one of their team so effortlessly.

A number of individuals have offered advice, general support and much needed coffee when energy levels flagged - you know who you are. Thank you mum (Bev) and dad (the late Ted), for always showing an interest in, and encouraging, my education. The timely and sincere interest shown by my in-laws, Bill and Barbara Wise, was always appreciated. David Gilling deserves special thanks for his willingness to spend countless hours late into many evenings debating the direction of my research, suggesting even more ways to improve my writing, and being a much needed open-

minded sounding board as I worked through my many drafts – often with the help of a whiskey or two.

I would like to acknowledge Elizabeth Smith (Massey University Librarian) for always being willing to assist. Also, thank you Massey University for awarding me a Massey University Doctoral Scholarship that provided valuable financial assistance during the action research process.

Above all, I dedicate this thesis to, and generously thank, my wife Janet, and my two children Mathieson and Ella, for their support, extreme patience, interest, and encouragement – without which the road would have been much longer.

This thesis is dedicated to my extremely supportive wife, Janet,
and our two amazing children, Mathieson and Ella

Table of Contents

List of Figures

CHAPTER 1 – INTRODUCTION

Studies into performance measurement use, especially in small-to-medium enterprises, are rare. A review of the performance measurement literature revealed that the majority of research is directed into performance measurement system design and implementation. This 3-year action research case study investigated how the Board and Senior Management Team of a small-to-medium enterprise used a performance measurement system. The existing system was template driven and ineffective. In order to stimulate usage and relevancy of the system, the existing performance measurement system was re-designed and re-implemented as part of the action research case study.

This thesis presents the findings from a three-year action research case study undertaken to address gaps in our understanding of performance measurement use at the senior management team and board level of small-to-medium sized enterprises (SME). This is defined in New Zealand as being small enterprises less than 49 staff, and medium enterprises between 50 and 100 staff (The New Zealand Centre for SME Research, 2011).

The current literature suggests that the small-to-medium enterprise performance measurement research field is still in its infancy. My review of the literature highlighted a lack of published research in, but growing interest from, both the academic and the practitioner community in how performance measurement could benefit small-to-medium enterprises (Brem, Kreusel, & Neusser, 2008; Garengo, Biazzo, & Bititci, 2005). The literature also indicated that most performance measurement research has been conducted in large companies (Fernandes, Raja, & Whalley, 2006), and that large company performance measurement systems are regularly being examined as potential tools for small-to-medium enterprises. Furthermore, much small-to-medium enterprise performance measurement research is based on a snap-shot-in-time perspective, and contains little information about the ongoing success of those performance measurement systems (Brem et al., 2008).

Largely, research focus has been on the design and implementation, but not the ongoing use of performance measurement systems (Franco & Bourne, 2003), with many writers in the performance research community remaining concerned with confirmation or rejection of the value of Kaplan and Norton's (1992) Balanced Scorecard (BSC) (Bititci, Mendibil, Nudurupati, Garengo, & Turner, 2006; Tenhunen, Ukko, Markus, & Rantanen, 2002), a performance measurement system developed in the early 1990s.

As part of my preparation for this action research case study, I asked a number of managers in small-to-medium enterprises what their overall performance measurement system consisted of, and how they used it. Their lack of knowledge about performance measurement, combined with their strong desire to learn more, stimulated my interest in further understanding how small-to-medium enterprises use performance measurement systems. In addition, due to my previous business experience and desire to add to our understanding of the subject, it became apparent to me that any study of performance measurement would require both practical and theoretical investigation.

The case study company has, for commercial reasons, requested anonymity. In accordance with these wishes, the company will be referred to as the Case Study Company, or CSC, throughout this thesis.

I chose CSC because the Managing Director of CSC commented that performance measurement and management capability within the business was an area of concern. CSC undertook, and regularly reviewed, performance measurement at an operational level. However, CSC had a template-driven performance measurement system in place at the Board and Senior Management Level that had existed for four years and had yet to be reviewed.

A full description of CSC is in chapter 4 of this thesis, however briefly, CSC is a small-to-medium-manufacturing enterprise employing up to 65 people. Trading domestically and internationally, annual revenues are less than NZ$10m with product being manufactured in New Zealand and China.

The action research case study involved the Board and Senior Management Team at CSC working with me towards improving the existing senior management level performance measurement system. The project was not time-driven, and so long as the Senior Management Team was comfortable with the progress being made, the project continued without any predetermined agenda, other than to achieve a more effective performance measurement and reporting system.

Firm performance has been a subject of academic interest and comment for at least the last 60 years (Drucker, 1955). A number of key researchers in the field are not yet convinced that the field is in fact a research discipline (Marr & Schiuma, 2003; Neely, 2005; Taticchi, 2008). These writers support this view by stating that there are many writers from many different research disciplines such as strategic management, operations management, human resources, organizational behaviour, informational systems, marketing, management accounting and control, that all allude to but do not yet constitute a cohesive body of knowledge.

In the early 1980s, there were grumblings of discontent (Garvin, 1987; H. T. Johnson & Kaplan, 1987; Miller & Vollmann, 1985) about the continued use of financial measurement as the sole arbiter of performance. Kaplan (1983) challenged the American accounting research and education community to expand performance measures to include non-financial measures of manufacturing performance, such as productivity and quality. These challenges contributed to the shift in performance measurement orientation from the traditional financial performance measures (e.g., revenue, profit, margin management) to the inclusion of non-financial measures (e.g., quality, customer satisfaction) and the development of more balanced performance measurement systems.

In the 1990s, the performance measurement research field was defined by the development of a number of company-wide performance measurement systems (Bititci, Carrie, & McDevitt, 1997; Dixon, Nanni, & Vollman, 1990; Kaplan & Norton, 1992), and also performance measurement frameworks that were more specific in nature, such as those primarily concerned with the service sector (Fitzgerald, Johnson, Brignall,

Silvestro, & Voss, 1991; Heskett, Jones, Loveman, Sasser, & Schlesinger, 1994), quality (Rust, Zahorik, & Keiningham, 1995), or market-centric orientations of business (Gale, 1994).

Since 2000, the focus has shifted from developing new performance measurement systems to evaluating the various claims made by the creators of the performance measurement systems developed during the 1990s (Chow, Haddad, & Williamson, 1997; Greatbanks & Tapp, 2007; Ittner, Larcker, & Meyer, 2003; Norreklit, 2000), and attempting to retrospectively adapt those systems for use in small-to-medium enterprise environments (Andersen, Cobbold, & Lawrie, 2001).

There appears to be relatively little research into performance measurement within the small-to-medium enterprise community despite its having value. Greatbanks (2000) confirmed that "whilst small-to-medium manufacturing enterprises are generally good at translating manufacturing strategy into tangible manufacturing practice, there is not a defined process by which such companies implement operational measurement. Furthermore, operational performance measurement in small-to-medium manufacturing enterprises can be considered, at best, an ad hoc process, which does not appear to attract any significant senior management thought" (Greatbanks, 2000 abstract p. i)

I would suggest that real progress in the performance measurement and management field has been hampered over the last 15 years as a result of the volume of research interrogating Kaplan and Norton's Balanced Scorecard. Whilst there has been a significant amount of research into the validation of the design, implementation and use of the Balanced Scorecard, there has been very little research into other performance measurement systems and their use, especially in the small-to-medium enterprise environment.

Small-to-medium enterprises, in addition to their size characteristics, are typically defined by their competitive position and individualized management practices (Smith & Smith, 2007), resource deficiencies in terms of manpower and time (Barnes et al., 1998; Hudson, Smart, & Bourne, 2001; McAdam, 2000), as well as the availability of

capital to spend on additional projects (Hudson, Smart, Bourne, & Lean, 2000) and in these respects, it is recognized that small-to-medium enterprises differ from traditional large companies.

Hudson, Lean, and Smart (2001) found that the design requirement of performance measurement systems developed for large companies was too resource intensive and too strategically (long-term) oriented for the small-to-medium enterprise. Any additional burden placed on a small-to-medium enterprise, including research into performance measurement within the small-to-medium enterprise environment, can be prohibitive. The entrepreneur or top managers of small-to-medium enterprises generally find it difficult to commit their time to such projects and companies that do take part in these projects rarely continue beyond performance measurement system design and implementation into actual use because of the trade-offs required to balance day-to-day operational activities with those of the research (Brem et al., 2008; Garengo, Biazzo, & Bititci, 2005). This is one key reason why there has been little published research on the topic of performance measurement use in the small-to-medium enterprise environment.

Literature gaps (de Waal, 2003), combined with my own experience of owning and consulting to small-to-medium enterprises over many years, thus led me to believe that investigating the following question would be useful:

- *How does a small-to-medium enterprise use a performance measurement system?*

Knowing how small-to-medium enterprises progress to a stage of actually using their performance measurement systems and how this affects such companies would, as a result, be valuable contributions to the academic and practitioner communities.

The nature of the research question requiring me to understand '*how* a small-to-medium enterprise *used* their performance measurement system' suggested that total immersion in the performance measurement activities of one or more suitable case companies would be necessary. Discussions with one company in particular, that are fully described in chapter 3, encouraged me to decide that answers to the research question

would be best explored through an action research case study that investigated managerial aspects of performance measurement at the most senior levels of a company.

Thesis Structure

Chapter 2, the Literature Review, begins with a general overview of the performance measurement and management literature and then specifically addresses the small-to-medium enterprise literature where performance measurement, performance measurement systems, and performance management are sub-topics. Four of the most widely known performance measurement systems are reviewed. 45 performance measurement recommendations applying to companies of all sizes, but generally found when researching large companies, were identified. A further seventeen performance measurement recommendations found in the literature relating specifically to the small-to-medium enterprise community are summarised. The two lists just mentioned, (1) the 45 general performance measurement recommendations, and (2) the 17 small-to-medium enterprise performance measurement recommendations, are both compared with the CSC case findings in appendix G and H of this thesis.

Chapter 3, the Research Methodology, discusses the decision to research performance measurement in the small-to-medium enterprise community using the action research approach. This section also describes the evolution of the research project as it unfolded.

Chapter 4, the CSC Case Study, provides the case data and discusses the important events and developments identified during the action research case study. In particular, this section discusses relationships between performance measurement and business planning, performance reporting, and business orientation toward success, failure and risk management. Strategy is an often referred to term in this thesis. Early on in the action research process, the researcher decided that he would accept whatever the definition was for strategy that CSC preferred. It can be argued that many of the strategies identified during the project were operational, and not strategic, in nature and

therefore may not be recognized as strategies in other companies however, for the purposes of this thesis; they remain intact as they were identified during the action research case study to protect the integrity of the research outcomes.

Chapter 5 presents key research insights as they relate to the small-to-medium enterprise practitioner community. Thirty-five implications for practitioners are outlined under four headings; performance measurement and strategy, performance measurement and structure, performance measurement and use, performance measurement and risk management.

Chapter 6 discusses contributions to scholarship. In particular the relationships between performance measurement use, design and implementation. Five insights into how small-to-medium enterprises could improve their use of performance measurement systems are offered, as are suggested areas for future research.

CHAPTER 2 – LITERATURE REVIEW

2.1 Introduction

The performance measurement and management field achieved prominence in the early 1990s as a result of a number of authors advocating the use of non-financial measures in order to 'balance' the traditional financial measures then existing in most organizations (Dixon et al., 1990; Eccles, 1991; Kaplan & Norton, 1992). In the decade between 1990 and 2000, a number of general performance measurement systems were developed e.g. Kaplan and Norton (1992), Dixon et al., (1990), Neely and Adams (2001), Bititci et al., (1997), as were several performance measurement systems with a narrower focus, such as those concerning the service sector (Fitzgerald et al., 1991; Heskett et al., 1994), quality (Rust et al., 1995), and market-centric orientations of business (Gale, 1994). In the most recent decade, attention has shifted from developing new performance measurement systems to evaluating the various claims made by the creators of the performance measurement systems developed during the 1990s (Chow et al., 1997; Greatbanks & Tapp, 2007; Ittner & Larcker, 2003; Norreklit, 2000).

A three-stage model outlining the development of performance measurement systems that includes (1) design of the performance measures (what to measure and how to measure), (2) implementation of the performance measures, and (3) use of performance measures (Bourne, Mills, Wilcox, Neely, & Platts, 2000) is now a recognized approach in establishing an effective performance measurement system (Elg & Kollberg, 2009; Farris, van Aken, Letens, Chearksul, & Coleman, 2011; Nudurupati, Bititci, Kumar, & Chan, 2011; Wouters & Sportel, 2005). The literature discusses the development and design of more than ten performance measurement systems, indicating that the design stage of Bourne et al.'s (2000) three-stage model is well covered. However, implementation, use and maintaining the currency of performance measurement systems have received attention only in recent times (Garengo & Biazzo, 2012; Henri, 2006; Nudurupati et al., 2011).

This action research case study involves a study of performance measurement and management in the small-to-medium enterprise environment. The literature review is therefore structured around (1) the performance measurement and management literature, and (2) the small-to-medium enterprise literature that has performance measurement, performance measurement systems, and performance management as sub-topics.

2.2 The performance measurement field

The field of performance measurement and management is underdeveloped (Marr & Schiuma, 2003; Neely, 2005; Taticchi, 2008) with the performance measurement community yet to agree on a set of generic questions to address. With many diverse perspectives, the field is still relatively young with Neely (2005, p. 1268) suggesting that the main themes and ideas being researched currently had their genesis in the early 1990s.

Notwithstanding the view that the performance measurement and management field is in the early stage of development, firm performance has been a subject of academic interest and comment for at least the last 60 years. Peter Drucker, the noted management scholar, wrote in *'The Practice of Management'*, that "the subject is brand new. It is one of the most active frontiers of thought, research and invention in American business today. Company after company is working on the definition of the key areas, on thinking through what should be measured and on fashioning the tools of measurement" (Drucker, 1955, p. 54). In the same book, Drucker also commented, "balancing objectives is one of the few things distinguishing competent from incompetent managers*"* (p. 74). The very first Administrative Science Quarterly, published in 1956, contained a paper entitled *"Dysfunctional Consequences of Measurement"* (Ridgway, 1956) that opened by expressing concerns about the "tendency to state numerically as many as possible of the variables with which management must deal" (p. 240). Although Ridgeway's paper was concerned primarily with financial and production measures, he did allude to the need for balance when attempting to evaluate overall performance and concluded with a call for researchers to

understand the importance of the motivational and behavioural consequences of performance measurement.

During the early 1980s, there were some expressions of dissatisfaction (Garvin, 1987; Kaplan, 1983; Miller & Vollmann, 1985) with the continued use of financial measurement as the sole arbiter of performance, especially in the manufacturing and operations sector of the US market which was suffering due to increased competition from Japanese firms. Kaplan (1983) challenged the American accounting research and education community to expand performance measures to include non-financial measures of manufacturing performance, such as productivity and quality. This discontent contributed to the paradigm shift (Kuhn, 1962) in orientation from traditional financial performance measures to the inclusion of non-financial measures as a more balanced approach to performance measurement systems. This shift appears to have occurred very quickly through the publication of Johnson and Kaplan's book '*Relevance Lost: The Rise and Fall of Management Accounting*' (1987), and two key articles in the Harvard Business Review in the early 1990s; '*The Performance Measurement Manifesto*' (Eccles, 1991) and '*The Balanced Scorecard - Measures That Drive Performance*' (Kaplan & Norton, 1992).

The Balanced Scorecard, developed by Robert S Kaplan and David P Norton (1992), has become one of the key performance measurement and management topics of interest to academics (Dinesh & Palmer, 1998; Ittner et al., 2003; Marr & Adams, 2004; Neely, Kennerley, & Martinez, 2004; Norreklit, 2000) and practitioners (Chow et al., 1997; Greatbanks & Tapp, 2007), with 43% of American corporations using the Balanced Scorecard by 1999 (Rigby, 2001). On the broad topic of performance measurement systems, various authors have suggested that as many as 70% of organizations had some form of performance measurement system review or initiative under way at the beginning of this century (Marr & Schiuma, 2003; Silk, 1998; Speckbacher, Bischof, & Pfeiffer, 2003).

Alongside the growing interest in performance measurement amongst the business community, the subject also stimulated the academic community. Marr and Schiuma

(2003) noted a world wide web search that revealed more than 12 million sites dedicated to performance measurement, a 2,400% increase during the previous 5 years. Neely (1999) suggested that between 1994 and 1996, a performance measurement article was published at the rate of one every 5 hours. Although there do not appear to be any updates to these specific figures since 2002, Taticchi (2008, pp. 67 - 70) identified that 'performance measurement' was found in the abstract, title or keyword list of 6,618 papers between 1970 and 2008.

While Robert S. Kaplan and David P. Norton (e.g., 1993, 2000, 2001b, 2005, 2006, 2008) are – due mostly to their writings on the Balanced Scorecard – the most cited authors in the performance measurement and management field (Marr & Schiuma, 2003), Andy Neely (e.g., 1998, 1999, 2005, 2009, 2002) is the most prolific writer of the field due partly to his willingness to provide summaries of the status of the field and to make predictions about where the future research directions lie within the field. The field appears to be very diverse with over 95% of all authors being cited only once or twice (Marr & Schiuma, 2003).

2.2.1 Phases in the development of the performance measurement field

In his analysis of the performance measurement field, Neely (2005), partially supported by Marr (2003) and more recently by Taticchi (2008) and Taticchi, Tonelli, and Cagnazzo (2010), has raised questions concerning the fundamental issues and research questions that Rumelt, Schendel, and Teece (1994) suggest define a field at any given time. Although some writers (Evans, 2004; Franco-Santos & Bourne, 2005; Kennerley & Neely, 2003) have explored performance measurement, performance management, and performance measurement systems, the wider performance measurement and management field nonetheless lacks a cohesive body of knowledge (Marr & Schiuma, 2003). Neely considers that one of the biggest barriers to the development of performance measurement knowledge is the reluctance of researchers to cross their respective functional boundaries; observing that "when reviewing the work in the accounting field you will find references mainly to the work of other accountants" (Neely, 1999, p. 225).

Neely (2005) classifies the development of the performance measurement and management field into five phases:

The 1980s – *Problems associated with performance measurement systems*

- A tendency towards short-term goal orientation (Banks & Wheelwright, 1979; Hayes & Abernathy, 1980) and/or major dysfunctional consequences with an associated damaging impact on competitiveness (Kaplan & Norton, 1992)
- Recognition of key weaknesses of traditional financial measurement systems (Dixon et al., 1990; H. T. Johnson & Kaplan, 1987; Kaplan, 1983)

Early to Mid 1990s – *Potential solutions to performance measurement system problems of the 1980s*

- The development of the Balanced Scorecard (Kaplan & Norton, 1992) and other performance measurement systems such as The Strategic Measurement Analysis and Reporting Technique, referred to as SMART (Cross & Lynch, 1988; Lynch & Cross, 1991), The Performance Measurement Questionnaire (Dixon et al., 1990), The Cambridge Performance Measurement Framework (Neely, Mills, Gregory, et al., 1996), and The Integrated Performance Measurement System (Bititci et al., 1997), amongst others
- These frameworks came out in quick succession and were attempting to correct a perceived imbalance through the inclusion of non-financial measures identified as lacking in the 1980s

Late 1990s – *Methods of performance measurement system application*

- Ways to implement and use the various frameworks – mostly the BSC
- Two of the application methods proposed were The Integrated Performance Measurement Framework (Medori & Steeple, 2000), and The Business Excellence Model (European Foundation for Quality Management, 1998)

The Early 2000s – *Empirical and theoretical analysis of performance measurement systems and frameworks*

- Data became available on the actual implementation and application of various performance measurement systems, in particular the Balanced Scorecard (Hudson, Smart, et al., 2001; Hvolby & Thorstenson, 2000)
- Articles being written from a number of different academic perspectives (Franco & Bourne, 2003) such as operations management, strategy management, human resources, organizational behaviour, information systems, marketing, psychology, sociology, and management accounting (Marr & Schiuma, 2003; Neely, 1999, 2002) began to appear

The Mid 2000s – *Theoretical verification of performance measurement systems*

- Evidence gathered during the early 2000s resulted in questions being asked about the theoretical validity of existing measurement frameworks and methodologies (Brignall, 2002; Greatbanks & Tapp, 2007; McAdam & Walker, 2003).

Other writers have viewed the development of the performance measurement and management field development slightly differently than Neely:

- Ghalayani and Noble (1996) consider the performance measurement and management field to have only two distinct phases, 1880 to 1980 being characterized by financial measures such as profit, return on investment, and productivity, and post-1980, where changes in the world market drove companies to investigate ways to compete more effectively through new techniques such as computer integrated manufacturing (CIM), flexible manufacturing systems (FMS), just-in-time management (JIT), optimized production technology (OPT), and total quality management (TQM)
- Meyer (2002b) provides a comparison of performance measurements used in the 1960s with those used in the 1990s and concludes that "while there are many more measures in the 1990s than in the 1960s, the burgeoning of non-financial measures from the 1960s to the 1990s is especially noticeable" (p. 45).

- Bititci, Garengo, Dorfler and Nudurupati (2012) reviewed the evolution of performance measurement literature and concluded that "the performance measurement field seems to have developed in response to global and business trends" (p. 319).

2.2.2 Definitions and requirements of performance measurement

Performance measures are often poorly defined (Neely, 1999). Many authors have offered definitions of performance, performance measurement, performance management, and performance measurement systems (Folan, Browne, & Jagdev, 2007; Franco-Santos et al., 2007; Lebas, 1995; Meyer, 2002a), but there is little consistency across those definitions. Further, Franco-Santos et al. (2007, p. 785) state their concern that "the lack of agreement on a definition creates confusion and clearly limits the potential for generalisability of research in this area".

Meyer (2002b) states that one of the important tests of performance measurement is its ability to discriminate good from bad performance, and that measures must reveal differences in performance. Lebas believes that "we may not be able to define performance beyond saying it is about capability to meet certain objectives" (1995, p. 27). Folan et al. open provocatively with the suggestion that "performance is a fact of life. In work or in play, indeed in any activity where we input even momentary attention, performance can be felt or, at least, deduced if necessary" (2007, p. 605).

Some further definition of performance measurement for research purposes nonetheless remains necessary. Because they are the most frequently cited and arguably the simplest definitions, I have employed the following:

> ''Performance measurement can be defined as the process of quantifying the efficiency and effectiveness of action. A performance measure can be defined as a metric used to quantify the efficiency and/or effectiveness of action. A performance measurement system can be defined as the set of metrics used to quantify both the efficiency and effectiveness of actions." (Neely, Gregory, &

Platts, 1995, p. 80)

> Performance measurement enables "informed decisions to be made and actions to be taken because it quantifies the efficiency and effectiveness of past actions though acquisition, collation, sorting, analysis, interpretation, and dissemination of appropriate data" (Neely, 1998, pp. 5-6)

> And, linking performance to specific firms and individual decision-makers, "performance is about deploying and managing well the components of the causal model(s) that lead to the timely attainment of stated objectives within constraints specific to the firm and to the situation. Performance is therefore case specific and decision-maker specific" (Lebas, 1995, p. 29)

In summary, performance measurement should quantify the effectiveness and efficiency of actions to enable informed decision making while recognising that performance is also case and decision-maker specific.

The literature contains many recommendations on the content of a good performance measurement system (Bititci, Firat, & Garengo, 2013; Neely, Richards, Mills, Platts, & Bourne, 1997; Ukko, Pekkola, & Rantanen, 2009). My literature review identified 45 general performance measurement system recommendations that apply to companies of all sizes. These 45 recommendations are listed below.

45 Performance Measurement System Recommendations in the Literature	
1	Performance measures should be derived from strategy (Bititci, Carrie, & Turner, 2002; Dixon et al., 1990; Globerson, 1985; Hudson, Lean, et al., 2001; Lynch & Cross, 1991; Neely, Mills, Platts, Gregory, & Richards, 1996; Neely et al., 1997)
2	Performance measures should be simple to understand (Hudson, Smart, et al., 2001; Lynch & Cross, 1991; Neely, Mills, Platts, et al., 1996; Neely et al., 1997)
3	Performance measures should provide timely and accurate feedback

	(Dixon et al., 1990; Globerson, 1985; Hudson, Lean, et al., 2001; Neely, Mills, Platts, et al., 1996; Neely et al., 1997)
4	Performance measures should be based on quantities that can be influenced, or controlled, by the user alone or in co-operation with others (Fortuin, 1988; Neely et al., 1997)
5	Performance measures should reflect the 'business process' – i.e., both the suppler and customer should be involved in the definition of the measure (Globerson, 1985; Neely et al., 1997)
6	Performance measures should relate to specific goals (targets) (Goold & Quinn, 1990; Neely et al., 1997)
7	Performance measures should be relevant (Azzone, Masella, & Bertele, 1991; Neely et al., 1997)
8	Performance measures should be part of a closed management loop (Kaplan & Norton, 1992; Neely et al., 1997)
9	Performance measures should be clearly defined (Bititci, Carrie, et al., 2002; Globerson, 1985; Hudson, Smart, et al., 2001; Neely, Mills, Platts, et al., 1996; Neely et al., 1997)
10	Performance measures should have visual impact (Fortuin, 1988; Neely et al., 1997)
11	Performance measures should focus on improvement (Bititci, Carrie, et al., 2002; Hudson, Smart, et al., 2001; Lynch & Cross, 1991; Neely, Mills, Platts, et al., 1996; Neely et al., 1997)
12	Performance measures should be consistent (in that they maintain their significance as time goes by) (Fortuin, 1988; Neely et al., 1997)
13	Performance measures should provide fast feedback (Fortuin, 1988; Neely et al., 1997)
14	Performance measures should have an explicit purpose (Cocca & Alberti, 2010; Neely et al., 1997)
15	Performance measures should be based on an explicitly defined formula and source of data (Globerson, 1985; Neely et al., 1997)
16	Performance measures should employ ratios rather than absolute numbers (Globerson, 1985; Neely et al., 1997)

17	Performance measures should use data which are automatically collected as part of a process whenever possible (Globerson, 1985; Neely et al., 1997)
18	Performance measures should be reported in a simple consistent format (Bititci, Carrie, et al., 2002; Neely et al., 1997)
19	Performance measures should be based on trends rather than snapshots (Neely et al., 1997)
20	Performance measures should provide information (Fortuin, 1988; Neely et al., 1997)
21	Performance measures should be precise – be exact about what is being measured (Fortuin, 1988; Neely et al., 1997)
22	Performance measures should be objective – not based on opinion (Fortuin, 1988; Neely et al., 1997)
23	Performance measures should consider the dynamic nature of organizations and that typical implementations take between 18 and 24 months (Bititci, Nudurupati, Turner, & Creighton, 2002; Bourne et al., 2000)
24	Performance measurement systems should be designed and implemented with the assistance of external monitoring (Brem et al., 2008)
25	Single performance measures cannot capture the complexity of an organization (Abernathy, 1999; Bashin, 2008; Brown & McDonnell, 1995)
26	Companies with more experienced managers are more likely to improve performance when designing and implementing a performance measurement system (Griffith & Neely, 2009)
27	Performance measure systems should measure quality, flexibility, time, finance, customer satisfaction and human resources (Hudson, Smart, et al., 2001)
28	Performance measures should align with the different stages of an organization (Allio, 2006; Bashin, 2008)
29	Performance measurement design should involve the senior managers of companies, not just the financial controllers (Kaplan & Norton, 1992)

30	Performance measures should be periodically reviewed to ensure their relevancy for the business (Lohman, Fortuin, & Wouters, 2004)
31	Performance measures should reflect stakeholders requirements to maximize shareholder satisfaction (Bititci, Carrie, et al., 2002)
32	Performance measures should reflect the external/competitive position of an organization (Bititci, Carrie, et al., 2002)
33	Performance measurement should focus on the competitive criteria of the organizations markets in order to facilitate strategies and actions to improve the competitive position of the organization (Bititci, Carrie, et al., 2002)
34	Performance measures should provide an input to strategy development (Bititci, Carrie, et al., 2002)
35	Performance measurements should facilitate resource bargaining to ensure the provision of necessary resources to processes and activities critical to overall performance (Bititci, Carrie, et al., 2002)
36	Performance measures should promote proactive management by focusing on leading measures to facilitate a more proactive management style (Bititci, Carrie, et al., 2002)
37	Performance measures should accommodate both quantitative and qualitative measures (Bititci, Carrie, et al., 2002)
38	Performance measures should measure organizational capability and learning where appropriate (Bititci, Carrie, et al., 2002)
39	Performance measures should promote understanding of the causal relationships between various measures (Bititci, Carrie, et al., 2002)
40	Performance measures should be dynamic and change in response to the changes in the internal and external environment of the organization (Bititci, Carrie, et al., 2002)
41	Performance must be measured in ways that are understood by those whose performance is being evaluated (Crawford & Cox, 1990)
42	Measures should evaluate a group, not individual work (Crawford & Cox, 1990)
43	Financial and non-financial performance measures should be used

	(Kaplan & Norton, 1992)
44	In addition to investors, other stakeholders such as employees, customers and suppliers should be considered (Neely, 2002)
45	Performance measures, on the one hand, should be designed to be as exact as possible, which may result in a very complex formula. On the other hand, performance measures should be easy to measure and easy to comprehend, which are arguments for using simple formulas (Tangen, 2005)

These 45 general performance measurement system recommendations are compared on a *before* and *after* basis in Appendix G.

2.2.3 The complex nature of performance measurement

Performance measurement is a complex field and cannot be a template-driven exercise (Neely, 1999). Many companies I have spoken with about performance measurement anticipate that performance measurement systems can be 'downloaded' and implemented quickly, and with minimal effort inside their companies.

Businesses want to know the future (Lingle & Schiemann, 1996). If they cannot predict 'the future', then they at least want the ability to make educated guesses based on sound information they have readily available. Melnyk, Stewart, and Swink (2004) propose that predictive metrics are associated with aspects of processes that will result in outcomes of interest and provides an example of how the measurement of distance covered by a process, setup times, and number of steps in a process can reduce lead times. Insights into the future are desired outcomes of performance measures (Meyer, 2002b). Having said this, Meyer suggests, "although performance indicators cannot predict the future, some measures are still better than others" (Meyer, 2001b, p. 51).

A manager's view of measurement is different from the view of academics (Melnyk et al., 2004). For the academic, time is less important than the validity and generalisability of the results whereas for the practitioner, they are "generally more than willing to use a

'good enough' measure if it can provide useful information quickly" (Melnyk et al., 2004, p. 210). A good performance measurement system should provide accurate information; support strategic, tactical and operational objectives; guard against sub-optimisation; and include a limited number of performance measures (Tangen, 2005).

There are many ways to design and implement an effective performance measurement system (Bititci, Turner, & Begemann, 2000; Bourne, Neely, Platts, & Mills, 2002; Kaplan & Norton, 1992, 1993, 1996, 2000; Lohman et al., 2004; Neely, Mills, Platts, et al., 1996). Discussion of some of the more recognised performance measurement systems is included later in this literature review.

While pointing out that measures must be developed for each user and their different purposes, Lebas states that "performance measurement and performance management cannot be separated" and that there are "two key questions managers and performance evaluators must answer: (1) why do we want to measure? and (2) what do we want to measure?" (1995, p. 24). Lebas then continues by asking:

1. *Where we have been?*
   - a scorecard about the past, to understand how we got to where we are
2. *Where are we now?*
   - a status update on the processes that define the organization
   - an assessment of the potential for achievement in the future
3. *Where do we want to go?*
   - the measures should support the definition of objectives and targets
4. *How are we going to get there?*
   - the measures must support the budgeting and planning activities
5. *How will we know we got there?*
   - the measures must feed back information about whether objectives and targets have been achieved

2.3 Performance measurement – four key systems

The disillusionment towards traditional financial measures in the 1980s (H. T. Johnson & Kaplan, 1987; Kaplan, 1980, 1983) led to the academic community allocating much of the late 1980s and 1990s to the development of strategically aligned performance measurement systems (Ghalayini & Noble, 1996; Gregory, 1993; Micheli & Manzoni, 2010).

As well as positive reviews of these performance measurement systems (Martinsons, Davison, & Tse, 1999; Mooraj, Oyon, & Hostettler, 1999), there have been various criticisms leveled at the performance measurement systems developed in the 1990s and the shortcomings have been well documented (Bashin, 2008; Garengo, Biazzo, & Bititci, 2005; Laitinen, 2002; Lohman et al., 2004; Malmi, 2001; Meyer, 2002b; Norreklit, 2000; Smith & Smith, 2007).

Performance measurement systems developed in the 1990s and early 2000s have been reviewed by a number of academics (e.g., Alfaro, Ortiz, & Poler, 2007; Pun & White, 2005). The various reviews by these writers consider the following performance measurement systems:

- The Strategic Measurement Analysis and Reporting Technique (SMART) (Lynch & Cross, 1991), also known as The Performance Pyramid
- Performance Measurement Questionnaire (Dixon et al., 1990)
- Results and Determinants Matrix (Fitzgerald et al., 1991)
- Balanced Scorecard (Kaplan & Norton, 1992)
- Comparative Business Scorecard (Kanji, 1998; Kanji & Moura e Sa, 2002)
- Cambridge Performance Measurement Process (Bourne et al., 2000; Neely, Mills, Gregory, et al., 1996)
- Consistent Performance Measurement Systems (Flapper, Fortuin, & Stoop, 1996)
- Integrated Performance Measurement Systems (Bititci et al., 1997)
- Dynamic Performance Measurement Systems (Bititci et al., 2000)
- Integrated Performance Measurement Framework (Medori, 1998)

Based on the work of these reviewers and due to their overall importance and research attention, an outline of the key points of the four most recognized performance measurement frameworks developed since 1990 is presented in the next few sections. There has yet to be an accepted performance measurement framework designed for the small-to-medium enterprise, and so it is not possible to provide a similar review. Various attempts have been made to apply the four models below within the context of small-to-medium enterprise environments but as yet, none have been easily transferred due to the fundamental differences between small-to-medium enterprises and large company environments (Garengo, Biazzo, & Bititci, 2005).

2.3.1 SMART / The Performance Pyramid

Developed by Wang Laboratories in 1988 and popularized by Lynch and Cross (1991), the Performance Pyramid links strategy and operations by "translating strategic objectives from the top down (based on customer priorities) and measures from the bottom up" (Lynch & Cross, 1991, p. 66). The pyramid consists of four levels, with Level 1 at the apex of the pyramid:

Level 1. The Corporate Vision is articulated

Level 2. A Strategic Business Unit level that focuses on defining performance measures for (1) the market, and (2) finance

Level 3. A Business Operating System level that acts as the starting point for effective measurement and control at the department level. The view is that performance measures should be established for (1) customer satisfaction, (2) flexibility (where systems and tools to produce and deliver to order are discussed, such as Just-in-Time and Flexible Manufacturing Systems), and (3) productivity, defined as being 'how effectively resources (including time) are managed in order to achieve the customer satisfaction and flexibility objectives" (Lynch & Cross, 1991, p. 75)

Level 4. The Local Operating Level, in other words the departments

where the actual workers are. Four criteria (1) quality, (2) delivery, (3) cycle time, and (4) waste, are defined with the stated objective for any business being to increase quality and delivery, and to decrease cycle time and waste.

A key strength of the Performance Pyramid is that it aims to integrate corporate objectives with operational performance measures (Ghalayini, Noble, & Crowe, 1997). However, it does not provide any mechanisms to identify key performance indicators (Tangen, 2004, p. 732), nor does it explicitly integrate the concept of continuous improvement (Ghalayini et al., 1997, p. 76).

2.3.2 The Performance Measurement Questionnaire (PMQ)

Developed by Dixon et al., (1990), the objectives for the PMQ were stated as being:

> *to provide a means by which an organization can articulate its improvement needs, determine the extent to which its existing set of measurements is supportive of the necessary improvements, and establish an agenda for improving the measures so they better support achievement of the improvements* (Dixon et al., 1990, p. 67)

The PMQ is designed to be completed by respondents inside half an hour and consists of four parts: (1) requests for general data so respondents can be classified, (2) a focus on competitive priorities and the performance measurement system, (3) an assessment of, typically, 39 generic measures that the company ranks on one scale as being important to have and on a second scale a ranking of the current use of the measures by the company, and (4) the respondents are asked to record their perceptions of the most important measures that their individual performance is judged on. The PMQ, which is administered by external consultants, reports four analyses:

i) Alignment Analysis – the extent to which a company's strategy, actions, and measures line up with each other
ii) Congruence Analysis – considers how well the existing business structure supports their strategy and actions

iii) Consensus Analysis – investigates the communication structure between and across functional and management areas

iv) Confusion Analysis – determines the level of consensus and confusion of opinion on each improvement area within a group. A group being defined as anyone of interest.

The PMQ's two main advantages are that it can assist in identifying (1) improvement areas within a company and (2) possible ways that existing performance measures can support those improvement areas (Ghalayini & Noble, 1996). However, Ghalayini and Noble (1996) also report disadvantages in that the PMQ cannot be regarded as a comprehensive performance measurement system, and that it does not factor in an approach to continuous improvement. A possible third disadvantage is that the PMQ has not been designed to be self-administered; instead the organization needs to use external consultants.

2.3.3 The Balanced Scorecard (BSC)

Developed by Kaplan and Norton (1992), the BSC was developed over a year-long project involving 12 organisations regarded as being at the leading edge of performance measurement. In Kaplan and Norton's own words, the Balanced Scorecard is:

> *a set of measures that gives top managers a fast but comprehensive view of the business. The Balanced Scorecard includes financial measures that tell the results of actions already taken. And it complements the financial measures with operational measures on customer satisfaction, internal processes, and the organization's innovation and improvement activities – operational measures that are the drivers of future financial performance* (Kaplan & Norton, 1992, p. 71)

The Balanced Scorecard provides managers with the opportunity to report performance under four perspectives that provides them with answers to four questions:

1. Customer Perspective – how do customers see us?
2. Internal Perspective – what must we excel at?

3. Innovation and Learning Perspective – can we continue to improve and create value?
4. Financial Perspective – how do we look to shareholders?

Kaplan and Norton stress that the Balanced Scorecard "puts strategy and vision, not control, at the center. It establishes goals but assumes that people will adopt whatever behaviors and take whatever actions are necessary to arrive at those goals. The measures are designed to pull people toward the overall vision" (1992, p. 79). Kaplan and Norton go on to state that "the Balanced Scorecard enables a company to align its management processes and focuses the entire organization on implementing long-term strategy and a framework for managing the implementation of strategy" (1996, p. 172).

Kaplan and Norton make the statement upfront that "an excellent set of balanced scorecard measures does not guarantee a winning strategy. The Balanced Scorecard can only translate a company's strategy into specific measurable objectives" (1992, p. 77-78). If the measures are not indicating success, they suggest it is necessary for the managers of the business to review their strategies.

The Balanced Scorecard is, by far, the most cited performance measurement system in the literature (Hudson, Smart, et al., 2001; Neely, 2005; Taticchi et al., 2010) and "dominates discussion of performance measurement" (Meyer, 2002b, p. 2). Much of that discussion highlights weaknesses of the Balanced Scorecard such as:

- It does not have a competitor perspective (Neely et al., 1995)
- It is not readily transferable from the private sector to public and non-profit organizations (Greatbanks & Tapp, 2007)
- It is not suited to implementation in SMEs (Garengo, Biazzo, & Bititci, 2005; Hvolby & Thorstenson, 2000; McAdam & Walker, 2003)
- There are no specific targets for performance levels and no explicit methods for successful implementation (Pun & White, 2005)
- It does not provide any guidance about combining measures (Meyer, 2002b)

- It does not tell managers where additional marginal effort will be most effective (Griffith & Neely, 2009)
- It needs to consider the business culture and language (Butler, Letza, & Neale, 1997)
- It is hugely resource intensive and long-term focused and so is unusable in a business environment that relies on flexibility (Hudson, Smart, et al., 2001; Hvolby & Thorstenson, 2000; McAdam & Walker, 2003)

2.3.4 The Performance Prism

Developed by Neely and Adams (2001), the Performance Prism is designed to address the changing needs of the business community and to address other issues identified with other performance measurement frameworks developed in the early 1990s.

The Performance Prism consists of five interrelated facets as follows:

Facet 1. *Stakeholder Satisfaction*

Who are the stakeholders and what do they want and need? Neely, Adams, & Crowe (2001) note that the BSC does not address employees, suppliers, alliance partners or intermediaries, regulators, local community or pressure groups.

Facet 2. *Strategies*

The starting point has to be to identify stakeholders and their requirements, and only then can strategies be developed to fulfill those stakeholder requirements. This view injects the element of determining the wants and needs before developing strategies from which performance measures can then be developed.

Facet 3. *Processes*

What are the processes we have to put in place in order to allow our strategies to be delivered? These processes are usually cross-

functional and specific measures for each process should be identified.

Facet 4. *Capabilities*
This determines the capabilities required within (or outside of) the organization to operate the processes. Measures that ensure the right capabilities are in place need to be developed.

Facet 5. *Stakeholder Contribution*
This identifies whether the stakeholders are contributing to the organization. Neely et al. (2001) believe that that there are reciprocal obligations between the organization and its stakeholders and that these need to be measured.

Neely and Adams (2001) acknowledge that the Performance Prism is not prescriptive, rather it is a framework that organizations can use to guide their development of an organization-wide system for measuring performance. Tangen (2004) recognizes that the performance measures decided upon are stronger as a result of questioning the company's existing strategy before the process of selecting measures is started. The broadening of the stakeholder group as outlined in Facet 1 is also a recognized strength. However, Tangen (2004) also indicates that the Performance Prism does not inform the reader about how the performance measures are going to be realised.

With regards to all four of the frameworks outlined above, little or no consideration has been given to the existing performance measurement system that companies may have in place (Medori & Steeple, 2000).

2.4 Performance measurement and small-to-medium enterprises

"A small business is not a little big business" (Welsh & White, 1981, p. 18). Considering that Welsh and White made their observation more than three decades ago, it is surprising that there has been so little research into performance measurement

within the small-to-medium enterprise environment (as identified by Andersen et al., 2001; Brem et al., 2008; Garengo & Bititci, 2007; Hudson, Smart, et al., 2001; McAdam, 2000; Smith & Smith, 2007; Taticchi, 2008).

There is much written on small-to-medium enterprises and on performance measurement respectively, but very little about performance measurement within small-to-medium enterprises. Brem et al. (2008) identified fewer than 50 articles discussing performance measurement and the small-to-medium enterprise community within the 10-year period 1998 to 2008; this is in contrast to 3,615 performance measurement articles during the two year period 1994 to 1996 addressing large company structures (Neely, 1999).

Notwithstanding the prevailing view that there has been very little empirical and theoretical research carried out on performance measurement in small-to-medium enterprises, Garengo, Biazzo and Bititci (2005) identified that some research in this field has been carried out in Australia (Barnes et al., 1998; Chennell et al., 2000), Finland (Laitinen, 2002; Rantanen & Holtari, 2000; Tenhunen et al., 2002), the UK (Bititci et al., 2000; Fernandes et al., 2006; Jarvis, Curran, Kitching, & Lightfoot, 2000; Neely & Mills, 1993), and Denmark (Hvolby & Thorstenson, 2000). I concur with Garengo et al (2005) that there are no particular country specific findings contained within these studies. A more recent study by Garengo and Sharma (2012) did identify that the first development of a performance measurement system was determined by different factors in the context of corporate governance structures in Italian and Indian small-to-medium enterprises.

The small-to-medium enterprise community has been slow to introduce integrated performance measurement systems (Nudurupati et al., 2011). One major contributing reason for this is that most performance measurement system development has been based around large company requirements, which are different from those of small-to-medium enterprises (Garengo & Bititci, 2007; Smith & Smith, 2007).

Small-to-medium enterprises are typically defined by their size, competitive position and individualized management practices (Smith & Smith, 2007). Small-to-medium enterprises are also generally recognized as being resource-deficient in manpower and time to take on additional projects (Barnes et al., 1998; Hudson et al., 2000; McAdam, 2000), as well as capital available to spend on additional projects (Hudson et al., 2000; Neely & Mills, 1993). As a result of these deficiencies, additional burdens placed on a small-to-medium enterprise, including requests to participate in research projects relating to investigations of performance measurement systems, can be prohibitive and many small-to-medium enterprises that do take part in these projects do not complete the project because of the trade-offs required between balancing day-to-day operational activities with those required for the research project (Brem et al., 2008; Garengo, Biazzo, & Bititci, 2005).

Recently, Brem et al. (2008) concluded that there has been no performance measurement system to date that is widely accepted as being especially developed for small-to-medium enterprises. However, there are some articles that do either (1) put forward attempts at performance measurement systems designed specifically for small-to-medium enterprises (Barnes et al., 1998; Chennell et al., 2000; Laitinen, 2002), (2) discuss the findings of research into retro-fitting a performance measurement system designed for large companies into small-to-medium enterprises (Andersen et al., 2001), or (3) review the design, characteristics or available theory into performance measurement systems in the small-to-medium enterprise environment (Garengo, Biazzo, & Bititci, 2005; Hudson, Smart, et al., 2001).

The majority of performance measurement articles focusing on small-to-medium enterprises are based on a snap-shot perspective, ended after the design and implementation phase, and contain little information about the ongoing use and success of those performance measurement systems (Brem et al., 2008). The literature also indicates that many researchers are intent on evaluating a pre-determined approach to the design, implementation and use of the performance measurement system (Bititci et al., 2006; Tenhunen et al., 2002).

Adair et al (2003) noted that the empirical literature consists mostly of case studies, observation and survey methods (Barnes et al., 1998; Brouthers, Andriessen, & Nicolaes, 1998; Greatbanks & Tapp, 2007; Hussain & Hoque, 2002; Malmi, 2001; McAdam, 2000; Sharma & Bhagwat, 2006; Tenhunen et al., 2002), with very few progressive research methods noted. Methods such as path analysis and action research have been used only by a handful of investigators (Bourne et al., 2000; Bourne et al., 2002; Kennerley & Neely, 2003; Neely et al., 2000; Nudurupati & Bititci, 2003).

2.5 Performance measurement and SMEs: 17 findings from the literature

It became clear during the literature review that there are a number of findings related to performance measurement that have significance for the small-to-medium enterprise community. However, these findings are scattered throughout the small-to-medium enterprise and performance measurement literature and there does not appear to have been an attempt to consolidate them into a form accessible to the small-to-medium enterprise community. This literature review identified 17 findings drawn from both literatures that were cited as being specific to small-to-medium enterprises. These 17 findings are not identified or evaluated in the literature as being pertinent to large companies. They enable both researcher and practitioner to more coherently situate performance measurement in the small-to-medium enterprise environment.

The 17 performance measurement design, implementation, and use findings that relate specifically to the small-to-medium enterprise community identified in my literature review are presented below.

2.5.1 SMEs require simple and clear information

Small-to-medium enterprises need a performance measurement system that can give their management focused, clear and useful information (Hussain & Hoque, 2002). Garengo, Biazzo, Simonetti, and Bernardi (2005) point out that small-to-medium enterprises lack the resources needed to implement complex models and may not actually need complex models. Simple and clear performance measurement systems

support one of the key strengths of small-to-medium enterprises, which is their ability to remain flexible and responsive to changing market pressures (McAdam, 2000).

2.5.2 Large company performance measurement systems do not fit into SME environments

The appropriateness of attempts to retrofit performance measurement systems designed for big businesses into small-to-medium enterprise environments has been regularly questioned (Brem et al., 2008; Hudson, Smart, et al., 2001; McAdam, 2000; Smith & Smith, 2007). For example, McAdam (2000) asks "if the business excellence model had been developed in a small-to-medium enterprise environment would it have the same nine criteria" and " if the Balanced Scorecard was based on small-to-medium enterprises would it have the same four quadrants?" (p. 305).

Hudson, Smart et al. (2001) found that the design requirement of performance measurement systems developed for large companies was too resource intensive and too strategically (long-term) oriented in the small-to-medium enterprise environment. This resulted in few small-to-medium enterprises completing performance measurement system implementations. Perhaps their key finding is the idea that for the small-to-medium enterprise setting, any performance measurement system needs to be resource efficient and produce short as well as long-term results.

2.5.3 Workshops are important in the performance measurement design process

The use of workshops for group consensus building and debate has been identified as an invaluable exercise (Hudson, Smart, et al., 2001). For example, a key outcome of workshops for one company was the "identification of a balanced set of strategic objectives that provided a foundation for the development of specific measures" (Hudson, Smart, et al., 2001, p. 1111).

2.5.4 A SME's preparedness needs to be evaluated prior to performance measurement system implementation

A neglected aspect of performance measurement system implementation is the evaluation of the preparedness of small-to-medium enterprises to successfully implement the performance measurement system (Brem et al., 2008). Brem et al., then noted the following as important small-to-medium enterprise pre-conditions for successful performance measurement system implementations:

- A technically formulated strategy
- Knowledge of measurement outcome
- Sufficient time and personnel resources
- An adequate electronic data processing system
- An existing information system (e.g. Activity Based Costing)
- Adequate day-to-day operative resources
- Adequate reporting tools

2.5.5 SMEs lack formal business planning

With the exception of small-to-medium enterprises with experience of quality management programmes, small-to-medium enterprises generally lack formal planning, and where planning does exist it is at an operational day-to-day business level and not related to ongoing performance measurement or directed at long-term goal attainment (Barnes et al., 1998). This is supported by Mintzberg, Lampel, Quinn, and Ghoshal who commented that strategy for small business owners is "not a formal, detailed plan on paper" but a "personal vision, a concept of the business, locked in a single brain" (2003, p. 319)

The fast moving pace of the competitive environments small-to-medium enterprises commonly operate within makes strategic planning a seemingly pointless exercise (Smith & Smith, 2007). Greatbanks and Boaden (1998) identified that in addition to

having poor strategic planning, small-to-medium enterprises also lack understanding of their critical success factors.

Small-to-medium enterprises are forced to do strategic planning when they begin the process of designing a performance measurement system (Garengo, Biazzo, & Bititci, 2005). The process of implementing the performance measurement system then helps to highlight gaps between current performance and objectives.

Financial budgets are often the main approach small-to-medium enterprises use to plan their future (Allio, 2006; Smith & Smith, 2007). Allio (2006) found that budgets are annual exercises and although periodically reviewed, they are rarely changed. Allio further commented that evaluating performance against budget is typically an historical exercise, therefore retrospective by nature and not helpful with regards to signaling important change requirements in a timely manner.

In a study of 234 small-to-medium enterprises, Vichitdhanabadee, Wilmshurst, and Clift (2009) found that in 46% of the enterprises surveyed, the accountant was the main advisor in performance management issues and that 72% reviewed their performance only once or twice annually.

2.5.6 SMEs need to be careful of rhetoric and follow through on performance measurement initiatives

The leader or top management team within small-to-medium enterprises often builds strong acceptance of strategy within the business. However, as identified by Lynch and Cross (1991), these good intentions can be easily delayed or even halted by day-to-day business pressures that alter priorities and implementation. Managers of small-to-medium enterprises frequently underestimate the time investment required to support performance measurement system implementation (McAdam, 2000).

2.5.7 SMEs with a quality management system are better prepared for PMS initiatives

Only small-to-medium enterprises with a track record in quality management had some structure to their performance measurement system (Barnes et al., 1998; Garengo, 2009). These companies were unusual in that they tended to have quantitative information about what their stakeholders thought of them, how their management system was working, and whether their products and services were satisfactory. Barnes et al. (1998) also comment that small-to-medium enterprises with quality management experience are more likely to present their performance measurement data graphically.

McAdam's (2000) findings were similar in that the implementation of a TQM system requires companies to link the system to business goals, resources and infrastructure and that there is a need for systematic and measurable processes to implement strategy. These are all elements that require the small-to-medium enterprise to at least consider the establishment of a performance measurement system.

2.5.8 SME measurement expectations are simpler than in larger companies

Meyer (2002a) suggests that large and complicated organizations expect their measures to roll up from the bottom to the top of the organization and vice versa to help provide comparisons across business and functional units. In contrast, Meyer suggests that in smaller and simpler firms, measures only need to look ahead, look back, motivate and compensate people.

2.5.9 SMEs generally lack quality financial information

Financial reporting is regarded as mandatory within small-to-medium enterprises, however it is rarely managerially useful, often unstructured, lacked a regular analysis of cashflow, and was commonly performed on the 'back of an envelope' (Barnes et al., 1998).

2.5.10 Aligning process and measures is important in SMEs

McAdam (2000) identified that processes and measures must continuously be aligned with strategy in fast moving small-to-medium enterprise environments. However, McAdam also found a constant tension between the need for flexibility and the constraints associated with processes and measures. A balance is required between the small-to-medium enterprise preference for 'action' rather than 'measuring' and that a considerable amount of scarce resources are required to capture measures on an ongoing basis. McAdam (2000) further indicated that targets should be established for processes and that a commitment to training and development is needed for effective process management.

Barnes et al. (1998) suggest that, in general, the small-to-medium enterprise approach to performance measurement is informal, not planned and not based on a predefined model; performance measurement is introduced to solve specific problems and the performance measurement system grows out of this process spontaneously rather than as a result of planning.

Small-to-medium enterprises that grow organically often develop informal processes making it difficult to implement formal performance measurement systems (Brem et al., 2008). The small-to-medium enterprise may have the ability to produce formal financial reports, most likely through an external accountant, however access to other information in formats likely to be of value for managerial decision making is likely to be restricted by the unplanned, inefficient, and informal processes that have evolved over time (Brem et al., 2008; Garengo, Biazzo, & Bititci, 2005; Jennings & Beaver, 1997).

2.5.11 Owner-manager management style impact is significant in SMEs

The management style of the owner-manager generally has a significant impact on the way small-to-medium enterprises operate (Smith & Smith, 2007). Strategic awareness on the part of the owner-manager has also been found to be another factor that can have

a significant impact on small-to-medium enterprise success (Hannon & Atherton, 1998; van Gelderen, Frese, & Thurik, 2000). Although the founder or owner of small firms may collect information that is useful for planning purposes, Brouthers et al (1998) found that small firm managers tended to choose strategies based on their personal desires and backgrounds, as opposed to selecting best-fit strategies based on rational analysis.

2.5.12 Senior management commitment is vital in performance measurement system initiatives in SMEs

Senior management commitment and leadership in terms of effective and regular communication is vital to successful performance measurement system implementation (McAdam, 2000). Given that management commitment is vital, Brem et al. (2008) found that establishing an external project management group limited the potential for distraction of the top management team during the design and implementation phase.

2.5.13 SMEs are notoriously resource constrained

A key constraint within small-to-medium enterprises that affects not only the successful implementation of a performance measurement system but also just about any activity a small-to-medium enterprise performs, is the lack of resources in terms of human capacity, time, and finance (Garengo, Biazzo, & Bititci, 2005; Hudson, Smart, et al., 2001; McAdam, 2000; Neely & Mills, 1993). In Hudson, Smart, et al.'s (2001) research, the widely acknowledged benefits of analyzing the company's strategic position during the design phase of the performance measurement system did not mitigate the fact that their case study organization was unable to implement the performance measurement systems partly due to resource constraints.

One further resource consideration is the general capability of the management team tasked with designing and implementing the performance measurement system. McAdam (2000) found that the Balanced Scorecard and Business Excellence Model

required a diversity of skills and experience across many different functions and that small-to-medium enterprises were unlikely to have this breadth of experience and knowledge. Small-to-medium enterprises have fewer senior managers and therefore the capability of one or two people can have a significant effect (Smith & Smith, 2007).

2.5.14 SMEs generally lack IT infrastructure and strong data analysis

In Barnes et al.'s (1998) study, even small-to-medium enterprises that had an operational performance measurement system lacked sufficient understanding of the requirements of the system at the design stage. This tended to result in their existing system having limited scope and depth. Barnes et al., (1998) found that the amount of data available to each small-to-medium enterprise varied significantly with internal data such as information about internal processes being more prevalent than external data such as competitor performance information. In addition, these authors found that data quality was generally unknown and measures were rarely, if ever, checked for accuracy, reliability, and reproducibility and further that management data was historical in nature and used for issue resolution as opposed to forward-looking decision-making.

Hudson, Smart et al's (2001) research found that all their interviewees complained that performance measures produced an overload of data which was either too complex or outdated and therefore unusable. Even where the data was usable, only one small-to-medium enterprise reported a formal feedback system, via monthly review meetings.

2.5.15 Data presentation in SMEs is generally poor

Generally, performance reporting in small-to-medium enterprises is poor and presented in simple tabular form (Barnes et al., 1998). Financial data may include some comparisons (e.g. last month vs. the same month a year earlier) and may include some aggregation (e.g. year-to-date). However, they did find that enterprises with quality management experience might have started to develop graphical presentation of the information in the data.

2.5.16 The number of measures should be limited

The literature is not clear about the ideal number of performance measures for either large companies or small-to-medium enterprises. However, some authors suggest that the number of performance measures should be limited (Bititci et al., 2013; Garengo, Biazzo, & Bititci, 2005; McAdam, 2000).

