

'A Case Study of the Balanced Scorecard in Public Hospitals'

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Declaration Statement

I declare that this thesis entitled *A Case Study of the Balanced Scorecard in Public Hospitals* does not contain any material that has been submitted previously, in whole or in part, in respect of any other academic award, except where due reference is made in the text of this dissertation.



Gillian Vesty

Abstract

The Balanced Scorecard (BSC) is an innovative management accounting tool, designed by Kaplan and Norton in 1992, now used in both public and private sectors. The BSC takes a multi-dimensional approach to performance management providing a link between organisational strategy and operational performance. Australian public sector reforms have lead to corporatisation of many government-owned entities, which now have the autonomy to decide their own strategic objectives. This last decade of change has required the implementation of new performance management systems to cope with tightening funding arrangements and increasing costs. The BSC has been considered the appropriate tool to provide both financial and non-financial information for the diverse set of public sector stakeholders.

This study will examine the issues of BSC implementation in two public hospitals. The purpose of this study is to contribute to the knowledge of the BSC and the changing public sector management accounting function. The influence management accounting has in multi-dimensional performance measurement system adoption is investigated. The study was conducted using the case study method. The main form of data collection was via semi-structured interviews, a non-participant observer role and archival data.

Despite a proliferation of non-financial performance measures in both hospitals, performance measurement centred on external funding requirements. Management accounting in hospitals has predominately been focused on output control, through budgeting and financial target monitoring. More recently there has been a move to integrate the management accounting role as clinical support agent and business analyst. Despite these moves, traditional performance measurement and management control is still dominated by the financial and financially related activity measures for public hospital funding. The BSC adoption at one hospital lapsed, whilst at the other hospital, after two years, the BSC was incomplete. These results have implications for hospital management, further research and management accounting education.

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Chapter 1: Introduction

1.1 Introduction

The Balanced Scorecard (BSC) is an innovative management accounting tool, designed by Kaplan and Norton in 1992, initially for private sector use. The BSC takes a multi-dimensional approach to performance management providing a link between organisational strategy and operational performance. The generic BSC has been designed to capture holistic organisational performance, by being built around four key perspectives: financial; customer; internal business process; and innovation and learning (Kaplan and Norton 1996).

In Australia, public sector reforms have lead to corporatisation of many government-owned entities, including public hospitals, which now have the autonomy to decide their own strategic objectives. Nevertheless, public hospitals still rely on external stakeholders for their survival. They are primarily government funded, based on capped targets of patient mix and volume. This last decade of reforms has required the implementation of new performance measurement systems to cope with tightening funding arrangements and increasing costs. Multi-dimensional performance measurement systems provide the opportunity to capture both financial and non-financial performance