2.5.17 Whether SMEs should employ 'depth over breadth' of measurement is unclear

The development of performance measurement systems in small-to-medium enterprises is positioned more favourably towards measurement breadth, which considers the whole company and offers a more holistic view of performance (Garengo, Biazzo, & Bititci, 2005). The earlier performance measurement systems such as the Balanced Scorecard and the Performance Pyramid support in-depth measurement processes, but these models are difficult to implement in small-to-medium enterprises. Garengo et al.'s (2005) definitions of depth and breadth are: (i) the depth of a performance measurement system is the level of detail to which performance measures and indicators are applied and (ii) the breadth of a performance measurement system relates to the scope of the activities included in performance measurement system.

2.6 Small-to-medium enterprise performance measurement knowledge gaps

My literature review revealed four areas where this research project could contribute new knowledge. The four areas are outlined below:

There is a lack of research into SME performance measurement

Brem et al., (2008) and Taticchi (2008) suggest that there is a paucity of research into performance measurement systems in small-to-medium enterprises. Bourne et al.'s

(2000) performance measurement system development model consisting of three-stages – Design, Implementation, and Use – has received some attention in the literature (de Waal, 2007; Kennerley & Neely, 2002; Pun & White, 2005). However, the majority of research has been directed at the design and implementation, but not the use, of performance measurement systems (Nudurupati et al., 2011). In particular, knowledge about the actual use of performance measurement systems within the performance measurement research community in general, and especially the small-to-medium enterprise community, is lacking (Fernandes et al., 2006). The lack of knowledge in the small-to-medium enterprise sector exists partly due to the focus of much research being on the investigation of whether performance measurement systems designed for large companies environments are sustainable in the small-to-medium enterprise environment. As a result, the attention of many articles discussing performance measurement implementation in small-to-medium enterprises is directed towards the many problems found in attempting these investigations, and in some cases the failure to conclude the implementation (Hudson, Smart, et al., 2001).

Little is known about how SMEs interpret performance information for decision-making purposes

The literature review revealed that there are knowledge gaps regarding performance measurement systems for small-to-medium enterprises and further that small-to-medium enterprises which do have a performance measurement system are likely to be selective in choosing performance measures, lacking in strategic alignment, and be reporting as opposed to analyzing and interpreting their performance for future decision-making purposes.

There is little research discussing performance measurement in SMEs at the Board and Senior Management Team level

It is noted in the literature that small-to-medium enterprises are generally non-hierarchical and that the owner-manager has a significant impact on the direction and

running of the business (Jennings & Beaver, 1997). It may be, that for the reasons just mentioned, there appears to be little research discussing performance measurement at the Senior Management Team and Board level within small-to-medium enterprise environments. However, my own experience as a small-to-medium enterprise owner, and as a consultant to small-to-medium enterprises, indicates that many small-to-medium enterprises in New Zealand and Australia do have some form of organizational hierarchy. In addition, it is not unusual for small-to-medium enterprises to have a Board of Directors *in situ* that the owner-manager uses as an informal sounding board or, in some cases, a formal Board, where meetings are regularly held and important decisions about company direction are discussed.

There is little research into how performance measurement changes SMEs

The literature is directed very much at the design and implementation of performance measurement systems. Bourne et al., (2000) outlined 'use' as the third element of a complete performance measurement system. The literature also identifies that the very process of designing and implementing a performance measurement system, using workshops and providing much needed training in performance measurement approaches, can have a significant and positive impact. As a result of the lack of research discussing the actual use of performance measurement systems in small-to-medium enterprises, we know little about the overall impact of performance measurement in the small-to-medium enterprise environment.

CHAPTER 3 – RESEARCH METHODOLOGY

This chapter outlines the genesis of the research project and describes the decision-making process behind the chosen research methodology. An overview of the research methodology is provided, along with some guiding principles, and a description of how it was deployed in this project. Finally, the approach used to engage with the selected company for the research project is outlined, the evolution of the project is mapped out, and record-keeping approach is summarized.

3.1 Research genesis

My initial research interest was to understand why companies do not differentiate between their domestic and international performance measures. As I could not find any literature discussing this topic, I approached the International Marketing Managers from a range of multinational companies and small-to-medium enterprises and asked them which performance measures in their international business were different from those in their domestic business, and why. The general comment in response was (1) 'we measure the same things', (2) 'exchange rate movements', and (3) 'shipment movements; but everything else is the same'. Some managers commented further that they did not bother to measure market share, market penetration and customer satisfaction because these measures were too hard to measure, the business lacked funds to invest in data collection, and they (the managers) were too busy chasing business. Other managers commented that in general the international market was so large that each international customer was worth considerably more than each local market customer and differentiating between international and domestic performance measures was unnecessary.

This apparent lack of interest from the business community about differences between international and domestic market performance measures was disappointing. However, it motivated me to approach managers of small-to-medium enterprises, as they all commented that they needed to know more about performance measurement, to ask

them what their overall performance measurement system consisted of and how they used it. They indicated that they do undertake performance measurement but that they:

i) needed to do more performance measurement
ii) did not know enough about performance measurement
iii) had not viewed their performance measurement as being part of a system,
iv) were not sure what they needed to measure that was different from what they already measured, and
v) in some cases, pulled together performance information for their bank manager on a quarterly, but usually annual, basis, which was a useful but time-consuming and inefficient exercise, although they knew they should be taking more of an interest in performance measurement for themselves on a more regular basis.

The literature review and responses above suggested that managers within the small-to-medium enterprise community may lack confidence in their existing performance measurement systems and that they may not be using performance measurement to aid decision-making. These insights and my own experiences led me back to the academic literature. As we saw in the previous chapter my literature review identified a lack of research about the use of performance measurement within small-to-medium enterprises. With these insights, drawing on my own experience of owning and consulting to small-to-medium enterprises over many years, and a review of the literature, I concluded that investigating the following question would be valuable:

How does a small-to-medium enterprise use a performance measurement system?

The four gaps outlined at the end of Chapter 2 are too broad to address in one research project such as this doctoral thesis. However, the search for answers to the research question identified in the literature review and the nature of the research conducted for this thesis will contribute new knowledge to each of the four gaps identified. In order to address the gaps and the research question, the following section outlines the research methodology deployed in this study.

3.2 Choice of research method for this research project

The nature of the research question requiring me to understand '*how* a small-to-medium enterprises *used* their performance measurement system' suggested that total immersion in the performance measurement activities of one or more suitable case companies would be necessary. I initially decided that answers to this question could be found in a single or multiple case study approach that employed long-term observation, supplemented by interviews. The first company (CSC) that I approached told me that they (a) considered performance measurement to be a concern for senior management and (b) were just becoming aware of the need to improve or change their use of performance measurement.

With the information that CSC recognized existing business problems surrounding their existing performance measurement system, I raised the possibility of undertaking a longitudinal research project where I was also an active participant in the change process. A key decision factor for employing the action research methodology was that the CSC owner commented, at one point, that knowledge about performance measurement within the senior management levels of the company was limited and had remained unchanged for the previous four years. I decided that taking a more passive observation and interview approach through the more traditional case study method would not yield many productive insights relating to the research question due to CSC's owner already telling me about the general lack of performance measurement system knowledge within the business.

Another factor that encouraged me to employ the action research approach was that CSC's owner showed a high degree of interest in this type of research methodology and for his senior management team to be participants in the process. Avison, Lau, Myers, & Nielsen (1999, p.96) state that *'research frequently reports what practitioners say they do. In action research, the emphasis is more on what practitioners actually do'*. The willingness of CSC's senior management team to engage with the process and actually 'do' was an ideal situation for this researcher to be associated with. Furthermore, the openness of the senior management group at CSC created an ideal

opportunity for the researcher to experiment with the performance measurement practices within a small-to-medium enterprise environment (Garengo & Biazzo, 2012).

Coughlan and Coghlan (2002, p. 227) assert that action research is appropriate when the research question relates to describing an unfolding series of actions over time in a given group, community or organisation; understanding as a member of a group how and why their action can change or improve the working of some aspects of a system; and understanding the process of change or improvement in order to learn from it. The need to 'get involved' inside CSC, and act as an interventionist (Braa & Vidgen, 1999) with the senior management team to change their existing approach to performance measurement, fitted well with Coughlan and Coghlan's view of when action research is an appropriate methodology. Action research is therefore unlike a case study or a survey which attempt to describe and analyse the situation as it is (Titchen & Binnie, 1994). Additonally, the researcher can expect benefits to accrue for both the researcher and organization as a result of the process of collaboration that is an intrinsic part of the action research methodology (Cataldo, Sepulveda, & McQueen, 2012)

3.3 Suitability of action research to a Doctorate of Business and Administration

The Doctorate of Business and Administration degree at Massey University is '*designed for senior practitioners who wish to apply advanced research techniques to issues of corporate concern'* (Massey University website, 2011). In addition, the website states that '*the DBA is a qualification in which the individual's own experience becomes a base for future learning and the research is necessarily applied to a business issue and carried out in the context of professional practice'*

I have owned small to medium businesses for the past 20 years and have consulted to many similarly sized companies over that period. One common issue with these businesses has been the general lack of knowledge and structure around performance measurement. The majority of small-to-medium enterprise owners and managers I have worked with do not know that performance measurement can be a significant competitive point of difference, and therefore value, for their business.

Statements concerning commonly known, and readily recognized, differences between small-to-medium enterprises and large company environments cloud the theory that exists on performance measurement in small-to-medium enterprises. This research project is not concerned with these differences. Instead, the research was designed to apply within the confines of a specific small-to-medium enterprise environment and not be concerned with differences between a small-to-medium enterprise and a large company environment.

The action research approach encourages participants to plan, act, observe and reflect (or learn) from each action research cycle (see section 3.6 for more detail). One objective from each action research cycle was to improve the existing performance measurement system within the case study company and, as such, contribute to improved management of that small-to-medium enterprise, and therefore practice. Another objective was to learn from each action research cycle and to apply and evaluate the learning in the next turn of the cycle. As a consequence, the researcher is able to build knowledge from which it might be possible to generate emergent theory.

Action researchers recognize that the consequences of selected actions cannot be known ahead of time (Susman & Evered, 1978). The CSC action research case study, as it happened, uncovered a number of findings that are useful for practice and with more specific research will greatly assist small-to-medium enterprises, and possibly larger companies, to better manage their performance measurement process.

CSC recognized that they had a weak performance measurement system in place at the start of the research, and they were willing for the researcher to spend time inside the company as often as he liked to conduct research and help them with their business issue. Susman and Evered (1978) view action research as helping individuals within organizations to develop competence in interpretation and judgment, establishing problem solving procedures, acting in contingent and uncertain situations, learning from one's errors, generating workable new constructs from one's experiences. My own consulting and experiential background contributes to all of these competence-building

aspects of action research. Furthermore, CSC's senior management team and board were open to learning from their experiences of being active participants in the action research case study.

The above outline of the requirements of a Doctorate of Business and Administration, combined with the 'how do-nature', as opposed to the 'what-nature' of the questions raised in my mind by pre-research discussions with managers of and in small-to-medium enterprises, and from the literature review, assisted me in my conclusion that the research approach needed to be action-based.

3.4 Action research – overview

A number of research projects investigating the use and evolution of performance measurement have started but did not reach completion (Hudson, Smart, et al., 2001; Neely, 1999). The combination of my involvement as an action research outsider (Titchen & Binnie, 1994), my work experience and specific understanding of the literature, and CSC's willingness to resolve the problem (Garengo & Biazzo, 2012) made CSC an ideal site for an action research study (Lewin, 1946, 1947) into how small-to-medium enterprises use performance measurement systems.

The action research approach has been described as a spiral of steps, "each of which is composed of a circle of planning, action and fact-finding about the result of the action" (Lewin, 1946, p. 38).

Lewin wrote only 22 pages in his lifetime about action research (Peters & Robinson, 1984), and his untimely death in 1947 probably meant that he had a lot more to say on the subject. Ten years after Lewin first described his view of action research, Blum put forward his view that "simply defined, action research means diagnosis of a social problem with a view of helping improve the situation" (1955, p. 1).

Since the pioneering work of Lewin (1946) and Blum (1955), other researchers (Eden & Huxham, 1996; McCutcheon & Jung, 1990) have undertaken their own action research

projects and, as can be expected, alternative views, approaches, and descriptions of action research have been developed (Argyris & Schon, 1989; Elliott, Sutton, & Harding, 1988; Rapoport, 1970). The literature has variously described action research as participatory action research (Elden & Taylor, 1983; Greenwood, Whyte, & Harkavy, 1993; Rapoport, 1970; Reason & Bradbury, 2001), canonical action research (Davison, Martinsons, & Kock, 2004), management action science (Gummesson, 2000), collaborative inquiry (Nixon, 1987; Rapoport, 1970), emancipatory research (Boog, 2003), action learning (McCutcheon & Jung, 1990), and contextual action research (Susman & Evered, 1978).

3.5 Concerns about action research as a research method

Action research is a methodology not without its detractors. Many have criticized the action research paradigm for its lack of repeatability, and, hence, lack of rigour (Eden & Huxham, 1996, p. 75; Kock, McQueen, & Scott, 1997). However, Eden & Huxham then go on to say 'these criticisms are countered by the argument that the involvement with practitioners over things which actually matter to them provides a richness of insight which could not be gained in other ways' (p.75). Kock et al (1997) 'contend that effective application of the iterative approach to action research has the potential to bring research rigour up closer to standards acceptable by positivists' (p.1)

Action research is not recognized as a suitable method for testing hypotheses, pre-determined frameworks or models, or to make generalisable claims (Checkland & Holwell, 1998; Susman & Evered, 1978). It is a methodology that can inform other contexts (Eden & Huxham, 1996, p. 78), in the sense of suggesting areas for consideration. Eden & Huxham (1996, p. 80) further state that 'action research does not lend itself to repeatable experimentation' and that it is 'not a good vehicle for rigorous and detailed theory testing (at least in the traditional sense)' but on a positive note it can be 'used to generate emergent theory'. The research question for this project suggested to me that involving myself as a researcher in the performance measurement system enhancement project at CSC would likely generate 'rich data about what people do and say' (Eden & Huxham, 1996, p. 80) and could contribute towards building

emergent theory. Furthermore, I was encouraged to learn that the Balanced Scorecard, the most commonly cited performance measurement system in the literature, was developed using a form of action research (Kaplan, 1998).

An often-commented on concern in the literature is that action research is simply a form of consulting. Eden & Huxham (1996, p. 81) comment that it is 'important to be credible as a consultant, and ***so*** a researcher needs to pay a great deal of attention to developing a competent consultancy style and process. However, while consultancy skills are an important part of the action research toolkit, they do not, in themselves, justify the activity as *research.* Much more fundamental is *the need to be aware of what must be included in the process of consulting to achieve the research aims.* This, of course, implies that they be aware of the research aims'.

The researcher in this project has an extensive consulting background and so was unchallenged in the context of being able to act in this capacity. The real challenge was to separate the desire to achieve the outcomes hoped for by CSC with the requirement to generate outcomes for other practitioners, firms, small-to-medium enterprises, and the scholar community. In this regard, the literature provided the action research framework within which the research should be conducted and this was adhered to throughout the study. The process of action research is referred to as an action research cycle and is described in the next section below.

3.6 Action Research Cycles (or spirals)

Kurt Lewin's (1946) spiral of steps was developed into a model by Kemmis and McTaggart (1988) and is reproduced in figure 1. The action research cycle is drawn as a continuous cycle of iterative steps known as (1) planning, (2) acting, (3) observing, and (4) reflecting on the results of the action. The cycle then, generally, repeats itself with the researcher taking steps to revise the plan before moving into the next spiral of acting, observing and reflecting. This process continues until there is either no need to continue – in other words the problem is solved – or until enough learning has been gained from the previous spirals.

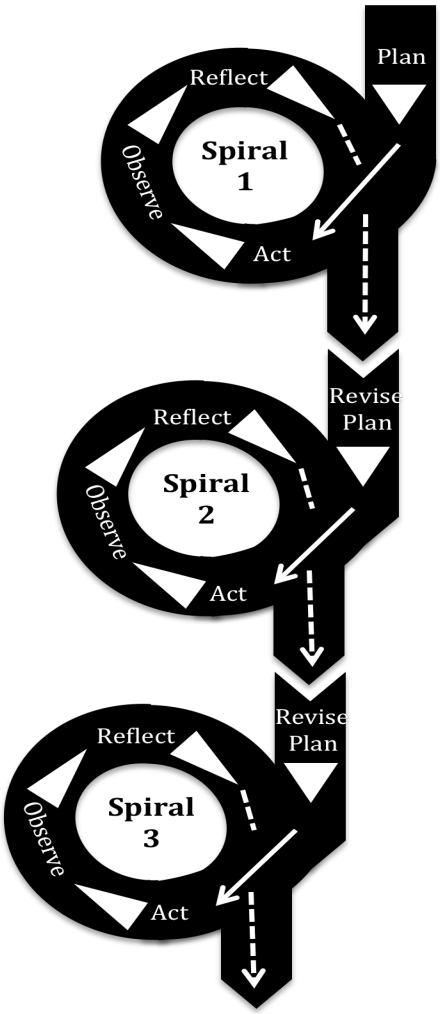


Figure 1 The Action Research Cycle

Dick (2002, p. 163) comments that 'each turn of the (*action research*) spiral provides you with yet another chance to test the interpretations you have so far developed against the data you are collecting, and within each turn you develop plans to test in action. Each turn of the spiral is a miniature test of the assumptions that guided your plans.

3.7 Guiding principles of action research

In the literature, there were two key texts that helped guide my approach to action research. The first is Coughlan and Coghlan's (2002) work which discusses the theory and practice of action research, the skills necessary to conduct action research successfully and which also explores generating theory from action research projects. The second is Gummesson (2000) who suggests that action research can be viewed as "management action science" and outlines this concept by promoting a number of key points. Of these points, seven in particular helped guide my own action research in the case study company as outlined below.

One, that action research is an interactive process. Gummesson (2000) suggests that it is not possible to carry out action research successfully without interacting with other people in the organization. In my case, I was an "outsider where the researcher plays an active part in the situation being studied" (Titchen & Binnie, 1994, p. 2). This meant that it was crucial for all of the staff at CSC to be willing participants and for me to be accepted as an active contributor to the performance measurement action research case study. The participants at CSC found value during the process and were always available to assist when needed.

Two, that action research recognizes complexities. According to Gummesson, due to the complex nature of organizations it is very difficult to predict real world solutions to real world problems. Although the problem might be generic, for instance a comment at CSC was: '*we don't use performance measurement effectively'*, the reasons why performance measurement may not be used effectively are more likely to be specific to the organization. However, some reasons might also be generic, for example at CSC one problem was '*we don't have the time to produce performance measurement reports*'. To be able to recognize organizational complexities, I found it necessary to maintain some distance from the day-to-day realities of the business. Taking such an approach enabled me to take a broader view of the project and to identify organizational complexities as they became apparent over the course of the project.

Three, that action research is about the understanding, planning and implementation of change. CSC's owner commented in his first meeting with the researcher that CSC's performance measurement system had been unchanged for 4-years, that performance measurement knowledge was poor, and that although change was required they did not know where to begin. This description fitted the criteria for action research as the need to understand the reasons for the current position, the need to plan and then implement change were all very apparent to me in that first discussion. At the beginning of the action research case study, the performance measurement system at CSC was structured around the operations/manufacturing, financial and quality aspects of the business. However, there was very little customer-orientated, forward looking, competitive or strategic performance measurement being undertaken.

Additionally, CSC had limited formal performance feedback loops between the Board, Managing Director and Senior Management Team. The General Manager controlled the flow of information and feedback down the organisation. As a result, I found that to carry out the action research successfully I needed a strong understanding of how CSC's internal communication channels worked in order to ensure the most appropriate reporting feedback loops were established. This understanding of communication patterns was necessary as there were very clear gaps in knowledge at the senior management team level about CSC's overall performance that was difficult to make sense of, especially in an organization of this size, and needed to change in order for an effective performance measurement system to operate.

Four, that action research requires a strong ethical framework. In addition to the research related requirements of the Massey University Human Ethics Committee, two ethical issues in particular needed careful consideration throughout the research study. The first was that as a result of working closely with all members of the Senior Management Team and the Board, we became friends. This carried the risk of me losing my objectivity as a researcher. The second issue was that sometimes I disagreed with various decisions and actions taken by the company. Although I was able to voice my disagreement and found both the owner and the Senior Management Team at CSC open to listening to suggestions or recommendations, it did not necessarily mean my ideas

were acted upon. However, no matter what the decision, I accepted that decision and either made plans to take the action research in the direction agreed, or if my recommendations were rejected, I reconsidered the recommendation in order to develop an alternative that accommodated these constraints.

Five, that action research can include all types of data-generating methods (Gummesson, 2000). Coghlan and Brannick (2005) further suggest that action research generates data from engagement with others. For this study I employed a number of data-gathering methods. These included face-to-face interviews, reviewing historical documents such as memos, plans, minutes of meetings that had been generated prior to me undertaking the study, and engaging in meetings and discussions about performance measurement. Other forms of data collection I used included informal conversations, phone calls, observations, unplanned questioning during meetings, facilitating meetings, generating business plans, carrying out Strength, Weakness, Opportunity and Threat (SWOT) analyses, discussions with third-party consultants, email communications, reviewing financial reports, and taking notes at regular monthly management team and board meetings. While engaging in these data-generating activities I found it useful to regularly remind myself of the objectives of the study and to ensure a link with performance measurement existed.

Six, that action research is usually conducted in real time, although retrospective action research is also an option. CSC was a live study, which was 'written' as it unfolded (Coughlan & Coghlan, 2002) – as opposed to being written in retrospect as is normal in traditional case studies. The nature of the study meant it had to fit within the normal day-to-day operational pressures experienced by CSC's management group and the business as a whole. The action research case study could not take over the organization; rather it was necessary that both the project and CSC progressed at a pace that was acceptable to both parties. Indeed, the slower pace was more in keeping with how many typical small-to-medium enterprises might establish a performance measurement system, although some small-to-medium enterprises might, if they were highly focused; attempt a faster design and implementation approach. For me the slower pace of the action research case study carried some real benefits as it provided me with time to reflect on events, analyze data and plan future interactions with CSC.

Seven, finally, with respect to Gummesson (2000), action research requires its own quality criteria. “Quality is assessed in relation to the way research results are perceived to facilitate the solution of an actual problem” (Gummesson, 2000, p. 164). This action research case study produced a performance measurement system that remained in use 12 months after the project finished and is seen by CSC to have improved the performance measurement capability of the business.

3.8 Action research in this case study

Dick (2002) comments that action research often requires the researcher to put aside their preconceptions so that the research situation can be experienced more fully. This indicates a responsive and flexible situation. The action research case study at CSC was data-driven (Dick, 2002). One identified risk for the project was that no useful data might have been generated such that no particular themes of value might evolve. The willingness of CSC’s senior management team and board to be available for all meetings, completing tasks required of the project, and participating actively in the discussions, workshops, meetings, interviews and tasks that led to the design and implementation of a new performance measurement system, all helped to reduce the risk of there being a lack of appropriate data.

The action research cycle used in this case study was based around the four elements pictured in figure 1 – Planning, Action, Observation and Reflection. It was not always the case that planning was the beginning of a new action research cycle during the project. In some situations, an unplanned action triggered substantial reflection (or review) by the researcher to try and make sense of the outcomes of the action. This reflection then led to the planning of another action to ‘see what might result’, but always with the objective of moving the project forward towards achieving the stated goals of CSC. Eventually, often through a number of iterative action research cycles, a clear outcome resulted which could be documented as being of value to CSC as well as thematically useful to the researcher. Some of these action research cycles led straight onto other separate action research cycles, each with their own possible outcomes but each with potential usefulness for both the practitioner and scholar communities.

Given the longitudinal nature of the case study (3-years), there were a number of action research cycles commenced that did not complete or fizzled out, just as there were many that came to an eventual conclusion. The findings of some of the action research cyces are included in the case study section of this thesis, however others are archived in records of the research for possible publication at a later date.

An example of two action research cycles at CSC is provided below:

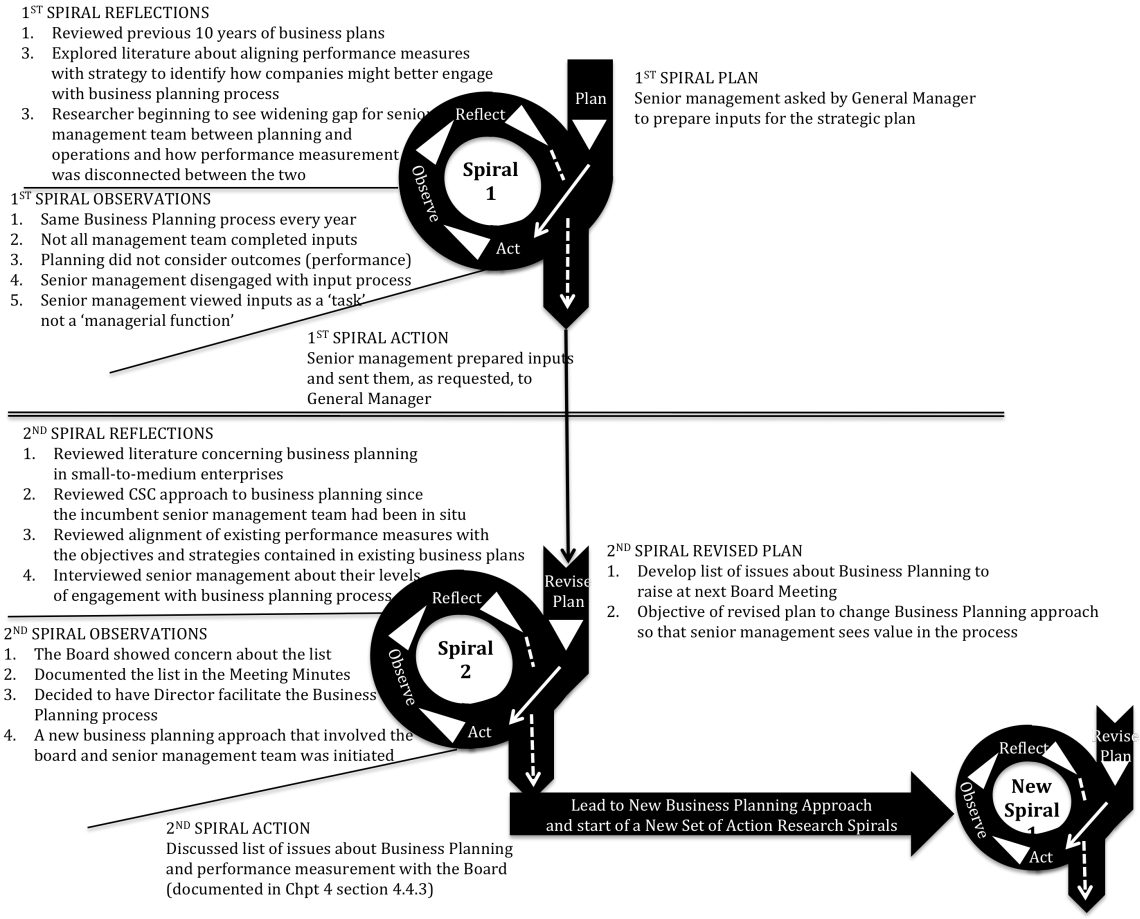


Figure 2. Initiating a New Business Planning Process at CSC

The following is an overview of the action research cycle referred to in figure 2.

The action research cycle began when the General Manager asked the senior management team to fill in a template as an information gathering exercise from which the General Manager would write the business plan. The senior management team's

only inputs into the next business planning round were to be the information they included in the template. Each senior manager was to complete his task in isolation and send it to the General Manager. The action component of the first spiral was the completion of the inputs by each senior manager. The observations were that the business planning process had been the same for each of the previous 4 years, there was a wide variation in quality of inputs provided each year, performance outcomes were rarely considered as part of the process, and that senior managers appeared to be prepared to provide the inputs but did not perceive any connection between them and their own day-to-day role in the business. Based on these observations, I reviewed the last 10 years of business plans to understand if there were any major variances between inputs and plans. I read the literature to understand ways that small-to-medium enterprises might better engage with the business planning process, and determined that there was a disconnect between performance measures included in business plans with those actually used within CSC. In particular, there was poor alignment between performance measures and strategic elements included in each business plan.

The second action research spiral began with a revised plan developed to initiate a new business planning approach so that senior management would see, and get, more value from the process. A list of issues found during the first action research cycle was presented to the Board and the consequences were discussed. The key observations of this action were that the board were concerned about the list, they made sure the list was documented as part of the minutes of the meeting, a Director was tasked with facilitating a strategic planning meeting that would include the full Board, and a new approach to business planning was decided whereby the board and the senior management team would work together in a full day meeting to construct a new business plan. My reflection on these observations included a further review of the literature to understand more about performance measurement relationships with business planning exercises within small-to-medium enterprises, a more in-depth review of performance measures included in existing and recent business plans alongside performance measures actually reported in monthly reports, and finally semi-structured interviews were conducted with each member of the senior management team to learn more about their perspectives on business planning as a process within CSC.

Triangulation

Triangulation during the many research cycles was achieved through a range of different methods. The methods included semi-structured interviews with the senior management team to validate thoughts and observations captured from meetings and from minutes of meetings, dialogue with the board and senior management team members immediately following meetings to confirm outcomes of meetings, minutes of meetings written by CSC executives who were involved in the action component of the action research cycle, historical and current documentation relating to the action, and research notes and records taken by the researcher.

Having outlined the underpinnings of the methodology used for my investigation, I now turn to the process used in the selection of an appropriate location for the project.

3.9 The process I used to select CSC as a suitable research site

I was introduced to CSC through a colleague at Massey University who had conducted research and undertaken consulting exercises with the company. I met with the owner of CSC – who is also the 100% shareholder of the business – and we agreed that I would attend some meetings and meet key people in order to confirm the suitability of CSC as an action research site.

It was important that CSC's owner understood that there was no pre-determined approach or off-the-shelf solution to the problem this action research case study would be attempting to resolve. This meant that there were no guarantees that the action research case study would solve the problem. CSC had to agree to take action, and proactively consider the project recommendations as they developed, as well as the intended and potential outcomes.

As part of my research preparation, I attended three Board meetings and two Management Team meetings. I also spent time with the owner, members of the Board,

and key management team members to establish rapport and to agree the boundaries of the research assignment.

My attendance at these meetings was important as it ensured that the Board and the management team at CSC accepted me as the researcher, and that full access for me would be maintained throughout the length of the research study – which took 36 months. I continued to attend senior management and board meetings at CSC after the conclusion of the action research case study, at the request of CSC. This continuance allowed me to monitor, and in some cases conclude, some of the initiatives identified during the action research case study. Early on in the study, CSC added the action research case study as an agenda item at monthly board meetings that highlighted the value the project had become to the business.

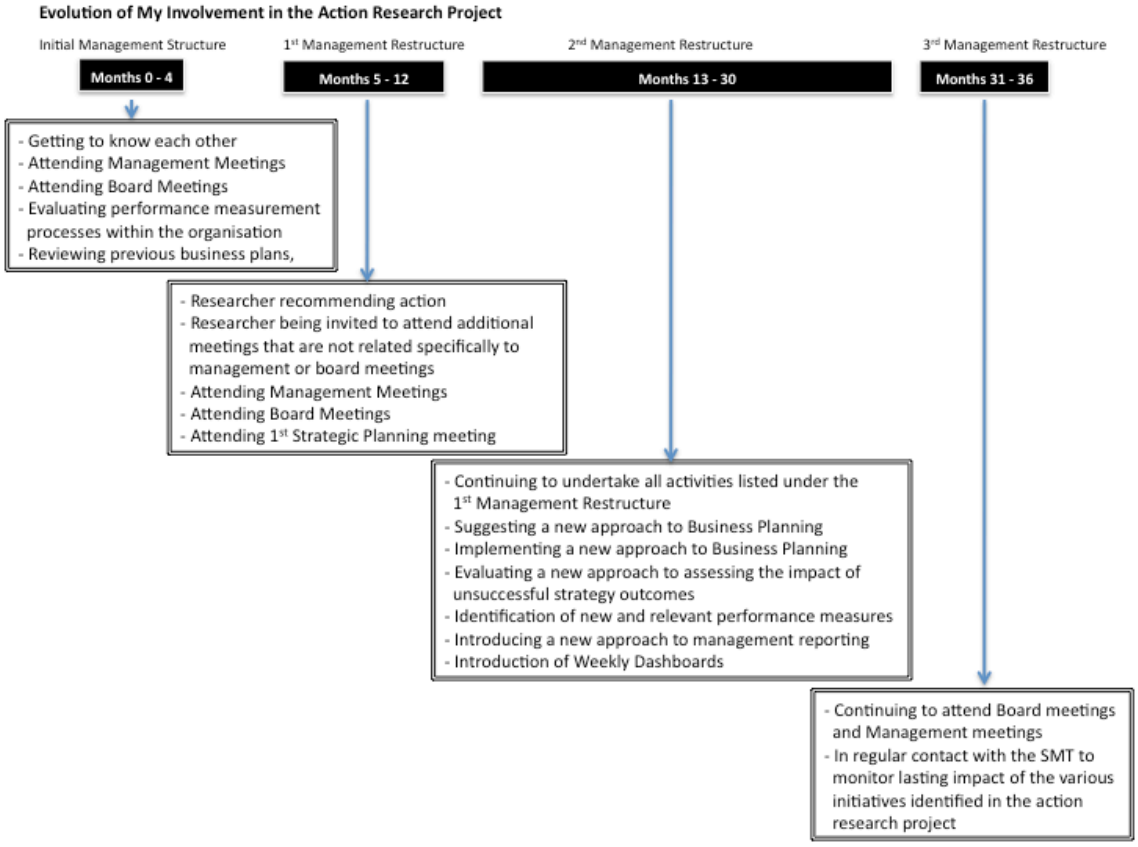
After confirming CSC as a suitable action research candidate, I obtained all the necessary Massey University Human Ethics Committee approvals (HEC: Southern B Application 08/51). To maintain continuity with CSC, I attended relevant board and management team meetings as the ethics approval process progressed. I also agreed with CSC that my attendance at these board and management meetings could form part of the action research case study.

The nature of action research requires a high level of mutual trust and confidence between the researcher and members of the organization involved. Organisation members need to be able to trust the researcher with highly confidential information and financial data as well as have confidence that the researcher will not be disruptive to the business. From the researcher's perspective, as well as being mindful of the organizations trust and confidence requirements, there is a need to know that the organization being researched has a strong chance of being in business throughout the length of the project, that it will allow full and timely access to company information, people and data, and that the key personnel within the business will be willing to actively debate and follow through on recommendations put forward by the researcher.

3.10 Evolution of the research project

The action research case study evolved through four distinct stages. These stages are based around the four management structures that I encountered during the study. The diagram below shows these stages and further explanation follows.

Figure 3 Evolution of my involvement in the action research case study



Stage one of the action research case study, the *initial management structure*, covers the period when CSC had a General Manager. During these four months, I attended two management and three Board meetings to become familiar with the organization, its business, performance measurement approach, and strategies. I was given access to all company records and minutes of management and board meetings, the ten most recent years of Strengths, Weakness, Opportunity and Threat (SWOT) analyses, strategic

planning sessions, business plans, performance measurement reports, as well as access to all personnel within the company.

Five months into the action research case study, the first of three senior management changes occurred. By this time, I was well acquainted with the business and accepted as an integral part of the performance measurement action research case study. This level of engagement with CSC led to invitations to attend meetings outside of what I originally thought was necessary to achieve the goals of the action research case study, such as meetings about whether to replace the soon-to-be departing General Manager. The data generated from attending these meetings proved very useful in the context of my investigation. This *1st management restructure* also saw my involvement in the development of CSCs Strategic Plan.

A *2nd management restructure* took place 13 months into the action research case study and lasted 17 months. From a performance measurement perspective, there was much activity on defining a new business plan, evaluating a new approach to assessing the impact of unsuccessful strategy outcomes, identifying new and relevant performance measures, and introducing a new approach to management reporting.

Finally, with six months left of the action research case study, a *3rd management restructure* occurred, resulting in a structure which remains in place at the time of writing this thesis. This period, and beyond, has resulted in an embedding of a performance measurement culture inside CSC, a greater understanding of the benefits of performance measurement and improved reporting, and has seen a number of new performance measures being trialed.

3.11 Approach to record keeping during the action research case study

I kept a journal of all the meetings and interactions I had with CSC. In addition, in the initial three months I took minutes of all the management and Board meetings that I attended. The Human Resources Manager took detailed minutes of these meetings that

were then circulated to all participants. As I was becoming a participant, I was also included in these circulations.

A comparison of my notes with the company's minutes showed them to be a close match. I then decided to convert the company minutes into a two-column table. The column on the left-hand side of the page contained the company minutes; I then used the right-hand side column to write my own notes, impressions, thoughts and observations from each meeting. An example of how I recorded outcomes of key meetings is provided in Appendix J.

In addition, the records include various company reports, business plans, analysis of key decisions made during the action research case study, budgets, marketing collateral, amongst other things.

A detailed summary of my engagement with CSC during the 3-year action research case study is included in appendix K. However, in summary, I visited the company on more than 40 occasions, attended 22 Board meetings, 15 Management Team Meetings, 10 Weekly Dashboard Meetings, 6 strategic planning workshops, visited the Sydney office twice, and had more than 130 other meetings spending more than 500 hours doing research-in-action.

3.12 Research methodology summary

This action research case study resulted from discussions with CSC and from recognizing a gap in the research literature. The research question "how does a small-to-medium enterprise use a performance measurement system?" is not answered in the literature. Initially, a single or multiple case study approach was to be used to help answer the question, however, the owner of CSC commented that knowledge about performance measurement within the senior management team levels of the company was limited and had remained unchanged for 4-years. I decided that taking a more passive observation and interview approach through the more traditional case study method would not yield many productive insights relating to the research question. This

was due to the CSC's owner already telling me about the general lack of performance measurement knowledge within the business – if knowledge is slim, then what can be learned apart from how 'not' to do something? The nature of the research question about 'how' a small-to-medium enterprise might 'use' a performance measurement system and that CSC were a research subject willing to 'see how the research developed' and were not time constrained, encouraged me to investigate the use of action research as a preferred methodology for contributing answers to the research question.

Views on what constitutes legitimate action research vary. Braa & Vidgen (1999) describe the mix between action research and case studies as an action case study where the researcher has the intention not only to observe, interpret, and understand but also to intervene and change the practice under study. This action research case study went further than Braa and Vidgren's definition in that it embraced the full action research ethic of working with the system for mutual benefit and learning for both the practitioners in CSC as well as the researcher.

For some, action research has implications for both methodology and the style of reporting, that is, reporting the action research cycles as they unfold in the research. Due to the length and complexity of this research process, I found such a method of reporting results unwieldy. Therefore, I refer to my research as an action research case study to reflect the traditional case study style of presentation in the subsequent chapter.

The results of this research method and their implication for the practitioner and scholar communities are discussed in the following three chapters.

CHAPTER 4 – CSC CASE STUDY

4.1 Case structure

The way things were

At the beginning of the action research case study, CSC's senior management team structure had existed for four years, and the Board had existed for one year. Performance measurement at the senior management level of CSC was task-oriented and was reported to the General Manager who then reported the information to the Managing Director and Board.

The CSC management structure

During the research project, the management structure changed three times. The preparation, content and style of management reports, reporting lines, dissemination of reports, presentation and timing of performance reports to the Board, feedback loops, and alignment with strategy changed throughout the action research case study directly as a result of management restructures within the business.

Business planning and strategic planning meetings

When the General Manager left the business and was not replaced, two strategic planning meetings were held. These meetings changed the way strategic planning was conducted at CSC and resulted in a complete review of the design, selection, implementation, and use of performance measures. These strategic planning meetings identified a lack of conformity across the senior management group about the definition of strategic outcomes and performance measures relating to each strategy. The answers to a number of questions asked of each senior manager about each strategy showed that each senior manager held differing views about (1) what needed to be done to achieve each strategy, (2) what customers should experience from each strategy, (3) how key messages for each strategy should be communicated to each customer, (4) how each

strategy would be delivered, (5) what success would mean for CSC and customers, and (6) what failure would mean for CSC and customers.

Turning performance reporting into action

The requirement to consider the consequences of strategies failing produced a new list of performance measures that also improved CSC's risk management profile. Performance measurement and reporting moved from monthly to weekly and this helped introduce a stronger performance measurement culture within the business.

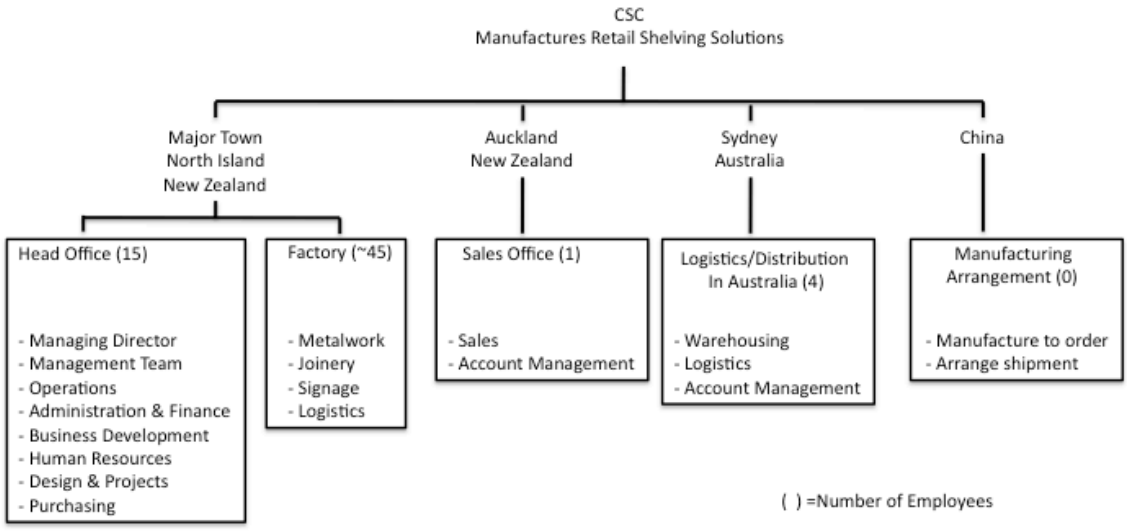
4.2 The way things were

4.2.1 CSC overview

Founded in 1978, CSC is a manufacturing company, with annual revenues between NZ$6m and $10m. CSC manufactures front-of-house retail shelving systems, apparel racks and point-of-purchase display units including gondolas, cabinets, counters, and wall systems. Most customers, both new and old, require CSC to undertake design and prototyping of retail systems either to refresh their current look, or to establish a totally new look in either their concept stores or existing stores. In addition to the manufacture, delivery and installation of the final product, CSC also provides product development, knowledge of retailing, prototyping, drawings and rendering, and project management on and off-site.

The founder remains the 100% sole shareholder Managing Director 35 years later. CSC has three office locations and a manufacturing arrangement in China. These locations and the functions relating to each location are depicted in the diagram below:

Figure 4 CSC office and manufacturing locations



CSC's staffing levels fluctuate between 45 and 65 people. It is therefore a small (<49 full time equivalent employees) to medium enterprise (50 to 99 full time equivalent employees), according to the definition of a small-to-medium-sized company put forward by the New Zealand Centre for SME Research.

CSC's preferred customers are large retail chains. However, it also conducts business with companies that have retail shops in only three to five shopping centres or cities, and one-off customers who only require retail shelving in their single or two-store business.

CSC's trading history shows that it has high-risk exposure to a small number of customers. In most years prior to the action research case study, five of its 70-80 annual customers generated 75% or more of its revenue.

CSC's most recent vision statement is *to be the best supplier of retail system through innovation, partnership and service* (CSC Strategic Planning Meeting, August, 2008).

4.2.2 The CSC Board

A year before the action research case study, the Managing Director invited three independent businessmen to form a Board of Directors. All of these independent businessmen were known to the Managing Director and so could be called 'friendly independent Directors'. The experience and backgrounds of the independent directors is extensive. One Director has a PhD in environmental engineering and has been the CEO of a number of significant organizations, another Director has more than 20 years international experience in the finance field, and the third Director is the owner of a successful local accounting firm. This Board remained in place, unchanged, throughout the action research case study.

The CSC Board's focus at the beginning of the action research case study was on assisting the sole shareholder (the Managing Director) to invest excess funds into buying competitors and complementary companies. However, this focus changed during the action research case study as the global financial crisis deepened in mid 2008 requiring the Board to spend more of their time on performance measurement related topics, in particular on the day-to-day management and cashflow concerns within the company. Towards the end of the action research case study, the Board was beginning to re-open discussion about buying competitors provided any purchase would not be disruptive to the existing business.

4.2.3 The CSC Senior Management Team

At the start of the action research case study, a General Manager and five functional area managers, known as the Senior Management Team, managed the day-to-day business at CSC. The senior management structure had been consistent for four years prior to the start of the action research case study. The CSC Senior Management Team members had a mixture of business experience. Sixty percent of the Senior Management Team had careers in line or operations management in large company environments. Forty percent of the Senior Management Team had been with CSC for less than 12 months at the start of the action research case study. Sixty percent of the

managers were tertiary qualified in their area of responsibility, and one manager had an MBA. A more complete outline of the respective experience of each manager is included in Appendix I.

Prior to the action research case study, the General Manager closely managed the Senior Management Team, almost compartmentally. This General Manager departed the business inside the first 5 months of the action research case study creating opportunities for new thinking about how the remaining Senior Management Team should operate.

4.3 Changes to CSC's management structure

The initial organizational structure remained in place until four months into the action research case study. However, the senior management team structure then changed significantly on three occasions during the remainder of the 3-year action research case study (see figure 3). Each of these restructures affected how CSC managed, reported and communicated its business performance and so it is important to understand (a) the key senior management changes that took place over the course of the action research case study and (b) the key reasons behind each of the three major changes.

The section below outlines the four distinct senior management structures that existed during the action research case study. Each of these senior management changes formed a continuing spiral of action research cycles that led to implications for practitioners outlined in section 5.2 and contributions to scholarship outlined in section 6.1 in this thesis.

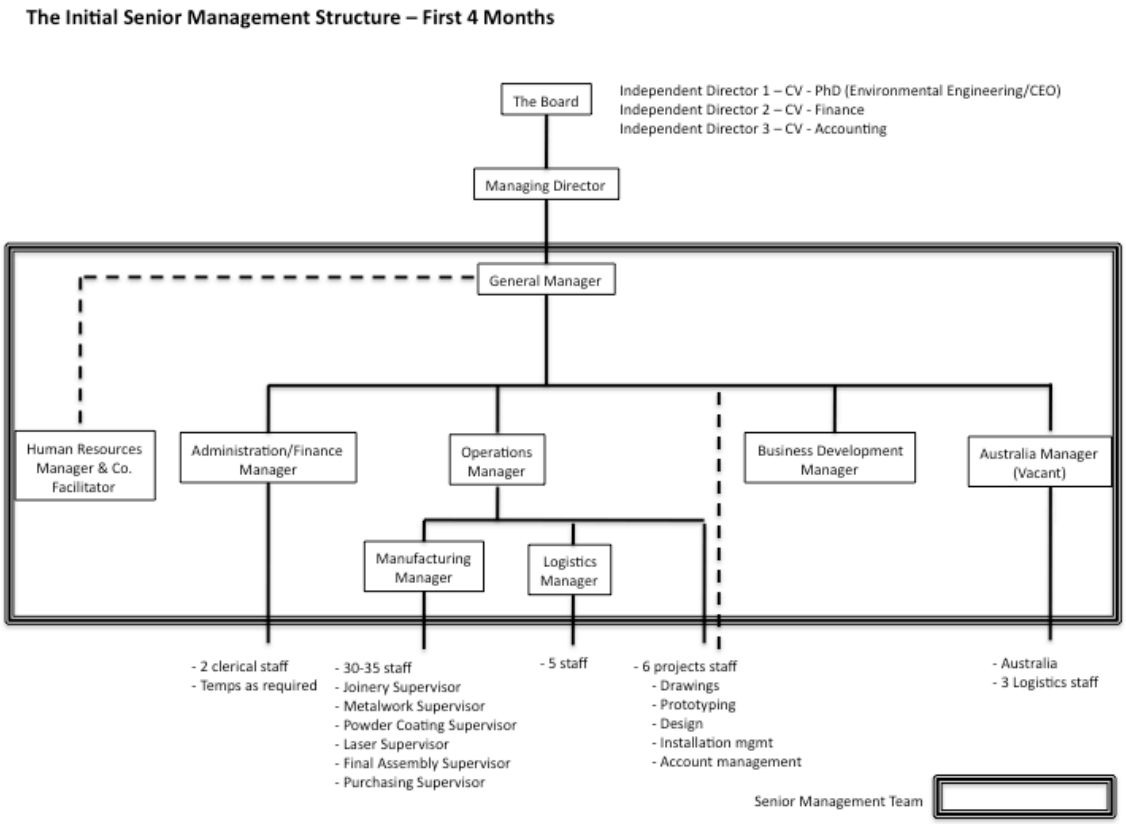
4.3.1 The initial management structure

The General Manager's role was to run the day-to-day business. This allowed the Managing Director to concentrate on business development, allocate time to projects external to the company, and to investigate acquisition opportunities for the business. This meant that the Managing Director did not need to micro-manage the business.

However, the Managing Director never lost sight of his role as owner and mentor to staff within the business, and apart from times when he was out of the country, he was active within the business attending key meetings across the whole company.

Under the Initial Management Structure (see figure 5), the hierarchy of the Senior Management Team consisted of three levels led by the General Manager. The second level consisted of four direct reports to the General Manager (a Business Development Manager located in Auckland, an Administration/Finance Manager and an Operations Manager located at the head office, and the Australia Manager located in Sydney). The third level consisted of a Manufacturing Manager and a Logistics Manager, both reporting to the Operations Manager. The organizational charts (see figures 5 – 8) contain lists of the various functional areas each of the members of the Senor Management Team were responsible for, at key stages during the project.

Figure 5 CSC's initial management structure



The Human Resources Manager and Company Facilitator position had a 'dotted line' responsibility, and therefore was not a direct report, to the General Manager. This manager is the wife of the Managing Director, has eight years prior experience as the financial controller in the business, and was the scribe at most Management and Board meetings. Because of this relationship to the Managing Director and her all round knowledge of the business, this manager exerts considerable informal influence within the company.

The General Manager required the rest of the Senior Management Team to report their performance to him on a monthly, or on demand basis. The General Manager then consolidated and filtered their reports, and presented or discussed performance with the Managing Director on a regular basis – usually, but not necessarily, monthly.

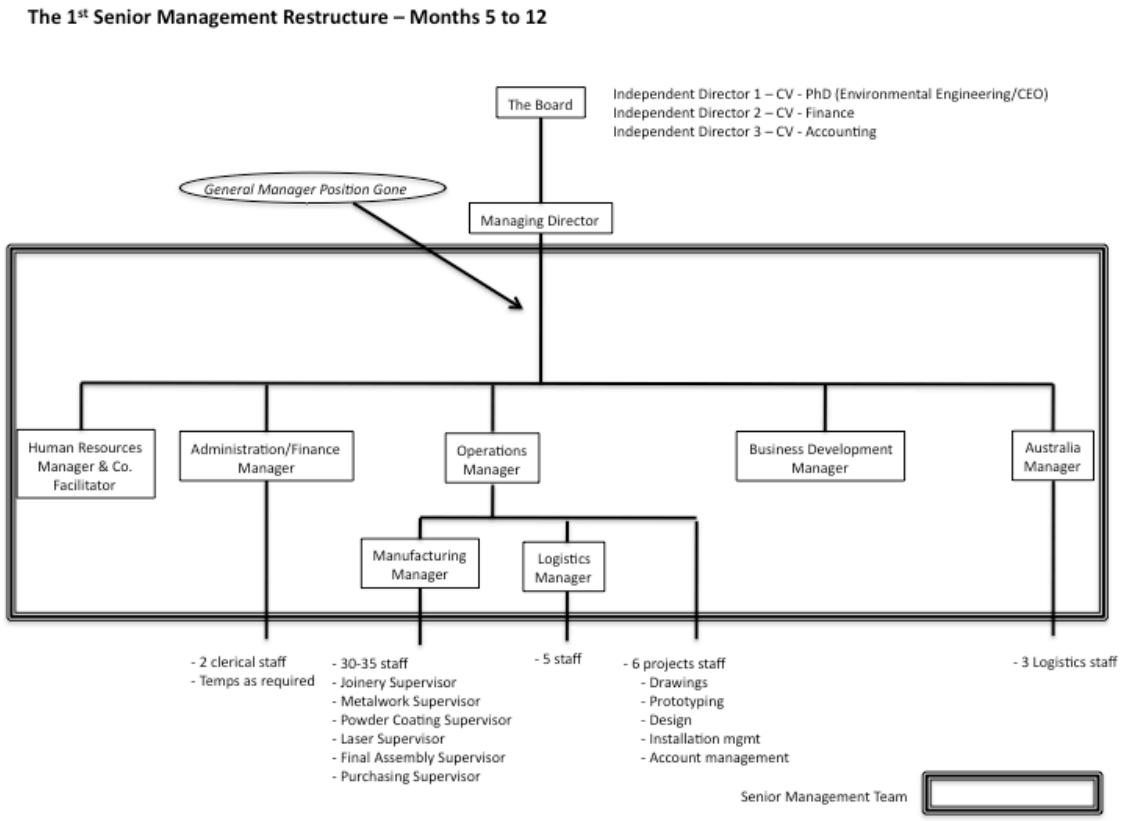
4.3.2 The 1st management restructure

The 1st Management Restructure occurred when the General Manager left the business. The Board decided to give the remaining Senior Management Team an opportunity to lift their overall performance by leaving the General Management position vacant. This decision removed one hierarchical layer from the Senior Management Team and bought them closer to both the Managing Director and the Board. The Senior Management Team continued to produce performance reports covering their respective functional areas. These reports began being circulated directly to the Managing Director and the Board. In addition, the Managing Director would write and present his own report to the Board.

A Board Director, acting as the Managing Director for the Owner while he was overseas for a month, identified a number of skill gaps in the Senior Management Team and initiated a strategic planning process. Until this development, my role as an action researcher had been constrained to attending board and management meetings and contributing comments about performance measurement, partly limited by the management style of the General Manager. My role then became more active after the General Manager left the business and the Board agreed to me working with the

Australian Manager to develop an Australian Business Plan so that performance measures could be agreed in that market. The Board also agreed to me running workshops with the Senior Management Team to identify performance measures that would align with strategies resulting from the strategic business planning process. This was a key change in my relationship with CSC as it created an opportunity to work directly with the Senior Management Team on performance measurement.

Figure 6 The 1st management restructure – months 5 to 12



During the seven months that the 1st Management Restructure was in place, CSC's sales, gross profit percentages and cashflow declined significantly to the level whereby the Managing Director was required to advance the company six figure sums. Concerns were expressed at Board level about the level of confidence within the Senior Management Team, their teaming qualities, and the capabilities of some key members in the Senior Management Team. The management of factory staffing levels became

complicated with the decline in business, and for the first time, the term 'performance measurement' was included in the Board minutes as an item of discussion.

Throughout this 1st management restructure period, although the pattern of business decline was noted, there was no major sense of concern over the decline as the Managing Director had 'seen it all before'. This apparent lack of general concern from the owner of the business permeated throughout the Senior Management Team to the degree that they too did not become overtly worried about the general business decline. However, the Board did become concerned enough to start talking actively and openly at Board meetings about performance measurement and management as well as overall Senior Management Team skill levels and capabilities.

At Board level, the resignation of the General Manager prompted new thinking about the makeup of the Senior Management Team and the relevance of having a General Manager. Senior Management Team meetings created some nervousness at Board level about the fact that few members of the Senior Management Team had strong general knowledge about the business other than that which related to their own specific functional areas. Senior Management Team meetings that took place soon after the General Manager left the business also highlighted that the General Manager had not been building a strong management team environment or culture.

In addition to the decision to delay seeking a replacement for the departing General Manager, the Managing Director also thought that, while he was out of the country for a month, the Senior Management Team would start to develop their own management and performance reporting style, and that his absence would help them move towards a more proactive, as opposed to a passive, management approach to the business. These 'hoped for' changes did not occur.

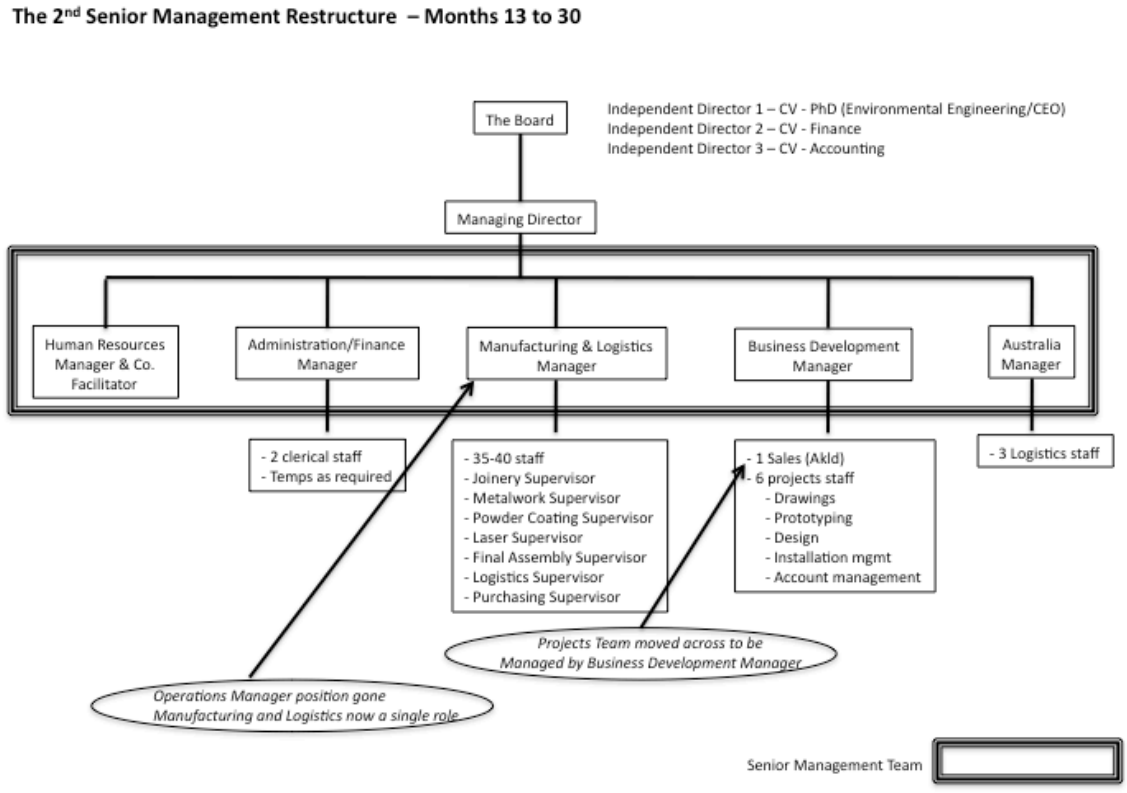
4.3.3 The 2nd management restructure

The trigger for the 2nd Management Restructure was the consolidation of the roles of the Manufacturing Manager and Logistics Manager into a single position. Due to poor

performance, two senior managers were encouraged to leave the business (The Operations Manager and the Manufacturing Manager) and the Logistics Manager was promoted to the newly consolidated role of Manufacturing and Logistics Manager. This management restructure placed everyone on the Senior Management Team at the same hierarchical level in the company.

As an action researcher I continued to attend Management and Board meetings, visited the Australian office in Sydney to develop an outline of an Australian Business Plan, ran a number of workshops at head office to help develop a business plan built and owned by the Senior Management Team members themselves, established a new approach to the development of performance measures for the business and introduced a new and more regular performance reporting processes.

Figure 7 The 2nd management restructure – months 13 to 30



Cashflow continued to be of concern throughout the 2nd Management Restructure period. In 2008, revenue was $4m down on budget resulting in a loss of $1m, and the 2009 result was a further $700k loss. The Board and Senior Management Team recognized that there was a global economic recession; staff were made redundant, some significant customers stopped purchasing and some went into liquidation, many customers were under significant pressure to reduce costs and limit expansion, and the level of company performance analysis and focus on winning new business increased, as did the focus on improving customer and supplier management. In the last 6 months of this 2nd management structure, the company position improved significantly as CSC won a number of new customers in the Australian market, some key existing customers started to reinvest in rebranding and refreshing their existing stores, and a new information and factory management system was implemented within CSC.

During the 2nd Management Restructure period, a new strategic business planning approach was employed, new performance measures were determined, a weekly reporting process was introduced and the Senior Management Team commenced presenting, in person, their management and performance reports directly to the Board. All of these initiatives improved communication and performance measurement within the business.

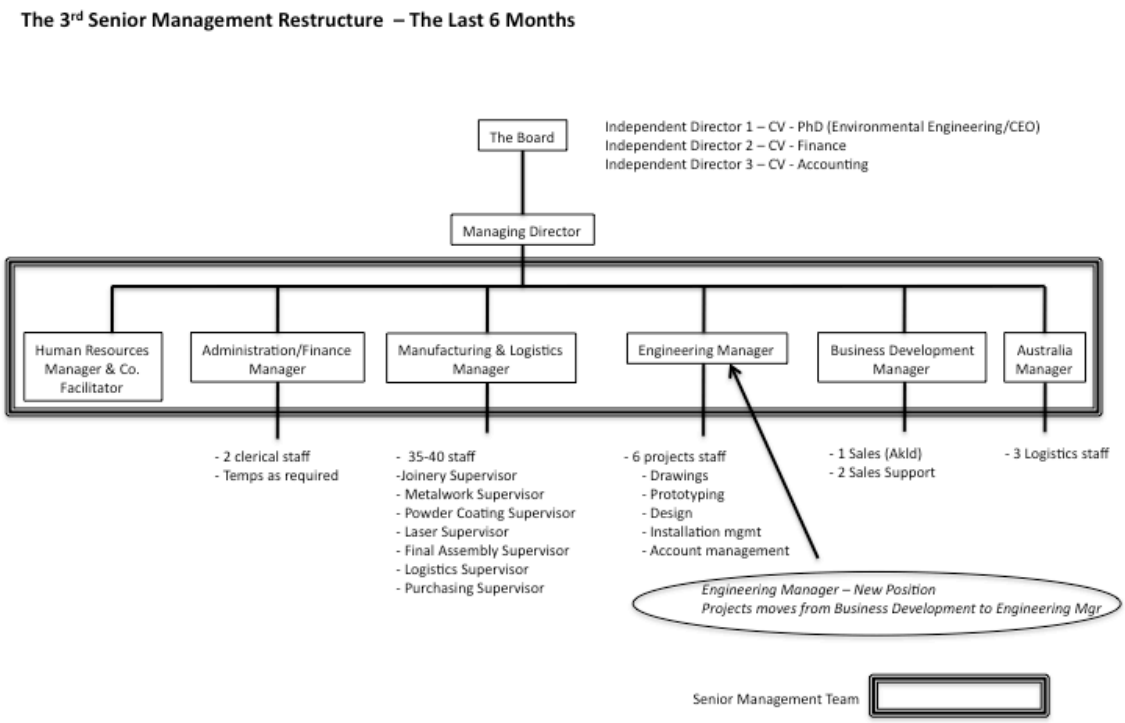
4.3.4 The 3rd management restructure

An experienced Engineering Manager was employed at the same hierarchical level as the other senior management team members (see fig 8). The significance to the Senior Management Team of this change was (1) this was the first new person added to the Senior Management Team in nearly 2 years, (2) it resulted in a lift in management and performance reporting, and (3) the extra person added to the Senior Management Team removed some day-to-day pressures from the other Senior Management Team members. From a performance measurement perspective, the additional person created more time for the whole Senior Management Team to review the performance measurement system, and to reflect on its value to the business.

During this final stage of the project, I continued, in my research capacity, to attend Management and Board meetings, and meet with individual functional managers to evaluate progress, usage and value of the new reporting processes in place.

Management and performance reporting relationships, report content and Board/Senior Management Team contact frequency changed significantly after each management restructure. As time progressed, the Senior Management Team gained confidence in their reporting and contact with members of the Board. The Board also became more familiar with the day-to-day operations and pressures of the business. The Board's familiarity with day-to-day operational and business pressures greatly improved when they were added to the circulation list of the new management reports.

Figure 8 The 3rd management restructure – months 31 to 36



4.4 Designing performance measurement

CSC partially or wholly completed business plans in most years prior to the action research case study. Consistent within each planning approach was a Strength, Weakness, Opportunity, and Threat (SWOT) analysis and review of the company vision statement and strategies. The SWOT analysis became the focus of two action research cycles over a 3-month period that led to implications for the practitioner community outlined in section 5.1.4 of this thesis. The SWOT analysis is discussed in this section as it was actively used during the action research case study and had a direct influence on performance measurement development and selection.

4.4.1 Business planning prior to the action research case study

I was given access to, and reviewed, all of CSC's business plans, management and board meeting agendas, minutes of meetings, and strategic planning notes for a full 10 years prior to the start of the action research case study.

The seven business plans produced prior to the action research case study by CSC, that I reviewed, contained SWOT analyses and lists of performance measures. Only some of these measures had targets to be achieved in the year following the business plan.

However, a number of these business plans 'mirrored' the previous year's business plan. As such, the various business plans showed little change in the company vision statement, strategies, SWOT analysis, performance measures and resulting actions.

Based on this, I asked the Senior Management Team to tell me their views on the value, or usefulness, of the business plans to their role in, and management of, the business. Their responses suggest that they viewed business-planning exercises at CSC as useful for people other than themselves. In particular they viewed themselves as *preparing information for the General Manager to produce the plan for the Managing Director*, the plans being *the Managing Director's vision*, *the same each year*, and *not driving the*

business. Two further comments strongly reinforce their ambivalent perception of the business planning process at CSC. The first was that CSC *doesn't live by the plan…we certainly don't check that we are travelling according to the plan during the year except for the financials*. The second was that *maybe the bank finds it useful*. Both of these comments indicate that the Senior Management Team was not wholeheartedly behind the business planning process at CSC. This could also reflect negatively in both the quality of information and amount of thought provided as inputs into the plan, and therefore the quality of the final business plan produced by the organization. More evidence was displayed that the business plans were not being used within the business when the Senior Management Team could not remember more than two of the four key guiding platforms containing performance measures CSC had agreed to achieve as part of its most recent business planning exercise.

A commitment existed to the production of business plans in seven of the ten years prior to the action research case study. However, a general lack of perceived value, or buy-in, for the contributors to the plans is highlighted by the lack of change to the performance measures listed in each annual business plan. The various performance measures listed in each previous year's business plan were both financial and non-financial in nature.

Listed below are the strategic level performance measures that were contained in most business plans with their respective targets:

- Revenue (target changed each year)
- EBIT (Earnings Before Interest and Tax), (target changed each year)
- Gross Profit (%), (target changed each year)
- Debt Compliance (%), (target changed each year)
- Customer Satisfaction - the expectation in each year is to achieve a 90% level in terms of customer satisfaction,
- New Customer Acquisition - capture 5 new customers each year valued at more than $50k each in the Garden, Hardware and Retail sectors
- Health and Safety - 25% reduction of Injuries

This list of performance measures did not change each year. There was little or no analysis undertaken throughout the year, except in the financial area, to track performance against the measures listed in the business plans. The goals remained unchanged from year-to-year, and the performance measures did not link to any of the strategies outlined in each business plan.

Although the financial accounts, and some manufacturing related measures, were well reported each month and formed a core part of management and Board level discussion, with respect to the performance measurement targets listed in each business plan there were problems. There was little or no analysis, or history kept, of whether CSC was achieving the targets set. The impact for CSC and their customers of achieving the performance measures was not considered and nor were the performance measures monitored on any regular or ongoing basis. Apart from achieving the overall financial performance measures, the other performance measures listed in each business plan were not discussed at Management or Board meetings during the normal course of the year.

4.4.2 Business planning at the beginning of the action research case study

At the beginning of the action research case study, CSC did not have any performance measures or targets in place that connected with the business plan. The business plan did list four key platforms identified as critical to the ongoing success of CSC. The four platforms were (1) Customer Focus, (2) Operational Excellence, (3) Team Work, and (4) Safety, Health and Environmental. Each of these headings had a set of statements outlining the key initiatives to be achieved under each of the platforms. However, these statements had no recorded actions or targets, and so performance relating to these platforms could not be evaluated.

In the final Board meeting of 2007, the General Manager introduced the budget for the 2008 calendar year. This was the first time the Board had seen the 2008 budget figures. No other members of the Senior Management Team were present at this Board meeting

to support the budget or respond to questions from the Board. In addition, the General Manager's expectation was that the Board would approve the budget; even though this was the first time the Board had seen the budget.

The Board discussion on the budgets, as presented at the final Board Meeting of 2007, provides an indication of the low level of detail and support that had gone into the preparation of the data. CSC's own Minutes (in italics) and my observations from the December 2007 Budget Board meeting, in relation to performance measurement at CSC, record the following:

1. There was discussion and questioning about the goals of the budget. Questions were about whether CSC was going to *increase sales, increase profitability, keep current customers and service them well to grow, keep current customers and look for new customers, is there an expectation that the business carried on as it was or to look for more sales*. The General Manager could not answer these types of questions by the Board as they were not asked or answered as part of the budget development process. This also indicated a disconnection between how the Board and the General Manager viewed the importance of the annual budget and having supporting information based around strategy. These are all performance related questions that were not being asked within CSC.
2. There was discussion around the value of having targets versus budgets and whether it would be useful to have graphs representing both of these sets of numbers. It was noted that a target was *something you are prepared not to make but is instead something to strive for* and that a budget was *basically a set of numbers that, organically, the company can achieve*. This discussion provides an indication of how CSC viewed target and budget figures. Budget figures were viewed as being easily achievable and targets were viewed as being *nice-to-achieve*. After the meeting, the General Manager mentioned to me that he thought the Board would sign-off on the budget figures, as the General Manager viewed them as being achievable, and as the General Manager told me, *so, why wouldn't the Board sign them off*. The General Manager's view was that he was presenting an operating budget, and targets were not being put forward in this

budget for agreement. However, the Board raised the idea of targets as a natural part of the discussion.

3. The budget was number-driven and had no underlying supporting document that provided an overview of customers and prospects, market segmentation analysis, or how revenue was going to be achieved. There was no strategy behind the numbers and no specific indicators in the budget that linked the numbers to achieving any strategy.
4. A separate stretched-target budget was discussed. However, noted in the minutes was a *general understanding that if the decision by the Board was made to put stretch into the budget that the General Manager does not get nailed if the budget is not reached in its total capacity*. This indicated how comfortable the General Manager felt in regards to his position and influence within the business. The response shows that he felt he could dictate or determine how his own performance should be measured.
5. Comments were made that *we've been doing what we've done the last two years and we've extended the budget each time, so why do it differently this year.* This type of comment indicated a lack of in-depth knowledge and analysis of indicators that predicted future market conditions. It further indicated a reactive management approach within the business based on past experience as being the key indicator for future performance. It reinforced the comment earlier in the meeting that the budget was *basically a set of numbers that, organically, the company can achieve* and so, of course the budget would likely be exceeded each year under this scenario.
6. The Board discussed that the Budget did not explain how the business would grow significantly in the Australian market. My own analysis identified that, over the previous five years, the percentage of total business revenue gained from the Australian customer base had grown from less than 5% to 25%. The Australian business was clearly the market that provided the biggest growth opportunities. The discussion that followed clarified that CSC did not have a strong knowledge about the Australian market, the customer potential, market size, key competitors, or sales channels. It also made it clear to me that there

was little thought being put into determining the most appropriate performance measures to implement in the Australian market.

The Board requested that the Managing Director and the General Manager should develop a sales plan and a set of targets, as well as revised budgets, for sign-off at the next Board meeting to be held six weeks into the new financial year. Previous strategic planning exercises, the most recent held only six months prior to the presentation of this budget, had highlighted that *the growth path of CSC has been largely organic and opportunistic*. This opportunistic approach to growing the business was mirrored in the approach to developing the annual budget as it was presented at the December 2007 Board Meeting. Due to everyday work pressure and the unplanned resignation of the General Manager, the requested Sales Plan did not get presented to the Board. A revised budget was not agreed, and the Budget presented in December 2007 became the de-facto budget with which to start the new year. This resulted in regular re-forecasting on the budget throughout the 2008 financial year.

4.4.3 Preparation for the 1st strategic planning meeting (August, 2008)

Prior to the General Manager's resignation, the Senior Management Team prepared strategic planning inputs for their functional areas according to a previously used template, and sent their inputs to the General Manager. The General Manager would usually then consolidate these inputs into a Strategic Business Plan. This process changed minimally from year-to-year. For this particular strategic planning exercise, after the General Manager left the business, the Finance Manager prepared a full set of planning inputs. However, the Operations Manager and Business Development Manager only partially completed their templates due to high workloads.

The General Manager left CSC soon after requesting these strategic planning inputs. At this time, a Board Director took on a role as Executive Director when the Managing Director went overseas. For one month, this Executive Director worked closely with the Senior Management Team in their normal roles as functional manager and as a

consequence, this Executive Director spent considerably more time than was usual for a Director 'inside the CSC business'.

As a result of the Executive Director's closer involvement with the Senior Management Team, and his observing first hand their approach to performance and management reporting, it became clear to the Executive Director that the Senior Management Team was not functioning as a team. The Senior Management Team's performance reporting lacked confidence and cohesion, and this was discussed at the next Board meeting. The minutes of that Board Meeting record that *we (CSC) are good order takers in a buoyant market and not good at sales and marketing* and *there is currently a big hole in the company in sales and marketing, product development and blue sky thinking*. The minutes of this meeting also recorded that *the Managing Director was to take on* [more of] *a full time role in the current environment, as we* (CSC) *require the company being driven and not just left to the company to go where it wants*.

The blunt nature of these discussions encouraged me to highlight a number of issues for CSC at the Board meeting. The full list of key issues, as recorded and agreed by the Board in the minutes of this meeting, are as follows:

Strategic Planning
➢ *Between 2000 – 2006 plans were undertaken with the same outcomes each year*
➢ *Action plans were not filled out*
➢ *No operational reports reflected the strategic plan*
➢ *Strategic plan not taken seriously and it doesn't really matter*
➢ *Did the exercise but it is not coming through the business*
➢ *Operational reports give very little commentary on customers or external measures.*
International Performance measures
➢ *What we create for international will flow through into domestic*
➢ *No focus on the customer i.e. no customer centricity*
➢ *Current reporting is not measuring the things that make CSC different*
➢ *Once a job is completed there is no formal sign off process – no follow up*

➢ *No sign up of ongoing warranty – no after sales offer to build brand and customer loyalty.*
Account planning
➢ *No measurement of customer satisfaction*
➢ *Our perspective vs. their perspective has the job been done well*
Australia
➢ *Lack of market knowledge*
• *How many target customers*
• *Number of Competitors*
• *How does business get done, how do Australians treat us*
• *Growing Australia bas been through organic growth – if we start to target in market customers that are separate to NZ how will we be treated*
• *How do we become the preferred supplier and known in Australia and feed back into NZ rather than other way round*
• *Require performance measures and create a business plan*
Other markets
➢ *How to enter*
➢ *Type of performance measures*
➢ *E.g. sales / FTE, complaints, recommendations*
➢ *Formal recording of measures for customer centricity i.e. testimonials by customer*

One key issue recorded was that strategic and business planning at CSC, although undertaken on a regular basis, was not flowing through into day-to-day operations. Many initiatives were discussed and included in business plans however they were more at a strategic level, were not measured or tracked, and did not translate into results for the business.

Prior to the 1st Strategic Planning Meeting held in August 2008, I visited the Australian office based in Sydney to obtain a better understanding of the Australian operation, and to work with the Australian Manager to develop an Australian Market Business Plan. As a result of this visit, I agreed with the Australian Manager, that it was not yet possible to develop a useful Australian Market Business Plan due to the fact that the

Australian Manager, and the CSC Senior Management Team, knew very little about the Australian market. Consequently, any Australian Business Plan would be of little value at this time.

I recommended to CSC that they employ a market researcher to investigate market needs, market segmentation, competitor profile, the market size, channel profile and options. This would provide CSC with data on which performance measurement systems could be based. This role was not fulfilled during the action research case study.

At the fourth Board meeting after the General Manager left the business, the comment was made and recorded in the minutes that *it has become very evident that with a new management team they are not in tune with the Goals, Vision, Mission of CSC*. At this meeting, the CSC Board initiated a Strategic Planning Meeting. An invitation to participate in the meeting was sent to the Board and Senior Management Team, along with some preparatory information to read concerning earlier planning sessions.

4.4.4 The 1st strategic planning meeting (August, 2008)

The 1st strategic planning meeting took place in August 2008. The meeting was planned for one day.

As shown in figure 9 on the next page, the approach taken by the Director facilitating the Strategic Planning Meeting began and ended with a SWOT analysis. In between these two discussions, questions were posed by the facilitating Director to capture CSC's vision, objectives and approach to achieving those objectives.

Figure 9 The facilitation approach to the 1st strategic planning session

The following provides the highlights from the three-step approach to the 1st strategic planning session.

Step 1. Use of the SWOT analysis in the 1st strategic planning meeting

Consistent with most of CSCs previous strategic planning exercises, the SWOT analysis conducted in the 1st strategic planning meeting of August 2008 was undertaken to stimulate participation and communication.

Step 2. Facilitation questions in the 1st strategic business planning meeting

As shown in figure 9, the facilitator asked five questions during the 1st strategic planning meeting.

As a result of the answers to these questions provided by the participants, four key performance measurement issues became apparent to me:

1. Business performance measurement was seriously lacking at a strategy specific level in the business. In response to the following question put by me, *how do you know where you are now?* the Senior Management Team and the Board could not directly answer this question. When I asked the *more* specific performance measurement questions below which relate to CSC beliefs about their existing market status relative to the CSC vision statement, no member of the Senior Management Team or Board could answer these questions as there was no measurement of these core attributes that related to their ability to actually know how to answer the question 'where are we now?'
    a. do you monitor your status as an innovator?
    b. do you monitor whether you are recognized experts in retail environments?
    c. do you drive customer loyalty as a result of your retail environments? and
    d. are you regarded by customers as being a one-stop-shop, easy and convenient?'
2. Questions 3 (where do we want to go?) and 5 (how are we going to get there?) were going to remain unanswered as time was running out, and in any case there was no obvious plan to develop answers to these two questions. Answers to these questions are an important link in the design of an effective performance measurement system.
3. The main respondent to question 4 (why we want to go there?) was the Managing Director. The Senior Management Team's view, verified at the meeting when I asked the Senior Management Team to confirm their view, was

that because the company was 100% owned by the Managing Director, *only his reasons were relevant*.

4. The SWOT analysis, once populated, had been placed to one side and was not going to be reintroduced into the discussion about the business direction and the ability to achieve that direction.

During this 1st strategic planning meeting, the Senior Management Team and the Board looked to the Managing Director to lead discussion about the business direction. The outputs resulting from this situation were therefore becoming a direct reflection of the thoughts, belief and goals of the Managing Director alone (supporting section 2.5.11). Consequently, there was little real value in having the Senior Management Team and Board involved in the strategic planning session if this was to be the result. This effectively became the de-facto outcome, a result the Managing Director was unhappy with.

The planning session did not answer key questions, such as (a) how do you know where you are now? (b) where does CSC want to go? and (c) how are we going to get there? Many previous planning sessions held by CSC had ended at this point with similar key questions remaining unanswered.

Step 3. The 1st strategic planning meeting – the SWOT analysis review

Towards the end of the meeting, I guided the meeting participants through an exercise to improve the value of the SWOT analysis completed earlier in the same meeting. The objective of this exercise was to see if the participants could determine whether the analysis and outcomes could assist with strategy development for the business. This exercise, based on my many years' experience in using the SWOT analysis, involved identifying specific combinations of potential leverage for CSC. In particular:

- strengths that could leverage multiple opportunities,
- opportunities that could leverage multiple strengths,
- weaknesses that would become major problems if specific threats developed, and finally

- threats that would be magnified by CSC having multiple weaknesses associated with them.

This SWOT analysis exercise produced a total list of 33 potential 'strategies' for CSC to achieve. Segmented into the SWOT analysis classifications, the list included:

- 10 strengths that could be leveraged for the business,
- 8 weaknesses that needed to be reduced or removed,
- 9 opportunities that could be explored, and finally
- 6 threats that the business needed to be protected from.

Clarification of how Strategy was determined at CSC

Strategy is an often referred to term in this thesis. Early on in the action research process, I decided to accept whatever the definition was for strategy that CSC preferred. It can be argued that many of CSC's strategies identified during the project were operational, and not strategic, in nature and therefore may not be recognized as strategies in other companies. However, for the purposes of this thesis, any use of strategy as a term in the context of CSC's approach to designing, implementing and using performance measurement remain in-tact as they were identified during the action research case study to protect the integrity of the research outcomes.

The full list of 33 strategies is below:

Initial 33 Strategy List

1 Customer relationships
2 Diversify offer
3 Lean manufacturing
4 Multiple materials
5 Efficiency
6 Productivity
7 Faster response times
8 Product, industry knowledge

9 Improve communications
10 Management staff
11 Training
12 Succession/recruitment
13 Customer quality
14 Leverage success
15 Volume expansion (China)
16 Global growth
17 Low debt
18 Merger and acquisition
19 Technology options
20 HR System improvement
21 Recruitment of good staff
22 Poor vision and strategy
23 Protect from stronger competition
24 Narrow customer base
25 Customer trading patterns
26 Reducing CSC's reactive attitude
27 Reducing dependence on few staff
28 System control improvement
29 Minimise risk of loss of key personnel
30 No standard products
31 Reduce exposure to few suppliers
32 Lack of Treasury strategy
33 Exchange rate management

The Senior Management Team and the Board agreed that 33 strategies were too many for the business to manage and that some rationalization would be required. Although there was no pre-determined number of desired strategies, a more realistic number was thought to be up to ten strategies.

One example produced from the planning session considered individual strengths to see if they could each be used to leverage one or more opportunities. The strength in this example was identified as *CSC can manufacture using multiple materials e.g., wood, metal, and acrylic*. This strength could be used to (1) *create new manufacturing capability*, (2) *diversify the CSC offering*, and (3) *build the global opportunity*. This exercise was undertaken in the planning meeting for each element of the SWOT findings.

During the meeting, functional managers talked about different interpretations of the 33 strategies and potential outcomes. The different definitions for the strategies generated debate amongst the participants and identified that, although everyone thought they had the same views on each strategy, this was actually not the case, even though they had been in the same meeting producing the strategies. Two examples follow:

Example 1

When discussing a strategy to improve communication, …

- the Manufacturing Manager was thinking this referred to the *nature and value of internal communication* – i.e., within the company between departments
- in contrast, the Business Development Manager was thinking this referred to *communications with customers external to the company*.

Example 2

When discussing a strategy requiring the business to protect itself from knowledge being held by only a limited number of people thereby increasing the risk profile of the business, …

- the Business Development Manager was referring to *the need to create a sales focus whereby everyone is selling the CSC system, products and service*,
- the Manufacturing Manager was thinking *that business knowledge should be more widespread within the business*, and

- the Human Resources Manager was thinking that there should be *at least two potential replacements for each role, a willingness and availability of people to fill vital roles, and for CSC to become an employer of choice within the region*.

Such different strategy interpretations could slow the business down and hamper the measurement of performance against the achievement of the identified strategies.

I pointed out to the Senior Management Team and the Board that customers were rarely mentioned during their meetings unless in relation to the resolution of a specific problem. Proactive discussions about customer account planning and customer relationship management were rare. This was acknowledged and whenever possible the impact of a strategy on CSC's customers was then evaluated.

With time running out at the planning session, CSC agreed that I would lead another planning meeting within the month in order to build an actionable business plan with performance measures for the business.

An important factor in this process was the usefulness of having facilitators involved in the planning process. The Director was partially external in that he was not a day-to-day player in the business. I was actively engaged in the business at this time in my role as an action researcher; in this exercise I was both an advisor and a participant as I was also injecting new thinking into many of the discussions that generated much needed debate about the strategic direction of the company. My role as an advisor and researcher did not allow me to make any decisions on behalf of the company, but it did allow me to suggest and encourage participants in meetings to consider alternatives to solving issues they were not thinking of in relation to performance measurement.

4.4.5 Analysis of key outcomes from the 1st strategic planning meeting

After the 1st strategic planning meeting I reviewed the SWOT analysis outcomes with the SWOT analyses completed in 1997 and 2007, the ten years prior to the start of the

action research case study. Appendix C includes the full comparison of this review. My analysis highlighted four factors that would have been more noticeable to CSC had they been monitoring performance against their SWOT analysis findings. These factors were that (1) over the ten-year period, CSC did not identify any specific new strength that could be significantly leveraged, (2) a new weakness emerging was the dependence on one person – namely the Managing Director, (3) there were no specific opportunities that could be tracked across the ten-year period, and (4) an emerging threat was the ability to attract quality staff due to the company's head office location.

In addition elements of the SWOT analysis although clearly identified, were not formally targeted as strengths that needed to be leveraged, weaknesses that needed to be overcome within specified timelines, opportunities that needed to be captured, or threats that needed to be minimized. I therefore asked the Senior Management Team how they used the SWOT analysis for business planning purposes. They confirmed that the SWOT analysis was used by the company as a brainstorming tool to open communication in preparation for other activities performed in the course of developing the business plan, as opposed to being used in the development of business strategy. This use of the SWOT analysis was verified by reviewing each of the earlier business plans to identify how the findings of each SWOT analysis were then applied in the development of the company strategy vision, strategy, tactics, actions and performance measures.

Occasionally, the findings of a SWOT analysis were used to generate specific action within the business. However, ongoing performance measures, to monitor the value to the business of that activity, were not put in place. For example, the 2002 Business Plan SWOT analysis identified that *CSC's internal processes and procedures* were a weakness, and that having no *product development focu*s was a threat. Consequently, a strategy was developed by CSC to introduce a formalized project management and product development process that captured new product development ideas and internal company intellectual property. Although this strategy was put forward as a task in the action plan that resulted from the 2002 Business Plan, the ongoing reporting of progress against the establishment of these processes was not undertaken, and the structured

approach to product development was not introduced. This lack of performance monitoring against agreed action was a common occurrence throughout the business.

The SWOT analysis was also not applied in the development of competitive strategy. As an example, a strength listed in all CSC business plans is the *quality of people working at CSC*. The *people qualities* were not quantified and there was no attempt to interpret how these qualities could be leveraged to the benefit of the company. Because of this, a concerted effort was made to ensure the SWOT analysis conducted after the 1st strategic planning meeting in August 2008 developed into an important tool for CSC and linked directly with the development of the performance measurement system.

In addition, there were many strengths, weaknesses, opportunities, and threats listed in 1997 that remained on the list in 2008. CSC had not monitored any of these listed items for their performance impact on the business over the ten years prior to the action research case study.

I also conducted a review of the various business plans, management and board reports, and meeting notes taken up to this point in the research.

This review highlighted that the Senior Management Team:

- Had little experience in building business plans. Previous plans were mostly prepared by the Managing Director, Human Resources Manager and General Manager, with some Senior Management Team involvement when required,
- Was not now, nor had it previously been, working towards the delivery of an actionable business plan. This contradicted my impression from initial meetings with the Senior Management Team that indicated the opposite.
- Were not working towards the coordinated achievement of company goals, except that of working for a profitable business,
- Were not working as a team, management meetings were 'issue-oriented' and although they would work together to resolve problems as they arose,

they were not working as a coordinated team focused on company growth and proactive company management, and

- Performance measurement was a task, something to do as opposed to something to manage for the benefit of the business.

In reviewing this 1st strategic planning session I concluded that gaining agreement on specific interpretations and definitions of each strategy held amongst the Senior Management Team – and therefore the resulting actions and performance measures required – would be very lengthy unless a new way of managing the group dynamics was introduced.

4.4.6 The 2nd strategic planning meeting (October, 2008)

As a result of the 1st strategic planning meeting remaining incomplete, the Board requested that I facilitate a 2nd strategic planning meeting to be held in October 2008. The first task in this meeting was to review the importance of each strategy to the business. The second task was to identify which of the 33 strategies each functional area manager had any ongoing form of responsibility for achieving. The third task was to assist the Senior Management Team to view each strategy from a customer's perspective as opposed to a CSC perspective. As noted above, customers were rarely mentioned during management meetings and general business discussions.

Each functional manager was asked to identify strategies they felt they should be responsible for. On completion of this exercise, Business Development was listed as managing 19 (57%) of the 33 strategies, Manufacturing with 9 (27%) of the 33 strategies, Innovation with 10 (30%) of the 33 strategies, Human Resources with 8 (24%) of the 33 strategies, and Finance with 7 (21%) of the 33 strategies. In total, 14 (42%) of the 33 strategies had 2 or more functional areas listed as being responsible for their achievement. This exercise demonstrated the cross-functional management requirements of the Senior Management Team.

The Managing Directors customer and sales orientation did not fully extend into the daily language and activity of the Senior Management Team. An example of the general lack of customer focus was the way in which one key performance measure, commonly used by manufacturing companies, was reported by the business. DIFOTIS (Delivery-in-Full, On-Time, and In-Spec) was reported as a percentage performance measure. If 92 out of 100 deliveries were on time, then the percentage was recorded as 92%. There was, however, no DIFOTIS reporting at the customer level. If, for example, there were eight incidents of delivery recorded as not being on-time, CSC had the data to ascertain whether there were 8 individual customers affected once each, 4 customers affected twice each, or maybe 1 customer affected 8 times. Despite the implications for customer satisfaction, CSC did not measure or report to this level. CSC also did not analyse or discuss how many actual customers were the recipients of regular late deliveries, or partial deliveries, or other such combinations.

To re-orient the Senior Management Team towards customers, and help them understand what needed to be done to achieve each strategy, ensure they knew how each strategy related to performance and measurement, and also to improve the level of achievement and measurability of their strategies, I put forward seven questions, drawn from my own previous business experience, to the Senior Management Team:

1. Elaborate on each strategy – what does it mean in plain English?
2. What exactly has to be done by CSC to achieve the strategy?
3. What will be the customer experience resulting from the strategy?
4. How will you deliver the experience to customers?
5. How will you communicate the experience to customers?
6. If the strategy is achieved, describe what 'success' would be and how would you measure it and what would it mean to the business
7. If the strategy is not achieved, describe what 'failure' would be and how would you measure it and what would it mean for the business.

As previously mentioned, members of the Senior Management Team showed that they had various interpretations and definitions for each strategy. Question 1 was asked to

help consolidate their definitions. Questions 2 through to 5 were influenced by work I have undertaken with Dr Lynn Phillips of Reinventures LLC (Phillips, 2013). These questions were asked to stimulate thinking about how each strategy related to customers. Question 6 was designed to identify the performance measures the company already had in place or needed to introduce into the business in order to measure success.

Question 7 was intended to get the functional managers to discuss the impact of not succeeding with each strategy. Question 7 was also designed to help evaluate whether the company was excluding valuable performance measures as a result of not addressing failure. Achieving success, in whatever way it was defined for each strategy, as with many other companies I have worked with, drove this company. This 'drive for success' appeared to be at the expense of recognizing that not-achieving-this-success could be just as significant for the company. As a consequence, they were not well placed to identify early warning signals that their strategies were *not* tracking to be successful.

This 2nd strategic planning meeting showed that no member of the Senior Management Team held specific responsibility for innovation within the business. The lack of responsibility for innovation is of interest because the CSC Vision, most recently developed by the Managing Director in consultation with the Senior Management Team, stated that *we develop partnerships through innovation, adding value and delivery*. As no individual had specific responsibility for innovation, it was agreed that all members of the Senior Management Team would take joint responsibility for considering how each strategy applied to innovation.

Each Senior Management Team member agreed to respond to the seven questions related to the specific strategies for which they had assumed responsibility, and to do so independently within three weeks. This independence ensured that all views and responses were thoroughly canvassed as some personalities in the Senior Management Team had the ability to override others and this would have biased the outcome.

To ensure the Senior Management Team remained focused on the need to produce their inputs into the planning process, I agreed to consolidate their respective views in order to reduce the workload across the team.

4.4.7 Responses to seven questions for each strategy

To obtain the full responses to the seven questions for each of the 33 identified strategies, I was required to follow up with each member of the Senior Management Team a number of times.

The Finance Manager and the Human Resources Manager were the most responsive, completing their tasks quickly and to a high standard. They were followed by the Business Development Manager and then finally, after some lengthy encouragement, the Manufacturing Manager. The main reason given for the slow response was work pressure. I pushed quite hard during the process to identify any other reasons for the lengthy delay in responding to the seven questions but the 'workload pressure' response was the only one provided.

The first set of answers was inadequate in a number of ways. Many responses were so brief as to be meaningless, some responses were not well thought through leaving more questions to be asked, and there were many unanswered questions. I discussed the shortcomings with the Senior Management Team and it was further agreed that another four weeks would be required to complete the task. This 'need to encourage' shows part of the value of having someone responsible for managing the performance measurement design and implementation process.

By mid December 2008, two months after the 2nd strategic planning meeting, all of the Senior Management Team had completed the task. I then produced a document that consolidated the contributions and allowed the Senior Management Team to analyze the responses.

4.4.8 The diverse responses to the seven questions - an example

Responses to the seven questions were diverse. This diversity was discussed with the functional managers and a further round of meetings took place to ensure that all of the Senior Management Team had the same understanding of the outcomes for each question in order to improve definitional consistency for each strategy.

An example of the different ways functional managers responded to each of the seven questions related to a particular strategy is given below. The strategy used in this example was called 'Reduce the dependence on few people having company/customer knowledge'.

The response of three functional managers providing feedback on this strategy follows:

Question 1: Elaborate on each strategy – what does it mean in plain English?

Function	Manager's Response to Question	My Analysis of the Response
Business Development	*Create a sales force – everyone is selling the CSC system, products and services*	Views the question and the strategy only from a sales perspective
Manufacturing	*Business knowledge sits only with a few individuals*	This response was given as a result of manufacturing not knowing enough about the business and feeling isolated from decision making in the business
Human Resources	*At least 2 potential replacements for each role, willingness and people to fill roles is vital, and that CSC becomes an employer of choice within the region*	Takes a whole-of-business view of the strategy and considers how this strategy could build the overall recruitment opportunities for CSC within the region

Question 2: What exactly has to be done to achieve this strategy?

Function	Manager's Response to Question	My Analysis of the Response
Business Development	*Everyone is a salesperson offering our products and services at different levels. The Project Team has to look at value-add and new sales opportunities. Define sales roles and what is expected. We have a Business Development level with the Managing Director and the current Business Development Manager, then we need to define a sales level at existing customers and other new channels.*	The Business Development Manager considered the things that needed to be done to achieve the strategy from a sales and marketing perspective only.
Manufacturing	*Provide opportunity with ability and freedom for CSC personnel to make own decisions. Allow opportunity for individuals to at times 'stumble' and learn from experience.*	The Manufacturing Manager thought that allowing decision-making throughout the business while encouraging employees to learn from experience would achieve the strategy
Human Resources	*Talent identification, formal development plan for identified talent, recruit future leadership roles, team leaders*	The Human Resources Manager thought that talent identification and development within the existing business, as well as among new recruits, would help reduce the current dependence on knowledge being held by few people within the business

Question 3: *What will be the customer experience resulting from implementing this strategy?*

Function	Manager's Response to Question	My Analysis of the Response
Business Development	*The sales result for the customer is 'CSC the solution provider' by actively asking for new sales opportunities we can add value/incremental revenue. In conjunction with this is a Business Development role of new opportunities across the board.*	The Business Development Manager's sales view was consistent with his previous responses, that by having more people being able to sell, and therefore actively seeking new business with existing and new customers, more customers will see CSC as a 'solutions provider' and buy more from CSC.
Manufacturing	*Increased confidence from customer towards CSC regardless of whom they are communicating with. Greater understanding between CSC and customer as to each others needs within the relationship*	The Manufacturing Manager saw that customer confidence would increase by customers realising that more CSC staff had knowledge of their business needs, and that two-way understanding of each others' business needs would improve.
Human Resources	*No break in continuity of relationship, confidence in CSC (the organization), not just in personal relationships*	The Human Resources Manager, again, took a whole-of-business approach, viewing improved relationship development and confidence building as key customer experiences from this strategy

Question 4: How will you deliver the experience to customers?

Function	Manager's Response to Question	My Analysis of the Response
Business Development	*We have to be specific about who is selling what, and look to develop the skills in talking to our existing customers, and also who hunts for new customers. We have to have good checkpoints for the acquisition of new customers to CSC.*	The Business Development Manager thought that it was important to assign levels of responsibility, and control, on who could interact with customers in the sales process. Training of those staff was also indicated.
Manufacturing	*CSC recruits, where needed, people who are fit for purpose. Internal business processes are enabled by teams rather than individuals.*	The Manufacturing Manager thought it important that the right processes to ensure the right staff have knowledge are in place. He also thought it important to have the right organizational management structure in place with the right people in key roles.
Human Resources	*Partnership building with multiple individuals forming multi-tier relationships*	The Human Resources Manager thought that it was important for more than one level of staff to have contact with customers and for this to be viewed as multi-level management. An example was that the Finance Department is one level that has a relationship with either the main customer contact person or the finance person within the

		customer organization. Another level could be the CSC Logistics person who is introduced by the CSC Business Development Manager at key points in the relationship so that the customer knows who is responsible at CSC for each shipment, and has more than one CSC person to make contact with if required.

Question 5: How will you communicate the experience to customers?

Function	Manager's Response to Question	My Analysis of the Response
Business Development	*We will need to look at training around sales skills at a projects level or definition of the role at a projects level.*	The Business Development Manager thought that it was important to define the account management roles at CSC. Training of those staff was also indicated.
Manufacturing	*Seamless interaction experience between customer and CSC*	The Manufacturing Manager viewed communication from a perspective that anyone within CSC having contact with customers has the same level of knowledge and understanding of the customer.
Human Resources	*Face to face meetings, skills matrix expansion training*	The Human Resources Manager thought that customers would experience CSC's company-wide commitment to understanding

		their business through regular face-to-face meetings with CSC staff. CSC would support this by investment in staff training.

Question 6: If the strategy is achieved, describe what 'success' would be, and how would you measure success?

Function	Manager's Response to Question	My Analysis of the Response
Business Development	*More sales from more people across the company. Customer retention remains high. We can measure the actual acquisition of customers.*	Sales would grow as a result of more people within CSC being capable of selling. More people capable of selling would help retain customers. New measurement processes would, however, need to be established in order to monitor how customers are acquired in the first place.
Manufacturing	*Future proofs the business from attrition and staff turnover. Enable those charged with making decisions to make decisions in an environment that engages at all levels.*	Staff would remain with CSC as a result of their skills and business knowledge being extended. More staff would be able (allowed) to make decisions across all levels in the business.
Human Resources	*Seamless flow of communication. Delivering agreed outcomes. Company growth. Continuity of relationships.*	Growth will result from improved customer communication and continuity of customer relationships plus CSC delivering according to customer requirements

Question 7: If this strategy is not achieved, describe what 'failure' would be, and how would you measure failure?

Function	Manager's Response to Question	My Analysis of the Response
Business Development	*No value-added sales growth from existing customers. CSC loses customers. No new customers are added to the base.*	CSC would lose existing customers and not win new business. Cross-selling opportunities would be lost.
Manufacturing	*High staff turnover at senior and middle management level. Knowledge restricted to individuals. An uninformed workforce.*	If decision-making, authority and customer contact was restricted to 'a few people' then CSC would lose senior and middle management staff. Overall, staff would continue to operate in silos without a strong knowledge of the overall business.
Human Resources	*Poor product. Skills would be depleted. Company growth would be limited.*	If only a few people kept hold of customer knowledge, then the result could be poor product outcomes for the customer. Company skills would reduce, and as a result, so would the ability for the company to grow.

The analysis of responses to the seven questions indicates that each functional manager approached their responses from different perspectives and shows that it is important for as many functional areas as possible to be involved in determining the strategy, how it will benefit customers and the organization, and in producing a list of performance measures to monitor the success, or risk of failure, of the strategy. Having more than

one functional area or manager involved will help to ensure a number of customer and internal-company perspectives are considered in the development of each strategy.

Figure 10 Orientation of functional manager's responses to the seven questions

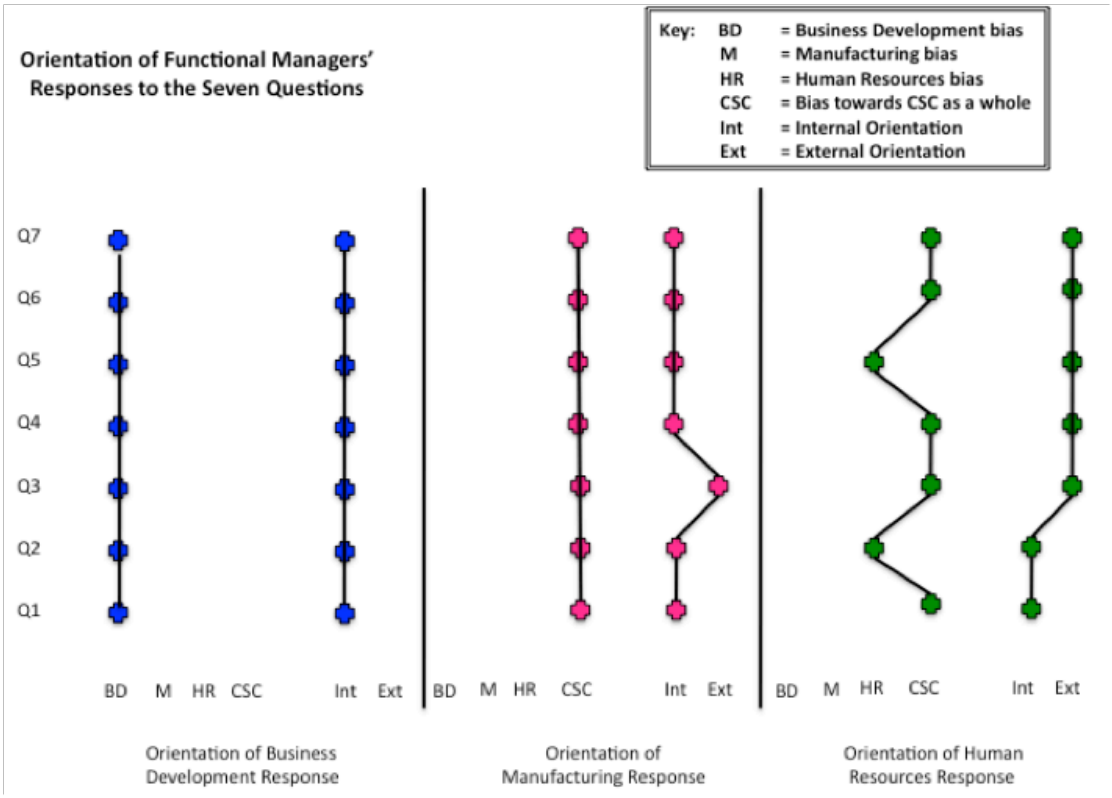


Figure 10 shows that the Business Development Manager responded to each of the seven questions from a sales perspective and with an internal company focus. An internal orientation indicates that only the outcome for the company (CSC) was considered when providing the response. An external orientation indicates that the outcome for the customer was either the sole consideration or was considered in addition to the outcome for the company.

The Manufacturing Manager considered the wider CSC organization, as opposed to 'just' the manufacturing function. Most of his responses were also internally oriented except for the response to the question about what customers would experience as a result of the strategy being implemented.

The Human Resource Manager's responses fluctuated between a strong staff focus on the one hand and a general business perspective on the other. In addition, her responses were predominantly externally oriented, preferring instead to consider how customers, rather than just the company would benefit.

4.4.9 Reducing the number of strategies

The thirty-three strategies were then reduced to five strategies by focusing on only the performance measures identified for *successful* (the responses to question 6) and *failure* (the responses to question 7) outcomes for each strategy. A detailed description of the process for this reduction is included in Appendix D.

The Senior Management Team identified 160 unique performance measures. As a result of a consolidation process to reduce the number of strategies, the final number of performance measures identified as being immediately relevant, and valuable, to the business was 71.

The five core business strategies agreed by the Senior Management Team were:

1. Customer and Growth Management
2. Internationalisation
3. Supplier Management/20 Keys (Kobayashi, 1990)
4. Staff Management
5. Cashflow Management

4.5 Using performance measurement

This action research case study was interested, primarily, in how CSC used its performance measurement system. Section 4.5 in this chapter discusses many aspects of performance measurement as it was used at CSC. These insights led to a number of implications for practitioners included in section 5.3 later in this thesis.

4.5.1 Management structure and performance reporting at CSC

Changes in senior management structure and their impact on performance are summarized in figure 11.

The literature does not appear to offer any discussion on the relationship between the management structure of organizations and performance measurement reporting. In CSC's case, each management change affected one or more aspects of performance measurement and reporting within the business. The spiral of action research cycles that considered senior management changes at CSC led to implications for practitioners outlined in section 5.2 and contributions to scholarship outlined in section 6.1 of this thesis.

As a result of management restructures within the business, the preparation, content and style of management reports, reporting lines, dissemination of reports, presentation and timing of reports to the Board, feedback loops, and alignment with strategy changed.

Figure 11 below provides an overview of performance measurement and reporting changes as they occurred with each management restructure. These changes are elaborated on in the next three sections 4.5.2 to 4.5.4.

Figure 11 Evolution of performance reporting at CSC

[see next page for the figure due to unfortunate pagination]

Evolution of CSC Management and Performance Reporting Approach

Action Research Project Timeline	Initial Management Structure Months 0 - 4	1st Management Restructure Months 5 - 12	2nd and 3rd Management Restructure Months 13 - 36
Management Reports			
Report Audience:	The Board via the General Manager	The Board via the Managing Director	The Board directly
Final Reports Prepared by:	The General Manager	Each SMT member prepared a report Also separate report by the Managing Director	Each Senior Management Team member
Who Prepared Reports:	The General Manager consolidated each report prepared by each Functional Manager	Each Functional Manager produced his own report The Managing Director also prepared a report	Each Functional Manager. The Managing Director presented a verbal report at every Board Meeting and left the detailed business reporting to the SMT.
Reporting Frequency:	Monthly	Finance Report Monthly Other reports when Board met	Weekly and Monthly
Reason for Reports:	For the General Manager to help him prepare his Board Report	Board Meetings. Information dissemination beyond the Functional Manager to include other members of the SMT and also the Board.	Management team meetings and Board Meetings. To improve business performance
Reports Presented By:	Each functional Manager to the General Manager	Managing Director. Functional Managers on 3-4 monthly rotation	Weekly via email to the Board Monthly by Functional Managers
Feedback Loop:	Board to General Manager	Board to Managing Director Functional Managers as per their reporting rotation	Board to Functional Managers Emails weekly and In-Person-Monthly
Style of Report:	Charts, tables, percentages, Some commentary	Charts, tables, percentages, Some commentary	Charts, tables, percentages, On-target/needs-attention style report Commentary as required Recommendations to fix target shortfalls
Strategic Alignment	Not aligned with CSC goals	Not aligned with CSC goals	Aligned with CSC goals

4.5.2 Performance reporting: The initial management structure

At the beginning of this project the General Manager required the rest of the Senior Management Team to prepare monthly performance reports. He would then consolidate these reports into a single General Management report that he would present to the Board. In months when the Board did not meet, the General Manager would discuss specific issues with the Managing Director.

The performance reports, as noted by the functional managers themselves, were of little value to most members of the Senior Management Team. The exception was the Finance Manager who produced his financial reports as part of his everyday role. Performance management reports were not aligned with any strategic goals outlined in business plans that existed at the time.

The functional managers in the Senior Management Team, apart from the General Manager, were not clear about what the General Manager did with their monthly

performance reports and rarely viewed the consolidated performance reports presented to the Board. Furthermore, functional managers had little or no exposure to the Board except when members of the Board appeared at 'town halls' (meetings in the cafeteria involving the whole company) or occasionally met with them accompanied by the Managing Director on 'walk-a-rounds' on the manufacturing floor. This resulted in the Senior Management Team knowing very little about how the Board regarded their performance management reports.

The General Manager represented the Senior Management Team to the Board and in return he was fairly non-committal about how the Board viewed their reporting. As such, the functional managers reported as required to the General Manager but generally treated performance reporting as a task to get done and out of the way, as opposed to a process to be managed. The Senior Management Team's view was that performance reporting was something they needed to do so the General Manager could report to the Board. As one member of the Senior Management Team commented, *"I produce numbers and commentary most months and then I just get on with my job. Occasionally the General Manager will ask me to clarify something but I don't know what he does with the reports*".

All actions relating to the management of the business recorded in Board meeting minutes listed the General Manager as responsible. In effect, this further distanced the Board from the other members of the Senior Management Team as the Board only reviewed progress 'through the eyes of the General Manager'.

The nature and focus of the reporting for each Senior Management Team member follows:

Financial Performance Reporting – The First Year

The Finance Performance Report, usually 10 pages in length, represented the results of the previous months trading. The report was often produced up to 20 days after the end of the month being reported reflecting the historical nature of this report. The Finance

Performance Report included information about various projects and goals in progress within the finance and administration area.

The Financial Performance Report also contained tables showing the 'Top Ten Customers' and the 'Top Ten Suppliers'. These tables did not initiate any discussion at Board meetings; the presentation was not graphical and did not compare progress against projections by customer, or supplier. The business did not project revenue by customer while the projects team, who managed day-to-day interactions with customers, did not know the annual revenue value of the respective customers they managed. The General Manager believed that the projects team *did not need to know customer value to the business*, but also the project team did not think to ask.

The Finance Performance Report did present some highly visual graphs and charts giving the Board a clear picture of the topic being charted. Lacking in the reports was any interpretation for readers so that they could understand the reasons behind any variations observed.

An example of a discussion about content and indicators in financial reports follows:

The February 2008 Finance Performance Report, for example, clearly shows that actual sales for the first two months of the financial year were not tracking according to budget. There was no commentary explaining the shortfall contained in the report. The consequence was that the Board had to ask for the reasons for this, or why the shortfall had occurred at the meeting. The answer provided by the General Manager, as recorded in the minutes of the meeting, was *being below budget is common for this time of the year.* This should have generated discussion about whether the budget needed to reflect this 'common' situation each year as it could affect projected cashflow for the business. It also should have raised questions about how and when the shortfall would be addressed during the remaining ten months of the year. However, the minutes of this Board meeting state *currently sales tracking under budget however no cause for concern at this stage. We historically have weak trading at this time of the year. The last 2 years have not shown this trend to the same degree as this year.* The recorded

note that '*the last 2 years have not shown this trend to the same degree as this year'* was an early warning indicator of events that took hold of the business over the next 18 months as the global economic crisis began to take affect but was not considered as such at the time.

Two months later, the April 2008 Board Meeting followed a similar path when monthly revenue levels were at 50% of budget. The minutes of the April meeting record "*Cash flow is starting to become a concern and a cash injection may be required late May*". There is no further explanation of the poor sales revenue, and there is no recorded minute of any discussion about the business development performance report.

Looking back on the February and April 2008 Finance Performance Reports and the Minutes of the Board Meetings (see later in paragraph) in which the reports were discussed, there is no information that explains why the shortfall existed other than *we historically have weak trading this time of the year*. This was the only reason given during the meeting, so while the minutes are correct, there was no further investigation into the reasons why customers were slow to place orders.

The financial numbers were presented and discussed in all Board meetings and the headings and level of information for each report were consistent throughout the 12-month period. The data were presented as one-off numbers without any overview of how the information could be, or was being, utilized by the business.

In discussions with other members on the Senior Management Team, I asked their views on the financial reporting at the time. They showed little knowledge or interest in the financial numbers of the business with the added comment being that the General Manager did not show them his report. This comment suggested that because the Senior Management Team were not shown the financials by the General Manager, they could not take responsibility for achieving them and also did not have to take an active interest in them. It meant that they could, effectively, show genuine surprise when told that financial performance was poor. This was especially the case in the manufacturing area at this time. The Managing Director believed that the Senior Management Team

were aware of, and understood, the financial numbers but the Senior Management Team's comments reflected a view that either (a) they didn't believe they could control the financial results, or (b) they simply did not take an interest in the financials.

The Finance Performance Report did not encourage engagement between the Board, the wider Senior Management Team or General Manager. The wider Senior Management Team only reported according to their respective area of responsibility and did not comment on how their functional area performance might have positively or negatively affected the financial results, or other functional areas of the business.

Business Development Performance Reporting – The First Year

The Business Development Performance Report, usually 5 to 6 pages in length, provided a running commentary on the previous month's contact and current issues with each customer, as well as occasional indications of future business. The headings, level of detail and analysis provided in this report were variable. The Business Development Performance Report, at this time, did not project forward business volumes.

An example from the March 2008 Business Development Performance Report below shows the type of information the Business Development Manager presented to the Board: (company and personnel names, locations and supplier names changed for confidentiality reasons)

Customer Number 1

- *Joe Blogs – Ops mngr.*
- *Wanted pricing on Jar Dispenser bins as per our supply to their xxx branch.*
- *We have submitted price just waiting confirmation on the order to produce.*

Customer Number 2

- *Met with xxx and xxx to discuss potential new store brand and racking systems.*
- *Brief is very light at present and still at an executive level in terms of brand, colours, look and feel.*

- *We have been asked to supply ideas on alternative designs, trends etc.*
- *Some photos and images of stores have been supplied to xxx.*
- *xxx has drawn two alternative designs and is completing a scaled down version of the current system they use.*
- *Next step is to meet with xxx on photos submitted and to discuss new options.*

This information as reported in the example above, does not indicate the potential business levels expected from the customer, or provide any analysis that would make the information useful to overall performance or management decision-making. There is no indication, for example, that CSC's pricing is likely to be accepted, that it meets CSC's gross margin expectations, that there are any competitive pressures associated with the pricing request, how large the potential order is, when the customer might want the order to be delivered so it could be useful from a manufacturing and cashflow forecasting perspective, and other information that would make this information meaningful to discuss at Board level.

Operations Performance Reporting – The First Year

The Operations (Manufacturing and Logistics) Performance Report, usually 6 pages in length, was very detailed and mostly historical in nature.

When the reports were presented, the Operations Manager would spend between 20% and 40% of his time discussing the injury profile in the factory and very little time discussing forward trends or issues being worked upon. The injury profile of the factory was of little real interest to the Board and their role in a decision-making capacity. With regards to the injury profile, the Board did want to know the risk profile or exposure of CSC to accident claims that might affect company morale and ACC insurance levies.

The numbers provided in the Operations Performance Report were all provided in tables and were not graphed. Twenty five percent of the tables contained commentary directly underneath, however the commentary mostly highlighted the obvious. An example is provided below:

COST

Worked Hours – Mar 08	Metal work	Joinery	Powder	Assem / Disp	Supervisors	
Productive	640.45	1300.77	250.01	263.59	94.48	254
Unproductive	263.55	319.98	160.49	652.66	468.02	186
Leave/Other	345.50	250.00	99.50	188.00	100.75	98
Total Paid Hours	904.00	1620.75	410.50	916.25	562.50	441
Productivity %	70.85%	80.26%	60.90%	28.77%	16.80%	57
Change on previous month	3.93%	9.12%	0.38%	-8.44%	4.28%	2

Commentary:

- Production increase over month specific to chargeable hours and sales orders as is demonstrated with overall productivity increases of 3.93% and 9.12% for Metalwork and Joinery respectively.

The commentary in the example above does not expand on the data contained in the table. It does not give any explanation that links why sales for the month were more oriented towards metalwork and joinery, and therefore away from powder-coating, and whether this was a trend that was likely to continue. Performance reporting was not coordinated between Finance and Business Development. For example, when reviewing the Business Development Performance Report for the same month, there is no comment on any particular manufacturing type that appears to be preferred over another. The Financial Performance Report also does not provide any data referring to, or commenting on, the particular manufacturing type e.g. joinery or metalwork, preferred.

The lack of coordination between the operations, business development and financial performance reporting had implications in that different profit margins are achieved through each of the manufacturing types employed at CSC. As a consequence, there was ongoing under and over performance and no understanding of the trends leading to this particular month's variation across the manufacturing types within the CSC factory.

As an example, the Finance Manager could have forecast profit on the basis of throughput in the factory being of one particular manufacturing type, and the Operations Manager could have planned casual staffing levels on this same manufacturing type, but the Business Development Manager may have sold business utilizing a different manufacturing type. The outcome of this situation would be the same volume of product produced, but at a lower or higher margin for the business.

The Operations Performance Reports did not compare one month with another month. There was no trending information or repository for the Board to easily keep track of whether one month's performance was different from a previous month unless the General Manager was asked to comment at the meeting. As a consequence, there was little discussion about the Operations Performance Report unless the report itself highlighted something to discuss. There was no requirement for the Operations Manager to provide commentary or explanation for variation in his report.

Because the performance reports did not have commentary explaining the information presented, questions by the Board could often appear confrontational as the on-the-spot response was often not thought through and sometimes defensive. It created frustration on the occasions when the person presenting the information could not expand or elaborate on the raw information provided in the report. This lack of ability to expand on the raw information was further demonstration that the reporting was not helping the functional managers to actually 'manage' the business because they would have been actively applying or using the information contained in the performance reports to make future decisions.

The Operations Performance Reports also contained detailed historical information showing the tracking of shipments from overseas suppliers as well as detailed information about the value of finished goods by manufacturing type such as joinery, powder coating, steel, imported material, amongst others. This information rarely, if ever, initiated discussion at the Board or Management team meetings, although when they started reporting directly to the Board, the Manufacturing and Logistics Managers

would talk through the points they thought of interest to the Board, and within their own comfort zone to talk to.

4.5.3 Performance reporting: The 1st management restructure

The 1st management restructure occurred following the resignation of the General Manager. The Board decided not to replace the General Manager and decided that the Senior Management Team would assume more responsibility in running the business. The expectation of the Managing Director was that the Senior Management Team would work more as a team, develop its own management and performance reporting style, and effectively replace the General Manager as a consequence.

Five of the seven members of the Senior Management Team – the Operations Manager, Manufacturing Manager, Business Development Manager, Logistics Manager, and Australia Manager - had little exposure to the Board, had rarely seen the General Manager's Board Report and had little knowledge of how their monthly performance reports were filtered by the General Manager and then presented to the Board. Due to the Board's focus on financial reporting, only the Finance and Administration Manager had direct contact with the Board, as did the Human Resources Manager who also acted as the scribe for all Board Meetings.

The minutes of the third Board meeting held after the 1st Management Restructure occurred record that *all monthly performance reports are to be forwarded to the Board*. This was a significant reporting change, as previously the General Manager had consolidated these reports into a single General Management Report.

At this same meeting the decision was made that the new Senior Management Team – who were all functional managers – would present their performance reports directly to the Board, in person, on a rotating basis. The minutes of this Board meeting record that *more direct contact is required between the Management team and the Board* and that *reporting by managers to be reinstated from the next Board meeting.* This meant that

each functional manager would present their performance reports directly to the Board at least three, and sometimes four, times per annum.

These two reporting changes highlighted a number of weaknesses in the Senior Management Team's performance reporting such as a lack of cross-functional alignment and a narrow, task-based orientation.

The first performance reports presented to the Board after the departure of the General Manager were not aligned with regards to content across the Senior Management Team members. Nobody in the Senior Management Team took a role in reviewing the respective reports and coordinating their presentation. However, the performance management reports presented by the remaining Senior Management Team did highlight important information, such as that the General Manager had 'filtered out' of his usual consolidated management report. These new reports also highlighted specific interests of the various members of the Senior Management Team, for example the heavy focus of the Operations Manager and the Manufacturing Manager on occupational health and safety, which was of little real decision making value to the Board.

Following the 1st manufacturing restructure, the Board did not provide any guidance to the Senior Management Team on how they wanted their performance reported. Although this was not a deliberate decision, the lack of guidance did identify the following, as recorded in minutes of Board meetings:

- *a general lack of cohesion and management skills across the Senior Management Team,*
- *a lack of urgency and awareness of customers in the Projects team, and*
- *major gaps in performance reporting both of interest to the Board and of management use to the Senior Management Team, as a lot of the reporting was historical by nature.*

This uncoordinated performance reporting approach showed that the newly departed General Manager had been effective at upwardly managing the presentation of

performance reporting, and that only he had the overall business knowledge to discuss any particular concern expressed by the Managing Director and the Board. The 'silo' approach to performance reporting did highlight these weaknesses but it also provoked discussion about the need to put in place more effective performance measurement and a Senior Management Team structure that the Managing Director (and the Board) could be confident would proactively manage the business.

These inadequacies in performance reporting at CSC created an opportunity for me to become more involved in the design and implementation of a new performance reporting process. All of the Senior Management Team, and the Board, agreed to me investigating the development of a new performance measurement and reporting system.

4.5.4 Performance reporting: The 2nd & 3rd management restructures

Nine months into the action research case study, the Senior Management Team and I took part in a number of workshops to redefine the business planning process, ensure the Senior Management Team fully understood overall company goals and strategies, and determine the right set of business performance measures to help manage the business more effectively.

Soon after the 2nd management restructure, the Managing Director and the Board decided that the Senior Management Team should take responsibility for their monthly performance reports and present them directly to the Board at every Board meeting. The decision to change the personal reporting from a rotational quarterly basis to an 'every-month' basis resulted in the Senior Management Team obtaining immediate and timely feedback on their various performance management reports.

Sixteen months into the study and four months after the 2nd management restructure occurred, a Weekly Dashboard was initiated. This became the focus of weekly management team meetings. The Weekly Dashboard is a one or two page report by

functional area that gives an indication of how the company is performing against a number of key performance measures. These Weekly Dashboard reports were, and still are, recognized as being particularly useful as (a) they inform and build knowledge within the whole Senior Management Team about each others issues, successes, and functional responsibilities, and (b) they drive the weekly Senior Management Team meetings to achieve overall business objectives due to the strategic alignment of the performance measures reported in each Weekly Dashboard. When the Board became aware of the Weekly Dashboards, they asked to be added to the circulation list. This request assisted in improving their knowledge of the business and facilitated more meaningful discussion around the Board table.

The Weekly Dashboards continued for the remainder of the action research case study. At times, due to work and travel pressures, the discipline of completing the weekly dashboard reduced, and occasionally, some members of the Senior Management Team did not complete the Weekly Dashboard. Inevitably, on the occasions when this happened for two or three weeks in a row, peer pressure from the rest of the Senior Management Team, concerned about not knowing what was happening in other parts of the business, ensured that the recalcitrant functional manager restarted their contribution to the Weekly Dashboard.

I continued to attend Board meetings at CSC after the action research case study ended, and 12 months later this reporting approach was still active within the business. CSC had taken the Weekly Dashboard concept, and was investigating a Daily Dashboard report for the lower level managers and supervisors at the factory level within business.

4.5.5 Turning performance measurement into action for CSC

After identifying the 71 performance measures to monitor, the next step was to determine how to turn them into future value for CSC. As part of this process, the Senior Management Team and I reviewed a number of questions as follows:

a) Were there too many performance measures identified?
    - The Senior Management Team did not have any issues with the number of performance measures
    - One view expressed by the Manufacturing Manager was that *these were the performance measures we came up with so they must be important and so we must find ways to measure them*
    - The Senior Management Team's involvement in the design of the performance measurements ensured that they accepted the final list of performance measures '*they'* had determined

b) How many of the new list of 71 performance measures were already being monitored by the business?
    - The Finance area already reported 90% of their performance measures. As shown in the next bullet point, the other functional areas in CSC were not monitoring many of their performance measures.
    - The review determined that the following number (and percentage) of performance measures were already in place for reporting purposes:
        i. 2/26 (8%) of the Customer and Growth Management strategies
        ii. 0/4 (0%) of the Internationalisation strategies
        iii. 6/25 (24%) of the Supplier Management/20 Keys strategies
        iv. 2/6 (33%) of the Staff Management strategies, and
        v. 9/10 (90%) of the Cashflow Management strategies
    - In total, 19 of the 71 (27%) of the performance measures were already being monitored by the business. However, the remaining 52 performance measures (73%) were not being measured.
    - This process identified 52 more performance measures the Senior Management Team agreed were valuable to measure.

c) Was it possible to implement all 71-performance measures?

- Only 19 of the 71 performance measures were being monitored at the time the list was produced. The Senior Management Team did not believe that they could quickly introduce all of the other 52 measures.
- At the time of this discussion, a new Enterprise Resource Planning (ERP) system was being considered. Research by the Finance Manager had identified this ERP software to be the best available system, at the right price, to help manage factory loadings, and integrate sales forecasting and accounting requirements. The comment made by the Finance Manager at the first Board meeting this system was discussed was that *it should facilitate reporting and make it smoother*.
- This ERP system took longer to implement than intended (a year), and was not initially set up to monitor much more than existing reporting processes. The additional 52 performance measures were not evaluated against the capability of the new ERP system.
- The implementation of the new ERP system delayed the introduction of many of the new performance measures. It also required the Senior Management Team to establish an interim system to report the new performance measures.

d) What should the targets for each measure be?

- Performance measurement targets were discussed when the strategies were being developed. It made sense to discuss the meaning of each performance measure in the context of what would be good and bad performance for CSC.
- Previously, in the December 2007 Board Meeting, the Board and the General Manager (at the time) had discussed the merits and definitions of having a budget and having targets. The General Manager was not inclined to believe in targets, or at least he deflected discussion about being ‘held accountable’ for achieving

targets. Budgets were discussed as being numbers that the business could '*organically achieve'*. In contrast to the views of the General Manager ten months earlier, after completing the exercise of determining the performance measures in October 2008, the Senior Management Team view was that targets should be set so that they could evaluate the impact of the performance measure on the business.

e) What was the ideal performance reporting frequency?
    - In the context of reviewing performance measurement, it was important to develop a performance measurement system that would be relatively simple to operate, and be of immediate (or timely) value to the business.
    - The strategic planning meetings held in August and October 2008 were carried out when overall business performance was lower than forecast. Rather than put performance measurement to one side during this stressful time, the functional managers were able to see the value of 'doing it right', so the concept of using performance measurement to help improve coordination within the business on a more frequent basis than normal was developed.
    - An example of the balance the Business Development Manager had to achieve between meeting customer requirements and also those of his fellow Senior Management Team members (in particular the Finance Manager and the Manufacturing Manager) is below:
        - A key concern for the Finance Manager was the ability to forecast cashflow for the business. The nature of how business 'comes in' limited the ability of the Business Development Manager to provide accurate forward business forecasts beyond even just a couple of weeks. As the global economic crisis worsened new commercial and retail space became available more frequently, customers took longer to make decisions about committing to new

leases, and therefore new retail fit-outs. As a consequence, when customers finally did make new retail fit-out decisions, they often had limited timeframes within which to fit-out and move into their new premises. This resulted in shorter manufacturing times for CSC.

- The Manufacturing Manager was finding it difficult to forecast factory loadings and manage employment contracts with between 20% and 40% of the workforce being on short-term contracts at any one time. In addition, managing stock levels on a just-in-time basis was becoming more difficult and the pressure on CSC's suppliers to deliver product to CSC with short notice was also becoming a concern.
- The Business Development Manager was caught in the middle between customers, in trying to get them to place orders earlier than they preferred, and encouraging the Manufacturing Manager to deliver the final product to customers within increasingly diminishing lead-times.
- Meanwhile, the Finance Manager wanted forecasting information so that he could determine cashflow requirements for the business.
- During this same time period, the new ERP system was in the process of being developed and training was taking place for all of the key managers who would have involvement with this system. Functional managers were unable to take part in all of the ERP training, and this limited its immediate impact when it was eventually installed.

f) When should reporting against each final measure begin?

- The Senior Management Team understood that not all of the performance measures could be reported from day one. They were

keen to put in place, no matter how rudimentary, all of the final 71 performance measures within six months.

- The Senior Management Team agreed that '*there was no time like the present*' and so as soon as 'I' (the action researcher), was able to develop an approach to reporting the measures then 'they' (the Senior Management Team) would get underway with monitoring the 71 performance measures.
- It was a case of 'me' (the action researcher) ensuring the design and implementation work was undertaken at this point as it was clear that the Senior Management Team were otherwise engaged with running the business.

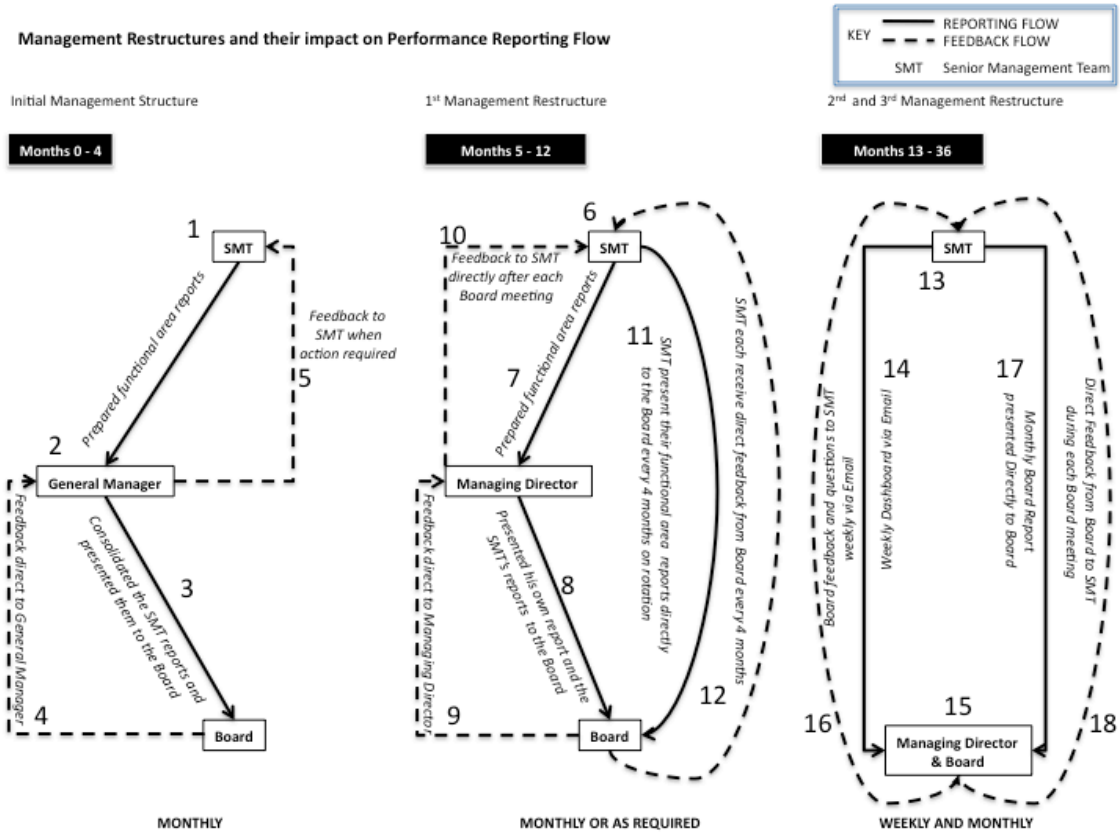
Throughout all of the above discussions, the Senior Management Team showed keen interest in the idea of performance measurement. However, the day-to-day normal business requirements of the business then took over and it became apparent that the Senior Management Team was not likely to make progress towards establishing the actual performance measurement reporting system without some assistance. The Senior Management Team and I agreed that I should take on the role of designing a timely and usable approach to measuring and reporting performance.

4.5.6 Management restructures and management reporting flow

Figure 12 below reflects the changes in the flow of performance management reporting within CSC during each of the four management structures that existed during the action research case study.

Figure 12 Management restructure impact on performance reporting flow

[see next page for the figure due to unfortunate pagination]



The Management Reporting Flows are described below using the numbers shown in figure 12.

Under the Initial Management Structure, the General Manager (2) consolidated and filtered each Senior Management Team member's functional performance report (1) into a single report that he alone presented (3) to the Board. Any action resulting from these presentations were put back to the General Manager to resolve (4). Feedback (5) to Senior Management Team members (1) was rare and limited to specific actions or tasks requested by the Board. Often times there was no feedback at all to the Senior Management Team after Board meetings.

At first glance, the reporting and feedback loops, as drawn in figure 12, under the Initial Management Structure look simple and straightforward. However, the impact of the General Manager, who acted as a roadblock in the process, was detrimental to the overall performance reporting system due to the high level of control and influence he

held over both the reporting and feedback flow between the Senior Management Team and the Board.

During the 1st management structure, the Senior Management Team (6) continued to prepare performance reports (7) for the Board. The Managing Director presented the Senior Management Team reports to the Board (8), as he received them unchanged from the Senior Management Team (the Managing Director did not filter or attempt to consolidate these reports). The Board provided feedback (9) directly to the Managing Director and, immediately following each Board meeting, the Managing Director would present the Boards views back to the Senior Management Team (10). On a rotational basis (every 3 or 4 months) each Senior Management Team member would present his performance report directly to the Board (11), and receive immediate feedback on that report (12).

The reporting and feedback flows under this 1st Management Restructure were complicated. Although the General Manager was not now a roadblock in the system, the Senior Management Team continued to have limited direct contact with the Board as a result of reporting in person only once every three or four months according to the rotational system. This meant that they still waited for feedback from the Managing Director on their reports for most Board Meetings. They also did not meet with the Board often enough to build confidence in their reporting style and learn more about the performance reporting needs of the Board.

After the 2nd Management Restructure occurred, the Weekly Dashboard was introduced. When the Board (15) became aware of this dashboard, they requested to be included on the weekly circulation list (14) and members of the Board (15) would often enter into email conversations with members of the Senior Management Team (16) from whom they needed more information. Soon after the 2nd Management Restructure, the Board meeting format changed so that the Senior Management Team (13) were invited to the meeting as a group to each present their respective performance reports (17). This enabled immediate feedback from the Board (15) to each Senior Management Team member (13) about their reports and performance (18). Under the '2nd and 3rd

Management Restructure', the reporting and feedback flows were simplified and became much more direct. The performance reports went directly to the Board, and the Board began receiving the Weekly Dashboards on a weekly basis via email. As a result of the Senior Management Team being present at each Board meeting, they were direct contributors to decision making and feedback from the Board was therefore immediate (18). The impact on the confidence of the Senior Management Team, their understanding of the performance reporting needs of the Board, and their knowledge of how their performance reporting was useful for the business was significant.

4.5.7 Performance measurement discussion at Board level

The frequency of performance measurement discussion at Board level fluctuated throughout the action research case study for many reasons. The frequency is outlined in figure 13. The following gives an overview of how the Board approached performance measurement during each of the key management structures that existed during the action research case study.

4.5.7.1 Board performance discussion - initial management structure

Under the Initial Management Structure when the General Manager presented the consolidated management reports to the Board, discussion was focused on sales performance against budget, cashflow, stock levels, and the development of a sales plan for the business.

For the early part of the Initial Management Structure, the business traded above expectation with record revenue and profit figures. Six-figure dividends were paid twice to the shareholder during this period. However, within only weeks of the second dividend payment, the Board placed a sudden halt on future dividend payment requests as a result of the sudden decline in business. This action suggests that the performance reporting, at this time, was historic by orientation. If the performance reporting had

been considering the future position of the business, the Board would probably not have approved the second, and possibly even the first, dividend payment.

After the General Manager departed CSC, the new Senior Management Team started to prepare their monthly management and performance reports directly for the Board. They were also required to present, on a rotational basis, to the Board. I observed the reporting and resulting discussions. The Senior Management Team lacked confidence in their presentation of their performance reports and had not been groomed or given guidance on what and how to present at Board level.

As a consequence, the information presented, especially by the Operations team, was too detailed to be of use to the Board.

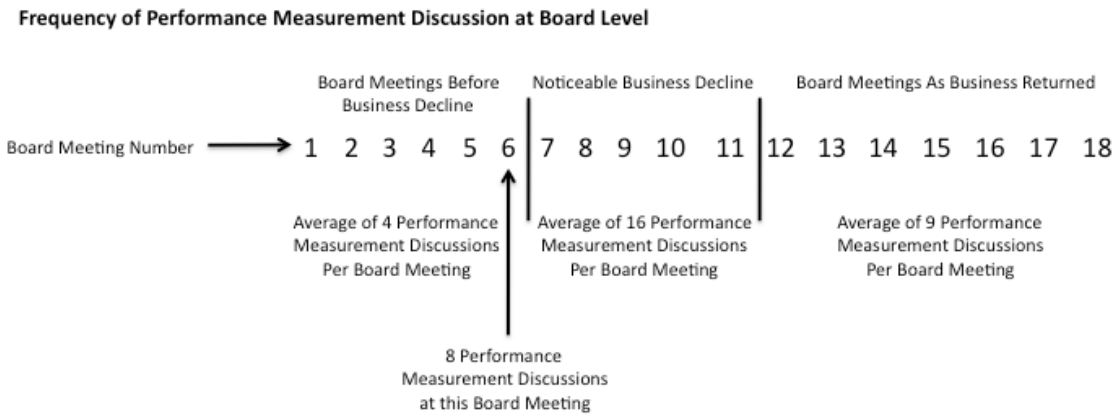
The level of discussion about customers was minimal at Board and Senior Management Team level. Customers were rarely mentioned by name unless they were well behind in their payments. Sales volumes were rarely discussed or presented in the context of actual customers. When sales volumes were in decline, the tendency was to deflect conversation onto other matters. One example of this deflection was noted in the minutes of the March 20th 2008 Board Meeting, near the end of the Initial Management Structure period, that *currently sales are tracking under budget however no cause for concern at this stage. We historically have weak trading at this time of year; the last 2 years have not shown this trend to the same degree as this year*. This commentary does not provide any specific explanation of why the current budget was not being achieved. This was hard for the Board to respond to, as they were not Board members in the period the minutes refer to, and there was no specific discussion generated about this so-called annual trading pattern.

4.5.7.2 Board performance discussion - 1st, 2nd & 3rd management restructures

The Board's focus on performance as a specific topic at Board meetings changed during the course of the action research case study. The number and types of performance measurement discussion increased in periods of economic uncertainty.

The economic climate for CSC was bleak for a 15-month period in the middle of the action research case study. Although this decline was predictable six months before it actually occurred (see section 4.3.2), the Senior Management Team or the Board did not notice the signs. This was due to the lack of focus on reporting and analyzing key market indicators that would have signaled, well in advance, the economic slide.

Figure 13 Frequency of performance measurement discussions at Board level



When CSC's business volumes declined for a period, the focus on performance measurement increased markedly. In the six months prior to the business decline, the average number of performance measurement discussions that took place per Board Meeting was four. When the decline was clearly visible in the financial reporting at Board Meeting number six, the number of performance measurement discussions doubled to eight. Then, for the next six months during the period when business volume was significantly reduced, the number of performance measurement topics discussed at length in each Board meeting ranged between 13 and 17, and averaged 16. This was a fourfold increase over the frequency of performance measurement discussions that took place prior to the business decline being noticed. As the financial pressures eased and business improved, the number of performance measurement discussions reduced down to nine per Board Meeting.

From a positive perspective, the economic decline increased the Board's focus on performance. This increased interest in performance measurement carried over into the

period immediately following the eventual improvement in economic climate. This was demonstrated by the increase in general focus on performance measurement that was maintained from Board Meeting number 12 onwards, which continued for the remainder of the action research case study.

When CSC entered into a period of financial and sales uncertainty, the Board began to identify more information from the marketplace and considered implementing more detailed performance measures. CSC also wanted to understand more about the drivers behind existing performance measures. In CSC's case, this did not start happening until it was obvious that business was not going to achieve end-of-year projections. Measures that became more obvious or open to scrutiny were cashflow, sales forecasting, DIFOTIS, quote management, productive vs. non-productive factory loadings, stock turns, work-in-progress, stock-turns of finished goods, debtor management, and understanding customer purchase decision making behaviour. CSC wanted to have these performance measures reported more frequently, some on a weekly basis.

4.5.8 The Weekly Dashboard

A series of action research cycles concentrated on the need to develop a management reporting approach to facilitate better decision making amongst the Senior Management Team. These action research cycles led to implications relating to the Weekly Dashboard outlined in section 5.1, 5.2, 5.3 and 6.2.2 of this thesis.

The Senior Management Team's approach to information transfer relied heavily on verbal interaction and meetings. There were internal systems whereby minutes of meetings and 'guiding principals', as they were called, could be documented. However these were not actively used or referred to by the Senior Management Team. The Senior Management Team met on a formal basis monthly, usually immediately prior to, but on the same day as, the Monthly Board Meeting. The minutes kept for these management meetings were lacking in action with designated timelines by which actions would take place, and they were mostly focused on discussing historic events. By the time the monthly management meetings took place, most issues had either been resolved, or

were out of control. In addition, some of the Senior Management Team did not complete actions assigned to them in time for the next meeting. The designated scribe would take notes from the meeting and few of the other participants would take their own notes. Minutes of monthly management meetings were often released only days prior to the next meeting, giving cause as to why many actions were not completed.

As a result of identifying the 71 performance measures, the Senior Management Team also agreed that it would be useful to meet weekly, as opposed to the usual monthly meetings, to discuss performance and current issues that required Senior Management Team coordination for resolution. Many issues could be, and were being, resolved daily. The weekly management meeting meant that nearly any issue with a detrimental consequence for CSC would be identified, and collectively the Senior Management Team could generally resolve the issue within a week.

I worked with the Senior Management Team to develop a performance report for each functional area. This performance report consisted of an *on-target/needs attention* tick-the-box format that the Senior Management Team was willing to evaluate. This report became known as the Weekly Dashboard.

The Weekly Dashboard provided a visual check for the Senior Management Team to discuss in their weekly management meeting. Each member of the Senior Management Team took responsibility for a number of performance measures aligned with the five core strategies. These formed the basis of their respective Weekly Dashboard report. As an example, the Business Development Manager reported according to a template as follows:

Strategy No	**Measure**	**On Target**	**Needs Attention**	**Commentary**
1	Satisfied Customers	✓		
1	Contact with top 5 customers		×	xxx
1	Wider/Increased Customer Base	✓		
3	Supplying a greater range of product	✓		
1	Website Hit Statistics		×	xxx

1	Knowing what competitors are doing	✓		
2	Increased presence in Australia	✓		
1	Advertising & Communications	✓		
	Other Commentary	This can include forward forecasts, details of sales calls, and highlights from the week		

Not all of the performance measures in the Weekly Dashboard could be reported in the first edition. However, over the next six months the Senior Management Team implemented measurement systems so they could report against all 71 of the performance measures in the dashboard.

In the Weekly Dashboard, performance measures requiring attention receive commentary about the reasons why, what is being done about it, and when the problem will be resolved. The option exists for each manager to also comment on measures that are on-target. The on-target/needs-attention remarks would be discussed at the weekly management meeting. When reporting to the Board each month, the four previous Weekly Dashboard reports provide the background information as to why the overall company performance may be under or over-performing against the budget or revised forecasts. Many issues are already resolved by the time the Weekly Dashboards are produced. The Senior Management Team also understand that the Weekly Dashboard is not just a report for themselves in their respective functional role, it is also of use and interest to the other members of the Senior Management Team. The Weekly Dashboard encourages the Senior Management Team to reflect on the events that have happened in their functional area over the previous week. It also encourages them to think through the various actions required to overcome any issues and to seek help from other Senior Management Team members.

Every Thursday, the Senior Management Team prepare their respective inputs for the Weekly Dashboard. These inputs are consolidated by the Finance Manager and circulated to the Senior Management Team. The CSC Board, at their request, is also on the circulation list, as it provides them with a weekly summary of the highlights of the

business. Their inclusion on the circulation list has helped to remove unnecessary discussion around the Board table.

4.5.9 Senior Management Team view of the Weekly Dashboard

I interviewed the Senior Management Team and the Managing Director, individually, near the end of the action research case study and obtained their views on the impact of the Weekly Dashboard. A summary of their views on the changes the Weekly Dashboard has made in the business is presented below:

Managing Director

> *We take all information as read and then discuss the important things. It has improved communication and it exposes each functional manager to each other's problems. The dashboard does this and ensures that the management team comes together in a structured way each week giving me confidence that the business is being managed*

Human Resources Manager:

> *If the Weekly Dashboards were not being done, then the Human Resources Manager would not have a clue about what was going on in the business. The same goes probably for the Managing Director as well*

> *By changing the way we report and moving to a Weekly Dashboard it has focused the team to look at what they are measuring and how that matches against the business plan so the Senior Management Team is more strategic in their thinking.*

> *We have not got this right yet, the good thing is we know it is not right and we can work to make it more meaningful*

Manufacturing Manager

> *The Weekly Dashboard has driven change. It has increased discipline and improved knowledge of other parts of the business*

Finance Manager

> *It has driven change with regards to information dissemination. It has provided a better picture of what is happening in the business in the written form and it's the only way to get this picture. I now use the Business Development and the Manufacturing Dashboards for forecasting purposes.*
>
> *The Weekly Dashboard has resulted in a review of what type of information gets presented to lower levels of the organization. For example we now have a chart showing performance against sales and margin targets. It is important to translate and flow information to people below the management team*

Business Development Manager

> *It has driven change. It has made us look at our goals regularly - way more regularly than if we were not reporting a weekly dashboard. It makes you see what you are not doing. It raises visibility of what is not getting done. It has formalized things to measure on a weekly basis.*
>
> *Gathering data the right way has been a new thing and it has required us to find new ways to get data more regularly. There can be no fudging.*

All of the Senior Management Team agreed that the Weekly Dashboards have helped drive change within the business. The Human Resources Manager noted that the

Weekly Dashboard is a work-in-progress and will continue to change and develop over time.

In summary, the changes attributable to the Weekly Dashboard as viewed by the Senior Management Team included:

- helping information dissemination,
- providing benefits to lower levels of the business by providing more accurate and timely forecasting,
- aligning performance measures to strategy improved monitoring of performance against goals,
- learning new ways to get data more regularly,
- lifting performance visibility,
- improving how information is captured,
- raising awareness of what is 'not' getting done,
- increased workplace discipline,
- improved business knowledge,
- better focus on what to measure improved communication, and
- exposure of the Senior Management Team to each other's problems.

All of these are benefits of the Weekly Dashboard and shows the diverse perspectives and orientation of their roles on the Senior Management Team. It also demonstrates the value of having the whole Senior Management Team increase their involvement in the performance measurement design process.

4.5.10 New monthly performance management reports

The Australian Manager, Manufacturing Manager, and the Business Development Manager use their Weekly Dashboard Reports as their Monthly Performance Report to the Board. The Finance Manager includes his Weekly Dashboard Report and also includes a more complete set of financial statements for his Monthly Performance Report.

A comparison of the pre- and post-action research case study reports for each of the three functional managers is included in Appendix A and Appendix B. An overview of the changes for each of the functional area performance reports is provided below:

Manufacturing - New Monthly Performance Report Content

The Manufacturing Performance Report changed to a format that was easier for the other Senior Management Team members to understand (see Appendix B). It is more relevant, shorter and is presented more graphically so that trends and issues can be quickly noticed. Previously, the tables and charts were 'noted' but did not encourage discussion at Management and Board meetings. The more graphical representation of the manufacturing performance reports stimulated discussion around the meeting table.

Performance measures that were important to the Manufacturing Manager such as detailed injury counts were simplified to report injury trends, which the Board could better relate to. The Board wanted to know about any injury and how it was resolved, but they did not need to see graphs and charts covering this topic by individual area within the factory. The Board took great interest when the report highlighted that three years had gone by without a reported injury in the factory and this resulted in a morning tea and awards presentation at the factory, attended by the whole company including the Board.

Performance measures to drop out of the Manufacturing Managers performance report were the Overseas Container Shipping Report, Headcount by Department, and Lead-times as recorded in the factory. The Board only wanted to know whether product arrived to customers on time.

The new manufacturing performance report also includes information of real interest to the other members of the Senior Management Team. One example was the addition of a 'six weeks forward forecasting of factory loadings' report that provides valuable information to the Business Development Manager. This report allows him to better

manage customer expectations if it looks like lead times may lengthen as a result of high loadings in some areas. Equally, the Business Development Manager can quickly see where the opportunities are to chase business because the factory is light on loadings in some areas of the factory. This also creates opportunities for the Business Development Manager to manage and improve his gross margin percentages if he knows that he is reaching capacity in an area of the factory. The outcomes mentioned above represent opportunity management in the sense that the Business Development Manager can justifiably lift gross profit margins, as well as improve risk management outcomes for the business by chasing customer orders that help smooth the workflow in the factory.

The 'Activity Report' is a significant addition to the Manufacturing performance report. One of the five core strategies selected by the Senior Management Team was to improve cashflow management within the business. The Manufacturing Manager, now conscious of the importance of the cashflow performance measure established by the Finance Manager, implemented a swipe-card system in the factory so that all work could be allocated and accounted for more accurately. As each factory employee moves from one task to another, he or she swipes a card and enters a number for the type of job being undertaken and the name of the customer the work is being undertaken for. This has created opportunities to determine job profitability, the actual volume of rework undertaken, and better analyze break-time, productive time, and unaccounted-for time. Factory planning has improved and there have been flow on affects that have helped re-organize the factory layout and workflow management.

The Manufacturing Manager continues to report more detailed information for himself and his team, not seen by the Senior Management Team or the Board, ensuring the factory continues to perform at the expected levels.

Business Development - New Monthly Performance Report Content

The Business Development performance report evolved the most during the action research case study. Prior to the action research case study, the Business Development

performance report was a long narrative written on a per-customer basis and contained few 'hard' numbers. There was no consistency of reporting and it was a lengthy report for the Senior Management Team and Board to absorb. The new Business Development performance report is now more strategic and each performance measure aligns with the achievement of at least one of the five core strategies.

The Senior Management Team and the Board have more awareness of the activities being applied to building sales. The forward forecasting of revenue and number of fit-outs planned by customer has improved communication between the Manufacturing Manager and the Business Development Manager, and has also provided increased comfort to the Finance Manager about forward cashflow projections, a key performance measure within the business.

Finance - New Monthly Performance Report Content

The Finance performance report changed the least of all of the functional areas. Although the whole approach to reporting for the business was reviewed and re-aligned with the five business strategies identified, the composition of the Finance performance report did not change significantly. However, the focus and orientation of interest in these reports did change significantly as the different functional managers developed confidence and greater understanding about how their functional area performance affected the financial performance of the business.

In one interview, the Finance Manager commented that he has *external requirements on his reporting such as to the IRD for GST and Tax* so he has to *report certain things*. *For other managers there is no external reporting requirement and so they have more flexibility over what to report*.

There was change in the way the Finance performance reports were presented. Targets were assigned to performance measures that had not had them assigned previously. For example, 'target expenses to be within 10% of budget', 'overdue debtors to be less than 10%', 'year-to-date gross margin to be within 3% of forecast', and '100% of creditors

to be paid on time'. These targets helped develop focus within the finance management role to take it beyond a 'simple' reporting function and, by reporting this information in the Weekly Dashboard, it encouraged the Finance Manager to discuss weekly and monthly trends with the other Senior Management Team members so that end-of-month targets could be met.

During the action research case study, the Finance Manager realized that the overriding goal for the business should be *to deliver a return to the shareholder*, in this case the 100% owner of the business, the Managing Director. This was further defined as *can the business pay a dividend to the shareholder* and was reported in the Weekly Dashboards and in monthly performance reports as either a 'yes' or a 'no'. A 'yes' did not necessarily mean a dividend would be paid, it simply indicated that given the current bank balance and forward business outlook, the owner could make a dividend call if required.

Other finance measures were considered and introduced during the action research case study but were found to be unsuitable long term or provided similar information to that already available. Examples included:

Unit Costing: Gross Profit Margin was a concern throughout the early and middle stages of the action research case study and was identified as a major factor in achieving a dividend for the shareholder. A project was initiated by the Board to obtain a better understanding of unit costing so that quoting could become more accurate. The Business Development Manager commented that *the hardest thing was data and what we used from where*. In the end, it was decided that it was, according to the Business Development Manager, *sufficient to constantly check our systems pricing and supplier prices for all quotes as they are created (and to) re-engineer or look at our construction methods and time taken. We also look at our shop floor technical guys for better estimations than we*

	have used before. Even though the project was never completed, the outcome of attempting the project was a better overall understanding of the roles of different contributing areas within the business to the achievement of more accurate gross profit margins.
Finished Goods	The June 2009 Board Meeting minutes record that *NZ finished goods should have an inventory target before the 31st December 2009 against a target on a percentage basis at each Board meeting*. This report was designed to highlight the percentage of inventory that was finished goods and stock but had yet to be allocated as finished goods. The business became very busy and the Board's request was not followed through. The thought behind the new measurement was generated from a discussion around how stock management was affecting the cashflow within the business and ultimately the ability for the business to pay a dividend to the shareholder.
Value-Add Ratio	This was defined as: (Gross Profit + Direct Wages) / Total Salaries and Wages This Value-Add Ratio was identified as being a useful performance measure by a consultant at a course the Senior Management Team attended on 20-Keys Lean Manufacturing. The ratio was reported for four months and then the Finance Manager dropped it out of the monthly reports. None of the Senior Management Team gained any benefit from the ratio, it remained at around the same figure every month, and no Board member commented when it was dropped out of the monthly reports. The ratio did not appear again.

Australia - New Monthly Performance Report Content

The Australian monthly performance report did not exist prior to the action research case study. A report was developed within 3 months of the action research case study starting:

When the Australian Manager was employed soon after the action research case study began, the intention was that he would be involved in building the Australian business. Instead, his initial focus was to re-organize the warehouse and re-build relationships with the existing three or four Australian customers. The role did not develop during the action research case study into a true Australian Business Development role or general management role. Instead, the role remained, predominantly, a stock and warehouse management function with an added requirement of servicing existing customers to a high level. Business development in Australia continued to be a role performed by the New Zealand based Managing Director and the New Zealand based Business Development Manager.

These developments had an impact on how the Australian business performance was reported. The Australian Manager preferred to report the areas under his specific control and the New Zealand Head Office based Finance Manager reported all sales and other Australian information. The amount of actual interest the Australian Manager took in the overall reporting of the Australian business was not well known in the business. His role and interaction with the head office staff consisted mostly of resolving logistics, data-entry and stock management queries.

The Australian Manager visited the New Zealand head office every two months in his first year in the role but this declined over time to twice per year resulting in an increase in both physical and emotional distance between the two offices. However, the Managing Director and the Business Development Manager were frequent visitors to the Australian office, with one of them visiting at least monthly. The focus of these visits was to make sales calls that the Australian Manager sometimes attended but did not take an active role in. The Australian Manager did attend the two Australian trade

shows in which CSC took exhibitor stands during the action research case study and he was on-the-ground support for any follow up required.

4.5.11 Performance measurement report content changes

In summary, all monthly performance management reports changed during the course of the action research case study and became more aligned with achieving the five core business strategies. As a result, Management and Board meetings became more focused and outcome oriented.

The Manufacturing performance report reduced in size with a number of previously reported topics being removed, as they were not of relevance to the Board or at Senior Management Team level in the overall management of the business. However, the Manufacturing Manager still reported those areas for his own line managers as they continued to be relevant for their day-to-day management purposes.

The Business Development performance report changed significantly from a narrative style performance report to a more number and outcome-based report.

The Finance Manager was better able to review the Manufacturing performance report and Business Development performance report and more accurately forecast forward business and cashflow. Essentially, the Finance performance report stayed the same as the information provided prior to and during the action research case study, and was driven by standard external accounting reporting requirements. There were changes in the financial performance reporting in that targets, budgets and forecasts were introduced along with more analysis of the areas that affected the ability to pay a dividend to the shareholder – a key financial driver of the business.

The reporting from the Australian Manager also changed. Previously, the Australian Manager reported sales. However, as it became clearer that sales were managed by the New Zealand based Managing Director and Business Development Manager, the Finance Manager started to report Australian sales in his financial performance management report. Finally, a number of new financial ratios were suggested and

reported against for short periods of time until they were found to be unsuitable or of little use to the management of the business.

A number of the performance measures were redefined after the Weekly Dashboard had been operational for a number of months. These could not be defined to the detail required, or even thought of, up front in the design of the Weekly Dashboard. Instead they evolved out of discussions as the focus and performance information gathering capability and confidence of the Senior Management Team improved. As the nature of performance discussions matured, so did the willingness of the Senior Management Team to actively seek out new or deeper information and performance measures that could help them manage the business more effectively.

4.6 Considering failure

Risk management is an important strategic consideration for small-to-medium businesses. This section discusses how the prospect of failure was considered during the action research case study at CSC. The insights from this section led to a number of implications for practitioners included in section 5.4 and for scholars in section 6.2.4 later in this thesis.

For each strategy, I asked the Senior Management Team to answer seven questions. Two of these questions were performance measurement related. The first performance measurement question asked was:

> "If the strategy is achieved, describe what '*success'* would be…and…how would you measure it and what would it mean to the business?"

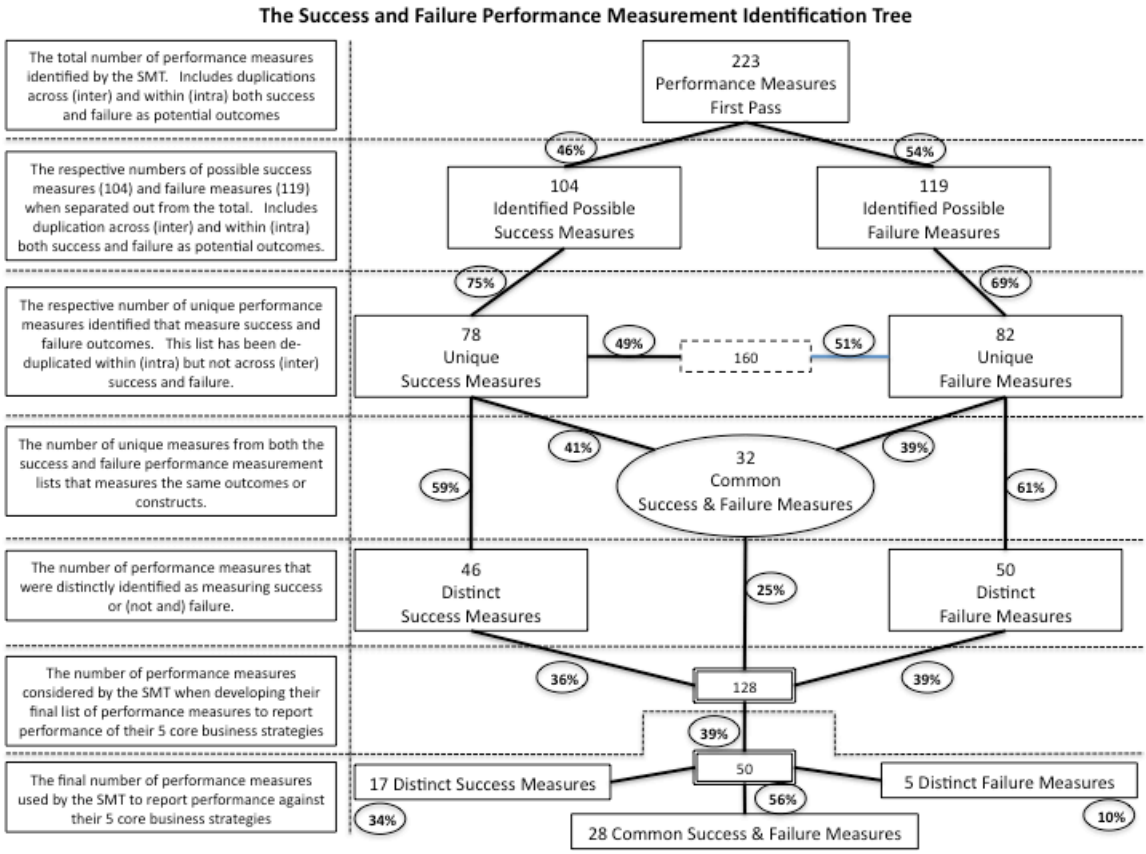
The second performance measurement question asked was:

> "If the strategy is not achieved, describe what '*failure'* would be…and…how would you measure it and what would it mean for the business?"

The other five questions were designed to improve definitional consistency for each strategy, expand thinking around each strategy and to help understand what CSC

needed to do to achieve each strategy, and understand the impact of strategies on customers.

Figure 14 Success & failure performance measurement identification tree



CSC originally identified 33 strategies to pursue. The responses to the two questions concerning success and failure produced a total list of 223 possible performance measures, as outlined in figure 14 above. 104 (46%) of these performance measures were associated with strategies succeeding and 119 (54%) were associated with strategies failing. These two lists were then purged of duplications. Duplications are defined as being performance measures that are either exactly the same, or measure the same, outcome. An example is, ‘revenue growth’, which was identified as a success performance measure across a number of different strategies and so it gets counted as a

performance measure only once as opposed to a number of times. This de-duplication exercise reduced the total performance measurement list down to 78 performance measures associated with strategies succeeding (referred to as unique success measures) and 82 performance measures associated with strategies failing (referred to as unique failure measures). The total number of potential performance measures therefore reduced to 160, down from the original list of 223, with the number of 'unique success measures' making up 49% and 'unique failure measures' 51%.

The next exercise involved determining which of the 'unique success measures' and 'unique failure measures' were measuring the same, or essentially the same, outcomes. This identified that 32 unique success measures and 32 unique failure measures were measuring the same or essentially the same outcomes. An example is that one unique success measure was 'staff retention, fewer staff changes' and that one unique failure measure was 'higher staff replacements'. As these two performance measures are essentially measuring the same outcome that staff will remain or not with CSC, they were classified as being 'common performance measures' to both success and failure.

The remaining performance measures after determining which unique success and failure measures were common, was one list of performance measures only identified as being associated with success – referred to as distinct success measures. A second list of performance measures only identified as being associated with failure was also identified – referred to as distinct failure measures. The total number of 'common', 'distinct success', and 'distinct failure' measures were 128, made up of 32 'common' (25%), 46 'distinct success' (36%), and 50 'distinct failure' (39%) measures.

All of the above 128 performance measures were aligned with the strategic outcomes projected from each of the five core business strategies finally decided upon by CSC. When the first Weekly Dashboard Report was produced, a total of 50 (or 39%) of these performance measures were selected to be included in the Weekly Dashboard. 28 (or 56%) of these performance measures were common success and failure measures. 17 (or 34%) were distinct success measures and 5 (or 10%) were distinct failure measures. A further 21 performance measures continued to be reported that were pre-existing or

nice-to-have performance measures that were unrelated to the specific five core business strategies which the Senior Management Team wanted to maintain in their regular performance reporting.

4.6.1 Risk management and acknowledging the potential for failure

During the two strategic planning exercises, it became apparent to me through the nature of the discussions taking place, that 'success' was the sole driver of the Senior Management Team. Although this is to be encouraged and is natural, it raised questions in my mind about how the organization could detect early warning signs that their strategies might not be working or moving the company in the direction they want to go. This led to a discussion about the consequences to the business of some or all of their strategies not succeeding. This discussion then explored whether the performance measures currently in use within the business would be sufficient to identify the early warning signs that achieving company goals might be at risk.

A decision tree diagram (see figure 14) was used to determine the relationship between success oriented and failure oriented performance measures.

Of the final list of 128 performance measures considered by the Senior Management Team, 50 (or 39%) were distinctly failure related performance measures. By asking the question 'If this strategy is not achieved, describe what 'failure' would be, and how would you measure failure?' there were 50 additional, or 39% more, performance measures for the organization to consider. Each of these performance measures represent potential early warning signs of the business not performing and improve the risk management capability of the company.

An example of a distinct failure measure (e.g., a performance measure not developed when only thinking about success) from each of the functional managers is below.

The Manufacturing Manager identified the following failure related performance measure. It was not mentioned as a possible success related measure. If this

performance measure were introduced, then CSC would be more aware of competitive initiatives that 'steal' their intellectual property.

Distinct Failure Measure	Risk Management Potential
Risk of intellectual property loss.	Monitoring competitor activities and trends in the marketplace will ensure the company is not losing intellectual property through other companies designing product that leverages CSC's intellectual property. This is common within the industry and difficult to counter. If CSC can quickly inform customers and prospects of where its intellectual property is being misused then it can continue to position itself as being innovative and as a leader within the industry.

The Business Development Manager identified the following failure related performance measure. It was not mentioned as a possible success related measure. If this performance measure was introduced, then CSC would be more aware of its preferred supplier status, whether it was in jeopardy of slipping down the list of preferred suppliers, and would be more proactive in developing new ways to improve its servicing of customers so as to remain high on the preferred supplier list.

Distinct Failure Measure	Risk Management Potential
Not being classed as a preferred supplier.	Monitoring CSC's status as a 'preferred supplier' to its customers helps to manage and better forecast future business. CSC was unpleasantly surprised to learn that it was only the

	4th-equal preferred supplier to one customer when it asked this question as a result of making it a performance measure. CSC had thought it was this customers' preferred supplier and as its business volume with the customer had steadily declined in the previous year, CSC thought that its competitor's business volumes had declined just as severely. In fact, the opposite was true. Competitors had increased their business with this customer as a result of CSC's preferred supplier status slipping from number one to 4th equal.

The Finance Manager identified the following failure related performance measure. It was not mentioned as a possible success related measure. If this performance measure were introduced, then CSC's business development team would be in a better position to manage pricing and gross profit margins.

Distinct Failure Measure	Risk Management Potential
Loss of confidence in cost pricing	Ensuring the business development team are confident with pricing is an important risk management initiative. Regular communication about CSC's exchange rate management is required between the Business Development Manager and the Finance Manager to maintain this confidence and to present the right pricing in proposals.

The Human Resource Manager identified the following failure related performance measure. It was not mentioned as a possible success related measure. If this performance measure was introduced, then CSC could introduce new approaches to improving employee morale, which in turn would reduce the flow on impact of high absenteeism and staff turnover.

Distinct Failure Measure	Risk Management Potential
Unmotivated staff	A business without clear visions and goals runs a risk of having staff not understanding why they turn up to work each day. This can result in a lack of motivation, which in turn can lead to a high absentee rate, high staff turnover and poor performance. Monitoring the motivation of staff and whether it could be linked with their understanding of the vision and goals of the business is a risk management performance measure.

Appendix F contains a full list of the 50 failure oriented performance measures identified by asking the question "If this strategy is not achieved, describe what 'failure' would be, and how would you measure failure?"

4.6.2 The re-orientation of 'failure' related performance measures

The Senior Management Team and Board were asked whether they preferred to view performance measures from a positive or a negative perspective. One example is that 'stable (or improved) profits' is a view from a positive perspective whereas 'diminishing profits' is a view from a negative perspective. Another example is that 'low staff turnover' is a more positive view and 'high staff turnover' is a more negative view when considering a strategy about staff training. The overwhelming response from

the Senior Management Team was that, although it was useful to think about the consequence of their strategies failing, they would prefer to think about the performance measure in a positively oriented light. As a result, all failure related performance measures identified at CSC were re-oriented to reflect positive outcomes, or success.

During this discussion, the Senior Management Team was asked to define 'failure' in the context of success. This question resulted in a common outcome as provided in the example below.

> I asked the question 'If success was to be defined as selling 25 items (of whatever that item might be), what would their definition of failure be?' The response was not to sell only 24. Instead, failure was more likely to be identified as being a much lower number and in the case of CSC's Senior Management Team, this number ranged from 10 to 15.

The example above implies that there was a large grey area between what is considered to be success, and what is considered to be failure. Some managers preferred to think of this gap as a range that would be reasonable to achieve, as opposed to a specific number that could be considered as being less than acceptable. Some managers commented that *maybe breakeven or anything less than breakeven is failure*.

Nearly all of the Senior Management Team believed that failure did not mean 'simply not achieving the stated objective'. Getting close to the measure of success was deemed to be acceptable and defendable against questioning as to reasons why the success number was not achieved. Failure was also a result that often meant there were many and varied impacts on the overall business, as opposed to the more specifically defined impacts on the business that resulted from success. Success was more likely to be a specific figure such as a revenue value, or sales volume, or gross profit margin, or profit value. Failure was less specific and was often discussed in terms of a decline in reputation, competitors growing faster than CSC, less capital available to grow the business, a lack of ability to respond to customer trading patterns, missing out on opportunities to bid for new business, amongst others, but rarely as a specific number.

One member of the Senior Management Team, the Manufacturing Manager, commented that *success is specific; failure is often glossed over and is generic*. He went further and provided an example, *if I ran a 100-metre race in 10.1 seconds and came first, I'd tell you exactly that result and probably the time. But, if I ran that race in 10.1 seconds and came 4th, I am just as likely to tell you that 'I ran a bad race', or that 'I ran OK but others ran faster.' I probably would not even tell you the time. I'd try and trivialize the result with a number of excuses and all of them non-specific. Because we don't measure failure specifically, we come up with lots of reasons why we might have failed and this gets us by. We just come up with another strategy to succeed and hopefully make up the shortfall*.

The Senior Management Team indicated there could be a gap between what is regarded as 'success' and what is regarded as 'failure'. The example given earlier was *if success is 'to sell 25 units', failure could be as low as 'only selling 10 or 15*. The differential is seen to be an acceptable achievement as it is *close to success and can be substantiated, usually, by many things that can explain the difference*. The *many things that can explain the difference* are often not thought about in advance and so can be presented as *new reasons why a strategy has failed or not achieved its potential*. Success is seen as a specific outcome and is planned for. Failure is not planned for and is less specific with regards to how it is explained.

It was thought to be valuable, by some of the Senior Management Team, for CSC to attempt to predetermine what failure might mean for the business so that every employee or manager can recognize it when/if it looks like occurring. As a result, this would also act as one part of an early warning, or risk management, system.

4.6.3 Understanding the consequences of failure

The Business Development Manager commented that: *Our primary driver is success but we do need to think about risk, exposure and what can happen. CSC operates in a manufacturing environment where nothing is off-the-shelf. Having stock product is not*

the issue. Having the capacity and planning and design time is the issue. As a sales person, I have those 'wake in the middle of the night' moments where I wonder about our ability to deliver on time in the right quantities. The Finance Manager also commented that *the consequence of failure is usually greater than the consequence of success*.

The Business Development Manager and the Finance Manager had not previously conducted any scenario planning into the consequences of strategies or actions not succeeding. The Business Development Manager commented, "*knowing that we have at least considered the consequences of failure has improved my confidence that the business will deliver what I sell*".

The entire Senior Management Team commented that it would be good to actually evaluate what the potential impact of missing targets might be on the business. However, they also commented that the practicalities, time, and resource commitment required to determine the impact was not in the best interests of the business.

Understanding the consequences of failure or 'not achieving' a strategy's performance target was important to CSC as it provided a level of confidence to the Senior Management Team about the business impacts of each strategy, and it helped put an importance weighting on each strategy. It was useful to understand the upside, as it was to know the potential downside and consequence to the business for any strategy failing. In many cases at CSC, the Senior Management Team found it difficult to determine the real cost to the business of a strategy not being achieved. In these situations, I suggested, and the Senior Management Team agreed, that if there was no obvious consequence of failure to the business then it was questionable that the strategy is valid or important.

If CSC had considered the consequences of failure as part of its performance measurement mix, many of these measures would already have been in place, and there would have been a reduced need for staff to allocate already scarce time for additional performance measurement information on an ad-hoc basis. Most of the failure related

performance measures were early warning signs that targets were not going to be achieved. For example, if the company was monitoring customer purchase behaviour, it would have known that the business climate was contracting a lot earlier than it eventually identified as a result of customers starting to take longer to make decisions on purchasing product months before the actual global economic crisis became official. This would have improved CSC's stock management levels and cashflow management as a consequence.

Determining the significance of performance measures that are early indicators of failure during the business planning or ongoing reviews of business plans was discussed as being helpful to improving the predictive capability of the business in identifying business downturns.

4.7 Other important analysis from the action research case study

4.7.1 Performance measurement as a competitive differentiator

The performance measures found in the seven CSC Business Plans produced in the 10 years prior to the action research case study were similar to those I have found in other companies of the same size. They are usually at the strategic-outcome-level of Revenue, Growth, Sales, Market Share, Customer Satisfaction and Profit. There was little evidence that CSC had given any thought to performance measures that could help monitor performance towards the achievement of the strategy.

One outcome of the action research case study was that the Senior Management Team did consider lower, or more tactical level performance measurement requirements. For example, the specifics of customer growth management, which also includes improving not only growth but also keeping existing customers, improving the customer acquisition approach, reducing reworks or maintaining a stronger customer base, to name a few. As a result, the Senior Management Team re-thought their strategies in more detail to the degree that they investigated what they needed to do to achieve their

strategies, what they needed to spend to achieve their strategies, how to resource/staff to achieve their strategies, what they needed to do to ensure their strategies are delivered and communicated effectively to their customers, and even whether they were all thinking about the same thing when they discussed what performance actually was. This level of performance measurement thinking was far more in-depth than that commonly employed when CSC usually developed their strategies.

When the question about describing failure was asked, new and potentially differentiated performance measures were identified.

As an example, one performance measure identified was to 'be the preferred supplier to their customers'. This had not been a performance measure for CSC prior to the question about the consequences of strategies failing being asked, and their competitors did not have this as a performance measure themselves. Having identified this as a performance measure, CSC then began to ask their customer base how they ranked on a preferred supplier basis. This produced three main outcomes for CSC (1) customers now know that CSC seeks preferred supplier status and in doing so will most likely know how to, are interested in, and actually will, outperform their competitors, (2) it became clearer for CSC to identify who their competition was if their customers tell them their preferred supplier status, and (3) it became easier to ask customers what CSC needed to improve in order to lift their preferred supplier ranking. A further benefit for CSC was that it could be more confident in forecasting annual business plan revenues based on knowing their preferred supplier status with their core customers. A higher ranking presents a stronger likelihood of obtaining repeat business over the following twelve months.

In the strategic planning sessions, and contained within the various business plans produced in the ten years prior to the action research case study, a number of distinct capabilities and strengths of CSC were identified. Many of the capabilities were consistent across the periods mentioned. CSC did not monitor whether these distinct capabilities were proving valuable, or were being leveraged, and they did not monitor whether competitors were developing these or other more valuable capabilities.

During the first strategic business planning session in August 2008, I asked the Senior Management Team and Board if they were measuring or monitoring the relevance of CSC's strengths as identified in their SWOT analysis. The answer was 'No' to all of the identified strengths and capabilities. As a result, their particular strengths, as identified, could be argued as being 'their opinion' as opposed to 'fact'. The strengths were good on paper, but they could not immediately be substantiated as fact because they were not being monitored.

4.7.2 Performance measurement can keep business planning alive

An action research cycle based around the business planning approach at CSC and another action research cycle based around aligning performance measures with strategic goals resulted in a strengthening of the relevance of strategy within the senior management team. This led to implications outlined in section 5.1.3 of this thesis. Aligning performance measures with strategic outcomes ensured that the Senior Management Team discussed the key strategies outlined in the business plan. The Senior Management Team was not aware of the strategic goals of the business prior to the action research case study. An outcome of their involvement in the business planning sessions, and the evaluation and linking of performance measures to the various strategies identified in that session, was that they did not treat the strategic planning session as a one-off event that had no ongoing relevance to their work at CSC.

Performance measures became the reason for the Senior Management Team's monthly performance reports. They also became the focus of the Weekly Dashboards significantly increasing the number of times strategy was discussed each year. In turn, the performance measures in the Weekly Dashboards fed directly into the monthly Board performance reporting, and ensured that the top management layer, and the Board, had visibility to the strategies and goals of the company at every meeting.

Without this alignment, in CSC's case, it is unlikely that strategy would have featured as a significant part of Senior Management Team and Board level discussion.

4.7.3 The need for a performance measurement memory bank

The minutes of Board and Management meetings are kept, and the person recording the minutes had sole discretion over what was recorded and how detailed that recording was. Participants at every meeting were always asked to accept the minutes of previous meetings as being true and correct, and in every meeting that I attended the minutes were accepted as presented. However, this did not necessarily mean that they then became part of the ongoing consciousness of the business.

The following is an example of a discussion I had with the Manufacturing Manager about how useful performance related information could be better remembered within the business.

During a lengthy period of poor sales, CSC had a large percentage of its workforce employed in non-productive (non-revenue producing) work such as cleaning, painting and tidying the factory, all of which were activities of value to CSC in terms of maintaining morale and presenting a World-Class Manufacturing Operation to both employees and visitors alike, but not directly attributable to revenue generation for the business. When business suddenly improved, the workforce was re-deployed onto the factory line on productive (revenue producing) work. Production planning was scheduled as per the efficiency and productivity levels achieved immediately prior to the period of poor sales. Unfortunately, during their period of non-productive re-deployment, these staff had 'lost' their ability, in the short term, to 'ramp up their performance to peak capacity'. This was an unplanned for outcome and was a new learning for the Manufacturing Manager. The impacts were significant. Additional contract labour had to be found at short notice to lift outputs to achieve the DIFOTIS (delivery in-full, on-time, in-spec) targets, overtime payments increased, suppliers were put under pressure to hold product for longer until the factory was ready for delivery, and additional management time was required to ensure promises to customers were kept.

The Manufacturing Manager commented that he would remember this, and if sales declined to the recently experienced levels any time in the future, he would need to plan ahead for reduced efficiencies and outputs in the factory when business again improved. Although the Manufacturing Manager might remember this and apply it 'next time', there was no logical place within the company where this learning could be kept for the benefit of any future replacement Manufacturing Manager.

The Manufacturing Manager and I discussed the possibilities for how this type of learning could be kept within the business. A separate performance measurement and management manual was one idea; another was to note the learning in a Manufacturing Manual however this would then only be known to the Manufacturing Manager or staff when it could also be useful to the Business Development and Projects teams. Another possibility discussed was to build case studies around these types of learning where they can be used in regular training and development of staff as well as in induction programs into CSC. Although useful to have such learning's documented in the minutes of Board and Management Team meetings, these minutes are rarely referred to beyond the very next meeting following their recording, and so are effectively 'lost' to future managers as they would rarely have need to, or believe that they could, in some cases, access them.

The Manufacturing Manager agreed that one possible method of keeping performance measurement and management learning alive within CSC could be to produce case studies relevant to each learning and to use them in training, development and induction programs.

4.7.4 Performance measurement and company culture

Prior to the action research case study, performance measurement at CSC was not embedded into the culture of the business. Functional area managers themselves did not report performance to the Board or Managing Director; instead they undertook performance measurement as part of their monthly reporting process to the General Manager. The General Manager was then required to present performance to the Board,

or to discuss performance with the Managing Director, and to take corrective action where necessary. The Senior Management Team got on with managing their day-to-day functional area and reported performance at the end of each month.

Budgets were prepared annually, forecasts were frequently revised and targets were unusual for any reporting. Whereas the Finance Manager and the General Manager were fully aware of the financial performance of the business, this awareness did not extend to other functional roles such as to the Manufacturing, Business Development and Projects areas. As a result, each functional area was effectively working as a silo, with the General Manager presenting the coordinated view of the business as he thought the Board and Managing Director should see it.

The introduction of a performance measurement and management culture within CSC began around the time the General Manager resigned from the organization. The Managing Director was fully supportive of improving the performance measurement orientation of the business and started to introduce performance measurement language within three months of the action research case study commencing. After the General Manager departed, the Board took a more active role inside the business and began to introduce performance measurement and management concepts. As an example, one Director held a meeting with the Projects team to discuss ways in which they could more effectively engage with customers, help build closer relationships, and grow revenue at the same time. The language used by the Director during this meeting was heavily populated with performance measurement concepts. As a result of this meeting, that Director raised concerns about the capabilities of the Projects team at the next Board meeting and the first strategic planning session of the action research case study was a recommended outcome from that meeting.

The Senior Management Team was fully supportive of performance measurement and indicated a willingness to be involved where possible. Although this willingness was genuine, they did not fully realize the commitment required to introduce a proactive performance measurement process, system, structure and orientation into the business. Their involvement in performance measurement leading up to the first strategic

planning session had been to report as per the existing management reporting structure, or as required and requested by the Board, General Manager or Managing Director.

It took nearly 12 months for the Senior Management Team to realize that they were responsible for driving performance measurement within the business and that it would be useful to their own functional area, and to themselves, if they took control of this activity. The Managing Director was fully supportive of the performance measurement drive however he was not specifically involved in deciding what should be measured, or how frequently. He was also not likely to be a contributor to any performance measurement reporting exercise, as it was simply not something that he would be inclined to do.

After 18 months, the Senior Management Team began asking important questions, such as, *how will we measure performance* with every new project, equipment purchase, product development, and major decision that could produce an impact on the business.

Toward the end of the action research case study, each member of the Senior Management Team was asked to comment on the relationship between performance measurement and culture at CSC as it evolved throughout the action research case study.

The Managing Director commented:

- *We are not measuring the measures however awareness levels have been raised*
- *Continuous performance measurement is now a cultural fact at CSC*

The Human Resources Manager commented:

- *The Manufacturing Management team enforced discipline and put measurability in place that were not negotiable e.g. DIFOTIS.*
- *Ownership of the performance measures must lie in the team*
- *It is useful to have a single measure for each job*

- *Need to consider putting a performance measure on the quality of information going through the system*
- *Checklists are crucial*
- *Not enough to have a statement called Satisfaction. Need to know what this means for each customer as it could mean different things.*
- *Performance measurement has resulted in more structured thinking about how to stop problems happening again*
- *At the beginning, CSC was not aware of what performance measurement could do for the business.*
- *Performance measurement was once just a profit line, if you had happy customers (whatever happy meant). If you delivered on time then the customer will be happy and business will happen*
- *The General Manager monitored performance and performance measurement did not go below him*
- *Performance measurement has been spread to lower parts of the organisation. Supervisors and staff know they have got to deliver on time*
- *Measures are becoming part of the culture of how we do business and how we solve problems.*
- *It is not necessarily written down to the last measurement however it is in the thinking process i.e., how can we measure the projects team attention to detail when entering sales orders as this critically affects scheduling, dispatch and invoicing of goods.*
- *Big picture measurements i.e., the question holistically ' do we have satisfied customers?' is too easy to fudge and does not give a true reflection when a sales person completes the measure as they will never want to admit that any customer is not 100% satisfied. And, they will only tell you of the ones that have a product issue and not a relationship issue*

The Business Development Manager commented:

- *There has been a shift*

- *Measurement has shifted culture to ask the question of whether performance measurement is important and especially at Senior Management level.*
- *Asking what we should measure has been a culture change*
- *There does need now to be the ability at lower levels in the organisation to understand what performance means e.g., if we ship these 5 containers by 5pm then the impact to the business and customer is…*
- *Different examples of outcomes/impact required*
- *We now have a more can-do attitude and want to achieve targets*
- *There have been lots of discussions around what is important to measure*

The Manufacturing Manager commented:

- *We are pushing disciplines more, e.g., maintaining sales order information in the system for longer so we can check it when we debrief*
- *Checking simple things like 'the address to send product to' makes a difference to overall performance. No point the product leaving the factory on time if it doesn't get to the right address*
- *Debt collection is an example. More effort being put on the Account Manager to manage and chase poor payers – it was the finance department usually who chased within CSC*

The Finance Manager responded from both a positive and negative perspective to questions about performance measurement and culture.

- *There are performance measures in place but feel that people are not looking at ways to improve it*
- *There is a culture of too much rush at CSC. An example would be 'I had to do it in a hurry' so that's an acceptable excuse as to why something didn't happen or happened with mistakes*
- *There is frustration* (for the Finance Manager) *as he sees the same things happening repeatedly resulting in a direct impact on cashflow*
- *More visibility of the consequence is needed across the whole business*

- *It is important to record the starting position so it is possible to really judge performance against a benchmark or starting position*
- *Results need to be visible within the organisation*
- *DIFOTIS is not being tied to customers. It is being tied to jobs or overall monthly performance but not made real by tying to customers. Tying to customers will help identify if it is certain customers that are having repeat problems.*
- *Talk is not yet translating into action. E.g., a lack of checklists is affecting consistency of achievement*
- *A culture of double-checking is missing. Drawings, sales orders etc need to be double checked*

The Finance Manager was not wholly impressed with how well the Senior Management Team bought into performance measurement. He acknowledged that a focus on performance measurement increased within the business however he was disappointed overall by a lack of attention to detail, double checking of key information as it travelled through the system, and the lack of visibility of the consequences of poor performance, or poor performance measurement. The Finance Manager observed the direct consequences of poor performance, and was the closest manager to these consequences as they were directly reflected in his financial performance reporting. In contrast, the other functional managers did not have immediate visibility of the overall financial position of the company until they attended Board meetings, although they did have access to the high level Weekly Dashboard report. The Finance Manager commented that he was the coordinator of performance reporting and had to chase reports from other members of the Senior Management Team to achieve reporting deadlines. This may have been a contributing factor to his overall lack of positivity for the change in performance measurement culture within CSC.

In summary, a performance measurement culture developed at CSC during the action research case study. It did not develop overnight, but took 18 months for performance measurement to be embedded within the Senior Management Team to the point where measures of performance for any new initiative became second nature. Embedding

performance measurement into CSC's culture was not an exercise of developing a template for measurement to fit within. The CSC Senior Management Team already had a form of performance measurement in place prior to the action research case study commencing however they simply reported their measures and then *got on with their day-to-day business*. It was only when they became intimately involved in their own development of measures, and in the decision making around what was best to measure, that the Senior Management Team took ownership of the outcomes.

At CSC it took time, commitment, structure, continuous discussion about performance measurement, and achieving some runs on the board before organizational culture started to reflect a performance measurement culture.

CHAPTER 5 – CONTRIBUTIONS TO PRACTICE

An important requirement of the Doctorate in Business and Administration is to contribute knowledge to both the scholar and the practitioner communities. An extensive literature review highlighted that there is very little completed research into how small-to-medium enterprises use performance measurement systems. This thesis contributes towards addressing this gap through a 3-year action research case study inside a small-to-medium sized manufacturing company. The company involved in the research experienced many of the common issues that small-to-medium sized companies faced whilst the research was being conducted. Some examples being a turbulent economic climate for at least half of the research period, cashflow and financing concerns, management changes, organizational restructures, loss and gain of major customers, changing and improving technologies and systems, and strong competitive threats, amongst others. Many managers of small-to-medium sized enterprises will recognise these experiences, and as a consequence, this research will be even more relevant to them.

Given the dual role of the Doctorate in Business and Administration, the insights from the research have been separated into two chapters. This chapter discusses and then offers insights for the practitioner community. Chapter 6 will discuss and offer contributions to the scholar community.

CSC's strategy development process, structure and risk management approach directly affected how CSC used the performance measurement system that was designed and implemented during the action research case study. The participatory nature of the action research case study at CSC yielded a number of performance measurement insights for the small to medium enterprise community about how to use performance measurement systems. These insights have been coded into the following four headings as a result of action research cycle outcomes within the project:

5.1 Performance measurement and strategy
5.2 Performance measurement and structure
5.3 Performance measurement and use
5.4 Performance measurement and risk management

The research question is multi-faceted in that there can be no single, or best answer and that there are likely to be many ways that small-to-medium sized enterprises use performance measurement systems to aid their decision-making. With this in mind, under each heading identified above are included a number of insights found using the action research approach. These are discussed briefly and implications are provided.

5.1 Performance measurement and strategy

Strategy was a rarely discussed topic at CSC. The action research case study introduced a Weekly Dashboard containing strategically aligned performance measures that led to strategy being a weekly focus for the senior management team. As a result, the Senior Management Team and the Board became more confident that strategic goals of the business were being achieved. The action research case study identified a number of insights, outlined below, that have significant impacts on the usefulness of having strategic goals within the small-to-medium enterprise. The findings that led to these insights are discussed in more depth in sections 4.4, 4.5.8, 4.5.9, and 4.7.2.

5.1.1 Strategic alignment, business planning and performance measurement

The need for performance measures to be aligned with strategy is well documented (Bititci, Carrie, et al., 2002; Dixon et al., 1990; Globerson, 1985; Hudson, Lean, et al., 2001; Lynch & Cross, 1991; Neely, Mills, Platts, et al., 1996; Neely et al., 1997).

CSC business plans did not list performance measures on a per strategy basis. Instead, the business plans contained a small list of high-level, mostly financial performance measures that rarely changed from one plan to another, and were set as annual targets for the business. These performance measures were revenue, margins, sales volumes, customer satisfaction goals, and profit.

The nature of small-to-medium enterprises is that they need to maintain a focus on their operational requirements (Garengo, Biazzo, & Bititci, 2005). With this in mind, when developing or implementing a performance measurement system in a small-to-medium enterprise environment, it is important to ensure alignment between the top-level or strategic goals with the operational or day-to-day business management requirements of the business (Chartered Institute of Management Accountants, 1993).

CSC business plans contained vision statements. However, there were no performance measures in place to monitor, or confirm the vision or beliefs CSC held about their market position (Garengo & Biazzo, 2012). CSC's vision and beliefs about their existing market position were that they were recognized as innovators, experts in retail environments, drivers of customer loyalty, and the industry's one-stop-shop, easy and convenient to do business with, but these beliefs could not be substantiated or refuted as they were not being measured.

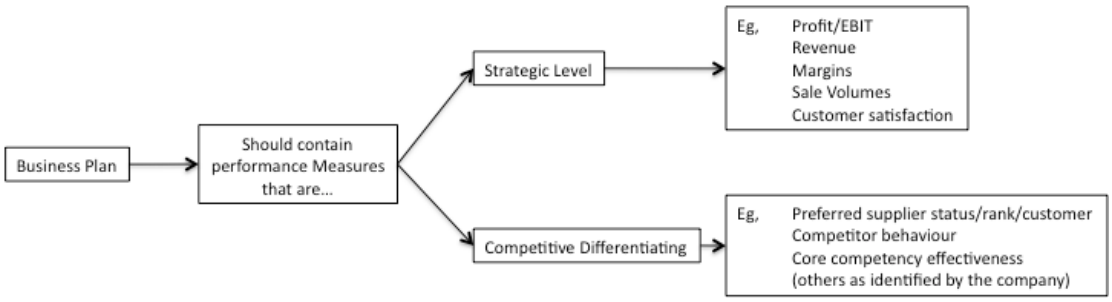
A new business planning process, introduced during the action research case study, required the Senior Management Team to identify all possible performance measures for each strategy and vision statement objective. Consequently, the resulting business plan included strategically aligned performance measures that extended outside of the 'usual' measures of revenue, margins, sales volumes, customer satisfaction goals, and profit to include other performance measures such as preferred supplier status, competitor behaviour, staff management, product range, amongst others. These performance measures were all reported against, initially monthly and then in the Weekly Dashboard. The linking of performance measurement to strategy in the Weekly Dashboard Report resulted in strategy being discussed at each weekly management meeting.

The experience at CSC leads me to conclude that business plans should identify as many performance measures as possible for each strategy to monitor whether the company is on track to achieve its goals and strategies. This is instead of only identifying the commonly thought of performance measures such as revenue, margins, sales volumes, customer satisfaction goals, and profit. Further, it also became apparent

that vision statements are more useful if they can be measured. The CSC vision statements became measureable, and through establishing vision statement performance measures it became more likely that CSCs vision could remain top-of-mind for staff at all levels within the business. These conclusions suggest two implications for practitioners.

Implication 1

All possible performance measures for each strategy should be fully articulated in each business plan and go beyond the usual strategic or high level measures most commonly found in business plans, for example, revenue, customer satisfaction, profit, sales volume and margin.



Implication 2

Vision statements should be measureable and performance measures should include monitoring progress towards delivering vision statements.

5.1.2 Budgeting, in-depth analysis, and performance measurement

Previously, CSC business plans were focused towards identifying company goals and financial objectives for the next 12-month period. Little obvious analysis was undertaken to evaluate past performance, or variation in performance, against planned

performance. Furthermore, there was no documented history of whether strategies in previous business plans were achieved, contained cause-effect linkages (Gimbert, Bisbe, & Mendoza, 2010), or reasons why performance for a previous year may have been lower, or even better, than expected.

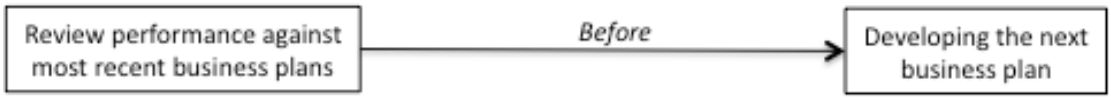
Annual forecasting at CSC was a budgeting exercise supported by sophisticated spreadsheets. However, the annual budgeting process was disconnected from the business planning process. As a result, the financial numbers, which also became performance measures, were not supported by strategy, and could not be tracked back to specific strategies. Each year, the budget quickly became obsolete and revised-forecasts became the norm.

During the action research case study, an exercise was undertaken to review past performance against plan. This ignited discussion and raised questions about the ability of the business to achieve the goals already set for the next 12-month period. Senior managers involved in this discussion suggested that more thorough analysis of performance over the previous 12-months would generate more confidence in the content of the next 12-month business plan.

Two conclusions result from the budgeting and business planning experience at CSC. The first conclusion suggests that companies would benefit from stronger reviews of performance against business plans before they enter into producing the next years business plan. This will assist companies in setting realistic performance targets for the next business year, and also act as a strong discussion topic amongst employees involved in the business planning process. The second conclusion is that budgeting and business planning should not be separate exercises, as the two are closely linked when performance measures are being identified. The lack of a well thought through business plan is a potential reason why budgets, which can also be viewed as performance measures, can quickly change to become revised forecasts early on in the financial year, as was the case at CSC. These conclusions suggest two implications for practitioners.

Implication 3

Performance outcomes against the most recent business plan should be fully reviewed before the development of the next years business plan.



Implication 4

Performance measures should be developed as part of combined budgeting and business planning exercises, not as separate exercises.

5.1.3 Keeping strategy alive through performance measurement

At the beginning of the action research case study, strategy was barely alive as a discussion topic within the Senior Management Team. CSC's Senior Management Team could not articulate the strategic goals of the business, performance measures did not align with strategy, and business planning – therefore strategy development – was an annual event detached from the annual budgeting process (Kaplan & Norton, 2001a).

Two key changes in performance reporting resulted in the rejuvenation of strategy as a discussion topic inside CSC. The first change was to link performance measures to strategy through a new and more rigorous business planning process. The second change was to report performance weekly, in the form of the Weekly Dashboard.

The new performance measurement system at CSC ensured that every performance measure was clearly aligned with at least one strategy. The frequency of performance reporting established the minimum number of times strategy was discussed each year. When performance was reported monthly, the minimum number of times that strategy was discussed each year was 12. When performance reporting changed to a weekly

basis, the minimum number of times strategy was discussed and reviewed each year was 52. This resulted in a significant improvement in strategic awareness, discussion, and focus in CSC as a consequence of reviewing performance against strategy on a weekly basis.

Prior to developing their next business plan, CSC now reviews their list of performance measures used to track achievement against their business plan objectives. This review considers whether each performance measure was useful in monitoring progress towards achieving strategic goals. For example, did the achievement of a 92% Customer Satisfaction Rating actually result in the generation of repeat orders, as projected in the previous years business plan?

The performance reporting changes at CSC encourages me to conclude that aligning every performance measure with the achievement of strategic goals during business planning exercises, combined with weekly management reporting in the form of the Weekly Dashboard, assists with improving awareness of, keeping alive, and rejuvenating discussion about, the strategic goals of the organization. If weekly performance reporting is proceeding well, it is likely that all strategies will be regularly reviewed. The result is that the annual business planning process becomes an organic review of the existing strategies in place at the time rather than starting afresh with a view to producing wholesale change. It is not necessary to develop new strategies every year if the ones already deployed are working and are constantly under review throughout the year. These conclusions suggest one implication for practitioners.

Implication 5

Performance measures should align with strategy and when reported in a weekly dashboard strategic goals are likely to be kept alive within the business.

5.1.4 The SWOT analysis, core competencies, and performance measurement

The SWOT analysis was used, at the beginning of CSC business planning exercises, to open communication, brainstorm, and establish a common baseline for discussion before moving onto development of strategy. The SWOT analysis outcomes were well documented in business plans, but to a large degree went unchanged from one year to another. In addition, CSC did not use the SWOT analysis in the development of performance measures.

The SWOT analysis was a tool that had become a sideshow in CSC's business planning process, and participants in planning sessions did not place a good deal of thought into the usefulness of the outcomes. When used only as a conversation starter, its true value was being lost or significantly diminished. As a new exercise during the action research case study, the SWOT analysis was used as a tool to help generate business strategies. As an example of how the SWOT was trialed during the action research case study, strengths were reviewed to see how they counteracted weaknesses and threats, and also how they could help CSC take advantage of new opportunities. Strategies were then created to leverage the strengths prioritized as likely to generate the most positive outcome for the business.

In the Business Plans created prior to the action research case study, the SWOT analysis regularly identified a number of core capabilities, or competencies, of the business. The core competencies looked good on paper, but were not being measured by CSC, and so, in effect, were unsubstantiated opinions. Monitoring the core competencies of the business became a new opportunity for CSC, as it provided data to support their public statements telling their customers and prospects what they do and how well they do it. As an example, 'customer relationships' was a strength that was consistently referred to throughout the ten years prior to the action research case study, but this strength was not defined in any further detail and there was no performance measure in place throughout those years to evaluate whether this was actually being used to CSC's competitive advantage. On the flipside, weaknesses are likely to be detrimental to business. As an example, a 'lack of competitor knowledge' was a consistent weakness stated throughout

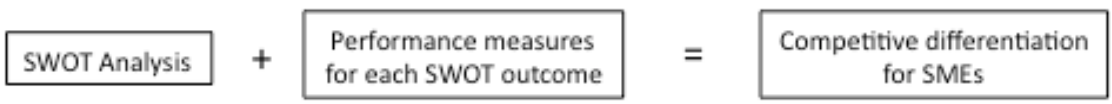
the ten years prior to the action research case study, and this also had no performance measure in place to ensure this knowledge gap was being closed.

The SWOT analysis was not being applied in the development of the company vision, strategy, tactics, actions and performance measures. Strengths were not being leveraged, weaknesses were not being mitigated, opportunities were not being actively captured, and threats were not being minimized or planned for. The SWOT analysis was generally presented in list form in the annual business plans and there was no analysis or commentary comparing one year's SWOT analysis to another.

The SWOT analysis experience at CSC leads me to three conclusions. The first conclusion is that establishing performance measures based around SWOT analysis outcomes will help businesses monitor their ability to keep ahead of their competitors, ameliorate areas of weakness before competitors can attack, take advantage of opportunities as they have been identified, and reduce the risk of competitive threats. The second conclusion is that a lack of change in SWOT analysis outcomes from one year to another is an indicator that the business is not actively building new capability or reducing its risk profile. Businesses, generally, need to grow new capabilities and protect themselves from competitive threats and if the SWOT list is stagnant from one year to another then it could also be an indicator of a decline of competitive capability. The third conclusion is that core competencies identified from the SWOT analysis should be measured, as they are key competitive differentiators and the performance of each core competency may affect competitive capability of the business. These conclusions suggest three implications for practitioners.

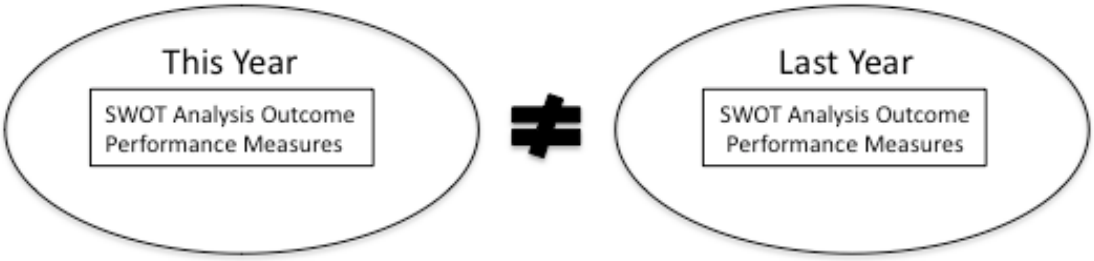
Implication 6

There should be performance measures based around SWOT analysis outcomes as these may prove to be competitive differentiators for small-to-medium businesses.



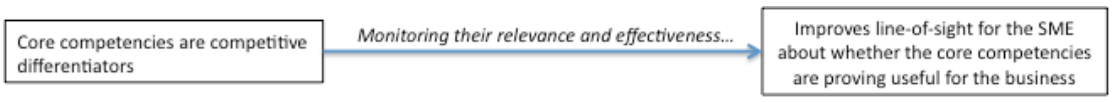
Implication 7

SWOT analysis outcomes and performance measures should be adjusted from one year to another as issues are addressed and new SWOT analysis outcomes are identified.



Implication 8

Performance measures should measure the impact of leveraging core competencies as well as not closing core competency gaps on the business. Core competencies are competitive differentiators and monitoring their relevance and ability to keep the business ahead of competition is, in itself, likely to be a competitive differentiator for most small-to-medium enterprise.



5.2 Performance measurement and structure

Focus on performance measurement and reporting can reduce, or get lost in the mix of activities that come with any organizational restructure. Sometimes, CSC's regular performance reporting did not get done in the month or two following an organizational restructure or change. As a result, there was often a corresponding slippage in the quality of management discussion about performance as well as delays in decision-making. The following insights may reduce the probability of performance measurement system use declining in the period immediately following an organisational restructure. The findings that led to these insights are discussed in more depth in sections 4.3 and 4.5.

5.2.1 Changes in organisational structure affect performance measurement

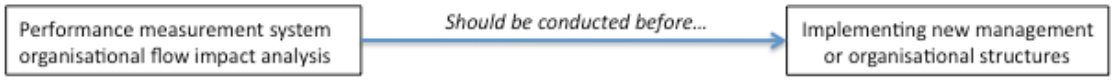
There is discussion in the literature about the relationship between strategy and structure and which comes first (Ansoff, 1991; Chandler, 1962; Hickson, 1990; G. Johnson, Scholes, & Whittington, 2005; Mintzberg, 1990). This discussion rarely sufficiently considers the relationship between structure and performance measurement. CSC's management structure changed three times during the action research case study and it was evident that CSC did not consider or plan for how organizational structure, and changes to this structure, might affect the performance measurement process and communication within the business.

With each management restructure at CSC, performance measures tended to increase or decrease in importance depending on the business focus or functional orientation of the new manager in a role. Despite this, the performance measurement system was not considered when CSC made changes to its management structure (Fernandes et al., 2006). Every management change at CSC, including positional restructures, employment of new recruits, and staff resignations, had an impact on the performance measurement system in terms of one or more of (1) the nature and style of reporting, (2) reporting flows, (3) reporting frequency, (4) informational feedback loops, and (5) timeliness of these information feedback loops (see figure 9).

My observations at CSC has led me to conclude that changes in organizational structure offer opportunities for companies not only to review performance measures, but also review whether the right person is currently responsible for delivering each performance measure, and how information is communicated into and out of the performance measurement system. These conclusions suggest two implications for practitioners.

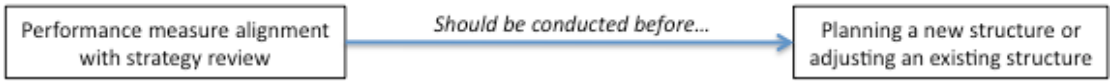
Implication 9

Performance measurement system and organizational information flow impacts should be considered before management and organizational restructures are implemented.



Implication 10

Performance measures and their alignment with the organizations strategy should be reviewed when planning a new, or adjusting an existing, management structure.



5.2.2 Presentation of performance reports improves measurement ownership

At the beginning of the action research case study at CSC, the General Manager consolidated data provided by the Senior Management Team into a Performance Report that only he presented to the Board. The Senior Management Team rarely saw the General Manager's Performance Report, and the General Manager provided little feedback from the Board to the Senior Management Team.

Ownership of performance reporting within the Senior Management Team improved when they started to report performance directly to the Board, following the General Managers departure. Feedback from the Board to the Senior Management Team then became more timely and accurate, ensuring that any action resulting from the report was followed up quickly.

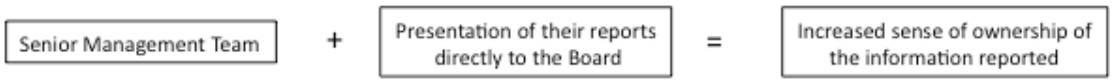
Prior to the Senior Management Team reporting their performance directly to the Board, performance measurement data preparation was perceived by members of the Senior Management Team as a task to complete only for the General Managers report. Performance reporting had little value to the person doing the preparation when they were not involved in presenting the data and when the information was not related to their day-to-day decision-making, particularly as they did not receive direct feedback from the Board on the information reported.

The findings in the CSC case led me to conclude that wherever practical, senior managers should present their performance reports in person to the Managing Director or the Board. This will lead to stronger understanding among managers of the value of

their performance reports to the business through observing how the board interprets their reports, and through receiving direct feedback from the Board during the performance report discussion.

Implication 11

The Senior Management Team should present their performance reports directly to the Board. This will increase their sense of ownership of the information reported.



5.2.3 Performance reporting information flow and performance measurement use

Prior to the action research case study, performance information flowed mostly up the organizational hierarchy – from the junior levels to the senior levels of the company. The performance feedback loop down the organization – from the most senior to the most junior levels of the company - in the form of questions and actions, was sporadic, informal and controlled by the General Manager. At a basic level, the Senior Management Team's performance was reported upwards as required, and they then got on with their day-to-day jobs.

By the 3rd management restructure it had become apparent to me that understanding the flow of information relating to a performance measurement system is an important factor in the ongoing use of performance measurement.

A number of changes occurred during the action research case study that improved the general information flow and coordination of information within the business. The Weekly Dashboard, and its simplified presentation style, improved the timeliness of reporting and encouraged stronger information transfer across the functional management roles.

Upward information flow improved as a result of the Board's request to be added to the circulation list of the Weekly Dashboard. This helped facilitate stronger two-way Board-Senior Management Team communication in periods between meetings while improving the Board's knowledge of the business.

Downward information flow improved when members of the Senior Management Team began presenting their respective performance reports to the Board each month. This improved the timeliness of feedback from the Board to the Senior Management Team and encouraged more interactive discussion at Board meetings.

The experience at CSC leads me to conclude that performance information flow moves more freely both up- and down organizations when performance is reported weekly in a simple format, and when the people responsible for producing the performance report present their reports directly to the Board. This direct interaction between the Board and Senior Management Team improved the ability of the whole organization to be proactive about improving performance and ensured the continued use of the performance measurement system and data. These conclusions suggest the following implication for practitioners.

Implication 12

Weekly Dashboard performance reporting that includes the Board as a member of the circulation list, should improve upward and downward information flow and business knowledge within the business.

5.2.4 Cross-functional performance reporting alignment

The requirement to align performance measurement with overall firm strategy was addressed in section 5.1.1. However, this study has also partly addressed the value of ensuring that performance measurement is cross-functionally aligned (Meekings,

Briault, & Neely, 2010). Cross-functional alignment further mitigates the negative impact of functionally oriented jargon on cross-functional comprehension of each strategy.

When the CSC Senior Management Team began sending their performance reports directly to the Board, the reports demonstrated minimal alignment between functional areas, no strategic alignment among the reports, little obvious communication and coordination between the functional managers, and a general lack of awareness within the Senior Management Team of what to include in performance reports to assist the Board with decision making.

Functional managers did not actively look at how performance aided, restricted, or coordinated with other functional areas of the business. In one example, the Manufacturing performance report indicated that many more hours were worked the previous month in two areas of the factory. There was no reference to this situation in the Business Development performance report, or the Finance performance report.

CSC benefited from having all senior managers accountable for measuring performance of at least one initiative relating to each strategy. With five functional managers, this resulted in at least five performance measures monitoring the delivery of each strategy. In this way, all functional managers were engaged in achieving each strategy and could not opt out of, or indicate a lack of interest in, the strategy. It also resulted in an awareness of how their functional area contributed to achieving each strategy. Including at least one financial performance measurement link such as cashflow, profitability, revenue, cost, and gross margin achievement for each Senior Management Team member in each strategy encouraged more regular and stronger questioning of themselves, and their team, about how their performance translated into financial performance for the business as a whole.

Establishing the ‘owner’ of each performance measure early in the design phase of developing the performance measurement systems, in addition to improving the

commitment to measuring performance, helped reduce the perception of the size of the performance measurement project.

The need for effective cross-functional information coordination and transfer became more pronounced when the functional managers started to take more notice of how they could benefit from, and use, information presented by other functional managers in their Weekly Dashboard.

This case study revealed that cross-functional alignment of performance measurement reporting improves understanding, communication and coordination of initiatives designed to achieve the goals of the business. These benefits are generated through ensuring that each Senior Management Team member has performance measures linking directly to the outcome of each core business strategy, as well as to at least one financial performance outcome. These conclusions suggest the following implication for practitioners.

Implication 13

Performance measures should be cross-functionally aligned as well as strategically aligned.

5.3 Performance measurement and use

Ensuring a performance measurement system is used as it was intended, or evolves as is necessary, is one of the three components of an effective performance measurement system. The other two components are the design and implementation of the performance measurement system. As identified in the literature review, little is known about how small to medium enterprises use their performance measurement system. This section provides a number of insights that will help the practitioner community use their performance measurement system well beyond the design and implementation phase. The findings that led to these insights are discussed in more depth in section 4.5.

5.3.1 Coordination of performance reporting

The General Manager coordinated performance reporting when it was a monthly task for all functional managers prior to and at the beginning of the action research case study. The level of commitment to performance measurement and reporting increased substantially when the General Manager departed CSC and the Senior Management Team became a self-managing group. The increased involvement of the Senior Management Team in performance measurement combined with a decline in overall business performance led to weekly management reporting and to the development of the Weekly Dashboard.

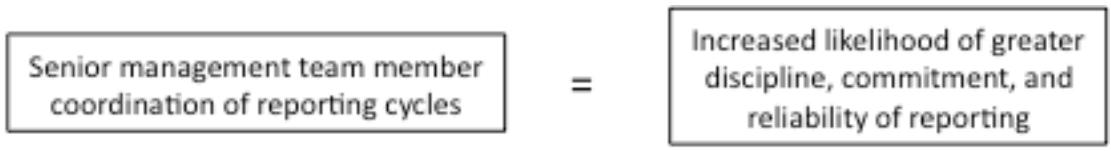
Sometimes, managers were unable to produce their contribution to the Weekly Dashboard report. This left a significant gap in the weekly management team discussions as each functional manager relied on information from other functional managers to make sense of, and get value from, the Weekly Dashboard meetings.

For the Weekly Dashboard to be effective, someone at CSC needed to coordinate the weekly report to ensure it was circulated on time. The Finance Manager volunteered for this role. He was well suited to the role due to the discipline of already reporting regular information for external agencies. More so, he was reliant upon the information contained in other functional managers reports to improve the reliability of his own forecasting.

The experience at CSC leads me to conclude that companies would benefit from nominating a senior person within the business to coordinate weekly performance reporting. The ideal situation for any company is to establish fully automated reports to reduce the coordination requirement. It needs to be recognized that there is still likely to be a strong senior management coordination requirement during the initial settling in phase of the Weekly Dashboard system. These conclusions suggest the following implication for practitioners.

Implication 14

Ideally, performance measurement reporting should be automated, however a member of the Senior Management Team should coordinate overall performance measurement reporting.



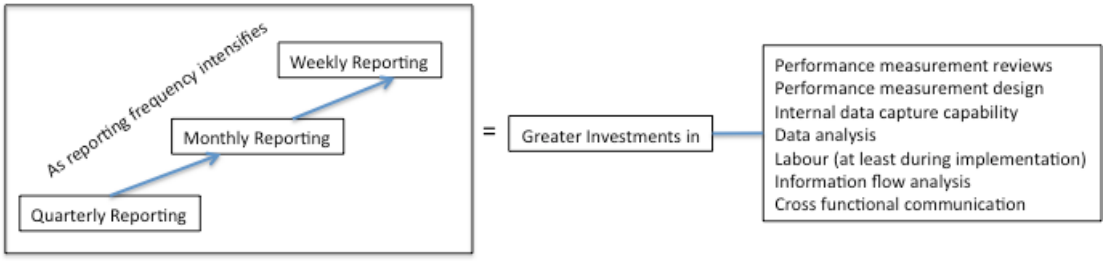
5.3.2 The commitment required to more frequently report performance

A positive consequence for CSC of reporting their performance in the Weekly Dashboard was they were more likely to know the most up-to-date market information and be gathering information from indicators that helped them manage their business more proactively. This meant that CSC's Senior Management Team was more responsive to changes in market conditions and any delay in taking action was very noticeable. The decision to report performance weekly required CSC to rethink their information gathering approach and reporting method so that management decision making was better facilitated.

It was clear that to shift to reporting information weekly in a company that usually reports performance monthly is a significant change. Changes to a more frequent reporting requirement will require additional management focus, there will be additional costs in reviewing the ability to report more frequently, or in rewriting enterprise-resource-planning systems to report performance more frequently, and there will be more employee time shifted from their normal business practices to investigating how to report performance weekly, as well as the actual change in having to report performance weekly. These changes suggest the following implication for practitioners.

Implication 15

Companies moving from a monthly to a weekly performance reporting system should invest significantly in reviewing, and redesigning, their internal data capture and analysis processes so that they support the delivery of information that facilitates weekly management decision making. The investment - of time, process improvements and labour - is required early in the design and implementation process so that the performance measurement system will be actively used sustainably.



5.3.3 Performance measurement definition

The career experience, current functional role, and customer orientation of employees at CSC (see Appendix I) created contrasting perspectives on strategy and definitions of performance measurement.

The definition of targets and budgets was unclear and were used interchangeably in the context of financial discussion. Senior Management agreed that a target was *something you are prepared not to make, but is instead something to strive for*, and that a budget was *basically a set of numbers that, organically, the company can achieve*. These are important distinctions that affected how employees perceive overall company performance, and were determined as a result of a specific discussion about the definitions of target and budget numbers contained in an annual business plan.

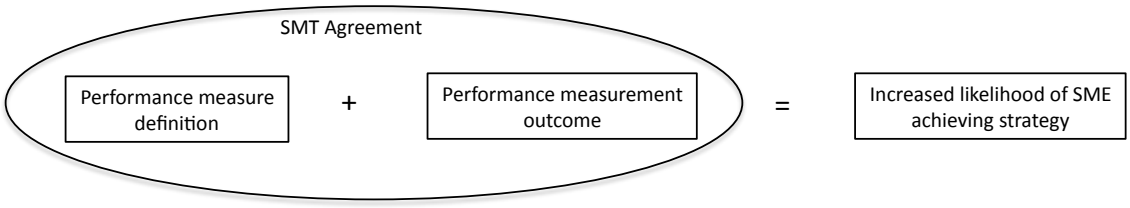
From a performance measurement perspective at CSC, it was necessary to accurately define and agree the meaning of each strategy. One person's definition of a strategy was not always the same as another person, and this led to different, and sometimes unnecessary, performance measures being established. Discussion about performance

measurement in the context of achieving the outcomes for each strategy therefore identified many different interpretations for each strategy. Although everyone involved in the strategic planning session were discussing the same 'strategy headings', for a number of strategies the specific functional role and orientation of each Senior Management Team member created conflicting performance measurement outcomes. In addition, the two examples of poor definitional alignment in the case discussion (see section 4.4.4) highlight the potential for the business to be delayed in achieving its goals, or making management decisions, as a result of staff not understanding each others definitions and talking at cross purposes.

These discussions at CSC led me to conclude that companies that allocate time to clearly define outcomes for each strategy across their functional management group achieve more consistency in performance measurement definition, resulting in a reduction in unconstructive debate and conflict at management team meetings. If definitional alignment is not achieved at the senior management team level, as was the case at CSC, it is likely that confusion about how to achieve the strategic goals of the organization will be common at lower levels of the business. These conclusions suggest the following implication for practitioners.

Implication 16

Performance measures should have clearly defined outcomes for the company with all members of the Senior Management Team agreeing to the definitions of each performance measure and measurement outcome.



5.3.4 Performance measurement is a core management function

At the beginning of the action research case study CSC had a template driven performance measurement system where the Senior Management Team had little control over what was measured and then reported to the Managing Director and Board. The Senior Management Team reported their performance in their respective individual reports to the General Manager and then 'got on with their day-to-day business'. It was only when the Senior Management Team became intimately involved in their own development of measures, and in the decision making around what was best to measure, that they developed ownership of the outcomes.

Performance measurement at CSC was a collection of uncoordinated topics that were not aligned across the functional areas of the business, nor with the strategic goals of the business and therefore had meaning only to the specific task being reported. The Weekly Dashboard, combined with the discipline of holding weekly management meetings to discuss the Weekly Dashboard, broadened the nature of management discussions and generated greater cross-functional involvement in managing performance.

A conclusion is that companies would benefit from altering the perception of performance measurement from being a 'task that one must do' to being 'an activity that needs to be managed'. Changing the alignment of performance measurement to reflect the strategies and goals of the business, adding these to the management meeting agenda, as well as increasing the frequency of reporting from monthly to weekly, all contributed to generating a new view within the Senior Management Team that performance measurement is a management and enterprise wide activity as opposed to a reporting requirement. This action research case study indicates that performance measurement systems are not formulaic and do require companies to invest significantly in managerial time and planning in order to ensure that the system is sustainable. These conclusions suggest the following implication for practitioners.

Implication 17

Performance measurement within small-to-medium enterprises should be considered more seriously as a core managerial process that helps drive the business as opposed to being merely a reporting requirement that, in many cases, helps keep the business owner aware of what is going on in the business.

5.3.5 Performance measurement and project management

CSC's Senior Management Team was interested in the 'idea' of performance measurement. This did not always translate into performance measurement action. They were willing to accept 'someone else' driving the performance measurement project, and themselves being participants in the process, but they were not always willing 'owners' of the process. Early on in the action research case study, it was identified that the performance measurement system existing at the beginning of the project was poorly used because of the lack of relevance of the system to the senior management team and the poor design. As a consequence, the design and implementation phase of establishing a performance measurement system required a complete review, considerable time investment and often-new thought within the Senior Management Team. The performance measurement project stalled on a number of occasions as business priorities changed. Once the process for reporting was established and the Weekly Dashboard Meetings were underway, the Senior Management Team were enthusiastic about performance measurement as it started to be an everyday part of their business role and focus for their weekly management meetings.

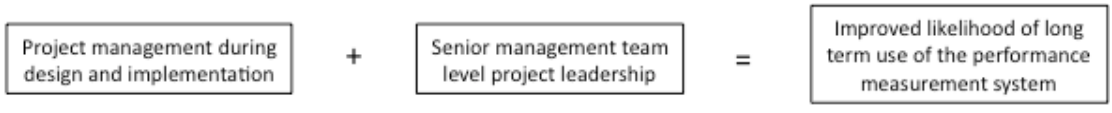
However, it was difficult to design a performance measurement system as a collective Senior Management Team without a leader assigned as being responsible. I performed

this role throughout the action research and concluded that this role was best considered as a project management role and that the team had to be responsible for solution or design development. This person should agree key outcomes, and all involved need to commit to achieving milestones for the project. There is need to be mindful of other work pressures and to factor achievable timeframes into the process. Also, the project leader needs to be cognizant that the likelihood of performance measurement being viewed by staff as a task, and therefore not a core focus, will slow progress. With this in mind, it is important that the project leader has the skills necessary to motivate people so they maintain their interest over a number of months, and to recognize the likelihood of having to manage through a period of cultural change.

Based on the experiences at CSC, a conclusion is that companies reviewing their performance measurement system may want to consider using an external or internally nominated person, with the right skills, to project manage the performance measurement design and implementation process. In turn, this will lead to stronger use of the performance measurement system. These conclusions suggest the following implication for practitioners.

Implication 18

Performance measurement should be project managed by a senior level manager during both the design and the implementation stage. This leader is not required to be the solution or design provider but instead be capable of ensuring decisions are team based. This will increase the chances of the performance measurement system being actively used long after it is implemented.



5.3.6 Performance measurement and senior management involvement

At CSC, it was unrealistic to expect all functional managers to be enthusiastic throughout the whole process of designing, implementing, and using a performance

measurement system. The 'idea' of performance measurement was something most managers agreed with, however the actual effort involved in establishing the system wasn't as appealing. The real interest from the Senior Management was at the beginning of the project when performance measures were being thought about in terms of their relevance to strategy, and then again at the usage stage after the performance measurement system had been implemented.

The value of the Senior Management Team's engagement with performance measurement was related to specific points; (1) at the early design stage when strategy and performance measures were being identified, (2) when targets were being identified for each performance measure, (3) the overall approach to implementation was being developed, (4) the first actual reporting of performance, (5) the ongoing reporting and presentation of performance reports, and (6) reviewing the effectiveness of the performance measurement system.

The findings at CSC led me to conclude that companies would benefit from developing a clear project plan identifying when the Senior Management Team will be most interested, and provide the most value, in the design and implementation stage of a new performance measurement system. Given the day-to-day business focus of functional managers, and the experiences found during the CSC case, the process deployed to design, implement and then ensure ongoing usage of the performance measurement system may need to engage Senior Management Team members for short but highly targeted periods so that they do not 'lose interest' in the project as a whole. These conclusions suggest the following implication for practitioners.

Implication 19

Further to implication 17, performance measurement system design and implementation should engage the Senior Management Team for short, highly targeted periods when they will be most interested in and provide the most value to the process.

5.3.7 Determining the indicators of a performance measurement culture

Although performance measurement culture is discussed in the performance literature (Bititci et al., 2006; Henri, 2006) it is not a clearly defined or easily measurable concept. The literature also discusses overall organizational culture and its impact on successful performance measurement system implementations, but does not appear to go as far as identifying what constitutes a performance measurement culture.

A discernable performance measurement culture was not apparent at CSC at the start of the action research case study despite the existence of a performance measurement system. The literature does not clearly define culture in the context of performance measurement. The Senior Management Team at CSC also did not clearly define their performance measurement culture, however they did describe changes within their business that they thought resulted in an improved attitude towards performance measurement and these are outlined in section 4.7.4 of this thesis. Schein (1990) said that 'culture is what a group learns over a period of time as that group solves its problems' (p. 111). For the purposes of this action research case study, I have defined culture to be the changes described by the senior management team outlined in section 4.7.4.

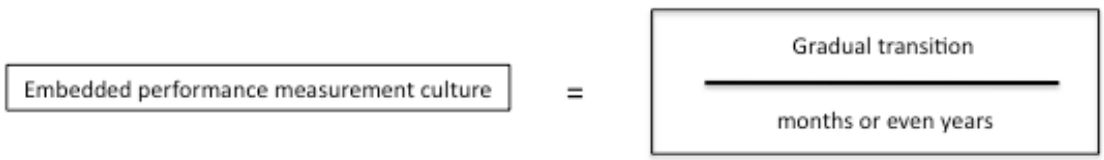
In order to establish a performance measurement culture, many initiatives were required. Adequate time needed to be planned into the process to allow individuals to give sufficient thought to the tasks required; to ensure the participants are not 'pressured' to deliver such that they skim over the tasks. There were key initiatives such as the establishment of a Weekly Performance Reporting Dashboard, scheduled weekly management team meetings, a total review of the existing performance measurement system that ran alongside the strategic planning process, the new requirement for the Senior Management Team to present their own performance reports to the Board each month, aligning performance measures to strategic goals, designing the new reporting format, and considering performance impacts on customers, that all helped shift the culture towards a strong performance measurement orientation.

As outlined in section 4.7.4, a key indicator that a performance measurement culture was developing was when, after about 18 months, the Senior Management Team started asking questions, such as, "*how will we measure performance?"* with every new project, equipment purchase, product development, and major decision that could produce an impact on the business. It also took time, commitment, awareness of how organizational structure can affect information flows, continuous discussion about performance measurement, and achieving some runs-on-the-board before organizational culture started to reflect a noticeable performance measurement culture.

At the end of the three-year project, the Managing Director commented *continuous performance measurement is now a cultural fact at CSC*. The Human Resources Manager commented; *performance measures are becoming part of the culture of how we do business and how we solve problems*. The Business Development Manager commented, *performance measurement has shifted culture to ask the question of whether performance measurement is important and especially at senior management level*. The Manufacturing Manager commented, *we are pushing disciplines more, checking accuracy across more areas, as an example, its no use product leaving the factory on time if it has the wrong address on it*. These comments suggest two implications for practitioners.

Implication 20

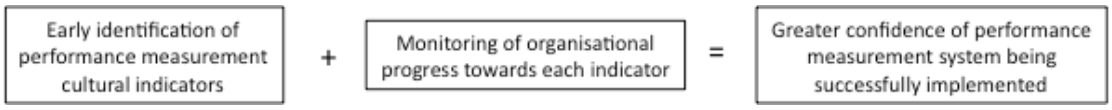
Performance measurement system planning should recognize that the establishment of a meaningful performance measurement culture is likely to be a gradual transition that will take months, and possibly years, to embed into the business.



Implication 21

Performance measurement system planning should identify the key indicators that will help recognize when the company is trending towards having a performance

measurement culture with performance measures also being established to monitor key cultural milestone progress during the design and implementation of the performance measurement system.



5.3.8 Performance measurement and organizational culture

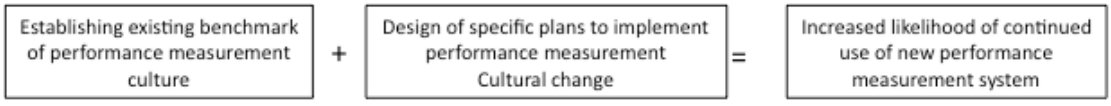
At the start of the project, there were clear signs that performance measurement was not part of the business culture. As outlined in section 4.5.2 of the case study, some indicators of this were, the approach to preparing annual budgets where forecasts were frequently revised and were not thought of as being part of the performance measurement system, targets were unusual for any performance reporting, a lack of awareness across the Senior Management Team of the financial performance of the business and value of each customer to the business, and the lack of discussion about performance across the business in the context of how it aligned with achieving the strategies outlined in the most recent business plan. As the action research case study developed momentum, performance measurement became embedded into the culture of the business and these indicators improved significantly.

In general, CSC's Senior Management Team actively engaged in the process of reviewing the existing performance measurement system, as well as identifying, establishing and implementing new performance measures. The Senior Management Team also made them an ongoing part of the daily life of the business as opposed to being a chore or task that is ticked off once a month. At times during the action research case study, one or two managers were not as engaged as others. This created stress on the performance measurement process and raised questions about the real value of the system when parts were not being reported. The performance measurement system worked well when it involved all functional managers in the business.

On reflection, the CSC case indicates that there would be benefits to companies, early in the design stage of a new performance measurement system, in understanding whether performance measurement is embedded into the culture of the business. Understanding this upfront will help broaden performance related discussions and remove barriers to reviewing existing performance measures as well as exploring and implementing new performance measures. The added benefit at CSC was that, once the Senior Management Team became more confident about their ability to improve the overall performance of the business, they also engaged more effectively in the process and remained interested in achieving a better performance measurement system. These conclusions suggest the following implication for practitioners.

Implication 22

Performance measurement design should include gaining an understanding of the existing performance measurement culture with an aim of planning and implementing cultural change to support the sustainable use of the new performance measurement system



5.3.9 Performance measurement systems evolve during implementation and use

The design of a robust performance measurement system does not fall out of a formulaic process (Neely et al., 1997). The design, as it is first produced, is likely to change as the implementation progresses. Performance measures themselves may also evolve during the implementation and use of a new performance measurement system.

CSC recognized that not all of their identified and decided upon performance measures could be reported at the beginning of a performance measurement system

implementation. However, it was necessary to agree an achievable timeline, in this case six months, to implement all performance measures (Garengo & Biazzo, 2012). This timeline was only achieved as a result of all Senior Management Team members agreeing that the performance measures were valuable to the business, and therefore necessary to implement and measure.

The Weekly Dashboard and cross-functional approach to management performance showed that all performance measures that were not reported against were glaringly apparent to all functional managers. A further reason for all performance measures to be in place was the cross-functional nature of the measures and how they collectively linked to measure CSC's five core business strategies. As an example, when ten performance measures linked to a single strategy, and three of them remained unmeasured for a long period of time, there was discussion across the Senior Management Team about putting in place a performance measurement process for those three missing measures. This discussion highlighted the need to ensure that all performance measures should have a designated date by which they will be implemented.

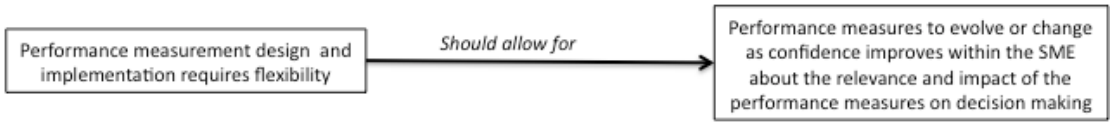
The CSC case further identified that some performance measures are non-static in nature. One example of non-static performance measures was DIFOTIS. This was initially developed as a percentage but then continued to develop in more depth so that specific impacts on customers and the reasons why those impacts occurred could be understood. A second example was the initial simple measure of asking customers where CSC was ranked as a preferred supplier. The information gained from asking this question was then used to learn what the company needed to do to improve its preferred supplier status; and therefore introduce new performance measures to ensure progress against these actions could be monitored.

A conclusion is that the design of performance measurement systems may continue to evolve well into the implementation process, and well into the performance measurement system being utilized by the company. Companies should not accept that what they design is what will always be implemented. Companies should recognize that

some performance measures will take time to implement, and others will need to be changed or redesigned as more becomes known about their ability to reliably and usefully measure business performance. Knowing this, companies should implement regular reviews during the implementation and use of their new performance measurement system to evaluate whether the performance measures are performing as they were initially designed, and they need to consider planning flexibility into the performance measurement system design. These conclusions suggest two implications for practitioners.

Implication 23

Performance measurement systems should be sufficiently flexible to allow evolution from design through implementation and into use, recognizing that some performance measures will take time to implement whilst others will need to be changed or redesigned as more becomes known about their ability to accurately measure business performance.



Implication 24

Performance measurement implementation and use should involve regular reviews to evaluate whether the performance measures are performing as they were initially designed.

5.3.10 Performance measurement focus increased during poor business climates

At CSC, when the economic climate worsened, there was a fourfold increase in the number of times performance measurement was discussed at Board meetings.

During periods of uncertainty, CSC trended towards identifying more information from the marketplace and considered implementing more detailed performance measures. Measures that became more obvious or open to scrutiny were cashflow, sales forecasting, DIFOTIS, quote management, productive versus non-productive factory loadings, stock-turns, work in progress, stock-turns of finished goods, debtor management, and understanding customer purchase decision making behaviour.

The usual number of times performance measurement was discussed during the six Board meetings CSC held leading up to the global economic recession was four. This increased to eight during the meeting immediately prior to the global economic recession being acknowledged. The average number of discussions about performance measurement in each of the five meetings during the peak impact time of the recession was 16. When the recession declined, and financial pressures eased and business improved, the average reduced to nine and remained around this average for the Board meetings held during the rest of the action research case study (12 months). However, this was more than twice the number of performance measurement discussions held in each Board meeting leading into the recession; indicating a residual improvement in the willingness to discuss performance.

A finding is that when poor economic climates are forecast, companies may want to plan ahead for more frequent, in-depth and wide ranging discussions about performance measurement, as companies try to work out ways of improving their performance in poor business climates. Implications are that companies will want to understand more about the drivers behind some existing performance measures. Although this will absorb more management time, require more planning, and possibly stronger management information systems to deliver the outcomes wanted, it will reduce the

distraction of trying to find out this important information whilst also implementing new strategies to manage the business through the harsher economic climate. This suggests the following implication for practitioners.

Implication 25

Performance measurement design, implementation, and use should anticipate more frequent, in-depth and wide ranging discussions about performance measurement, as companies try to work out ways of improving their performance in poor business climates and develop strategies for coping.

5.3.11 Maintaining a memory of past performance

CSC did not have a logical place to keep, and remember, performance measurement and management outcomes. As a result, reasons behind previous performance may be lost over time, and therefore have to be re-experienced, possibly to the detriment of the business.

Minutes of all management and board meetings were kept at CSC, but apart from the next meeting when minutes of the previous meeting were confirmed these minutes were rarely referred to again. In some areas, historical performance reporting was reported in a graph, table or chart that provided useful trending information. However, unless the manager or team who experienced the previous performance was present at a meeting where historical performance was being discussed, there was no readily available resource material that could help understand the reasons behind historical performance.

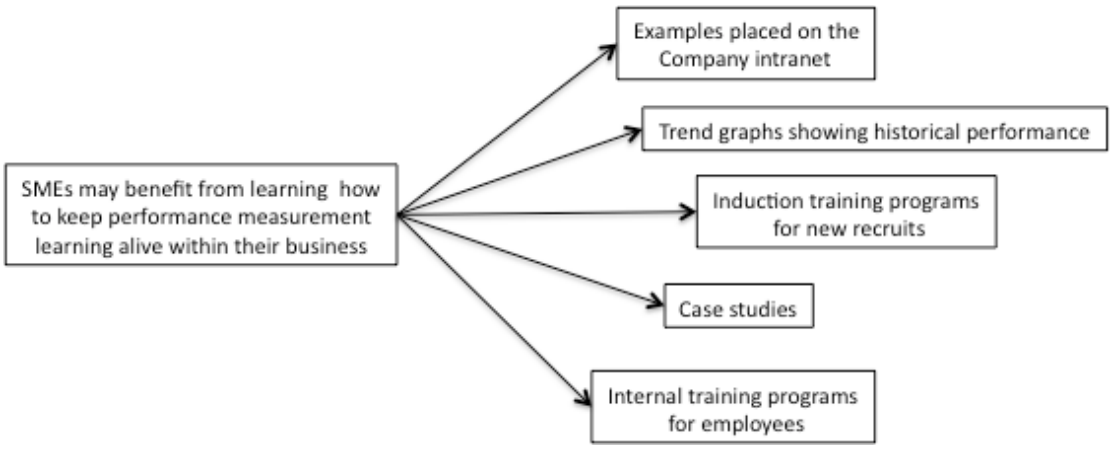
One possible method of keeping performance measurement and management learning alive within companies (as discussed with a member of the Senior Management Team)

would be to produce case studies relevant to performance measurement learning and to use them in training, development and induction exercises. A second approach could be to develop a performance measurement and management register where key learning's are catalogued, possibly on an intranet available to all company employees. From time-to-time, and at a frequency agreed to be relevant to the business, it could be a requirement on the Senior Management Team to review the register to ensure that the learning's are being deployed within the business.

A conclusion from this case is the value of a memory bank showing previous performance, or trends, in graphical form if possible. Where there are obvious declines, or improvements reported graphically on an historical basis, it is more likely that managers will remember the reasons for those results. Further, the reporting of historical performance in graphical form will assist in future planning when the annual business planning cycle is entered into. These conclusions suggest the following implication for practitioners.

Implication 26

Companies should investigate how performance measurement learning will be kept alive within the business. Considerations are to record performance measurement knowledge and learning on the company intranet, present historical data as graphical trends, develop case studies, or introduce specific training recognizing the value of performance measurement to the business.



5.3.12 Understand the performance measurement knowledge of employees

Managers at CSC all agreed that they understood the obvious performance measures, such as revenue, profitability, market share, margins, customer satisfaction and sales volume. However, they also agreed there were many other performance measures they could apply and that, as a Senior Management Team, they did not go beyond these key measures to understand drivers of performance in more depth.

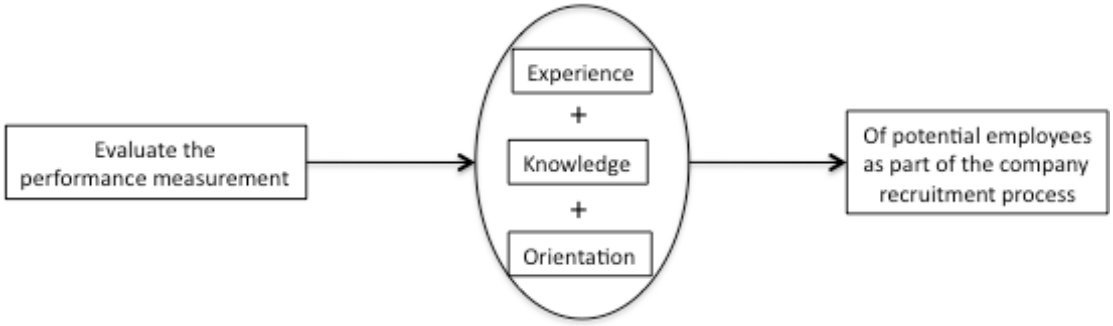
The Senior Management Team at CSC acknowledged that they had not been taught performance measurement in any formal way but had 'picked it up' during their career from their respective managers. They had learned both good and bad performance measurement understanding and approaches as a result.

No member of the CSC Senior Management Team had been on a Board, and they had little experience of reporting to a Board. Consequently, they did not always know what and how to report information at the Board level. Functional area performance reporting was an example where it was often useful for the functional manager but not always of value from a decision-making perspective, in the format provided, to the Board.

A conclusion is that companies would benefit from understanding the performance measurement experience, knowledge, and orientation of prospective employees during the recruitment process. Businesses with an established approach to performance measurement, and with a training program that supports effective design, implementation and use, will more likely be in a better position to accelerate the induction of new recruits into the company's performance measurement culture. Furthermore, it is important that companies do not assume that all functional managers will be knowledgeable or comfortable reporting information to the Board. This was a situation at CSC where at the beginning of the action research case study, members of the Senior Management Team were nervous about how and what to report to the Board and this translated into an unwillingness to take risks, report issues, or request help from the Board, as they felt this would be viewed as a weakness. These conclusions suggest three implications for practitioners.

Implication 27

Performance measurement experience, knowledge, and orientation of prospective employees should be evaluated during the recruitment process.



Implication 28

Performance measurement system training programs should be established to accelerate the induction of new recruits into the company's performance measurement culture.

Implication 29

Functional managers should receive training in performance reporting so they are knowledgeable about how the Board or Managing Director will use the information, and will be comfortable reporting to the Board and Managing Director.

5.4 Performance measurement and risk management

Risk management is an important strategic consideration for small-to-medium enterprises. The action research case study identified that if CSC considered the

consequences of strategies failing, they created new performance measures that acted as early warning signs of strategies going off-track. This improved risk management within the business and improved management confidence that they would be informed of potential failure of a strategy, or initiative, in a timeframe that allowed remedial action to take place and be effectively introduced. The following section provides insights into relationships between performance measurement, understanding the consequences of failure, and risk management. The findings that led to these insights are discussed in more depth in section 4.6.

5.4.1 Performance measurement design and failure

Recognizing that companies need to be successful in order to survive, CSC generally considered performance measures only in the context of success. The success-driven orientation of CSC came at the expense of recognizing that the signs and consequences of failing to achieve goals and related indicators could be just as significant for the company.

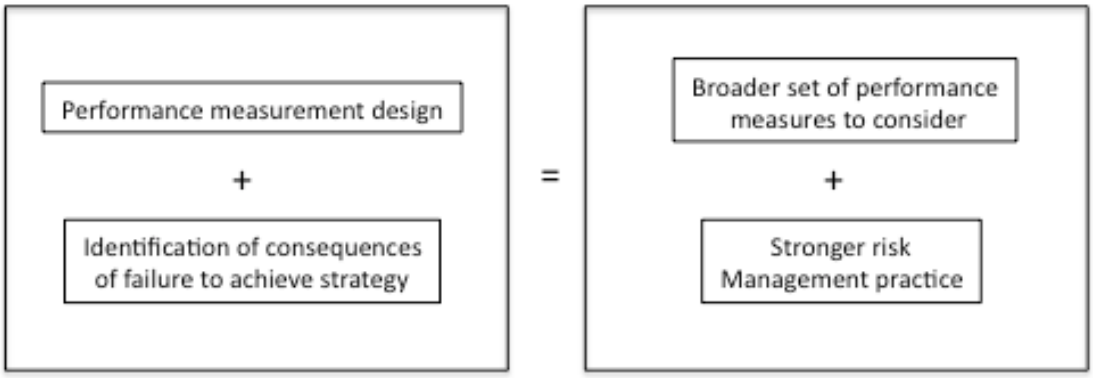
The Senior Management Team, for example, was not well placed to identify early warning signals that their strategies were *not* tracking to be successful. All performance measures were success oriented, for example, to achieve sales of $xx, to achieve a Gross Margin of xx%, to achieve an EBIT of $xx, to achieve xx number of high value customers. In addition to these performance measures being at a strategic level only, they were not linked with specific strategies, and the Senior Management Team did not consider any consequences of these strategies failing. The performance measures were also stated only as annual targets to achieve and did not measure progress towards the achievement of specific strategies.

The success oriented focus at CSC leads me to conclude that it is a very useful experience for companies to evaluate the risk of failure for each of their strategies, and explore what this might mean in the context of performance measurement. At CSC, this exercise resulted in a number of performance measures being evaluated that were not

only new to the organization but also, if implemented, would be early warning signs that their strategies may not be tracking towards success. This exercise did not distract CSC from being an achievement based organization, rather it built more confidence within the Senior Management Team that all outcomes of their strategies had been considered and that appropriate performance measurement indications were in place for all possible outcomes. These conclusions suggest two implications for practitioners.

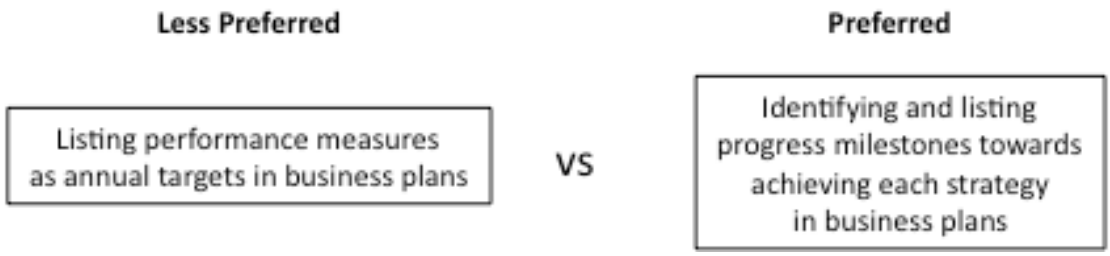
Implication 30

Performance measurement design should clearly identify failure and consequences thereof, which is likely to generate a broader set of performance measures to consider implementing as well as result in stronger risk management practices.



Implication 31

Performance measures should measure progress towards the achievement of specific strategies and these milestones should be stated in business plans as opposed to the performance measure being listed as an annual target.



5.4.2 Cross-functional involvement in performance measurement design

Managers have their own, unique, business experience and functional background. This creates different business orientations within management teams that translate into viewing performance from different perspectives. In CSC's case, this meant that some managers were more likely to bias their decision-making towards CSC outcomes whereas others were more biased towards customer outcomes.

At CSC, these different perspectives influenced the makeup of the final set of performance measures that each functional manager thought would indicate the success or failure of each strategy. As examples, the Business Development Manager viewed strategy purely from a 'sales perspective' and 'internal' company perspective. In this case, 'internal' indicated that only the outcome for the company, and therefore not customers, was considered when developing performance measures. The Human Resources Manager considered strategy in terms of not only the outcomes for the business but also customers; most of the Human Resource Managers perspectives were 'external' and customer-leaning in orientation, preferring to consider how customers would benefit as a result of strategies being implemented.

These observations led me to conclude that companies should have more than one functional manager involved in determining each performance measure. This cross-functional involvement will help the business manage risk better as a result of establishing performance measures for each strategy that reflect both 'internal and external' indicators of the success and risk-of-failure of each strategy. These conclusions suggest the following implication for practitioners.

Implication 32

Performance measure selection should involve managers from different functions to reflect both internal and external indicators of success and failure of each strategy.

5.4.3 Performance measurement and the need to define failure

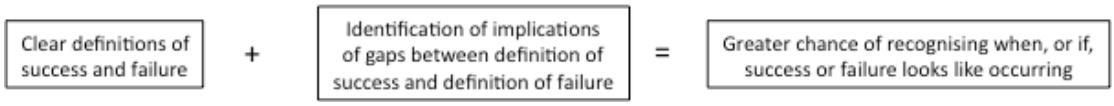
At CSC, strategic outcomes were defined in terms of success and there was no consideration that if failure occurred, what this would be or look like for the company. For CSC, success was a specific concept and an outcome the business planned to achieve. When failure occurred the reasons for the failure were often not easily understood. Success was a defined concept or a target, whereas failure was rarely defined. Thus when failure occurred the task of reversing the outcome was larger than it would have been had failures been recognized earlier. Reasons for success were rarely sought within the business and did not need to be justified. When failure materialized, reasons why were always requested, the reasons for the failure were often hard to identify and were often non-specific with lots of possibilities being offered as to why the failure occurred.

When I asked specific questions about the definition of success and failure, the Senior Management Team at CSC indicated there was a significant gap between the definition of success and the understanding of failure. A grey area existed between the two outcomes, in the minds of employees. Managers did not have the view that failure was simply not achieving the stated objective. Some managers at CSC preferred to think of a range as being the difference between success and failure. They were non-specific with regards to defining this range. In an example outlined in the CSC case (section 4.6.2) success was defined as "selling 25 items, and failure was identified as a much lower number, which was between 10 and 15". The difference was explained as being an acceptable achievement as it is "close to success and can be substantiated, usually, by many things that can explain the difference". This has implications for businesses in that achieving the range between success and failure may become a culturally acceptable outcome, or the 'norm'. This can have significant impacts for businesses in a number of areas such as cashflow management, raw materials management, finished product holding management, sales incentive management, and expectation management.

The CSC experience suggests that businesses may want to consider predetermining, and defining, what success and failure might mean for the business so that every employee or manager can recognize, when, or if, it looks like occurring. By defining what failure means for the business, this would also act as one part of the company's early warning, or risk management system. These conclusions suggest the following implication for practitioners.

Implication 33

Companies should clearly define what success and failure is to the business. Companies should acknowledge the business implications of any gap that might exist between what success is and what failure is. This definition process will also assist every employee or manager to recognize when, or if, success or failure looks like occurring.



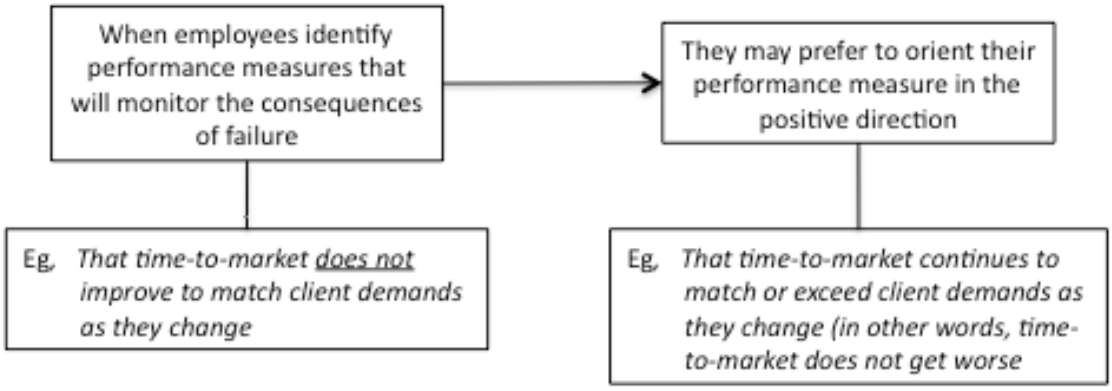
5.4.4 Viewing potential failure outcomes from a positive perspective

Performance measures at CSC were typically success oriented. In other words, the outcomes were expressed as achievements. An example was to achieve a certain customer satisfaction rating. When the consequence of a strategy failing was discussed, the preference by CSC's Senior Management Team was to reorient the failure related performance measure to be a success or achievement oriented measure. One example was the failure measure 'CSC's time-to-market does not improve to match client demands as they change'. The Senior Management Team's preference was to reorient this measure to instead read as 'CSC's time-to-market continues to match or exceed client demands as they change'. Another example was the failure measure 'CSC would not achieve any value-added sales growth from existing customers'. The preference was to reorient this measure to instead read, 'CSC will increase value-added sales from existing customers'.

A conclusion from the experience at CSC is that it is (1) possible, (2) just as useful, and (3) acceptable, to re-orient failure outcomes to suggest more positive outcomes. The important point to recognize is that there are risks associated with implementing strategies, that those risks should be recognized by companies, and that those risks can be reoriented into a positive performance measurement framework so that performance against that framework can be monitored. If the companies performance is not trending in the positive for the reoriented measure, then that is an early warning indicator that the strategy may not be succeeding. These conclusions suggest the following implication for practitioners.

Implication 34

Companies should realize that employees might prefer to orient their performance measures in the positive direction. It is likely that failure oriented performance measures will be re-oriented by employees to represent positive outcomes or targets for the business to achieve.



5.4.5 Understand the full consequences of failure to the business

At the start of the action research case study, CSC did not actively think about the consequence of their strategies failing. When the Senior Management Team brainstormed the consequences of failure, they identified that the consequence of failure was often greater than the consequence of success. Success was usually a financial outcome, although it could be other things as well, such as an improvement in market

share, an improvement in sales, and improvement in customer satisfaction. Failure produced not only an outcome that fell short in the revenue and profit area, but it typically had wider impacts such as a potential downsizing in staff, additional management time committed to the task of managing cashflow, product ordering, affects on reputation, and even business closure.

Understanding the consequences of failure, or 'not achieving' a strategy's performance target, provided a level of confidence to managers about the business impacts of each strategy, and it helped put an importance weighting on each strategy. It was useful to understand the downside in terms of a strategy failing, just as it was useful to understand the upside of a strategy succeeding. If there was no obvious consequence of failure, then it became questionable as to whether the strategy was valid, or of significant importance to the business.

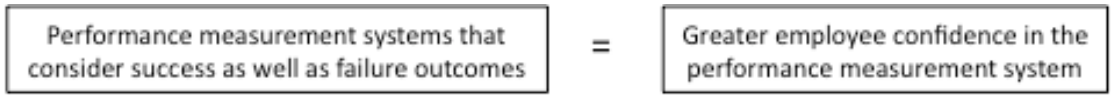
If CSC had considered the consequences of failure prior to the global financial crisis being identified, a number of early warning performance measures could have been in place that would have helped them see the changing market trends earlier. Most of the failure related performance measures were early warning signs that targets were not going to be achieved. For example, if CSC had been monitoring customer purchase behaviour, it would have known that the market was contracting a lot earlier than it eventually identified because customers started to take longer to make decisions on purchasing product months before the actual global crisis became official. This would have improved CSC's stock management levels and cashflow management as a consequence.

A conclusion to draw from the CSC experience is that a business that knows it has a strong performance measurement system in place, one that has both success oriented as well as risk management performance measures, is likely to be more confident in its predictive capabilities and will be more aware of market indicators of decline, as well as improvement. As a result, these businesses will be more prepared to adjust their strategies to protect themselves more proactively in a market downturn and be first-

movers in market growth situations. These conclusions suggest the following implication for practitioners.

Implication 35

Employee decision-making confidence will increase if the performance measurement system considers both success and failure outcomes as this will improve the quality of information provided by the performance measurement system.



CHAPTER 6 CONTRIBUTIONS TO SCHOLARSHIP

A review of the literature revealed a paucity of research into performance measurement systems inside small-to-medium enterprises. The research that does exist is mostly concerned with the design and implementation of performance measurement systems, and often these are based around attempts to fit performance measurement systems that have been designed for large companies into small-to-medium enterprise environments (Garengo, Nudurupati, & Bititci, 2007; McAdam, 2000; Smith & Smith, 2007). Furthermore, there are very few studies (Cavalluzzo & Ittner, 2004; Nudurupati et al., 2011; Taylor, 2009) into how performance measurement systems are used by companies of any size to support decision-making. De Waal (2003) identified that the use stage is the most important to the success of the performance management system. With this knowledge, an action research case study was undertaken to investigate answers to the following research question:

How does a small-to-medium enterprise use a performance measurement system?

The action research approach has resulted in a 3-year empirical longitudinal study in which I was able to interrogate how CSC used their performance measurement system. The action research process generated much learning for the researcher and participants at CSC into how small-to-medium enterprises might use a performance measurement system. The action research cycle as it was used in this case study is described in section 3.6 of this thesis with an example in section 3.8 showing how a new business planning process was initiated through two action research cycles. Each implication outlined in this chapter was produced after a minimum of three complete action research cycles.

The action research methodology can also inform other contexts (Eden & Huxham, 1996). As discussed in the research methodology chapter, this case study cannot be generalized due to the one-company action research methodology. However, this was an

empirical longitudinal study and scholars are encouraged to consider exploring the potential for generalizing implications for scholarship outlined in this chapter.

6.1 The relations of performance measurement design, implementation and use

Although the intention of this study was to investigate the use of performance measurement systems, an unexpected and important realization early in the action research case study, was the recognition that the existing performance measurement system did not assist the CSC senior management team in their strategic decision-making. This required a rethink of the existing performance measurement system. The result was to design, implement and use a completely new performance measurement system that would improve senior management and the board's decision-making capability.

A related observation in this case study that led to reviews of the existing performance measurement system was that CSC did not consider, and plan for, how organizational structure, and changes to this structure, might affect the performance measurement process within the business. Firms should align performance measurement with the internal and external environment (Homburg, Artz, & Wieseke, 2012). With each management change or restructure at CSC, some performance measures increased, while others decreased, in importance and the performance measurement system changed in terms of one or more of (1) the nature and style of reporting, (2) reporting flows, (3) reporting frequency, (4) informational feedback loops, and (5) timeliness of information feedback loops (see figure 12).

As the action research case study evolved, these changes were noticed, compensated for, worked around, or resolved. In each case, this took management time, delayed implementation and decision-making, and created situations whereby performance measurement could have stalled entirely. These organizational structure impacts are all reasons performance measurement system implementations might not succeed.

These examples suggest that performance measurement use cannot be studied in isolation from performance measurement design and implementation. Conversely, studies into design and implementation of performance measurement systems should consider how well the system is used by the company being studied.

6.2 Performance Measurement Use

6.2.1 Performance measurement knowledge and the small-to-medium enterprise

CSC's senior management team did not have a strong level of performance measurement system knowledge (Sanchez & Levine, 2012; Sousa, Aspinwall, & Rodrigues, 2006; Sousa, Aspinwall, Sampaio, & Rodrigues, 2005) or competency (Becker, Huselid, & Ulrich, 2001). This was evident in at least two ways (1) they had monitored the same performance measures for 4-years without considering their relevance to the business, and (2) no performance measures were aligned with any strategy discussed in their business plans. As a consequence, their ongoing decision-making and ability to respond to market forces in a timely manner was compromised.

The 3-year action research case study identified that senior managers at CSC were receptive to improving their performance measurement knowledge. This is an area in which scholars are encouraged to actively participate, by developing generic, as well as company-specific (tailored), performance measurement knowledge building courses. These courses would contribute significantly towards improving performance measurement system knowledge and use. Recognising that small-to-medium enterprises differ from traditional large companies (Welsh & White, 1981), these performance measurement courses should acknowledge the unique characteristics of small-to-medium enterprises (Barnes et al., 1998; Hudson, Smart, et al., 2001; McAdam, 2000; Smith & Smith, 2007).

The literature discusses the importance of external involvement in the design and implementation of performance measurement systems (Bourne, 2000; Bititci et al, 2006; Brem, 2008). However, the discussion in the literature relates to using external

consultants to maintain focus for the company implementing the performance measurement system and does not discuss the best approach or process that the external/3rd party should take. This study suggests that the engagement model employed by external parties should include mentoring and education to (1) increase performance measurement knowledge, and (2) encourage active participation by senior managers of the company with the objective of creating a performance measurement culture that results in sustainable use of the system. Simply designing and implementing a better performance measurement system may not improve use, especially if the senior management team lacks performance measurement knowledge and guidelines on how to design, implement and use it.

Interviews with participants during the action research case study identified that the creation of organizational performance measurement memory banks, and the development of company specific performance measurement case studies to be used in training and new employee induction programs could also be beneficial ways to build consistency of performance measurement knowledge within the business.

6.2.2 Dashboard reporting and reporting frequency

Performance reporting frequency is discussed in the literature (Kerssens-van Drongelen & Bilderbeek, 1999; Lohman et al., 2004; Lynch & Cross, 1991) but there has not been any discussion on the most appropriate measurement frequency for small-to-medium environments. Furthermore, there is little mention of dashboard reporting design, implementation, and use in the context of small-to-medium enterprises (Yigitbasioglu & Velcu, 2012).

This study found that in a small-to-medium enterprise environment, more frequent reporting in the context of a Weekly Dashboard can improve the profile and use of the performance measurement system and also of strategy within the company if (1) the Weekly Dashboard is designed with input from the actual users of the performance reports and (2) the majority of performance measures in the dashboard are aligned with strategy.

In the CSC case, Weekly Dashboard reporting of strategically aligned performance measures led to senior management discussing strategy frequently. The discipline required to report, meet and discuss performance reporting led to improvements in communication, cross-functional awareness of how each functional area's actions affected other parts of the business, and helped generate stronger decision making across the senior management team.

6.2.3 The number of performance measures

Scholars have commented on the need to limit the number of performance measures in a performance measurement system (Garengo, Biazzo, & Bititci, 2005; Lohman et al., 2004). This action research case study suggests that the involvement of senior managers and the process of how performance measures are determined might be of more importance to achieving long-term use of a performance measurement system in a small-to-medium enterprise than the number of monitored performance measures.

6.2.4 Performance measurement framing – failure and risk management

Small-to-medium enterprises are success-oriented yet are known to have a very high failure rate (Jennings & Beaver, 1997). Accepting that there is a high failure rate of small-to-medium enterprises, there is value in understanding any role that senior management team perspectives on success and failure might play towards company performance. The findings from this action research case study leads me to encourage the scholar community to investigate relationships between how companies, and in particular the senior management team, frame their performance measures during the design phase of introducing a new performance measurement system.

The literature also discusses the setting of standards in relation to continuous improvement and target setting (Ghalayini & Noble, 1996; Ghalayini et al., 1997). However, the literature does not discuss the relationship between an organization's

psychology towards success and failure, and performance measurement. It is well established in the decision making literature that the framing of a problem as a gain or a loss will influence outcomes (Tversky & Kahneman, 1981). The performance measurement literature is silent about relationships between how senior management teams view failure, how they consider it during their involvement in performance measurement, and how this might relate to the design and use of performance measurement systems. The need to define what failure might look like, how this can be measured, and how to define the failure measure were all challenges at CSC that resulted in changes to the makeup of the performance measurement system.

The following are suggested as future research topics:

- Investigating whether senior management team orientation towards success and failure and resulting impact on performance measure choice has any relationship with overall performance against strategic goals of the company.

- The value of senior management teams within small-to-medium enterprises considering consequences of their strategies failing and how this relates to performance measure selection, use, and risk management.

- Is defining the consequences of failure viewed as a useful exercise in relation to the design of a performance measurement system and establishment of targets?

- Gaining an understanding if considering the consequences of failure during the performance measurement design phase generates a new set of performance measures that assist small-to-medium enterprises in identifying early warning signs of poor performance against strategy.

- Whether the definition of failure is a specific or a more general concept in the minds of senior managers. Is success a financial outcome, an improvement in market share, an improvement in sales, and improvement in customer satisfaction? Is failure an outcome that falls short in the revenue and profit area,

or is it a concept that is less specific and rarely measured such as the following examples, a potential downsizing in staff, additional management time committed to the task of managing cashflow, product ordering, affects on reputation, or business closure.

- Establishing whether senior management team confidence in decision-making improves as a result of risk management indicators being designed into the performance measurement system and whether this then translates into an improvement in overall business performance.

6.2.5 Performance measurement: Identifying organizational readiness

The action research case study found that organizational factors can negatively and positively affect the design, implementation and use of a performance measurement system. Identifying (1) a checklist of organizational factors that improve performance measurement system use, and (2) a checklist of performance measurement cultural factors that enhance performance measurement system use, are future research opportunities.

My review of the literature identified 45 recommendations for any-sized company (i.e., large, medium and small) planning to establish a performance measurement system. These are referred to as 'the 45 general performance measurement recommendations' in chapter 2 and are fully described in Appendix G. In addition, my literature review identified 17 additional performance measurement findings and recommendations from the small-to-medium business literature that have significance for the small-to-medium enterprise community. These are detailed in the literature review chapter of this thesis and the full review is in Appendix H.

At the completion of the action research case study I reviewed the 45 general performance measurement recommendations against the CSC performance measurement system existing at both the beginning and the end of the action research case study. This analysis is detailed in Appendix G. At the end of the action research

case study, CSC had 40 of the recommendations fully in place, with the remaining five partially in place that only time was the barrier to them being fully in place. This is in contrast to the situation at the beginning of the action research case study, when CSC had only 10 of the 45 general performance measurement recommendations in, or partially in place. The low number of recommendations in place at the beginning of the action research case study correlates well with the view of senior managers at CSC who said that they were not aware of any performance measurement system suitable for small-to-medium enterprises, or for any sized company, and were not aware of key principles of designing, implementing and using performance measures (Barnes et al., 1998; Rantanen & Holtari, 2000).

The 17-performance measurement recommendations specifically identified as relevant to the small-to-medium enterprise community were also reviewed at the end of the action research case study. In total, 13 of the 17 findings and recommendations were supported by the action research case study at CSC. These are detailed in Appendix H.

It would be useful to validate the 45-point general performance measurement and 17-point specific-to-small-to-medium enterprise checklist produced from the literature review and to evaluate their value as a gap-analysis tool for both researchers and practitioners. A cautionary note is that a number of the 17 findings from the literature are supported by a single or very small number of studies with little or no qualification regarding their generalization. In addition, future research should determine how to close any identified gaps so that an effective performance measurement system can be designed, implemented and used.

In order to help facilitate the ongoing use of a performance measurement system, it would be valuable to identify key cultural indicators companies could benchmark themselves against as they progress towards embedding a performance measurement system. The literature does not clearly define culture in the context of performance measurement. The Senior Management Team at CSC also did not clearly define their performance measurement culture, however they did describe changes within their business that they thought resulted in an improved attitude towards performance

measurement and these are outlined in section 4.7.4 of this thesis. Towards the end of the action research case study, the Senior Management Team were each asked to provide feedback on the results of the performance measurement project. Consistent within the feedback were comments relating to how the performance measurement project positively changed the culture of the company (see section 4.7.4) suggesting that there may be more to performance culture than the development of an achievement culture (Bititci et al., 2006). However, what is also apparent from the Senior Management Team comments is the lack of consistency about the definition of an ideal performance culture across the Senior Management Team and this needs to be considered during the development of a performance measurement cultural benchmarking tool.

6.3 Limitations of the study

This action research case study has introduced a number of new ideas that require more investigation as to how small-to-medium enterprises use performance measurement systems. These new thoughts and learning have been generated from a single, in-depth action research case study of one small-to-medium manufacturing enterprise. Of course, I do not claim that these findings are generalisable to the wider small-to-medium enterprise community however the case study has revealed a number of new opportunities that could be acknowledged as emergent theory and there are recommendations for further research into these areas within this chapter. I do claim that these recommendations have proven valuable to the case study company and the outcome for CSC has been a more useful and sustainable performance measurement system that remained in use 12 months after the completion of the action research case study.

The action research case study was concerned with investigating the use of performance measurement at the company level. The results achieved for CSC were obtained without any changes to their individual performance evaluation process and the study did not investigate the influence of performance evaluation schemes at the individual employee

level within the business. This is an area for future research given Grafton, Lillis and Widener's (2010) finding that "to encourage managers to use the multiple financial and non-financial performance indicators increasingly incorporated in contemporary performance measurement systems it is imperative that performance evaluation schemes are also designed to reflect these measures" (p. 689).

6.4 Concluding Comments

As a result of identifying that CSC lacked an effective performance measurement system at the beginning of the action research case study, there was a need to redesign and re-implement a new performance measurement system. Consequently, and although the use of performance measurement was the focal interest of the researcher, the implications cover findings relating to the design, implementation, as well as use of performance measurement systems in small-to-medium enterprises. As general comments, I make the following:

- With regards to the design of performance measurement systems, I found that senior managers at CSC did not allocate the required time or management focus, and they were not aware of good performance measurement design principles. Getting the design right went a long way towards ensuring the implementation was effective, and that use of the system was sustainable.

- With regards to the ongoing use of performance measurement systems, there is a requirement for companies to understand cross-functional alignment of performance measures, as well as how organizational structure and structural changes affect performance measurement information flow both up- and down the organization hierarchy. This can affect the value of performance reporting as a result of time lags between receiving performance information, decision-making, and feedback loops back to people within the organization who will implement the decisions.

At CSC, a significant positive change during the action research case study was in the organisational culture and orientation towards performance measurement. As the action research case study progressed, performance achievement and measurement became one of the first topics of discussion when new initiatives were raised, capital spending was suggested, or changes in management structure were discussed.

Other notable changes were the introduction of Weekly Dashboard reporting which significantly increased awareness of, and discussion about, strategy at Senior Management Team level; the improvement in the risk management profile of the business as a result of understanding the consequence of failure on the business of any strategy, and establishing performance measures that would act as early warning signs of a strategy going off-track; and the senior management team understanding their ability to influence performance across the whole business, and not just in their particular functional area, as a result of their own performance measures being aligned with strategy.

This action research case study established that CSC did not align performance measures with strategy, reported mostly historical financial performance, and treated performance reporting as a task, as opposed to a managed function that fed into strategic and day-to-day decision making. During the course of the action research case study, all of these factors changed such that performance measurement and reporting, along with strategy, became a weekly discussion topic for the Senior Management Team. The shift from monthly performance reporting to Weekly Dashboard reporting improved information flow within the business creating faster performance report feedback and managerial decision-making. The new performance measurement system also resulted in improved understanding within the Senior Management Team of cross-functional performance management linkages leading to performance across the business being more smoothly managed.

Finally, this researcher found that the process of action research created unexpected opportunities to participate in the identification of business problems to which performance measurement was able to offer solutions. The iterative nature of action

research gave participants the freedom to experiment with potential solutions to business problems and was ideally suited to the small-to-medium enterprise environment, especially when one of the benefits of the approach was the ability to generate new knowledge for the participants.

REFERENCES

Abernathy, W. B. (1999). Evaluating organisation scorecards and incentive-pay systems [Article]. *Employment Relations Today (Wiley), 25*(4), 83-96.

Adair, C. E., Simpson, L., Birdwell, J. M., Omelchuk, K., Casebeer, A. B., Gardiner, H. P., . . . Beausejour, P. (2003). *Performance measurement systems in health and mental health services: models, practices and effectiveness. A state of the science review.* Calgary, Alberta, Canada: Alberta Heritage Foundation for Medical Research.

Alfaro, J., Ortiz, A., & Poler, R. (2007). Performance measurement system for business processes. [Article]. *Production Planning & Control, 18*(8), 641-654.

Allio, M. (2006). Metrics that matter: seven guidelines for better performance measurement. *Handbook of Business Strategy, 7*(1), 255 - 263.

Andersen, H., Cobbold, I., & Lawrie, G. (2001). *Balanced scorecard implementation in SMEs: reflection in literature and practice*. Paper presented at the SMESME Conference, Copenhagen, Denmark.

Ansoff, H. I. (1991). Critique of Henry Mintzberg's 'the Design School: reconsidering the basic premises of strategic management'. *Strategic Management Journal, 12*(6), 449-461.

Argyris, C., & Schon, D. (1989). Participatory action research and action science compared. *American Behavioral Scientist, 32*(5), 612-623.

Avison, D., Lau, F., Myers, M., & Nielsen, P. A. (1999). Action Research. *Communications of the ACM, 42*(1), 94 - 97.

Azzone, G., Masella, C., & Bertele, U. (1991). Design of performance measures for time-based companies. *International Journal of Operations & Production Management, 11*(3), 77 - 85.

Banks, R. L., & Wheelwright, S. C. (1979). Operations vs strategy: trading tomorrow for today. [Article]. *Harvard Business Review, 57*(3), 112-120.

Barnes, M., Coulton, L., Dickinson, S., Dransfield, J., Field, J., Fisher, N., . . . Shaw, D. (1998). *A new approach to performance measurement for small and medium enterprises*. CSIRO Australia.

Bashin, S. (2008). Lean and performance measurement. *Journal of Manufacturing Technology Management, 19*(5), 670 - 684.

Becker, B. E., Huselid, M. A., & Ulrich, D. (2001). *The HR scorecard: Linking people, strategy, and performance*. Boston, MA: Harvard Business School Press.

Bititci, U., Carrie, A. S., & McDevitt, L. (1997). Integrated performance measurement systems: a development guide. [Research paper]. *International Journal of Operations & Production Management, 17*(5), 522 - 534.

Bititci, U., Carrie, A. S., & Turner, T. (2002). Integrated performance measurement systems: Structure and dynamics. In A. Neely (Ed.), *Business Performance Measurement: Theory and Practice* (pp. 174 - 197). Cambridge, UK: The Press Syndicate of the University of Cambridge.

Bititci, U., Firat, S. U., & Garengo, P. (2013). How to compare performance of firms operating in different sectors? *Production, Planning & Control: The Management of Operations, 24*(12), 1032 - 1049.

Bititci, U., Garengo, P., Dorfler, V., & Nudurupati, S. (2012). Performance measurement: Challenges for tomorrow. *International Journal of Management Reviews, 14*, 305 - 327.

Bititci, U., Mendibil, K., Nudurupati, S., Garengo, P., & Turner, T. (2006). Dynamics of performance measurement and organisational culture. *International Journal of Operations and Production Management, 26*(12), 1325-1350.

Bititci, U., Nudurupati, S., Turner, T., & Creighton, S. (2002). Web enabled performance measurement systems: Management implications. *International Journal of Operations & Production Management, 22*(11), 1273 - 1287.

Bititci, U., Turner, T., & Begemann, C. (2000). Dynamics of performance measurement systems. *International Journal of Operations & Production Management, 20*(6), 692 - 704.

Blum, F. H. (1955). Action research - a scientific approach? *Philosophy of Science, 22*(1), 1-7.

Boog, B. W. M. (2003). The emancipatory character of action research, its history and the present state of the art. [Article]. *Journal of Community & Applied Social Psychology, 13*(6), 426-438.

Bourne, M., Mills, J., Wilcox, M., Neely, A., & Platts, K. (2000). Designing, implementing and updating performance measurement systems. *International Journal of Operations and Production Management, 20*(7), 754-771.

Bourne, M., Neely, A., Platts, K., & Mills, J. (2002). The success and failure of performance measurement initiatives: Perceptions of participating managers. *International Journal of Operations and Production Management, 22*(11), 1288-1310.

Braa, K., & Vidgen, R. (1999). Interpretation, intervention, and reduction in the organizational laboratory: A framework for in-context information system research. *Accounting Management and Information Technologies, 9*, 25 - 47.

Brem, A., Kreusel, N., & Neusser, C. (2008). Performance measurement in SMEs: Literature review and results from a German case study. *International Journal of Globalisation and Small Business, 2*(4), 411-427.

Brignall, S. (2002). *The balanced scorecard: an environmental and social critique.* Paper presented at the Proccedings from the 3rd International Conference on Performance Measurement, Boston, USA.

Brouthers, K. D., Andriessen, F., & Nicolaes, I. (1998). Driving blind: Strategic decision making in small companies. *Long Range Planning, 31*(1), 130 - 138.

Brown, J. B., & McDonnell, B. (1995). The balanced scorecard: short-term guest or long-term resident? *International Journal of Contemporary Hospitality Management, 7*(2), 7 - 11.

Butler, A., Letza, S. R., & Neale, B. (1997). Linking the balanced scorecard to strategy. *Long Range Planning, 30*(2), 242-153.

Cataldo, A., Sepulveda, M., & McQueen, R. J. (2012). Exploring the IT usage in SMEs from New Zealand, Colombia and Chile using action-research methodology. *Journal of Innovation Management in Small & Medium Enterprises*.

Cavalluzzo, K. S., & Ittner, C. D. (2004). Implementing performance measurement innovations: evidence from government. *Accounting Organizations and Society, 29*, 243 - 267.

Chandler, A. (1962). *Strategy and structure*. Cambridge, M.A.: MIT Press.

Chartered Institute of Management Accountants. (1993). *Performance measurement in the manufacturing sector*. London: The Chartered Institute of Management Accountants.

Checkland, P., & Holwell, S. (1998). Action research: Its nature and validity. *Systemic Practice and Action Research, 11*(1), 9 - 21.

Chennell, A. F., Dransfield, J., Field, J., Fisher, N., Saunders, I., & Shaw, D. (2000). *OPM: A system for organisational performance measurement*. Paper presented at the Performance Measurement - Past, Present and Future, University of Cambridge, UK, 19-21 July 2000.

Chow, C. W., Haddad, K. M., & Williamson, J. E. (1997). Applying the balanced scorecard to small companies. (financial and nonfinancial performance measures). *Management Accounting (USA), v79*(n2), p21(27).

Cocca, P., & Alberti, M. (2010). A framework to assess performance measurement systems in SMEs. *International Journal of Productivity and Performance Management, 59*(2), 186 - 200.

Coghlan, D., & Brannick, T. (2005). *Doing action research in your own organisation* (2nd ed.). London: SAGE.

Coughlan, P., & Coghlan, D. (2002). Action research for operations management. *International Journal of Operations & Production Management, 22*(2), 220 - 240.

Crawford, K. M., & Cox, J. F. (1990). Designing performance measurement systems for just-in-time operations. [Article]. *International Journal of Production Research, 28*(11), 2025.

Cross, K. F., & Lynch, R. L. (1988). The "SMART" way to define and sustain success. *National Productivity Review, 8*(1), 23-33.

Davison, R., Martinsons, M., & Kock, N. (2004). Principles of canonical action research. *Information Systems Journal, 14*, 65 - 86.

de Waal, A. A. (2003). Behavioural factors important for the successful implementation and use of performance measurement systems. *Management Decision, 41*(8), 688 - 697.

de Waal, A. A. (2007). Successful performance management? Apply the strategic performance management development cycle. *Measuring Business Excellence*(11), 2.

Dick, B. (2002). Postgraduate programs using action research. *The Learning Organization, 9*(4), 159 - 170.

Dinesh, D., & Palmer, E. (1998). Management by objectives and the balanced scorecard: will Rome fall again? *Management Decision, 36*(6), 363 - 369.

Dixon, J. R., Nanni, A. J., & Vollman, T. E. (1990). *The new performance challenge: measuring operations for world-class competition*. Homewood, Illinois, USA: Business One Irwin.

Drucker, P. F. (1955). *The practice of management* (1st ed.). New York, NY: Harper.

Eccles, R. G. (1991). The performance measurement manifesto. [Article]. *Harvard Business Review, 69*(1), 131-137.

Eden, C., & Huxham, C. (1996). Action research for management research. *British Journal of Management, 7*(1), 75-86.

Elden, M., & Taylor, J. C. (1983). Participatory research at work: an introduction. *Journal of Occupational Behaviour, 4*(1), 1-8.

Elg, M., & Kollberg, B. (2009). Alternative arguments and directions for studying performance measurement. *Total Quality Management & Business Excellence, 20*(4), 409-421.

Elliott, J., Sutton, C., & Harding, J. (1988). What is action-research in schools? In Deakin University Production Unit (Ed.), *The Action Research Reader* (3rd ed., pp. 121 - 122). Melbourne, Vict, Australia: Deakin University Printery.

European Foundation for Quality Management. (1998). *The European Business Excellence Model*. Brussels: European Foundation for Quality Management.

Evans, J. R. (2004). An exploratory study of performance measurement systems and relationships with performance results. *Journal of Operations Management, 22*(3), 219-232.

Farris, J. A., van Aken, E. M., Letens, G., Chearksul, P., & Coleman, G. (2011). Improving the performance review process. *International Journal of Operations & Production Management, 31*(4), 376 - 404.

Fernandes, K. J., Raja, V., & Whalley, A. (2006). Lessons from implementing the balanced scorecard in small and medium size manufacturing organiszations. *Technovation, 26*, 623 - 634.

Fitzgerald, L., Johnson, R., Brignall, S., Silvestro, R., & Voss, C. (1991). *Performance measurement in service businesses*. London: CIMA.

Flapper, S. D. P., Fortuin, L., & Stoop, P. P. M. (1996). Towards consistent peformance measurement systems. *International Journal of Operations & Production Management, 16*(7), 27 - 37.

Folan, P., Browne, J., & Jagdev, H. (2007). Performance: Its meaning and content for today's business research. *Computers in Industry, 58*(7), 605-620.

Fortuin, L. (1988). Performance indicators - why, where and how? *European Journal of Operational Research, 34*(1), 1-9.

Franco, M., & Bourne, M. (2003). Factors that play a role in "managing through measures". *Management Decision, 41*(8), 698 - 710.

Franco-Santos, M., & Bourne, M. (2005). An examination of the literature relating to issues affecting how companies manage through measures. *Production Planning and Control, 16*(2), 114 - 124.

Franco-Santos, M., Kennerley, M., Micheli, P., Martinez, V., Mason, S., Marr, B., . . . Neely, A. (2007). Towards a definition of a business performance measurement system. *International Journal of Operations and Production Management, 27*(8), 784-801.

Gale, B. T. (1994). *Managing customer value: creating quality and service that customers can see*. New York: The Free Press.

Garengo, P. (2009). A performance measurement system for SMEs taking part in Quality Award Programmes. *Total Quality Management & Business Excellence, 20*(1), 91 - 105.

Garengo, P., & Biazzo, S. (2012). Unveiling strategy in SMEs through balanced scorecard implementation: A circular methodology. *Total Quality Management & Business Excellence, 23*(1), 79 - 102.

Garengo, P., Biazzo, S., & Bititci, U. S. (2005). Performance measurement systems in SMEs: a review for a research agenda. *International Journal of Management Reviews, 7*(1), 25-47.

Garengo, P., Biazzo, S., Simonetti, A., & Bernardi, G. (2005). Benchmarking on managerial practices: a tool for SMEs. *TQM Magazine, 17*(5), 440-455.

Garengo, P., & Bititci, U. (2007). Towards a contingency approach to performance measurement: an empirical study in Scottish SMEs. *International Journal of Operations and Production Management, 27*(8), 802-825.

Garengo, P., Nudurupati, S., & Bititci, U. (2007). Understanding the relationship between PMS and MIS in SMEs: an organizational life cycle perspective. *Computers in Industry, 58*(7), 677-686.

Garengo, P., & Sharma, M. K. (2012). Performance measurement system contingency factors: a cross analysis of Italian and Indian SMEs. *Production Planning & Control*, 1 - 21.

Garvin, D. A. (1987). Competing on the eight dimensions of quality. *Harvard Business Review, 65*(6), 101-109.

Ghalayini, A. M., & Noble, J. S. (1996). The changing basis of performance measurement. *International Journal of Operations & Production Management, 16*(8), 63 - 80.

Ghalayini, A. M., Noble, J. S., & Crowe, T. J. (1997). An integrated dynamic performance measurement system for improving manufacturing competitiveness. *International Journal of Production Economics, 48*(3), 207-225.

Gimbert, X., Bisbe, J., & Mendoza, X. (2010). The role of performance measurement systems in strategy formulation processes. *Long Range Planning, 43*, 477 - 497.

Globerson, S. (1985). Issues in developing a performance criteria system for an organization. [Article]. *International Journal of Production Research, 23*(4), 639.

Goold, M., & Quinn, J. J. (1990). The paradox of strategic controls. *Strategic Management Journal, 11*(1), 43-57.

Grafton, J., Lillis, A., & Widener, S. (2010). The role of performance measurement and evaluation in building organizational capabilities and performance. *Accounting Organizations and Society, 35*, 689 - 706.

Greatbanks, R. (2000). *Performance measurement in SMEs: an operational perspective.* Doctor of Philosophy Doctorate, University of Manchester Institute of Science and Technology, Manchester.

Greatbanks, R., & Boaden, R. (1998). *Can SMMEs afford to measure performance?* Paper presented at the Performance Measurement - Theory and Practice, Cambridge University, Cambridge.

Greatbanks, R., & Tapp, D. (2007). The impact of balanced scorecards in a public sector environment: empirical evidence from Dunedin City Council, New Zealand. *International Journal of Operations & Production Management, 27*(8), 846 - 873.

Greenwood, D. J., Whyte, W. F., & Harkavy, I. (1993). Participatory action research as a process and as a goal. *Human Relations, 46*(2), 175-192.

Gregory, M. J. (1993). Integrated performance measurement: a review of current practice and emerging trends. *International Journal of Production Economics, 30-31*(0), 281-296.

Griffith, R., & Neely, A. (2009). Performance pay and managerial experience in multitask teams: evidence from within a firm. *Journal of Labor Economics, 27*(1), 49-82.

Gummesson, E. (2000). *Qualitative methods in management research* (2nd Edition ed.). California, USA: Sage Publications.

Hannon, P. D., & Atherton, A. (1998). Small firm success and the art of orienteering: the value of plans, planning, and strategic awareness in the competitive small firm. *Journal of Small Business and Enterprise Development, 5*(2).

Hayes, R. H., & Abernathy, W. J. (1980). Managing our way to economic decline. [Article]. *Harvard Business Review, 58*(4), 67-77.

Henri, J.-F. (2006). Organisational culture and performance measurement systems. *Accounting, Organisations and Society, 31*, 77 - 103.

Heskett, J. L., Jones, T. O., Loveman, G. W., Sasser, J. W. E., & Schlesinger, L. A. (1994). Putting the service-profit chain to work. [Article]. *Harvard Business Review, 72*(2), 164-170.

Hickson, D. (1990). Studying deciding: an exchange of views between Mintzberg and Waters, Pettigrew, and Butler. [Article]. *Organization Studies (Walter de Gruyter GmbH & Co. KG.), 11*(1), 1-16.

Homburg, C., Artz, M., & Wieseke, J. (2012). Marketing Performance Measurement Systems: Does Comprehensiveness Really Improve Performance? *Journal of Marketing, 76*(3), 56 - 77.

Hudson, M., Lean, J., & Smart, P. A. (2001). Improving control through effective performance measurement in SMEs. [Article]. *Production Planning & Control, 12*(8), 804-813.

Hudson, M., Smart, A., & Bourne, M. (2001). Theory and practice in SME performance measurement systems. [Research Paper]. *International Journal of Operations & Production Management, 21*(8), 1096 - 1115.

Hudson, M., Smart, P. A., Bourne, M., & Lean, J. (2000). *Only just managing - no time to measure*. Paper presented at the The 2nd International Conference on Performance Measurement, July 2000, Cambridge, UK.

Hussain, M. M., & Hoque, Z. (2002). Understanding non-financial performance measurement practices in Japanese banks: a new institutional sociology perspectice. *Accounting, Auditing & Accountability Journal, 15*(2).

Hvolby, H. H., & Thorstenson, A. (2000). *Performance measurement in SMEs.* Paper presented at the Proceeding of the International Conference on Stimulating Manufacturing Excellence in SMEs, Coventry, 17-19 April.

Hvolby, H. H., & Thorstenson, A. (2001). Indicators for performance measurement in small and medium-sized enterprises. [Article]. *Proceedings of the Institution of Mechanical Engineers -- Part B -- Engineering Manufacture (Professional Engineering Publishing), 215*(8), 1143-1146.

Ittner, C. D., & Larcker, D. F. (2003). Coming up short on non-financial performance measurement. [Article]. *Harvard Business Review, 81*(11), 88-95.

Ittner, C. D., Larcker, D. F., & Meyer, M. W. (2003). Subjectivity and the weighting of performance measures: Evidence from a balanced scorecard. *The Accounting Review, 78*(3), 725-758.

Jarvis, R., Curran, J., Kitching, J., & Lightfoot, G. (2000). The use of quantitative and qualitative criteria in the measurement of performance in small firms. *Journal of Small Business and Enterprise Development, 7*(2), 123 - 134.

Jennings, P., & Beaver, G. (1997). The performance and competitive advantage of small firms: a management perspective. *International Small Business Journal, 15*(2), 63 - 75.

Johnson, G., Scholes, K., & Whittington, R. (2005). *Exploring corporate strategy: text and cases* (7th ed.). Harlow, Essex, England: FT Prentice Hall, Pearson Education Ltd.

Johnson, H. T., & Kaplan, R. S. (1987). *Relevance lost: the rise and fall of management accounting*. Boston, M.A.: Harvard Business School Press.

Kanji, G. K. (1998). Measurement of business excellence. [Article]. *Total Quality Management, 9*(7), 633-643.

Kanji, G. K., & Moura e Sa, P. (2002). Kanji's Business Scorecard. [Article]. *Total Quality Management, 13*(1), 13-27.

Kaplan, R. S. (1980). A dimension of the mysths and science of accounting. *Accounting, Organisations and Society, 5*(1), 181 - 183.

Kaplan, R. S. (1983). Measuring manufacturing performance: a new challenge for managerial accounting research. *The Accounting Review, 58*(4), 686-705.

Kaplan, R. S. (1998). Innovation action research: creating new management theory and practice. *Journal of Management Accounting Research, 10*, 89 - 118.

Kaplan, R. S., & Norton, D. P. (1992). The balanced scorecard - measures that drive performance. *Harvard Business Review, 70*(1), 71-79.

Kaplan, R. S., & Norton, D. P. (1993). Putting the balanced scorecard to work. [Article]. *Harvard Business Review, 71*(5), 134-147.

Kaplan, R. S., & Norton, D. P. (1996). Linking the balanced scorecard to strategy. [Article]. *California Management Review, 39*(1), 53-79.

Kaplan, R. S., & Norton, D. P. (2000). Having trouble with your strategy? Then map it. *Harvard Business Review, 78*(5), 167-176, 202.

Kaplan, R. S., & Norton, D. P. (2001a). *The strategy focused organization. How Balanced Scorecard companies thrive in the new business environment*. Boston. MA: Harvard Business School Press.

Kaplan, R. S., & Norton, D. P. (2001b). Transforming the balanced scorecard from performance measurement to strategic management: Part I. *Accounting Horizons, 15*(1), 87-104.

Kaplan, R. S., & Norton, D. P. (2005). The office of strategy management. *Harvard Business Review, 83*(10), 72-82+157.

Kaplan, R. S., & Norton, D. P. (2006). How to implement a new strategy without disrupting your organization. *Harvard Business Review, 84*(3).

Kaplan, R. S., & Norton, D. P. (2008). Protect strategic expenditures. *Harvard Business Review, 86*(12), 28.

Kemmis, S., & McTaggart, R. (Eds.). (1988). *The action research planner*: Deakin University.

Kennerley, M., & Neely, A. (2002). A framework of the factors affecting the evolution of performance measurement systems. *International Journal of Operations and Production Management, 22*(11), 1222-1245.

Kennerley, M., & Neely, A. (2003). Measuring performance in a changing business environment. *International Journal of Operations and Production Management, 23*(2), 213-229.

Kerssens-van Drongelen, I. C., & Bilderbeek, J. (1999). R&D performance measurement: more than choosing a set of metrics. *R&D Management, 29*(1), 35 - 46.

Kobayashi, K. (1990). *20 keys to workplace improvement*. Cambridge, MA: Productivity Press.

Kock, N., McQueen, R. J., & Scott, J. L. (1997). Can action research be made more rigorous in a positivistic sense? The contribution of an iterative approach. *Journal of Systems and Information Technology, 1*(1), 1 - 23.

Kuhn, T. S. (1962). *The structure of scientific revolutions*. Chicago, Illinois, USA: University of Chicago Press.

Laitinen, E. K. (2002). A dynamic performance measurement system: evidence from small Finnish technology companies. *Scandinavian Journal of Management, 18*(1), 65-99.

Lebas, M. J. (1995). Performance measurement and performance management. *International Journal of Production Economics, 41*(1-3), 23-35.

Lewin, K. (1946). Action research and minority problems. *Journal of Social Issues, 2*(4), 34-46.

Lewin, K. (1947). Frontiers in group dynamics. *Human Relations, 1*(2), 143-153.

Lingle, J. H., & Schiemann, W. A. (1996). From balanced scorecard to strategic gauges - Is measurement worth it. *American Management Association*(March), 56 - 61.

Lohman, C., Fortuin, L., & Wouters, M. (2004). Designing a performance measurement system: a case study. *European Journal of Operational Research, 156*(2), 267-286.

Lynch, R. L., & Cross, K. F. (1991). *Measure up! : yardsticks for continuous improvement*. Cambridge, Mass, USA: B. Blackwell, Inc.

Malmi, T. (2001). Balanced scorecards in Finnish companies: a research note. *Management Accounting Research, 12*(2), 207-220.

Marr, B., & Adams, C. (2004). The balanced scorecard and intangible assets: similar ideas, unaligned concepts. *Measuring Business Excellence, 8*(3), 18 - 27.

Marr, B., & Schiuma, G. (2003). Business performance measurement - past, present and future. [Literature review]. *Management Decision, 41*(8), 680-687.

Martinsons, M., Davison, R., & Tse, D. (1999). The balanced scorecard: a foundation for the strategic management of information systems. *Decision Support Systems, 25*(1), 71-88.

McAdam, R. (2000). Quality models in an SME context: a critical perspective using a grounded approach. [Research Paper]. *International Journal of Quality & Reliability Management, 17*(3), 305 - 323.

McAdam, R., & Walker, T. (2003). An inquiry into balanced scorecards within best value implementation in UK local government. [Article]. *Public Administration, 81*(4), 873-892.

McCutcheon, G., & Jung, B. (1990). Alternative perspectives on action research. [Article]. *Theory Into Practice, 29*(3), 144.

Medori, D. (1998). *The development and implementation of an integrated performance measurement framework.* Paper presented at the Proceedings of Performance Measurement - Theory and Practice: International Conference, University of Cambridge, Cambridge, UK.

Medori, D., & Steeple, D. (2000). A framework for auditing and enhancing performance measurement systems. *International Journal of Operations & Production Management, 20*(5), 520 - 533.

Meekings, A., Briault, S., & Neely, A. (2010). Are your goals hitting the right target? *Business Strategy Review, 21*(3), 46-51.

Melnyk, S. A., Stewart, D. M., & Swink, M. (2004). Metrics and performance measurement in operations management: dealing with the metrics maze. *Journal of Operations Management, 22*(3), 209-218.

Meyer, M. W. (2002a). Finding performance: the new discipline in management. In A. Neely (Ed.), *Business performance management: theory and practice*. Cambridge, UK: The Press Syndicate of the University of Cambridge.

Meyer, M. W. (2002b). *Rethinking performance measurement: beyond the balanced scorecard*. Cambridge, UK: The Press Syndicate of the University of Cambridge.

Micheli, P., & Manzoni, J.-F. (2010). Strategic performance measurement: benefits, limitations and paradoxes. *Long Range Planning, 43*(4), 465-476. doi: 10.1016/j.lrp.2009.12.004

Miller, J. G., & Vollmann, T. E. (1985). The hidden factory. [Article]. *Harvard Business Review, 63*(5), 142-150.

Mintzberg, H. (1990). The design school: reconsidering the basic premises of strategic management. *Strategic Management Journal, 11*(3), 171-195. doi: 10.1002/smj.4250110302

Mintzberg, H., Lampel, J., Quinn, J. B., & Ghoshal, S. (2003). *The strategy process: concepts, contexts, cases* (4th ed.). Edinburgh, UK: Pearson Education Limited.

Mooraj, S., Oyon, D., & Hostettler, D. (1999). The balanced scorecard: a necessary good or an unnecessary evil? *European Management Journal, 17*(5), 481-491.

Neely, A. (1998). *Performance measurement: why, what and how*. London: Economist Books.

Neely, A. (1999). The performance measurement revolution: why now and what next? [Research Paper]. *International Journal of Operations & Production Management, 19*(2), 205 - 228.

Neely, A. (2005). The evolution of performance measurement research: developments in the last decade and a research agenda for the next. *International Journal of Operations and Production Management, 25*(12), 1264-1277.

Neely, A. (2009). Exploring the financial consequences of the servitization of manufacturing. *Operations Management Research, 1*(2), 103-118.

Neely, A. (Ed.). (2002). *Business performance measurement: theory and practice*. Cambridge, UK: The Press Syndicate of the University of Cambridge.

Neely, A., & Adams, C. (2001). The performance prism perspective. *Journal of Cost Management, 15*(1), 7.

Neely, A., Adams, C., & Crowe, P. (2001). The performance prism in practice. *Measuring Business Excellence, 5*(2), 6 - 12.

Neely, A., Gregory, M., & Platts, K. (1995). Performance measurement system design: a literature review and research agenda. *International Journal of Operations and Production Management, 15*(4), 80-116.

Neely, A., Kennerley, M., & Martinez, V. (2004). *Does the balanced scorecard work: an empirical investigation.* Paper presented at the The 4th International Conference on Performance Measurement, Edinburgh.

Neely, A., & Mills, J. (1993). *Manufacturing in the UK - report on a survey of performance measurement and strategy issues in UK manufacturing companies*. London, June 1993: Manufacturing Engineering Group.

Neely, A., Mills, J., Gregory, M., Richards, A. H., Platts, K., & Bourne, M. (1996). *Getting the measure of your business*. Cambridge, UK: Works Management.

Neely, A., Mills, J., Platts, K., Gregory, M., & Richards, H. (1996). Performance measurement system design: should process based approaches be adopted? *International Journal of Production Economics, 46-47*, 423-431.

Neely, A., Mills, J., Platts, K., Richards, H., Gregory, M., Bourne, M., & Kennerley, M. (2000). Performance measurement system design: developing and testing a process-based approach. *International Journal of Operations and Production Management, 20*(10), 1119-1145.

Neely, A., Richards, H., Mills, J., Platts, K., & Bourne, M. (1997). Designing performance measures: a structured approach. *International Journal of Operations and Production Management, 17*(11), 1131-1152.

Nixon, J. (1987). The teacher as researcher: contradictions and continuities. *Peabody Journal of Education, 64*(2), 20-32.

Norreklit, H. (2000). The balance on the balanced scorecard: a critical analysis of some of its assumptions. *Management Accounting Research, 11*(1), 65-88.

Nudurupati, S., & Bititci, U. (2003). *Impact of IT enabled performance measurement on business and management*. Paper presented at the EurOMA and POMS Joint International Conference, Como Lake, Italy 16-18 June, 2003.

Nudurupati, S., Bititci, U., Kumar, V., & Chan, F. T. S. (2011). State of the art literature review on performance measurement. *Computers and Industrial Engineering, 60*(2), 279-290.

Peters, M., & Robinson, V. (1984). The origins and status of action research. *The Journal of Applied Behavioral Science, 20*(2), 113-124.

Phillips, L. (2013). Reinventures Website. Retrieved 1st Septemper, 2011 from www.reinventures.com

Pun, K. F., & White, A. S. (2005). A performance measurement paradigm for integrating strategy formulation: A review of systems and frameworks. *International Journal of Management Reviews, 7*(1), 49-71.

Rantanen, H., & Holtari, J. (2000). *Performance analysis in Finnish SMEs.* Paper presented at the Eleventh International Working Seminar on Production Economics, Austria.

Rapoport, R. N. (1970). Three dilemmas in action research. *Human Relations, 23*(6), 499-513.

Reason, P., & Bradbury, H. (2001). *Handbook of Action Research*. Thousand Oaks, CA: Sage.

Ridgway, V. F. (1956). Dysfunctional consequences of performance measurements. [Article]. *Administrative Science Quarterly, 1*(2), 240-247.

Rigby, D. K. (2001). Management tools and techniques: a survey. *California Management Review, 43*(2 (Winter)), 139 - 160.

Rumelt, R. P., Schendel, D. E., & Teece, D. J. (Eds.). (1994). *Fundamental issues in strategy: a research agenda*. Boston: Harvard Business School Press.

Rust, R. T., Zahorik, A. J., & Keiningham, T. L. (1995). Return on quality (ROQ): making service quality financially accountable. *The Journal of Marketing, 59*(2), 58-70.

Sanchez, J. I., & Levine, E. L. (2012). The rise and fall of job analysis and the future of work analysis. *The Annual Review of Psychology, 63*, 397 - 425.

Schein, E. H. (1990). Organizational culture. *American Psychologist, 45*(2).

Sharma, M. K., & Bhagwat, R. (2006). Performance measurements in the implementation of information systems in small and medium-sized enterprises: a framework and empirical analysis. *Measuring Business Excellence, 10*(4), 8 - 21.

Silk, S. (1998). Automating the balanced scorecard (includes related article on West Mercia Constabulary). *Management Accounting (USA), v79*(n11), p38(36).

Smith, M. H., & Smith, D. (2007). Implementing strategically aligned performance measurement in small firms. *International Journal of Production Economics, 106*(2), 393-408.

Sousa, S., Aspinwall, E., & Rodrigues, A. G. (2006). Performance measures in English small and medium enterprises: survey results. *Benchmarking: An International Journal, 13*(1/2), 120 - 134.

Sousa, S., Aspinwall, E., Sampaio, P. A., & Rodrigues, A. G. (2005). Performance measures and quality tools in Portuguese small and medium enterprises: survey results. *Total Quality Management & Business Excellence, 16*(2), 277 - 307.

Speckbacher, G., Bischof, J., & Pfeiffer, T. (2003). A descriptive analysis on the implementation of balanced scorecards in German-speaking countries. *Management Accounting Research, 14*(4), 361-388.

Susman, G. I., & Evered, R. D. (1978). An assessment of the scientific merits of action research. *Administrative Science Quarterly, 23*(4), 582-603.

Tangen, S. (2004). Performance measurement: from philosophy to practice. *International Journal of Productivity and Performance Management, 53*(8), 726 - 737.

Tangen, S. (2005). Insights from practice: analysing the requirements of performance measurement systems. [Research paper]. *Measuring Business Excellence, 9*(4), 46 - 54.

Taticchi, P. (2008). *Business performance measurement and management: implementation of principles in SMEs and enterprise networks.* Doctor of Philosophy, University of Perugia.

Taticchi, P., Tonelli, F., & Cagnazzo, L. (2010). Performance measurement and management: a literature review and a research agenda. [General review]. *Measuring Business Excellence, 14*(1), 4 - 18.

Taylor, J. (2009). Strengthening the link between performance and decision making. *Public Administration, 87*(4), 853 - 871.

Tenhunen, J., Ukko, J., Markus, T., & Rantanen, H. (2002). Designing a performance measurement system: a case study in the Telecom business. *Frontiers of E-Business Research*, 487-497.

The New Zealand Centre for SME Research. (2011). Small and medium enterprise research. Retrieved 5th October, 2011, 2011, from http://sme-centre.massey.ac.nz

Titchen, A., & Binnie, A. (1994). Action research: a strategy for theory generation and testing. *International Journal of Nursing Studies, 31*(1), 1-12.

Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science, 211*(4481), 453 - 458.

Ukko, J., Pekkola, S., & Rantanen, H. (2009). A framework to support performance measurement at the operative level of an organisation. *International Journal of Business Performance Management, 11*(4), 313-335.

van Gelderen, M., Frese, M., & Thurik, R. (2000). Strategies, uncertainty and performance of small business startups. *Small Business Economics, 15*(3), 165-181.

Vichitdhanabadee, J., Wilmshurst, T., & Clift, R. (2009). *Performance management practice in Thai SMEs.* Paper presented at the Proceedings of the Performance Measurement Association Conference, 14-17 April, 2009, University of Otago, Dunedin, New Zealand.

Welsh, J. A., & White, J. F. (1981). A small business is not a little big business. [Article]. *Harvard Business Review, 59*(4), 18-27.

Wouters, M., & Sportel, M. (2005). The role of existing measures in developing and implementing performance measurement systems. *International Journal of Operations & Production Management, 25*(11), 1062 - 1082.

Yigitbasioglu, O. M., & Velcu, O. (2012). A review of dashboards in performance management: Implications for design and research. *International Journal of Accounting Information Systems, 13*, 41 - 59.

APPENDICES

A. Performance reporting – beginning of action research case study

Finance Report

In the first 12 months of the action research case study, the Monthly Finance Performance Report included the following performance measures:

Report	Nature of Report
Finance	
Revenue	Number
Direct Costs	Number
Gross Profit	Percentage
Operating Surplus	Number
Operating Profit	Number
Monthly Revenue vs. Budget	Graph
Cumulative Revenue vs. Budget	Graph
Monthly Operating Expenses vs. Budget	Graph
Cumulative Operating Expenses vs. Budget	Graph
Profit and Loss Statement	As standard
Monthly and Aged Debtors	Table & Percentage
Stock Purchases	Number
Work in Progress/Finished Goods Ratio	Pie Chart
Inventory Trend	12 Month Graph
Six Month Forward Cashflow Forecast	Number and Graph
CAPEX Spend (Six Month Forward Forecast)	Number
Top Ten Customer List (Month and Year to Date)	Itemised and Graphed
Top Ten Suppliers (Month and Year to Date)	Itemised and Graphed
Staff Numbers	Graphed
Annual Leave Liability	Graphed
Forex Review	Number
Projects/Goals Update	Commentary

Business Development Report

The Monthly Business Development Performance Report included the following five performance measures:

Business Development	**Nature of Report**
Focus for the Month	Commentary
Existing Opportunities	Commentary
New CSC Opportunities	Commentary
Business Development Opportunities for the Next Month	Commentary
Project Team 3-Month Forecast (Budget/Forecast/Actual)	Table

Operations Performance Reporting

In the first 12 months of the action research case study, the Monthly Operations (Manufacturing and Logistics) Performance Report included the following performance measures:

Operations (Manufacturing and Logistics)	**Nature of Report**
Last 5 Years Annual Injury Totals	Table
Injury Trends	Table
Injuries by Department	Table
Days Lost – Injury Time	Table
Reported Accidents (5 Year Comparison)	Chart
Headcount by Department	Table
Quality	Commentary
Product Improvement Form (PIF) Trends	Number
Lead Times, Accuracy of Drawings & Bill of Manufacturing	Commentary
Variation in Manufacturing vs. Projects View of Standards	Commentary
People (returning staff, headcount/leave fluctuations)	Commentary
Chargeable vs. Non-Chargeable Labour	Table
Departmental Breakout of Chargeable vs. Non-Chargeable	Table

Delivery (Late and On time)	Graph
Sales Orders that were late (Itemised and reasons given)	Table
Number of Sales Orders Raised	Number
Overseas Container Shipping Report	Table

An example from the March 2008 Operations Management Report below, shows the level of detail presented in the report: (company and personnel names, locations and supplier names changed for confidentiality reasons):

Example of the Shipping List presented in the Operations Management Report:

Overseas Shipping List – Mar 08 and forward						
Customer	**Supplier**	**xxxPO #**	**Order to China**	**Approx ETA**	**Deliver to**	**PO Value**
xxx - DVD Shelves & Brackets	***xxx***	***PO19426***	***03.03.08***	***25.04.08***	***xxx***	***$2,120.00***
xxx - Napier	***xxx Industries***	***PO19470***	***17.03.08***	***06.05.08***	***xxx***	***$53,812.07***
ADR - Jesmond	***xxx***	***PO19484***	***13.03.08***	***01.05.08***	***xxx***	***$5,607.40***
ADR - Toormina	***xxx***	***PO19485***	***20.03.08***	***01.05.08***	***xxx***	***$16,897.32***
xxx - Airport West	***xxx***	***PO19486***	***12.03.08***	***01.05.08***	***xxx***	***$6,900.84***
xxx - Stock	***xxx Industries***	***PO19506***	***13.03.08***	***15.04.08***	***xxx***	***$7,101.60***
Dulux	***C-F Industries***	***PO19592***	***20.03.08***	***10.04.08***	***xxx***	***$1,206.72***
					Total	***$93,645.95***

Example of the Value of Finished Product presented in the Operations Management Report:

	25-Mar			31-Mar		
	xxx SYDNEY	SYDNEY	xxx NZ	xxx SYDNEY	SYDNEY units x std cost	xxx NZ
Finished subtotal	$223,604.17	$21,189.89	$202,414.28	$287,310.36	$18,902.69	$268,407.67
Imported subtotal	$582,596.17	$332,461.18	$250,134.99	$569,358.64	$332,461.18	$236,897.46
Joinery subtotal	$111,202.74	$0.00	$111,202.74	$95,526.61	$0.00	$95,526.61
Misc subtotal	$1,131.31	$0.00	$1,131.31	$1,019.51	$0.00	$1,019.51
Powder subtotal	$21,900.59	$0.00	$21,900.59	$21,550.83	$0.00	$21,550.83
Raw subtotal	$29,333.73	$0.00	$29,333.73	$27,160.17	$0.00	$27,160.17
Steel subtotal	$38,609.73	$0.00	$38,609.73	$39,081.74	$0.00	$39,081.74
Store subtotal	$105,852.71	$0.00	$105,852.71	$101,484.39	$0.00	$101,484.39
WIP subtotal	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
REPORT TOTAL	***1114231.15***	***353651.07***	***760580.08***	***1142492.25***	***351363.87***	***791128.38***

B. Performance reporting – end of action research case study

Performance reporting changed significantly during the action research case study. This section provides an overview of the changes that occurred in each of the functional management areas represented in the Senior Management Team.

Finance and Administration - New Monthly Performance Report Content

The Finance and Administration monthly performance report evolved to the following:

Pre-Action Research Case Study Finance and Administration Report Content	**End of Action Research Case Study Finance and Administration Report Content**
Revenue	Still reported
Direct Costs	Still reported
Gross Profit	Still reported
Operating Surplus	Still reported
Operating Profit	Still reported
Monthly Revenue vs. Budget	Still reported
Cumulative Revenue vs. Budget	Still reported
Monthly Operating Expenses vs. Budget	Still reported
Cumulative Operating Expenses vs. Budget	Still reported
Profit and Loss Statement	Still reported
Monthly and Aged Debtors	Still reported
Stock Purchases	Still reported
Work in Progress/Finished Goods Ratio	Still reported
Inventory Trend	Still reported
Six Month Forward Cashflow Forecast	Still reported
CAPEX Spend (Six Month Forward Forecast)	Not reported
Top Ten Customer List (Month and Year to Date)	Still reported but is monthly and year-to-date
Top Ten Suppliers (Month and Year to Date)	Still reported but is monthly and year-to-date
Staff Numbers	Still reported
Annual Leave Liability	Still reported
Forex Review	Still reported
Projects/Goals Update	Still reported

	New Measures Reported
	Stock Turn/Annum. This is a measure of efficiency and is informing the finance manager about the management of stock levels within the business.
	Creditors. This is a new measure and is related to cashflow management. CSC likes to pay its suppliers on time however as cashflow tightened, this report helped manage the risk of the shareholder having to inject new funds into the business.
	Cashflow Management. This is a new measure and shows the highest and the lowest projected bank balances for the next month.
	EBITDA. This is a gross profit figure (provided in $ terms and as a percentage of total revenue) – earnings before interest, tax and depreciation.
	Can a Dividend Be Paid to the Shareholder. This became an outcome and new measure for the finance area of the business. The financial manager also became much more interested in other functional area performance management reports so that he could improve cashflow management.
	Foreign Exchange Cover in Place for Confirmed Orders. This was a new measure to monitor risk management within the business.
	On-track/Needs Attention. Every report states whether the Senior Management Team and Board need to worry about the information or area being reported. A check in the on-track box indicates that the area is working well or is within budget, and a check in the needs-attention box indicates that something needs to happen to improve the area and the Manager responsible includes a note stating what is being done.

Business Development - New Monthly Performance Report Content

The Business Development monthly performance report evolved to the following:

Pre-Action Research Case Study Business Development Report Content	**End of Action Research Case Study Business Development Report Content**
Focus for the Month	Not reported
Existing Opportunities	Evolved into a Forecast Report (see below)
New CSC Opportunities	Evolved into a Forecast Report (see below)
Business Development Opportunities for the Next Month	Extended to a six month forward forecast report (see below)
Project Team 3-Month Forecast (Budget/Forecast/Actual)	Evolved into a Forecast Report (see below)
	New Measures Reported
	Satisfied Customers. This indicates if any customers are not satisfied. It lists any customers affected by late and early deliveries, quality issues, installation issues, and any complaints that may have been received. This information is reported weekly and included in the monthly management report. There is no formal customer satisfaction survey undertaken by CSC. Instead, this measure is designed to highlight any specific issue that may need to be managed more closely by the Senior Management Team.
	Top 5 Customers Contacted. A performance measure that is part of the customer relationship management and growth strategy. More regular and structured customer contact was recommended. This report indicates that CSC has been in contact with each of the top five customers every week and includes space for commentary if required.

	Wider/Increased Customer Base. A performance measure that is part of the customer relationship management and growth strategy. This is designed to ensure the company is expanding its customer base and reducing its exposure and risk to a small number of customers.
	Supplying a Greater Range of Product. This performance measures was suggested by the Manufacturing Manager and relates to the ability of CSC to produce product using a variety of materials. This has introduced opportunities for the business development team to offer a greater potential product range and is aligned with the customer growth strategy. The risk of being locked into a limited product range and being viewed by existing and potential customers as having a limited product range has improved.
	Website Hit Statistics. This new measure keeps awareness of the website as a business tool current within the business. Only the number of 'hits' is reported. More reporting is possible but it is not a priority within the business mainly due to the time availability to do something about it.
	Knowing What Competitors are Doing. Previously, competitors were not monitored. Any competitive activity or new knowledge is now reported. This report still has development potential however it has helped stimulate discussion about competitive initiatives that have reduced risk of customer loss.
	Increased Presence in Australia. This performance measure is related to the internationalization strategy. Overall this strategy is not well formulated. However, this

	performance measure is included so that some level of focus on the Australian market is retained within the business. This report has remained however the managing director and business development manager are now more involved in the Australian business through more regular market visits and this report is more of a 'for-your-information' to ensure the whole Senior Management Team is across international business growth activity.
	Knowledge Bank. A new measure to continuously build knowledge within the business. This performance measure is related to the 20 Keys/Supplier Management strategy and includes reporting of CSC's progress towards being recognized as a World Class company within the 20-Keys Lean Manufacturing process. Company process knowledge is a crucial strength of CSC. Having a repository for this knowledge reduces the risk that knowledge will be lost within the business over-time through staff attrition and long-term memory loss.
	Pre-Production Schedule. This performance measure lists forecasts at least one month forward and can be evaluated alongside the Loadings report in the Manufacturing report. This has also helped to align manufacturing more closely with business development activity and planning.
	Customer Forecasts. This includes the forecasts of actual known business. The number of stores, the planned dates and value of each customer is stated and adds to the information in the pre-production schedule.
	Prospect Forecasts. This includes the forecasts of proposals in the pipeline or business that has been indicated by customers

	and prospects. The number of stores, the planned dates and value of each customer is stated and adds to the information in the pre-production schedule. Forward planning has improved significantly as this report has developed more consistency.
	On-track/Needs Attention. Every report states whether the Senior Management Team and Board need to worry about the information or area being reported. A tick in the on-track box indicates that the area is working well or is within budget, and a tick in the needs-attention box indicates that something needs to happen to improve the area and the Manager responsible includes a note stating what is being done.

Manufacturing - New Monthly Report Content

The Manufacturing monthly report evolved to the following:

Pre-Action Research Case Study Manufacturing Report Content	**End of Action Research Case Study Manufacturing Report Content**
Last 5 Years Annual Injury Totals	Not reported
Injury Trends	Changed to reporting 'Number of Incidents'
Injuries by Department	Not reported – but is graphed in the factory
Days Lost – Injury Time	Not reported – but is graphed in the factory
Reported Accidents (5 Year Comparison)	Not reported – but is graphed in the factory
Headcount by Department	Not reported – Overall Headcount is reported
Quality	Still Reported
Product Improvement Form (PIF) Trends	Reported and refined
Lead Times, Accuracy of Drawings and Bill of Manufacturing	Not reported
Variation in Manufacturing vs. Projects View of Standards	Not reported
People (returning staff, headcount/leave fluctuations)	Not reported
Chargeable vs. Non-Chargeable Labour	Still reported. Changed from table format to

	graphical format
Departmental Breakout of Chargeable vs. Non-Chargeable	Still reported. Changed from table format to graphical format
Delivery (Late and On time)	Still reported. Changed from table format to graphical format
Sales Orders that were late (Itemised and reasons given)	Still reported. Changed from table format to graphical format
Number of Sales Orders Raised	Not reported
Overseas Container Shipping Report	Not reported
	New Measures Reported
	DIFOTIS Clarified. In addition to reporting orders that were on time and late, the new Weekly Dashboard and Monthly reports also include whether orders arrived early and whether they were in spec. This information is itemized by customer so the managers can evaluate the impact at a customer level. This extra level of detail has helped manage risk at the customer level by helping CSC to plan ahead and manage customer relationships if there are signs that DIFOTIS performance is slipping with any particular customer.
	Loadings. This is now itemized on a weekly basis and includes forecasted loadings for the following 6 weeks by area within the factory (e.g. joinery, powder coating, metalwork and the laser machine). This additional report has helped manage factory-loading risk by reducing workload pressure points through improved workflow planning. Cashflow management has also improved as a result of reducing sudden overtime levels.
	Process Improvement Forms (PIFs). This has been refined to include the number of forms raised, closed-out, and still to action. Previously this report only showed the number of PIFs raised and did not contain any analysis.

	Activity Report. A new report showing the types of work activity has been developed. This summarises the number of hours on a weekly basis that were deployed on productive work, rework, indirect work, break-time and unaccounted activity.
	On-track/Needs Attention. Every report states whether the Senior Management Team and Board need to worry about the information or area being reported. A tick in the on-track box indicates that the area is working well or is within budget, and a tick in the needs-attention box indicates that something needs to happen to improve the area and the Manager responsible includes a note stating what is being done. Overall business risk has been more effectively managed as a result of the important things being discussed on a weekly basis. Not much happens in the business that cannot be resolved within a week.

Australia - New Monthly Performance Report Content

The Australian monthly performance report did not exist prior to the action research case study. A report was developed within 3 months of the action research case study starting and then it evolved as per the following:

First Report Early in the Action Research Case Study Australian Report Content	End of Action Research Case study Australian Report Content
Actual Sales	Still reported
Budgeted Sales	Still reported
Previous Years Sales	Not reported (reported by Finance)
YTD Sales	Not reported (reported by Finance)
Budgeted YTD Sales	Not reported (reported by Finance)
Previous YTD Sales	Not reported (reported by Finance)
Period Sales by Customer (Budget, Actual, Variance)	Not reported (reported by Finance)

Focus for the Month	Still reported
Narrative Overview of Existing Customers	Reported – changed to short commentary
Human Resources (narrative)	Not reported
Health and Safety (narrative)	Not reported
General Business (narrative)	Reported – changed to short commentary
Capex Requirements (narrative)	Not reported
Profit and Loss	Not reported (reported by Finance)
	New Measures Reported
	Stock Take. A stock take is reported regularly. The Sydney office is a warehousing operation and so stock management is a key focus for the Australian Manager. Stock levels are still a focus however the level of comfort around this topic has improved.
	Specific Items as they arise. As an example, the need for training in the new IT system (Vantage) was on the agenda for 6 months until the Board recognized it as an activity that needed to take place. This item was removed as soon as the training took place.

C. SWOT analysis comparison – between 1997 and 2008

I compared the SWOT analysis undertaken in the 1st strategic planning session held in August 2008 with the SWOT analyses completed in 1997 and in 2007. I undertook this comparison after this strategic planning meeting when it became clear to me that the SWOT analysis, although a regularly used tool in planning sessions, was not being leveraged significantly by the business.

Step 1 - The SWOT analysis (August, 2008 – strategic planning meeting)

The key outcomes from the SWOT analysis conducted during the action research case study were that CSC had a number of strengths including its production capability and versatility, supplier relationships, product quality, and financial backing, which have remained consistent over a ten-year period. Balancing this were a number of weaknesses that have been consistently present throughout the ten-year period including the location of the head office, lack of planning, direction, processes and procedure, and finally customer knowledge. The opportunities and threats were less consistent however there were emerging opportunities to improve production efficiency, productivity, utilize the latest technologies and leverage existing customer success to take advantage of global growth opportunities. There were two consistent threats, (1) the potential for new and stronger competitors and (2) maintaining consistent supply chains.

Table 3 – Comparison of 1997, 2007 and 2008 Strengths

I have classified the findings of the SWOT analysis into headings to help make more sense of the analysis. For example, in the Strengths Analysis, the headings relates to (a) Company, (2) Factory and Supply, (3) Staff, (4) Finance, (5) Relationships, (6) Product, and (7) Customers.

The following table reflects CSC's perceived strengths 10 years prior, immediately prior and then at the strategic planning session held during the action research case study.

	1997 SWOT analysis: 10 years prior to action research case study	2007 SWOT analysis one year prior to action research case study	2008 SWOT analysis during action research case study
Strengths	1. Company Related		
	We are not shopfitters	History	Industry Knowledge
	Company size and structure	Vision	
	Central location	Location	
	Knowledge of store-fixtures	Innovative	
		Market position	
	2. Factory/Supply Related		
	Versatility, Adaptability, ability to change	Versatility	Flexible product lines/volume/China
	Flexibility in production	Thought process	Multiple materials
	Contract fixture manufacturer	Our process	Technical capability
		Coverage	
	3. Staff related		
	Youth (fresh ideas) – good staff	Our people	Management Team
	4. Finance Related		
	Low investment	Asset base	Low debt
			Cost structure

	5. Relationship Related		
	Strong ties with complimentary companies	Relationships with suppliers	Personal relationships
		Knowledge and links with retail sector	
		Network partners	
	6. Product Related		
	Quality product	Our product	Product Knowledge
	7. Customer Related		
	Customer type and base	Relationships with customers	Quality customer base
		Value for money	

I have compared two previous SWOT analyses, completed in 1997 and 2007, with the August 2008 SWOT analyses completed during the action research case study. This comparison is provided below:

Comparison of 1997, 2007 and 2008 Strengths

Consistent strengths throughout CSC's history, as assessed by the Senior Management Team were:

a) its location,
b) production capability in the context of versatility, adaptability, and in the ability to work with multiple materials
c) staff, where ten years previously the strength was youth and fresh ideas, to currently having a strong management team,
d) strong financial backing,
e) strong relationships with suppliers,
f) a quality product, and
g) a quality customer base

Over the ten-year period, CSC did not identify any specific new strength that could be significantly leveraged.

Table 4 – Comparison of 1997, 2007 and 2008 Weaknesses

The following table reflects CSC's perceived weaknesses 10 years prior, immediately prior and then at the strategic planning session held during the action research case study.

	1997 SWOT analysis: 10 years prior to action research case study	2007 SWOT analysis immediately prior to action research case study	2008 SWOT analysis
Weaknesses	1. Company Related		
	Central location	Locations	
	Nature of the current CSC group site	Implementation	
	Low profile within industry	History	
	Changing things so often		
	Remoteness of major suppliers		
	2. Factory Related		
	Small goods slip through the system (make to stock - we have nothing to offer)		
	Total lead time		
	3. Staff Related		
		Thought process	Dependence on one

			person
		Lack of in-house training	Aging staff
		Resources	Poor technical capability
		Job descriptions	
		Talent identification	
	4. Administration and Planning Related		
	Filing weakness	Internal processes/procedures	Reactive rather than proactive
	Lack of business, manufacturing and marketing planning systems	Lack of market research/competitors	Lack of vision/strategy
	Lack of direction	Lack of market research/competitors	
	No product plan		
	5. Finance Related		
	Cost structure		
	Cash flow		
	6. Relationship Related		
	Purchase from suppliers that sell product to consumer and other manufacturers	Relationships with suppliers	
		Relationships with customers	
		Networking not sufficient	

	7. Product Related		
	8. Customer Related		
	Lack of understanding of customer quantity	Lack of customer knowledge	Narrow existing customer base
	9. Customer base		
	Customer service		
	10. Sales Related		
	Lack of promotion	Seasonal curve	No catalogue or product list
	Lack of order system	Revenue driven by few large customers	

Consistent weaknesses throughout CSC's history, as assess by the Senior Management Team were:

a) the location of the head office, although this did drop off the list in the most recent SWOT
b) lack of planning, direction and vision
c) process and procedures
d) customer knowledge
e) narrow existing customer base

In contrast to the strengths analysis, aging staff was now deemed a weakness whereas youth was deemed to be a strength in 1997, and a new weakness emerging was the dependence on one person – namely the Managing Director.

Table 5 – Comparison of 1997, 2007 and 2008 Opportunities

The following table reflects CSC's perceived opportunities 10 years prior, immediately prior and then at the strategic planning session held during the action research case study.

	1997 SWOT analysis: 10 years prior to action research case study	2007 SWOT analysis immediately prior to action research case study	2008 SWOT analysis
Opportunities	1. Company Related		
	2. Factory Related		
		Increasing technology in plant	Efficiency gains and productivity costs
		Diversification	Faster response time
		Increase efficiencies	New manufacturing technology
		Increase in quality	
	3. Staff Related		
			Recruitment and training staff/succession
	4. Finance Related		
			Finance, merger and acquisition growth
	5. Relationship Related		
		Partnership agreements	
	6. Product Related		
	Standardised products to reduce lead times or increasing manufacturing planning times	RAX systems	Diversify offering (environment)
	Agents for other	Product development	

	manufacturers systems		
	7. Customer Related		
	Consumers increased awareness of well designed retail environments	Grow core customers	
	Increase need to differentiate stores	Existing large retail customer base	
	Australian retailers moving to NZ		
	Trend towards large stores		
	Reduction of one-off stores (perceived)		
	8. Sales Related		
	New possibilities for distribution channels (shopping malls)	Supplier funded fixtures	Leveraging customer success
	Different market sectors (retail sectors)	Expanding retail groups	Improved communications
	Become a preferred supplier to shopping malls	New market development	Global Growth
	Retail Network though Visual Merchandiser	New Stationary Chain	IT image
	Approach Australian firms through NZ contacts		

There were no specific opportunities that could be tracked across the ten-year period. There were a number of new opportunities emerging for CSC to investigate such as:

a) the ability to improve efficiency, productivity and response times

b) utilize the latest production technologies
c) to leverage existing customer success stories
d) become a part of global growth developments

Table 6 – Comparison of 1997, 2007 and 2008 Threats

The following table reflects CSC's perceived threats 10 years prior, immediately prior and then at the strategic planning session held during the action research case study.

	1997 SWOT analysis: 10 years prior to action research case study	2007 SWOT analysis immediately prior to action research case study	2008 SWOT analysis
Threats	1. Company Related		
			Location vs. customer base
	2. Factory Related		
	Unstable supply of punched tube	China – quality of product	Material costs
		Continuity of supply	Limited suppliers
		Sole source of supply	
	3. Staff Related		
		Loss of key people	Limited good people
		Poor policy for retaining staff	
	4. Administration and Planning Related		
	Greater awareness of health and safety		
	5. Finance Related		
	Cost structure	Cashflow	

		Exchange rate	
	6. Relationship Related		
	Point of entry in customer companies changing due to staff turnover	Losing customers	
	7. Product Related		
	Low cost of materials	Not having product development.	
	No intellectual property rights		
	8. Customer Related		
			Customers trading patterns changing
	9. Sales Related		
	No barrier to market entry	Picking up wrong customers	Stronger competitor (scale)
	Competitors can respond quickly	Competitors	Macro economic changes
	Current market based, in large part, on price		
	Australian chains bringing own shop-fitter into NZ		
	Competitors		

Consistent threats throughout CSC's history, as assessed by the Senior Management Team were:

a) potential for new and stronger competitors
b) maintaining consistent supply from multiple suppliers

An emerging threat was the ability to attract quality staff relative to the company's head office location.

D. Using performance measurement to reduce the number of strategies

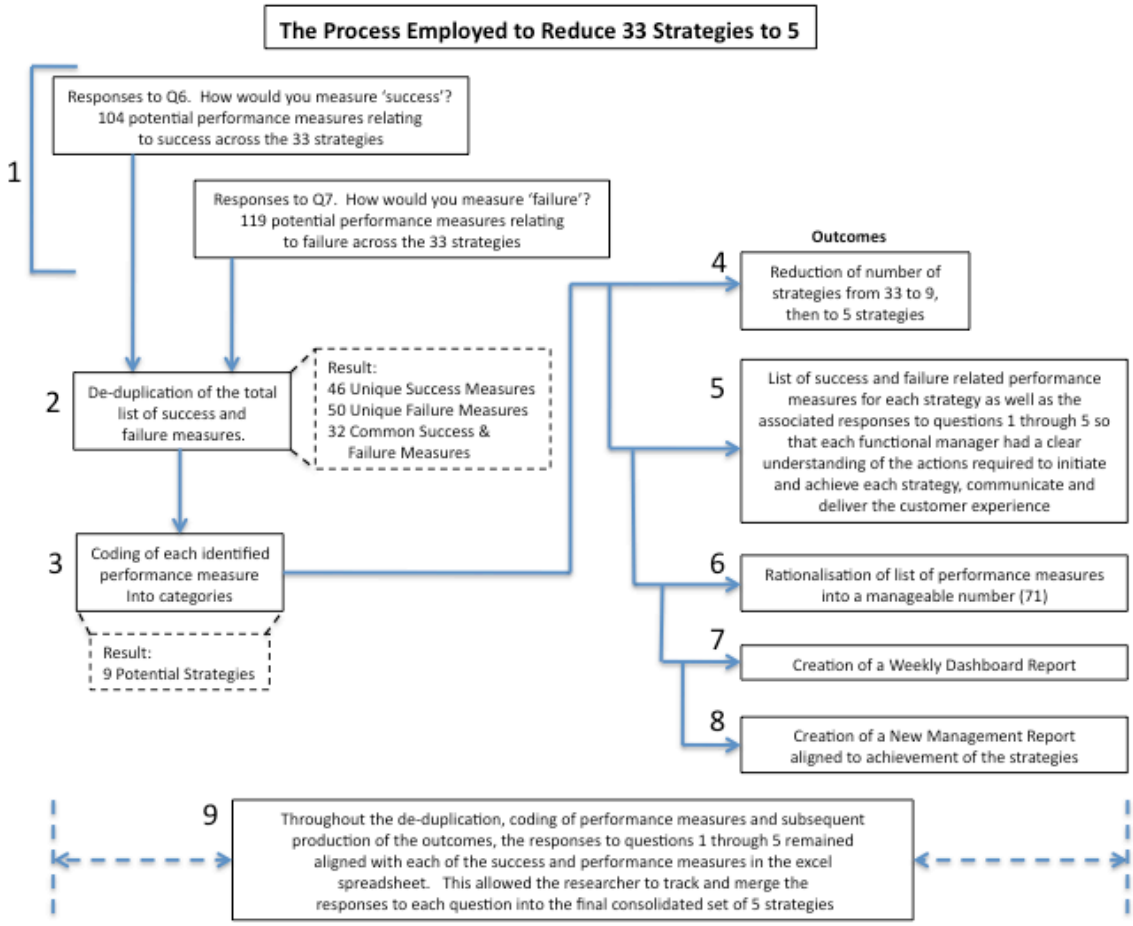
As mentioned in section 4.4.4, strategy is an often referred to term in this thesis. Early on in the action research process, I decided to accept whatever the definition was for strategy that CSC preferred. It can be argued that many of CSC's strategies identified during the project were operational, and not strategic, in nature and therefore may not be recognized as strategies in other companies. However, for the purposes of this thesis, any use of strategy as a term in the context of CSC's approach to designing, implementing and using performance measurement remain in-tact as they were identified during the action research case study to protect the integrity of the research outcomes.

Thirty-three strategies were reduced to five strategies by focusing on only the performance measures identified for 'successful (the responses to question 6)' and 'failure (the responses to question 7)' outcomes for each strategy. Each success and failure related performance measure was coded and then consolidated into 'similar or like' groupings within their respective success or failure orientations (examples are provided in section 4.6. Overall, across the original 33 strategies, there were 160 unique performance measures identified. As a result of merging strategies together to end up with only five core business strategies, the final number of performance measures identified as being immediately relevant and valuable to the business was 71.

The Board expressed concern about the large number of strategies (33) the Senior Management Team was working with.

After discussion with the Senior Management Team, it was apparent that the organization had no obvious method that could be relied upon to reduce the number of strategies. Also, there was no 'ideal' number of strategies to reduce to. I then developed a nine step approach to reducing the number of strategies by consolidating the list of 160 possible performance measurements into groups of similar constructs' (see figure 15 on the next page).

Figure 15 The process employed to reduce 33 strategies to 5



A detailed description of each of the 9 steps is provided below.

Step 1. List the possible success and failure measures for the strategies

The Senior Management Team identified what they would measure to evaluate the success of each strategy. As a separate question, the Senior Management Team were also asked to state what they would measure to evaluate the possible failure of each strategy. Some of the measures of success were the exact opposite, or converse, of some of the measures of failure. I refer to these 'exact opposite or converse' views of measures as common success and failure measures. As an example, a success measure (repeat business) and a failure measure (no repeat business/one-off customers) are the

'exact opposite or converse' of each other and reflect similar thinking with regard to the particular outcomes and performance measures of either the same strategy or in some cases different strategies. A second example is the recognition of 'high customer retention' as a success measure and 'low customer retention' as a failure measure for either the same strategy or in some cases different strategies as well.

The result of step 1 was a list of 104 measures the Senior Management Team thought were indicators of success and 119 measures the Senior Management Team thought were indicators of failure for the 33 strategies. Added together, there were 223 possible performance measures to consider.

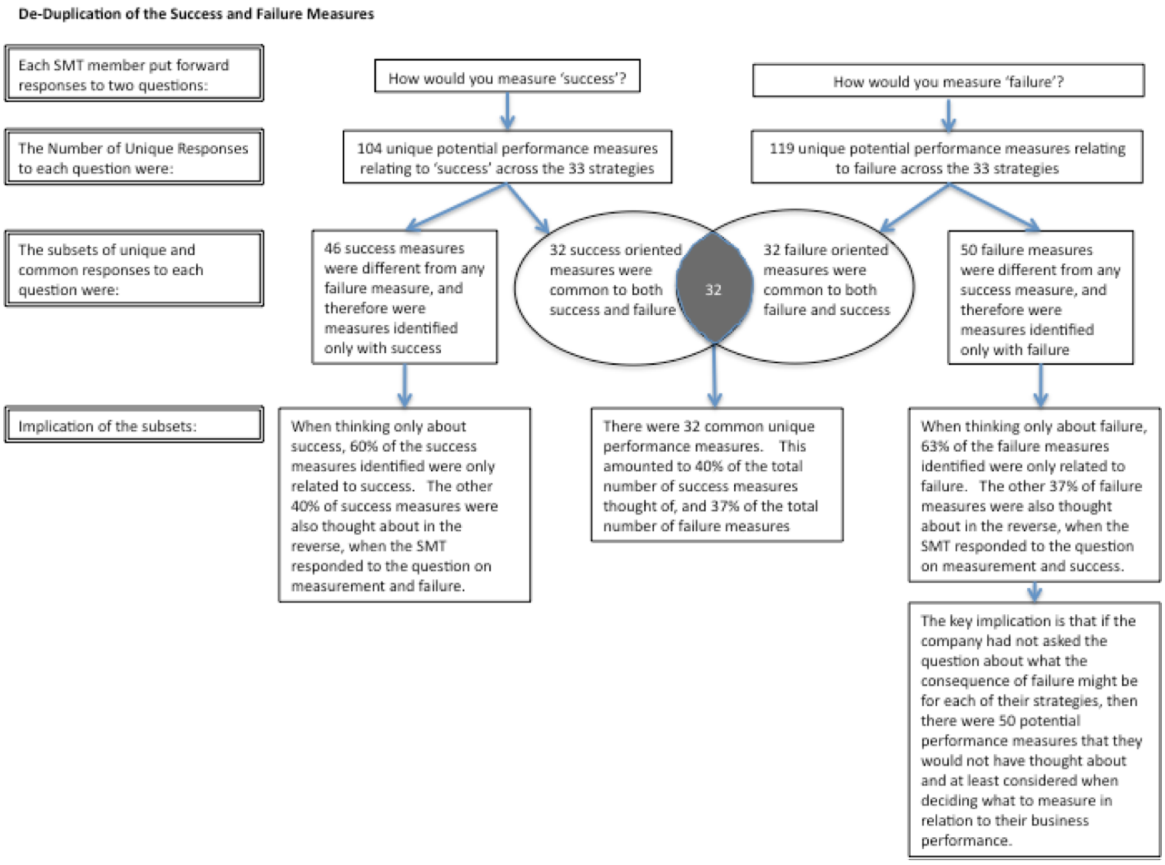
Step 2. Remove duplications from the two measure lists

The total list of 223 performance measures identified in step 1 is not a true representation of the number of unique performance measures produced by the Senior Management Team as this list contained much duplication. In a number of cases, the same success measures were identified for different strategies and likewise for the list of failure measures.

One example was 'revenue growth'. This was a measure of success for three strategies such as for (1) the '*diversify offer strategy'*, (2) the '*lean manufacturing strategy'* as well as for (3) the '*merger and acquisition strategy'*. Instead of counting 'revenue growth' three times as a measure, it was counted only once and recorded as one unique measure called 'revenue growth'

A second example was that 'increased staff turnover'. This was a measure of failure for five strategies such as for (1) the '*training strategy'*, (2) the '*dependence on few strategy'*, (3) the '*recruitment of good staff strategy'*, (4) the '*improve communication strategy'*, and (5) the '*building strong customer relationship strategy'*. Instead of counting 'increased staff turnover' five times as a measure, it was counted only once and recorded as one unique measure called 'increased staff turnover'.

Figure 16 De-duplication of the success and failure measures



This exercise produced three performance measurement lists.

List 1. 32 unique performance measures that were common to both success and failure

List 2. 46 unique performance measures that were only thought about in response to the question about how to measure success

List 3. 50 unique performance measures that were only thought about in response to the question about how to measure failure

This exercise reduced the total number of performance measures, by removing the duplicates, to 128 unique performance measures.

The next step was to identify the performance measures which were success oriented that were also to be found in the list of performance measures that were failure oriented.

An example being, that one or more of the success measures might be 'that revenue will increase' and one or more of the failure measures might be 'that revenue will stagnate or decline'. These are the reverse of each other and so were classified as 'common success and failure measures'. The process above identified three distinct performance measurement lists:

List 1. 32 unique performance measures that were common to both success and failure

List 2. 46 unique performance measures that were only thought about in response to the question about how to measure success

List 3. 50 unique performance measures that were only thought about in response to the question about how to measure failure

This exercise reduced the total number of performance measures, by removing the cross-success and failure duplicates, to 128 unique performance measures.

There are a number of implications of the outcome of the process of de-duplicating the success and failure related performance measures. I expected that a number of performance measures produced by answering the question about '*how to measure success'* would also be listed, but framed in the reverse format, in the list of performance measures from the question about '*how to measure failure'*. For example, that 'revenue growth' would be one outcome for success of a strategy and that 'revenue stagnation or decline' would be outcomes for that strategy failing. However I expected the number to be more than the final result. In total, thirty-two performance measures (or 32% of the total unique measures identified) fell into this category as being common to both success and failure of the respective strategies. This was 40% of the total list of success related performance measures and 37% of the total list of failure related performance measures.

The surprise results were that there were 46 distinct success related measures that were not conversely reflected in the failure list of performance measures. In addition, there were 50 distinct failure related measures that were not conversely reflected in the success list of performance measures. Prior to the researcher involvement in this

process, the Senior Management Team and Board were going to develop a list of performance measures based only on their strategies succeeding. At best, this would have resulted in 78 performance measures being considered. Adding in the additional question about the consequence of their strategies not succeeding (or failing as a worst case scenario), resulted in a further 50 potential performance measures being considered by the business. Each of these performance measures were potential identifiers of whether strategies were succeeding and so were important to the business from a risk management perspective.

Step 3. Coding of performance measures into similar constructs

The next step was to code each of the 128 unique performance measures into similar categories or outcomes. This created lists of performance measures that 'went' together and as a result effectively contributed to measuring the same types of outcomes. An example is that 'satisfied customers' was coded into a single strategy called 'Customer and Growth Management'. Prior to the consolidation into the single strategy of Customer and Growth Management, 'satisfied customers' was a potential performance measure for six strategies such as (1) customer relationships, (2) faster response times, (3) improve communications, (4) diversify offer, (5) lean manufacturing, and (6) the treasury strategy. To clarify, the customer satisfaction example above is one of a number of performance measures associated with the Customer and Growth Management Strategy.

Step 4. Reducing the list of strategies from 33 to 9 and finally to 5

The outcome of the coding and consolidation was firstly, a list of 9 potential strategies for CSC to focus on, reduced from the original list of 33 strategies. A further review reduced this list to 5 core business strategies that CSC wanted to focus on. See table 7 for the original list of strategies identified, and the two subsequent consolidated lists.

Table 7. The Consolidated Strategy List

	Initial Strategy List	1st Consolidated Strategy List	2nd Consolidated Strategy List
1	Customer relationships	Customer Management	Customer and Growth Management
2	Diversify offer	New Opportunity/Growth	Internationalisation
3	Lean Manufacturing	Communication	Supplier and Manufacturing Management
4	Multiple materials	Competitor Management	Staff Management
5	Efficiency	Internationalisation	Cashflow Management
6	Productivity	Supplier Management	
7	Faster response times	20 Keys/Lean Process Management	
8	Product, industry knowledge	Staff Management and Development	
9	Improve communications	Cashflow Management	
10	Management staff		
11	Training		
12	Succession/recruitment		
13	Customer quality		
14	Leverage success		
15	Volume expansion (China)		
16	Global growth		
17	Low debt		
18	Merger and acquisition		
19	Technology options		
20	HR System improvement		
21	Recruitment of good staff		
22	Poor vision and strategy		
23	Protect from stronger competition		
24	Narrow customer base		
25	Customer trading patterns		
26	Reducing CSC's reactive attitude		
27	Reducing dependence on few staff		
28	System control improvement		
29	Minimise risk of loss of key		

	personnel		
30	No standard products		
31	Reduce exposure to few suppliers		
32	Lack of Treasury strategy		
33	Exchange rate management		

Reducing the number of strategies

After determining the finite set of 128 unique performance measures that CSC wanted to consider, the final step in the strategy reduction process was to code each performance measure into similar categories or outcomes. This created lists of performance measures that 'went' together and as a result effectively contributed to measuring the same types of outcomes. The example provided in the Case Study illustrates this process.

The coding exercise placed the various performance measures into constructs that 'went together', were therefore less detailed, and at a higher level than the original list of 33 strategies. It can be argued that a number of the 33 strategies could be thought of as being tactical, as opposed to being strategic, in orientation. However, this action research case study was not intended to critique or discuss whether the original list of 33 strategies might be considered as being more at a tactical level for the business. The resulting interim list of 9, and then finally 5 strategies were more reflective of being at the strategic level than the original list of 33 strategies.

The process of coding and consolidating the performance measures into 'similar categories' reduced the potential number of strategies for CSC to consider and manage from 33 down to 9. The nine identified strategies were:

1. Customer Management
2. New Opportunity/Growth
3. Communication
4. Competitor Management
5. Internationalisation

6. Supplier Management
7. 20 Keys/Lean Process Management
8. Staff Management and Development
9. Cashflow Management

The major consolidation occurred in the 33 strategies relating to supplier and manufacturing management, the strategies relating to customers and growth management, and the strategies relating to staff management. The Internationalisation Strategy and Cashflow Management Strategy remained fairly consistent in make-up throughout the process.

The Senior Management Team considered the list of 9 strategies and it was clear that they still wanted to reduce the list further. The Senior Management Team felt that 9 strategies were too many for CSC to deliver and report on successfully. Reviewing the make up of the performance measures and the strategies allowed us to consolidate the list of 9 even further into only 5 strategic groups. Four of the nine strategies, Customer Management, New Opportunity/Growth, Communication and Competitor Management, were consolidated into a single Strategic Grouping called Customer and Growth Management. The second major consolidation occurred in the manufacturing area with Supplier Management and 20 Keys/Lean Process Management being consolidated into a single strategic grouping called Supplier and Manufacturing Management.

The consolidation exercise reduced the number of strategies down from 9 to 5, however, the actual workload associated with implementing the final initiatives and measuring performance did not reduce. The reduction in the number of strategies still had the same number of initiatives and performance measures. It was more a case of 'how many strategies did the Senior Management Team want to talk about, and could effectively manage, when they either meet as a Senior Management Team or when they reported performance to the Board'. In this regard, five strategies to talk about were better than nine.

The final list of 5 core strategies were as follows:

1. Customer and Growth Management
2. Internationalisation
3. Supplier and Manufacturing Management
4. Staff Management
5. Cashflow Management

By now, the Senior Management Team understood that their involvement in the achievement of the five strategies was cross-functional. Each functional area had some element of responsibility for contributing to the delivery of performance measures for other functional managers. The way the strategies ended up being grouped fell neatly, by chance more than by design, into the existing overall functional structure at CSC. The Business Development Manager was mostly involved with delivering the Customer and Growth Management and the Internationalisation strategies. The Manufacturing Manager was mostly responsible for delivering the Supplier and Manufacturing Management strategy. The Human Resource Manager was mostly responsible for delivering the Staff Management strategy. The Finance and Administration Manager was mostly responsible for delivering the Cashflow Management strategy. The result was that each functional manager was mostly responsible for one of the core business strategies although they recognized that they were also contributors to the delivery of performance relating to other strategies as well.

Determining how many performance measures to actually measure

After reviewing the list of 128 unique performance measures, the Senior Management Team further reduced the list down to only those measures they knew that they could implement and, in their view, would help them monitor performance against each of the strategies. Some members of the Senior Management Team would have liked to have put in place processes to measures all of the 128 unique performance measures however they were being realistic when they agreed to cut the final list back. This produced a final list of 71 distinct performance measures.

Step 5. Assigning actions to each strategy

As each strategy was consolidated, the various actions and customer experiences identified with each strategy in the responses to questions 2 to 5 remained aligned with each performance measure as it progressed through the consolidation process (see step 9 as drawn in figure 14). This meant that it was a simple exercise to determine the various actions, anticipated customer experiences, and communication plans to achieve the final strategy and performance measures identified.

Step 6. Re-orientation and rationalisation of the list of performance measures

Each Senior Management Team and Board member was asked whether they preferred to view performance measures from a positive or a negative perspective. One example is that stable (or improved) profits might be viewed positively whereas diminishing profits might be viewed negatively. Another example is that low staff turnover is more positively viewed than high staff turnover when considering a strategy about staff training. The overwhelming response from the Senior Management Team was that although it was useful to think about the consequence of their strategies failing, they would prefer to think about the performance measure in a positively oriented light. As a result, all failure related performance measures were re-oriented to reflect positive outcomes or success.

After the final list of 5 strategies was agreed, the remaining list of total potential performance measures added up to 71. There were 26 potential performance measures for Customer and Growth Management, 4 for Internationalisation, 25 for Supplier Management/20 Keys, 6 for Staff Management, and 10 for Cashflow Management.

E. Success and failure performance measure definitions

There were a number of different levels of performance measures identified in the action research case study. These levels and performance measurement definitions are outlined below:

Identified Performance Measures	These are the initial total list of 223 performance measures identified by the SMT when responding to the two questions (question numbers 6 and 7 outlined in section 4.8) about the consequences of each strategy succeeding or failing. They include duplications within each of the dynamics known as 'success measures' and 'failure measures' for the purposes of this thesis. Duplication is where the same performance measure is identified for two separate strategies. An example is where 'revenue growth' is identified as a performance measure relating to success for more than one strategy. A second example is where 'decreased efficiencies' is a performance measure relating to failure for more than one strategy.
Unique Success Measures	These are performance measures that were only identified as measuring success. This list does not include duplication within the dynamic known as success. E.g., where there were two (or more) strategies with the same potential performance measures such as 'revenue growth', then the number of 'revenue growth' performance measures would be

	counted as ‘one’. This reduced the number of identified performance measures for success from 104 to 78.
Unique Failure Measures	These are performance measures that were only identified as measuring failure. This list does not include duplication within the dynamic known as failure. E.g., where there were two (or more) strategies with the same potential performance measures such as ‘decreased efficiencies’, then the number of ‘decreased efficiencies’ performance measures would be counted as ‘one’. This reduced the number of identified performance measures for failure from 119 to 82.
Distinct Success Measures	These are performance measures that were identified as measuring ONLY success and are a subset of the Unique Success list of performance measures. They have been de-duplicated from similar success measures, do not match any of the Distinct or Unique Failure measures, and are not common across both success and failure performance measures (see below). As an example, ‘more sales from more people across the company’ was a distinct success measures that was not found from asking the consequences of a strategy failing.
Distinct Failure Measures	These are performance measures that were identified as measuring ONLY failure and are a subset of the Unique Failure list of performance measures. They have been de-duplicated from similar failure measures, do

	not match any of the Distinct or Unique Success measures, and are not common across both success and failure performance measures (see below). As an example, ‘not being classified as a preferred supplier’ was a distinct failure measure that was not found from asking the consequences of a strategy succeeding.
Common Success & Failure Measures	This is the number of Unique Success and Unique Failure performance measures that measure the same performance outcomes. As an example, one Unique Success performance measure was ‘increased market share’ whereas a Unique Failure performance measure was ‘decreased market share’. These two outcomes effectively measure the same thing and so have been classified as ‘common’ performance measures for the purpose of this action research case study.

F. The risk management potential of failure measures

The following is the list of 50 performance measures developed in response to question seven 'what is the consequence of strategies failing?'

	Distinct Failure Measures	Risk Management Potential
1	Decreased reputation for innovation and leadership	One of CSC's visions is to be recognised for being innovative within the industry. The ability to diversify its offer sufficiently to attract business from new market segments and to grow with customers as their needs expand is crucial to CSC's ability to achieve its Customer Management and Growth Strategy. Measuring CSC's ongoing reputation for innovation and leadership as a supplier helps to monitor whether this strategy is being achieved and the overall vision is achievable.
2	Narrowing of the prospect base over time	If CSC is not innovating and expanding its capability, then its prospecting base, and therefore customer base, will narrow over time. This has a direct impact on the ability to achieve the Customer Management and Growth Strategy.
3	Reduced opportunity to have new contact with customers	If CSC is not diversifying its offer, then it will have less opportunity, through having fewer reasons, to have quality contact with its customers. Monitoring and ensuring there are

		reasons to have contact with existing customers through knowing that it is regularly innovating and producing new offers will help the company manage customer relationships more effectively.
4	Cost of production increases	Monitoring the cost of production and unit costing is an early warning sign that the 20-Keys and Supplier Management strategy is not on track.
5	Time to market increases	Slippage in CSC's ability to deliver product to customers within normal and agreed timeframes is a key early warning sign that there are blockages somewhere in either the production, ordering, or pre-sales/project management area of the business.
6	Time to market cannot improve to match client demands as they change	Within the manufacturing side of CSC, there should be some flexibility to improve the delivery timeframes to the market. Occasionally, faster delivery timeframes than normal are required and this ad-hoc requirement should not put undue pressure on the factory. If it does, then a review of the manufacturing and lean production process is required to identify new ways of meeting these requirements.
7	Unfavourable name in marketplace	Monitoring the reputation of the company in the market can be an early indicator of performance slippage in any part of the business. CSC's view

		of its reputation may not be the same as that held in the market and so regular monitoring is useful.
8	Too expensive,	Becoming too expensive in relation to the lean manufacturing programme at CSC is an early indicator for the SMT to review whether the production costs of some elements or all elements of identified products need to be reviewed and possibly moved offshore to the China supply option.
9	Overtaken by competitors through inefficiency and poor practice.	Understanding why competitors are winning business and tracking the reasons back to determine where CSC needs to improve is vital for the business to continue to thrive. All aspects of the business, right through to the 3rd-party company contracted to install the final product needs regular review to ensure that competitors are not leapfrogging the overall solution provided by CSC.
10	A customer asking do you make joinery. Customers not knowing what CSC is capable of	It is recognised within CSC that they have the capability to manufacture solutions using many different types of materials. Ensuring that prospects and existing customers know this and then monitoring that they 'do know this' will assist the company to achieve its Customer Management and Growth Strategy as well as its Supplier Management and Lean Product

	Strategy.
11 Missing out on opportunities within existing accounts and new channels.	The business must continue to grow the range of materials it can use and therefore offer prospects and existing customers. Monitoring that the business is continuously investigating new materials in its manufacturing capability will support confidence that the business is not missing out on opportunities for this reason.
12 Not being classed as a preferred supplier.	Monitoring CSC's status as a 'preferred supplier' to its customers helps to manage and better forecast future business. CSC was unpleasantly surprised to learn that it was only the 4th-equal preferred supplier to one customer when it asked this question as a result of making it a performance measure. CSC had thought it was 'the' preferred supplier and as its business volume with the customer had declined, CSC thought that obviously its competitor's business volumes had declined just as severely. In fact, the opposite was true. The competitors had increased their business as a result of CSC's preferred supplier status slipping from number one to number four.
13 Customers not benefitting from reduced costs and/or reduced production times	Monitoring customer satisfaction reasons is a risk management strategy. Pricing and delivery timeframes are

		key drivers of satisfaction within the CSC customer base. Having the Manufacturing and Finance Managers report on production cost trends provides the Business Development Manager with more pricing flexibility. Having the Manufacturing Manager report on production times also provides opportunities for the Business Development Manager to propose better lead times that can win new business with a customer base that is constantly looking to outsmart its competitors through quick re-fits and faster new-store rollouts.
14	Inefficiency leads to potential use of offshore manufacturing	CSC's factory has a high fixed cost structure. Inefficiency should not become a reason as to why product needs to be sourced from China. Other reasons are understandable such as general labour costs and capacity but not inefficiency. The Manufacturing Manager reports inefficiency and can pinpoint whether this is a reason why some products is being sourced from offshore.
15	Overtaken by competitors as the first choice for customers	CSC is a leader in its field and prides itself on the productivity of its people and factory. This should not become a reason why competitors overtake CSC. Productivity is being monitored to ensure that this is not a reason as it can

	be managed better if it arises as an issue for CSC.
16 Knowledge sits with few rather than many.	It is very easy for some parts of the business to become insular in its product and industry knowledge. As an example, comments like 'but we've always done it this way' are early warning signs that staff may not be aware of smarter ways of performing. In addition to this being monitored by the SMT, it is also important for knowledge to be more accessible to more people horizontally and vertically within the business.
17 Inefficiency leads to potential business demise	Although extreme, the manufacturing manager identified that inefficiency, a key lean manufacturing indicator, should not become a reason why CSC should have to cease being in business. The level of reporting on this particular area is such that any slippage in efficiency is identified and discussed as and when it develops so is unlikely to be a cause of business failure.
18 Fall behind trends	Knowing key product development trends is important. Monitoring key trends and regularly presenting them to customers and prospects helps to maintain reputation and underpins innovation as one of the main visions of the business. If the business is told

		about trends by its customers then it is an early warning sign that it is not keeping current.
19	No information collected	Collecting no information about the industry and new product developments will, not might, be detrimental to the Customer Management and Growth strategy. Monitoring that such information is being collected and analysed will minimise risks associated with achieving this strategy.
20	Miss out on new design opportunities or products to be sold in the market place.	Monitoring whether the company is being asked to propose for new business with either existing customers or prospects can detect whether knowledge of industry and product development trends is a reason for being excluded, and also included in such opportunities.
21	Risk of intellectual property loss.	Monitoring competitor activities and trends in the marketplace will ensure the company is not losing intellectual property through other companies designing product that leverages CSC's intellectual property. This is common within the industry and difficult to counter, however, if CSC can quickly inform customers and prospects of where its intellectual property is being misused then it can continue to position itself as being

		innovative and as a leader if the industry.
22	Fall behind our competitors	Monitoring competitor activities is crucial to achieving the Customer Management and Growth Strategy. Being one-step-ahead is important to the business and is an important risk management strategy.
23	CSC senior manager only one who knows details of relationship	Customer information management within the business was identified as high risk within the business. In many cases, only senior management knew of the business history with customers. Ensuring that more people within the business are introduced to and involved with customers reduces this risk. In addition, having a more up-to-date customer management system in place helps minimise this risk.
24	Unclear, mis-understood and mis-informed customer	Communication between CSC and customers was identified as a risk. Ensuring that all customers have a good understanding of CSC, it's business approach, it's manufacturing capabilities, is just as important as finding out the same things about its customers.
25	No recognition at all	CSC is a successful company in many ways. However, much of its success is not known in the market and especially by newer entrants to the market. CSC has developed some of

	the major improvements in the New Zealand retail market and this has not recently been acknowledged. Improving the profile of CSC's contribution on the retail landscape in New Zealand improves the ability to achieve the Customer Growth and Management strategy.
26 Not being innovative in our outlook.	It was identified that CSC should be more innovative in how it leveraged success. New ways to promote itself identified that CSC had never been represented at tradeshows in the Australian market. This encouraged CSC to be more creative and innovative in how it presented itself to its target audience. New business did result from this initiative and has opened up a new channel to its prospect base. The consequence is an improved risk profile in the Australian market and CSC knows that it can win business with completely new prospects in the Australian market that have no relationship links to the New Zealand market.
27 Failure to capitalize on marketing strategy and associated costs	This performance measure was identified by the Finance Manager and related to the costs and other exposures and risks associated with increasing CSC's global presence. Not only is it costly to explore and develop

	new international markets from a financial perspective, it can also be costly with respect to image and focus for the business if this strategy fails. Ensuring that any international market activity is closely managed was identified as an important risk management requirement. As a consequence, international development outside of the Australian market has been delayed until more focus and resources are available to deploy to this task.
28 Cost to CSC.	Merger and acquisition activity has been a regular agenda item for the CSC Board. The costs associated with this activity such as time, money, and management focus have all been acknowledged as business risks. Although not formally monitored, the result has been a reduction in discussion about merger and acquisition activity at Board level during the action research case study.
29 Pressure on cash flow.	No actual merger or acquisition took place during the action research case study. The SMT did identify that any merger or acquisition activity would most likely place a cashflow strain on the business and this was identified as a risk for consideration if any such activity took place. This activity would

	have an impact on the various performance measures associated with the Cashflow Management strategy.
30 Being overtaken by our competitors.	CSC needs to be ahead of its competitors with its manufacturing capability. Regularly evaluating and then installing newer and better technology within the factory ensures that the business keeps ahead of competitors or can at least match their capabilities. Installing new technology may produce the same product as a competitor but it might also produce that same product faster resulting in improved production timeframes creating competitive advantages for the business development manager to promote.
31 Cost to business without a return on investment	During the action research case study, new technology was deployed within the business without a full business case to support the purchase. The Managing Director made the intuitive decision to purchase and install a new laser machine. This was a very god decision for the business, however it could also have been disastrous. The SMT identified this risk and included it as a potential issue for the business for future reference. All other technology solutions since the purchase of the laser machine have

	been subjected to a full business case.
32 Lack of workplace discipline	Human Resource processes, training and development activity was identified as a potential area where workplace discipline could decline. One risk associated with this could be an increase in workplace accidents. Staff management became an area for all SMT members to report.
33 Substantial prosecution	A risk of having poor human resource practices and awareness amongst the SMT was an increase in incidences of personal grievance cases. Ensuring that key staff were more fully trained in staff management was identified as a way to manage this risk more effectively.
34 Conflict	CSC did not have a clearly defined and agreed vision underpinned with strategies developed and supported by the SMT. This increased opportunities for strategic conflict within the business and therefore the ability to achieve nearly all of the 5 core business strategies. Monitoring incidences of conflict and ensuring it was not related to the vision and strategies of the business was identified as an important risk management area for the business.
35 Unmotivated staff	A business without clear visions and goals runs a risk of having staff not

	understanding why they turn up to work each day. This can result in a lack of motivation, which in turn can lead to a high absentee rate, high staff turnover and poor performance. Monitoring the motivation of staff and whether it could be linked with their understanding of the vision and goals of the business is a risk management performance measure.
36 Uncoordinated	Poor vision and strategy will inevitably lead to a lack of coordination in the business. A case of the left hand not knowing what the right hand is doing. Monitoring project coordination and implementation cohesion across the business was viewed as a potential risk management performance measure.
37 Business demise – competition has ability to flex and take market share at will.	Competition does exist in the New Zealand market however; CSC is the best-placed supplier and is regarded as number one. This position can change, as there are mergers occurring and foreign competition entering the market. Many customers in New Zealand are owned by Australian companies who can switch to using their local Australian suppliers effectively cutting CSC out of the supplier mix with many of their larger customer base. Monitoring

		competitors on a regular base is a logical risk management performance measure and one that had not been actively undertaken prior to the action research case study.
38	CSC not having the ability to respond to customer trading patterns.	The market and customer requirements adapt and evolve quickly, and with internationalisation and customers regularly attending international retail fixture conferences it is possible that they could move faster than their suppliers, such as CSC. Understanding customer trading patterns through effective account management and being able to respond quickly to new customer requests is an important risk management requirement for the business.
39	Our lead times become too short due to poor planning	CSC's customers all require their product to be customised. This forces CSC to be organised and well planned. Occasionally the planning slips and this affects all areas of the business and in particular the ability to meet delivery in-full, on-time and in-spec (DIFOTIS). Lead times are monitored however the specific reason also needs to be monitored to quick action can be introduced when required.
40	Our lead times become too short due to lack of correct information from the customer.	This is similar to the previous performance measure covering lead times, however, it is important to

		gather the right information from customers so the right product is produced. This has been an occasional issue for CSC and has caused delayed deliveries and increased rework ratios. This is also an area that, if not clarified upfront, results in the supplier having to accept responsibility for the wrong end product being supplied as a result of not clarifying details upfront in the purchase process.
41	No value added sales growth from existing customers	CSC has a high-risk profile in terms of its customer base with a regular reliance on more than 60% of business from its top 5 customers and more than 80% from its top 10 customers. Although recognised as a business risk, it is also recognised that CSC has more opportunities to grow value added sales from the other 50 customers who make up the rest of its revenue base. This will reduce the risk of exposure to the small group of top 10 customers producing 80% of the revenue.
42	Knowledge constricted to individuals – uninformed workforce	The Manufacturing Manager recommended this performance measure. He felt that more functional areas outside of Business Development and Finance should be aware of specific customer relationships and requirements. The

		introduction of the new customer ordering and management system partly satisfied this requirement.
43	We would produce something with little or no demand. This would incur huge costs	The risk of producing a standardised product is that the product will not meet the needs of typical CSC customers. CSC has often discussed opportunities to produce a standardised product based off product designed and manufactured for existing customers. However, most CSC customers have some form of customisation requirement and so any standardised product is unlikely to be purchased as standard and so the costs of changing the standard specifications may not be worthwhile.
44	We would produce something with little or no demand. This would incur labour time.	As with number 43 above, this would also lead to increased wastage of labour within not only the factory but also in the projects team and so any thoughts of creating a standardised product will require close investigation.
45	Long lead times,	The risk of long lead times is increased where there is a reliance on only a small group of suppliers. A risk management strategy is to increase the number of supply options and to test and more regularly use new suppliers to ensure backup options exist.
46	Supplier falls over affecting CSC	The risk of a supplier falling over and

customers directly.	affecting CSC's ability to meet customer requirements increases with a small supplier base. This has been recognised and is regularly under review by the Manufacturing Manager. This is partly managed as a result of the action research case study by introducing a monthly, quarterly and six-monthly review of supplier relationships and classifying suppliers into these relationship management windows. For example, there are a group of lesser important suppliers who are formally reviewed six-monthly whereas more important suppliers are reviewed monthly.
47 Unsure of future cash position	Developing strong forward cashflow projections and tracking performance against budget and forecast is now an ingrained process within the Finance area of the business. Although this activity has always been undertaken, the requirement is now more stringent where the Finance Manager acknowledges forward cashflow issues, or not, and strategies are specifically developed to manage the potential to harm the business. This has also created new discussions about when the company can and should invest in new technology, participation at conferences, amongst other things.

48	Financial instability of CSC	Knowing that your company or the company you are working for is financially stable is important – especially when that company is operating in a difficult economic climate and competitors and suppliers are regularly going out of business. Managing forward forecasting and performance against budget more closely provides this level of confidence and flows on into such areas as morale within the company.
49	Paying greater than current exchange difference	More than 30% of CSC's revenue is priced in US$ and is conducted in the Australian market. In addition, a large percentage of its raw materials and end product is supplied from China. An effective exchange rate management (hedging) programme is therefore vital to ensuring gross profit margins are maintained, and in some cases bettered.
50	Loss of confidence in cost pricing	As with point 49 above, ensuring the business development team are confident with pricing is also an important risk management initiative. Regular communication about CSC's exchange rate management is required between the business development manager and the finance manager to maintain this confidence and to present the right prices in proposals.

G. CSC compared with 45 general performance measurement recommendations from the literature ***BEFORE*** and ***AFTER*** the action research case study commenced

My literature review revealed 45 performance measurement system design, implementation, and use recommendations.

I did not undertake this research to establish whether the 45 recommendations, were mandatory in the design, implementation and use of a performance measurement system. However, at the end of the project, I conducted this analysis retrospectively. The analysis does indicate that if the 45 recommendations identified in the literature were considered upfront in the design, implementation and use of a performance measurement system, then the outcome would highly likely be very positive for the business the system was being deployed in.

The following is a comparison of CSC's performance measurement system with the 45 recommendations ***before*** and ***after*** the action research case study was completed.

	The 45 Performance Measurement System Recommendations	**CSC's Status Before the Action Research Case Study Started**	**CSC's Status After the Action Research Case Study Ended**
1	Performance measures should be derived from strategy (Bititci, Carrie, et al., 2002; Dixon et al., 1990; Globerson, 1985; Hudson, Lean, et al., 2001; Lynch & Cross,	No. CSC's performance measures were not derived from strategy. They were developed by the respective functional managers based on their beliefs and	Yes. All of the performance measures reported now relate to one of the 5 core business strategies of the business.

	1991; Neely, Mills, Platts, et al., 1996; Neely et al., 1997)	experience about what should be measured	
2	Performance measures should be simple to understand (Hudson, Smart, et al., 2001; Lynch & Cross, 1991; Neely, Mills, Platts, et al., 1996; Neely et al., 1997)	Yes. The reporting was simple to understand but very detailed, especially at Board level. The style of reporting across functional managers was inconsistent with some reports being graphical and numbers oriented, yet others being narrative based.	Yes. CSC already had simple performance measures in place at the beginning of the action research case study. One of the agreed outcomes was that any new performance measures would be simple to understand. All functional managers understand each other's performance measures and their ability to influence or link with strategic outcomes for the business.
3	Performance measures should provide timely and accurate feedback (Dixon et al., 1990;	No. Reporting was performed monthly (at best) and was historical in nature. The Board	Yes. Performance is reported weekly and this information is consolidated into monthly

	Globerson, 1985; Hudson, Lean, et al., 2001; Neely, Mills, Platts, et al., 1996; Neely et al., 1997)	would be sent the Monthly Management Report a day or two before each Board Meeting that would be held between 2 and 3 weeks after the end of the month that the Management Reports would be for. E.g., the February 2008 Monthly Report was given to the Board on the 14th of March for the Board Meeting to be held on the 20th of March. However, the most recent available financial performance was for January 2008 and so the most available data were nearly 6 weeks behind the date of the Board Meeting.	reports. The weekly reporting ensures that all functional managers are fully aware of specific issues and that they can be resolved in a timely manner.

4	Performance measures should be based on quantities that can be influenced, or controlled, by the user alone or in co-operation with others (Fortuin, 1988; Neely et al., 1997)	No. Many measures reported were driven and controlled by third parties other than the user. As examples, shipping timetables, accident levels, the number of unproductive hours worked by teams in the factory are all controlled by third parties.	Yes. The functional manager responsible for reporting against each performance measures has the ability to influence the outcome for each measure or can involve other people across the organization to help.
5	Performance measures should reflect the 'business process' – i.e., both the suppler and customer should be involved in the definition of the measure (Globerson, 1985; Neely et al., 1997)	No. The manager producing the report determined the definition of each measure.	Yes/No. This remained a 'No' during the action research case study but did improve. Some areas such as customer satisfaction remained an internally defined measure. However, new measures were defined that became customer defined. As an example, the requirement to understand what the

			customer's definition of 'preferred supplier' has helped CSC determine how to become embedded as a preferred supplier for some customers.
6	Performance measures should relate to specific goals (targets) (Goold & Quinn, 1990; Neely et al., 1997)	No. Few performance measures had targets. Targets were stated in business plans however the performance measures identified in the business plans were not reported against by the management team.	Yes. Targets for each performance measures were discussed and agreed and included in the Weekly Dashboards and Board Reporting.
7	Performance measures should be relevant (Azzone et al., 1991; Neely et al., 1997)	No. The reports might have been relevant to some of the managers at the time they produced them. They were often not as relevant to the actual audience the reports	Yes. Each performance measure was specifically discussed with each functional manager to ensure relevancy. Each performance measure also linked with at least one of the 5

		were intended for. At Board level, for example, there was little interest in the shipping report that provided great detail on individual container shipments over previous and coming months. A second example was the dollar value of finished goods produced by each area of the factory. This information was of little value as it did not provide indications of the relative profit or margin levels of each area and it did not contain any target or goals to compare the results against. These types of reports were therefore rarely discussed at	core business strategies.

		Board meetings however they took up nearly 30% of the length of the monthly report from the manufacturing team.	
8	Performance measures should be part of a closed management loop (Kaplan & Norton, 1992; Neely et al., 1997)	No. The performance measures did not link between strategy and operations and back to strategy. Most measures were individual measures and any cross-performance link had to be established by the reader based on his or her experience or interpretation of the data.	Yes. Each performance measure linked with at least one of the 5 core business strategies and also was of value and relevance at the operations level within the business. There is an ongoing evaluation within the business to ensure relevancy is maintained.
9	Performance measures should be clearly defined (Bititci, Carrie, et al., 2002; Globerson, 1985; Hudson, Smart, et al., 2001; Neely, Mills, Platts, et al., 1996; Neely et	No. There were no definitions within the business for any of the performance measures.	Yes Each performance measure was clearly defined during the action research case study. There were definitional differences for many

	al., 1997)		performance measures that needed to be acknowledged and then amended before they could begin being measured.
10	Performance measures should have visual impact (Fortuin, 1988; Neely et al., 1997)	No. The 'no' response to this factor is qualified as some of the functional management reports did contain graphs. The Finance Report was very visual and had high impact. The Manufacturing Report was a mixture of graphs, charts and narrative. The Business Development Report was all narrative, as was the Australia Report and the General Managers Report.	Yes. A number of new graphs and charts were developed for the monthly reports. In addition, the reporting style for each functional area was redeveloped to be more visual with a tick or cross approach to informing the reader as to the status of each performance measures
11	Performance measures should focus	No. The Manufacturing Report	Yes. Each performance measure that

	on improvement (Bititci, Carrie, et al., 2002; Hudson, Smart, et al., 2001; Lynch & Cross, 1991; Neely, Mills, Platts, et al., 1996; Neely et al., 1997)	commentary was an historical account of 'what happened' with an occasional suggestion of ways to improve. The Finance Report contained some suggested areas for improvement. The Business Development Report consisted of specific customer overviews with few suggestions for improvement. The General Managers Report consisted of things that had happened.	was noted as being 'off-track' was required to be 'commented' on in the written report. This commentary was required to indicate what needed to be done to change or improve the status of the performance measure that was in jeopardy.
12	Performance measures should be consistent (in that they maintain their significance as time goes by) (Fortuin, 1988; Neely et al., 1997)	No. The Finance Report provided monthly comparisons. The other reports were all consistent in structure between months however there was no	Yes. Performance measures were actively reviewed weekly by the management team (and the Board as they also received the weekly dashboard reports). If

		monthly comparison provided.	any of the performance measures were not proving useful then they would be discussed. It was more common to review the performance measures in light of the statement 'how can we now get more detail on the high level reporting' indicating that there was regular review of the significance of the performance measures over time.
13	Performance measures should provide fast feedback (Fortuin, 1988; Neely et al., 1997)	No. The majority of performance measures were historical and up to 6 weeks old at the time they were being reported and reviewed.	Yes. The Weekly approach to reporting the same information ensured fast feedback was obtained.

14	Performance measures should have an explicit purpose (Cocca & Alberti, 2010; Neely et al., 1997)	No. The performance measures were not established to monitor performance against strategy or targets. They were mostly isolated measures with no obvious linkage between each functional area.	Yes. Each performance measure was aligned with the monitoring of achievement against one or more of the 5 core business strategies. As each performance measures also had a target, performance against target was measurable.
15	Performance measures should be based on an explicitly defined formula and source of data (Globerson, 1985; Neely et al., 1997)	Yes/No The reporting for each functional manager did not contain formulas, however, the areas being measured were generally understood within the business.	Yes The source of the data for each performance measures was identified during the design and implementation of the performance measurement system. The formulas for any performance measures were discussed and understood when they were developed. For example the meaning of

			DIFOTIS required definitions.
16	Performance measures should employ ratios rather than absolute numbers (Globerson, 1985; Neely et al., 1997)	No. Ratios were not reported. Some percentages were reported.	Yes/No Ratios were discussed however they were not seen to be useful in the context of CSC's business
17	Performance measures should use data which are automatically collected as part of a process whenever possible (Globerson, 1985; Neely et al., 1997)	No. The Business Development, General Manager, Australia and Operations Reports were specifically produced for the Management Reports. The Finance Report was available automatically through the accounting system already installed in the business.	Yes. The reporting for Weekly Dashboard became the 'process' and as such the de-facto method of collating monthly reports.
18	Performance measures should be reported in a simple consistent format (Bititci, Carrie, et al., 2002; Neely et al., 1997)	Yes. All reports were consistent and were simple. However this did not necessarily make them useful from a forward decision	Yes. All new reports developed were consistent and simple. Excel was used for the final reporting method and the information

		making perspective.	was consistently reviewed and distributed by the Financial Manager in the business.
19	Performance measures should be based on trends rather than snapshots (Neely et al., 1997)	No. The Finance Report was the only report that contained trends, either monthly or annual.	Yes./No The Finance Report continued to contain trends, either monthly or annual. The Operations Report and Projects Report also reported trends. The Business Development Report was variable in its reporting of trends and can be explained by the regular requirement of this manager to be out of the country and being unable to conduct the trending analysis (although this is a tenuous excuse)
20	Performance measures should	Yes/No. All of the Management Reports	Yes. All of the management reports

	provide information (Fortuin, 1988; Neely et al., 1997)	provided information. However, it was historical information and each functional manager was asked for an update of what has happened since the report was produced, as the data were often 2 to 6 weeks old.	contained recent and valid information from which decision could be made. The Weekly nature of the reporting ensured the relevancy and usefulness of the information.
21	Performance measures should be precise – be exact about what is being measured (Fortuin, 1988; Neely et al., 1997)	Yes/No. All information reported was precise. The 'what' was being measured was easy to determine. However, the relevance and decision making value of many of the performance measures were variable.	Yes. Each performance measure was precisely defined and was meaningful to the person preparing the report. Each performance measures also linked with at least one of the 5 core business strategies.
22	Performance measures should be objective – not based on opinion	No. The Business Development Report was mostly based on	Yes. Each performance measure was quantifiable and able to be

	(Fortuin, 1988; Neely et al., 1997)	opinion and estimations. The General Managers Report contained many opinion based statements such as 'we expect, 'I see us carrying xxx throughout the following month', and 'we are close to…'	actively classified as being on-track or off-track. Each performance measure could then be commented on with regards to actions required to improve the measurement outcome for the next report.
23	Performance measures should consider the dynamic nature of organizations and that typical implementations take between 18 and 24 months (Bititci, Nudurupati, et al., 2002; Bourne et al., 2000)	No. The Management Reports at CSC did not recognize the changing nature of the business, customers or the market as the reports had remained unchanged for a number of years prior to the action research case study.	Yes. The Weekly nature of the reports acknowledged the changing dynamics of the business. The new performance reporting approach took 18 months to establish and embed within the business. Individual performance measures did change as the confidence levels of the managers preparing the

			reports improved.
24	Performance measurement systems should be designed and implemented with the assistance of external monitoring (Brem et al., 2008)	No. The functional managers without the assistance of an external advisor established the Management Reports. There were no third parties involved in any reporting.	Yes. The action researcher acted as an external monitor of the design and implementation of the performance measurement system. From time to time, 3rd party consultants were engaged to work inside the business and each time this occurred here was discussion about performance and performance measurement.
25	Single performance measures cannot capture the complexity of an organization (Abernathy, 1999; Bashin, 2008; Brown & McDonnell, 1995)	Yes. CSC did recognize this as the performance reporting consisted of many different performance measures and the reports were produced by up to 5 different functional area	Yes. CSC did recognize this as the performance reporting continued to consist of many different performance measures and the reports were produced by up to 5 different

		managers. However there was little alignment across the various performance measures to help with strategic decision-making by either the Board or the management team.	functional area managers. The new performance measurement system recognized the complexity of the organization and linked with specific strategic goals.
26	Companies with more experienced managers are more likely to improve performance when designing and implementing a performance measurement system (Griffith & Neely, 2009)	No. CSC had managers experienced in their particular roles and who had experience in other companies. However, this did not translate into improved design or implementation of a better performance reporting within the business.	Yes. The action research case study took three years. In this time, the majority of the senior management team remained in place and had each built a minimum of 12 months experience working in CSC. This translated into more in-depth discussions about performance measurement within the business, its relevancy and usefulness.

27	Performance measure systems should measure quality, flexibility, time, finance, customer satisfaction and human resources (Hudson, Smart, et al., 2001)	Yes/No. High-level quality was reported. E.g., how many 'process improvement forms' were raised each month. However, this did not record the specific nature of the improvement, how long the improvement took to implement, what the customer impact was, how many customers were individually affected by each improvement, amongst other topics. In addition, there was no customer satisfaction reporting.	Yes/No All of these areas were included in the performance measurement system design discussions and all of them are included in the implementation. This gets a 'yes/no' status due to the lack of customer oriented reporting of customer satisfaction, which remained an internally defined performance measure.
28	Performance measures should align with the different stages of an organization (Allio, 2006; Bashin,	No. The reporting had remained relatively unchanged for up to 4 years prior to the action	Yes. The performance measures were introduced with an understanding of the life cycle

	2008)	research case study.	stage of the organization. CSC is poised for considerable growth but also needs to grow within the constraints of having limited sales capacity, systems in place to manage projected growth and the need to expand its senior management team to ensure that growth is delivered without too many negative impacts on the business, e.g. cashflow impacts. As an example, cashflow management became an important and recognized growth-limiting factor and so this became a key performance measure for the Finance

			Manager in the business. A further example was the need to introduce a better information technology system to ensure the company could manage projected supply, project management, sales and reporting management if the business grew rapidly.
29	Performance measurement design should involve the senior managers of companies, not just the financial controllers (Kaplan & Norton, 1992)	No. The performance reporting at CSC had not been specifically designed. It was a requirement and each functional area manager reported as per the previous report that existed the previous month. A number of the measures reported were not relevant to all of the function	Yes. The new performance measurement system at CSC was designed with the specific involvement of the senior management team. The measures were all based around the monitoring of performance against each strategy. Each functional

		manager or to the Board	manager (who were all on the senior management team) reported his or her respective area against each strategy.
30	Performance measures should be periodically reviewed to ensure their relevancy for the business (Lohman et al., 2004)	No. The performance reports had remained unchanged for up to 4 years prior to the action research case study. The process employed during the action research case study was the first time that functional managers had questioned the content of their monthly reports.	Yes. Due to the weekly reporting approach undertaken by the Senior Management Team, it was clear whether any performance measure was proving to be of little value. On occasions, it was necessary to establish whether additional performance measures were needed however, none of the foundational performance measures were removed from the Weekly Dashboard reporting process.

31	Performance measures should reflect stakeholders requirements to maximize shareholder satisfaction (Bititci, Carrie, et al., 2002)	Yes.	The shareholder was always interested in the ability of the company to produce a dividend	Yes	Although such performance measures were in place at the start of the action research case study, the specific performance measures involving stakeholder satisfaction were reported more openly and were better defined. For example, the measure, 'can a dividend be paid to the shareholder' was specifically reported as a line item in the Finance Managers report.
32	Performance measures should reflect the external/competitive position of an organization (Bititci, Carrie, et al., 2002)	No	There were no performance measures monitoring the external or competitive position of the company	Yes.	Implementing measures such as 'preferred supplier status', and 'competitive activity', 'projects won/lost', helped CSC understand its competitive positioning

33	Performance measurement should focus on the competitive criteria of the organizations markets in order to facilitate strategies and actions to improve the competitive position of the organization (Bititci, Carrie, et al., 2002)	No	There were no competitive performance measures in place	Yes	The Sales Manager reported feedback from customers and prospects and also reported more market-based information such as trends, including any market feedback about competitor's financial positions. These helped build the competitive position of the company.
34	Performance measures should provide an input to strategy development (Bititci, Carrie, et al., 2002)	No.	Performance measures were not designed to provide input into strategy development	Yes	Every performance measure linked with at least one strategy
35	Performance measurements should facilitate resource bargaining to ensure the provision of necessary resources to processes and activities	No.	There were no performance measures in place to facilitate resource bargaining	Yes	The Manufacturing Report now reports production planning by type within the factory which provides the

	critical to overall performance (Bititci, Carrie, et al., 2002)				Sales Manager with an understanding of forward capacity by type, e.g., joinery, metal, etc.
36	Performance measures should promote proactive management by focusing on leading measures to facilitate a more proactive management style (Bititci, Carrie, et al., 2002)	No.	There were no performance measures that facilitated a more proactive management style	Yes	The Senior Management Team designed the performance measurements and also decided to report performance on a weekly basis. They are therefore reviewing performance frequently and being more proactive in the process.
37	Performance measures should accommodate both quantitative and qualitative measures (Bititci, Carrie, et al., 2002)	No	There were only quantitative performance measures in place	Yes	There is a mix of quantitative and qualitative performance measures. A new example of a qualitative measure is' knowing what competitors are

					doing',
38	Performance measures should measure organizational capability and learning where appropriate (Bititci, Carrie, et al., 2002)	No.	Performance measures did not measure organizational capability and learning	Yes	An example is the introduction of a 'process knowledge bank'
39	Performance measures should promote understanding of the causal relationships between various measures (Bititci, Carrie, et al., 2002)	No	Performance measures did not help to understand causal relationships between various measures	Yes.	This is very evident in the financial reporting where there are strong cashflow links and understanding across the functional areas
40	Performance measures should be dynamic and change in response to the changes in the internal and external environment of the organization (Bititci, Carrie, et al., 2002)	No.	Performance measures were not dynamic and did not change in response to changes in the internal and external environment of the organisation	Yes	The Senior Management Team is regularly reviewing performance measures to ensure they reflect the changing business environment. There have been a number of new performance measures added to Weekly

					Dashboards, and some performance measures have been redefined to a greater level of detail as a result of senior managers gaining more confidence in the information the measures are providing.
41	Performance must be measured in ways that are understood by those whose performance is being evaluated (Crawford & Cox, 1990)	No	A number of performance measures in some functional areas were not well understood across the rest of the senior management team and cross-functional impacts were not understood	Yes	All performance measures were discussed, defined and agreed by each member of the senior management team.
42	Measures should evaluate a group, not individual work (Crawford & Cox, 1990)	No	Performance measures generally reported individual areas within the business	Yes/No	This is not clear-cut. All performance measures report progress for the company against strategic goals and all

					functional managers have responsibility for measuring performance for every strategy. In this regard, there is group responsibility for measuring performance.
43	Financial and non-financial performance measures should be used (Kaplan & Norton, 1992)	Yes/No	There were some non-financial measures existing	Yes	Measuring non-financial performance is included in the weekly dashboard system
44	In addition to investors, other stakeholders such as employees, customers and suppliers should be considered (Neely, 2002)	No	Impact on customers and suppliers was not measured	Yes	There are now performance measures based around customers and suppliers
45	Performance measures, on the one hand, should be designed to be as exact as possible, which may result in a very complex formula. On the other hand, performance measures	Yes/No	Most performance measures erred towards the use of simple formulas.	Yes	Complex formula based measures were trialed and discarded as too difficult for the company. All performance measures are based on simple

	should be easy to measure and easy to comprehend, which are arguments for using simple formulas (Tangen, 2005)		formulas or are easy to comprehend.

Summary of the Situation *Before* the Action Research Case Study Started

Of the total list of 45 recommendations, there were 4 recommendations in place, 6 that were partially in place and 35 (or 77%) were not in place at the start of the action research case study.

The analysis suggests that CSC's performance measurement system was not providing timely and meaningful information for the Board and Management team to make useful and correct forward looking decisions.

Summary of the Situation *After* the Action Research Case Study Started

Of the total list of 45 recommendations, there were 40 (or 88%) recommendations in place, and 5 that were partially in place at the end of the action research case study.

The analysis suggests that, by the end of the action research case study, CSC's performance measurement system was providing timely and meaningful information for the Board and Management team to make useful and correct forward looking decisions.

H. CSC compared with 17 SME performance measurement recommendations

The literature identified 17 findings relating to the design, implementation and use of performance measurement systems in small-to-medium enterprises. These findings do not appear to have been consolidated into a list prior to my literature review being conducted. I have compared the findings of this action research case study with each of the 17 findings and these are presented below:

	Literature Findings	CSC Comparison
1	SMEs require simple and clear information (Garengo, Biazzo, Simonetti, et al., 2005; Hussain & Hoque, 2002)	Agree Simple and clear information was very important at CSC. At one stage during the action research case study, the Manufacturing Manager listed a number of ratios to report. The ratios were OEE (Overall Equipment Effectiveness) and a Performance Ratio (Ideal Cycle Time/Operating Time/Total Pieces) An attempt was made to explain them however they only had meaning to the Manufacturing Manager. The ratios did not get measured and a key reason was that they were not simple, intuitive measures. DIFOTIS was the only 'complicated' measures reported and this was a measures actively defined and understood in the business due to its direct impact on customers.
2	It is not possible to fit large	Agree In CSC's case, any attempt to apply

	company PMS's into SME environments (Chow et al., 1997; McAdam, 2000; Tenhunen et al., 2002)		a performance measurement system that was designed for large companies would have failed. Although the action research case study did not specifically evaluate the potential for successfully introducing a large company PMS, the fluctuating structure of the company and the corresponding impact these managerial restructures had on performance measurement and reporting have not been adequately investigated in any study of large company PMS's.
3	Workshops are important in the PMS design process (Hudson, Smart, et al., 2001)	Agree	Many workshops were employed during the action research case study. They were very important for ensuring the right level of debate about performance measurement and its impact on the organization occurred and also that participants were aligned in their understanding of the performance measures being discussed.
4	SMEs preparedness needs to be evaluated prior to PMS implementation (Brem et al., 2008)	Agree	CSC were committed to a quality program called 20-Keys based on the Lean Manufacturing principle. Initial discussions with CSC indicated that they were aware of the need for stronger performance measurement. However, throughout the action research case study, a

		number of potential roadblocks arose that could have stopped or seriously delayed the project at any time. These included structural roadblocks (i.e., the managerial restructures alone would have stopped or delayed many organizations from continuing with the design and implementation of a performance measurement system), commitment roadblocks (i.e., the ability for the senior management team within a SME to commit and remain focused on a long term project which performance measurement system design and implementations are), resource roadblocks (i.e., managerial time, budget constraints), business pressure roadblocks (i.e., the 15 month serious downturn in business in the middle of the action research case study), IT infrastructure roadblocks (i.e., the search, selection and implementation of a new ERP system not only delayed the implementation of the performance measurement system, it could easily have stopped the project given the managerial focus the new ERP system required), organizational culture roadblocks

			(i.e., if the culture was one of 'blame' and finger-pointing, then the likelihood of success of this type of project would have been low. The project had the full support of the owner of the business and the senior management team was relatively free of political issues that often exist in management team structures.
5	SMEs lack formal planning (Allio, 2006; Barnes et al., 1998; Brouthers et al., 1998; Garengo, Biazzo, & Bititci, 2005; Smith & Smith, 2007)	Agree	Although CSC did formal planning in most years, there was very little attention given to how performance measurement fitted into the final plan. Planning is one aspect; actually monitoring performance against plan was an important missing element at CSC.
6	SMEs need to be careful of rhetoric and follow through on PMS initiatives (Lynch & Cross, 1991; McAdam, 2000)	Agree	At a surface level, most managers at CSC could talk the talk. It was only when they were encouraged to consider performance measurement in more detail that there were indications of an inability to know how to operationalise the performance measure being discussed. One outcome of this was that I was required to develop an implementation approach as well as consider how the business should actually use the performance measures.

7	SMEs with a quality management system are better prepared for PMS initiatives (Barnes et al., 1998; Garengo, 2009; McAdam, 2000)	Agree	CSC were already on a quality management system path and were aware of the benefits of performance measurement at the shop-floor level (Greatbanks, 2000) of the business. This meant that the senior management team was already reporting considerable information at the shop-floor level however; they needed to lift this reporting to be relevant at the senior management and Board level.
8	SME measurement expectations are simpler than in larger companies (Meyer, 2002b)	Do Not Agree	Initial indications, within the senior management team, were that performance measurement would not change significantly during the action research case study. However, as they became more aware of the implications of performance measurement as it was being implemented, the senior management team increased their expectations and started to consider even more performance measures. In addition, the Senior Management Team of CSC is quite close to the operational level within the business, which might have influenced the level of detail they were prepared to monitor.
9	SMEs generally lack quality financial information (Barnes et	Do Not	CSC had a strong financial reporting system. One key issue was that the

	al., 1998)	Agree	ability to report in a timely manner was lacking e.g., in some months, the financial information reported was up to 6 weeks old, however this was mostly due to the resource available in the finance and administration area. What was lacking was a strong front-end system to assist the finance manager with forecasting of future cashflow. This remained a constraint for the business throughout the action research case study.
10	Process and measure alignment is important in SMEs (Barnes et al., 1998; Brem et al., 2008; Jennings & Beaver, 1997; McAdam, 2000)	Agree	At CSC, it became clear that all processes had to be re-evaluated to ensure they were delivering or able to deliver the level of performance expected. This required regular reviews of existing processes and resulted in a number of changes within the business. One such change was the introduction of swipe cards for factory level employees so that productive and non-productive time could be monitored as well as job-profitability be measured. It was also important to introduce these types of new initiatives in a non-threatening manner, which the Manufacturing Manager was very capable of doing.
11	Owner-Manager management	Agree	In CSC's case, the owner/manager

	style impact is significant in SMEs (Hannon & Atherton, 1998; Smith & Smith, 2007; van Gelderen et al., 2000)		was fully supportive of the performance measurement action research case study, as were his senior management team. However, the owner/manager did not want to 'unduly influence' the project and so he maintained a distance and left the design and implementation 'up to' his senior management team. This approach worked well and when he was shown the results at key points he was enthusiastic and willing to engage in helping the organization use the reporting system.
12	Senior management commitment is vital in PMS initiatives in SMEs (Brem et al., 2008; McAdam, 2000)	Agree	The entire senior management team remained committed throughout the project. At any time, given the small size of the team, the project could have stopped if one of the senior managers had lost interest.
13	SMEs are notoriously resource constrained (Barnes et al., 1998; Garengo, Biazzo, & Bititci, 2005; Hudson et al., 2000; Hvolby & Thorstenson, 2001)	Agree	All of the resource constraints noted in the literature were experienced during the action research case study. These included managerial time and commitment (travel, focus), managerial capability, as well as finance/cashflow.
14	SMEs lack IT infrastructure and strong data analysis (Barnes et al., 1998; Hudson, Smart, et al., 2001)	Do Not Agree	CSC had an existing IT infrastructure and data analysis capability within the senior management team. AN organization employing up to 50 manufacturing

			personnel and 15 white-collar workers would be difficult to manage without some type of UT infrastructure and data analysis capability. The concern is more one of rephrasing this finding to consider the quality of information flowing into the IT system and also the processes used to collect the information. One issue at CSC was the coordination of data that was available within the business to ensure data analysis was based on quality information.
15	Data presentation in SMEs is generally poor (Barnes et al., 1998)	Agree	The quality of data presentation was mixed within CSC. Some functional areas were strong, e.g. finance, whereas the presentation of business development performance was consistently weak. Overall, this was an initial finding within the business however this improved as the project progressed.
16	The number of measures should be limited (Garengo, Biazzo, & Bititci, 2005)	Do Not Agree	The Senior Management Team discussed the number of strategies to manage but was not particularly concerned with the number of performance measures monitored – so long as they were identified as being useful for CSC then the business would investigate how to measure them. 71 performance

			measures were being actively monitored on a weekly basis during the action research case study and there were others being evaluated on a regular basis. The more important requirement was to establish a simple and accepted approach to reporting performance so that measuring the measure did not inhibit the ability of the business to manage the measure.
17	Whether SMEs should employ 'depth over breadth' of measurement is unclear (Barnes et al., 1998; Garengo, Biazzo, & Bititci, 2005; McAdam, 2000)	Agree	In CSC's case, breadth and depth were important. The Senior Management Team only consisted of 5 members and so it was important that they had a sufficient breadth of measures in place to be confident they were across the many areas of the business, including finance, marketing sales, customer satisfaction, logistics, supply management, employee morale, staffing levels, to name a few. The Senior Management Team were also concerned with depth with examples being the need to delve regularly into the customer impact of a DIFOTIS report that was indicating poor results. An example was the Senior Management Team wanting to know which customers were experiencing delivery in full

		problems, how many times had they experienced this, why it was happening, and what was being done to fix it. These types of questions were becoming more regular as the project evolved.

In total, 13 of the 17 most common findings I identified in the literature concerning performance measurement in SMEs were supported by the action research case study at CSC. The four findings that did not support the list of common findings were:

1. SME measurement expectations are simpler than in larger companies
2. SMEs generally lack quality financial information
3. SMEs lack IT infrastructure and strong analysis
4. The number of measures should be limited

I. Senior Management Team experience

The work experience of the Senior Management Team at the beginning of the action research case study is provided below.

Managing Director:

- Founder of CSC, active in management, governance and sales
- 30 years experience in all aspects of company operations, manufacturing processes, and product design
- Has sat on the executive of the industry body in NZ and is an independent director on a number of local companies.
- Business orientation is business development, knows the business well
- Personable and strong at building the business.

General Manager

- 4 years with CSC as General Manager
- 10 years experience in senior technical, management and marketing roles
- Experience in business development and project management in the manufacturing sector
- Business orientation is to control knowledge and relationships. His management team had little exposure to the Board at CSC.
- Resigned and left CSC 5 months into the action research case study

Human Resources Manager and Company Facilitator

- 8 years experience at CSC as Financial Controller, and is the current Human Resources Manager
- Previous experience in key account management in the agriculture sector
- Holds a degree in horticultural marketing
- Business orientation is facilitation, to be across as many issues and areas within the business as possible. To know what is going on.
- A key person within the business and knows how the business works

Finance/Administration Manager

- 2 years experience at CSC
- 30 years experience as Assistant, Branch and Head Office Accountant in the retail and financial sectors.
- No formal qualifications post high school
- Business orientation is to ensure the financial side of the business has information readily available, ensure the right systems are in place and report as required and with the right answers.

Operations Manager

- Joined CSC one year prior to the beginning of the action research case study
- Experience in manufacturing in the dairy and food industries
- Bachelor of Food Technology
- Business orientation is to keep everything running smoothly and report what he wants the Senior Management Team and the Board to hear.
- Resigned from the business 13 months into the action research case study

Logistics Manager

- Joined CSC near the beginning of the action research case study
- 10 years experience in inventory management, logistics management, production management in the primary products sector and retail sector.
- 4 years experience in London working on in IT design and installation and the channel tunnel project. Early work experience for a number of years as a telecommunications engineer
- 4 year tertiary qualification in telecommunications engineering
- Business orientation is to be across the detail, has good rapport with staff, and is prepared to work the hours required to get the job done
- Promoted to combined role of Manufacturing and Logistics Manager 15 months into the action research case study.

Manufacturing Manager

- Joined CSC one year prior to the beginning of the action research case study
- Experience at management level in the food, bakery industries
- Tertiary diploma qualified
- Business orientation was suited to the factory and not necessarily at the Board or senior management team level. Rarely completed tasks on time and lacked confidence around very senior management.
- Resigned from the business 15 months into the action research case study

Business Development Manager

- Joined CSC at the beginning of the action research case study
- 20 years experience in product management, marketing and key account management, franchise management in the retail sector
- MBA qualified
- Business orientation is sales and to some degree marketing. Strong at quoting and proposal generation, not so strong at building a team.

Australia Manager

- Joined CSC at the beginning of the action research case study
- Previously a business owner, general manager and site manager at a manufacturing plant
- No formal qualifications
- Business orientation is to focus on the detail, especially in the logistics area, build processes that work – but not necessarily within the normal system, and management of customer relationships through regular communication.
- Left the business soon after the end of the action research case study

Engineering Manager

- Joined CSC 6 months before the end of the Action research case study
- Tertiary qualified in engineering through BMW in Germany
- Previous three positions in New Zealand were all Engineering Management roles

- Business orientation is towards encouraging people to recognize their strengths, ensuring the team he leads is communicating on a cross-functional basis, and requiring his team to attend and actively participate in daily meetings. A key change he made to the Projects Team, in a short time period, was to reduce the number of quality complaints by requiring each Project Manager to be involved in checking the final assembly and packaging of every project they designed. This resulted in the Projects Team thinking beyond just the design and manufacture of the product and to take into account the actual packaging of the end product to ensure product arrived to the end customer in good condition.

J. Method used to record notes from key meetings

Based on Argyris and Schon's "issue of appropriate rigor" (Argyris & Schon, 1989, p. 618) an example of how I recorded outcomes of key meetings is provided below (all names are changed)

CSC Group Holdings Board Minutes	My Observations and Comments
Date	
Present	
Minutes	
The minutes of the previous meeting were confirmed.	
Resolved:	
That the minutes be accepted as a true and correct record.	
Finance	
NZ customers with the exception of x have all traded down this year with most around half of what was budgeted.	This is a signal to be harder on forecasting next year. Reminder to Self – check whether this type of information is actively remembered or referred to in future reporting and in business planning exercises
Action: Budget to be provided for next meeting in finalized state, with a draft to be circulated within next 2 weeks for comment and input.	Next meeting is December. Quite late for finalizing budgets for the following year? Would have thought the first draft budget would have been presented at this meeting (Nov) and then reviewed and signed off in Dec. No discussion

	about any need for information to support the budget. Is it a budget without a supporting plan, and therefore a set of numbers only? At the next meeting, observe how the Board discusses budgets versus supporting information.
Other Business	
X presented a document on market research in Australia	What was the outcome – nothing was noted in minutes. There is no other information for future readers of these minutes (e.g., a new Director) to go on. Monitor this type of recording during the project.

K. Overview of researcher involvement at CSC

The following is a high level overview of my active involvement with CSC during the three-year action research case study. The information is provided as a simple number of times various meetings were attended, as well as the number of hours spent in the different types of meetings.

Key Meetings	**Time Spent (hours)**
22 Board Meetings	63
15 Management Team Meetings	24
10 Weekly Dashboard Meetings	12
2 Strategic Planning Sessions	9
Facilitated 4 Strategic Planning Workshops	8
2 visits to Sydney, Australia Office	32
2 Projects Meetings	3
6 Town Hall (company wide) meetings	2
22 Individual Meetings /Conversations with Managing Director	15
16 Individual Meetings/Conversations with Business Development Manager	19
16 Individual Meetings/Conversations with Finance Manager	18
15 Individual Meetings/Conversations with Human Resources Manager	20
12 Individual Meetings/Conversations with Manufacturing/Logistics Manager	10
12 Individual Meetings/Conversations with Operations Manager	10
10 Individual Meetings/Conversations with Australian Manager	30
8 Individual Meetings /Conversations with Manufacturing Manager	10
4 Individual Meetings/Conversations with Logistics Manager	7
1 Individual Meeting/Conversation with External Lean Manufacturing Consultant	1

5 End of Action Research Case Study Interviews	9
Total Time Engaged in Action research case study:	282 hours or 35 FTE days*
Preparation and Review for Meetings:	236 hours or 29 ½ FTE days*
Total Time In Meetings, Preparation, Interviews, including other engagement with the company e.g., social events	538 hours or 67 ¼ FTE days*
Total Visits to NZ Head Office	45 visits
Total Visits to Sydney, Australia Office	2 visits

- = 8 hour equivalent days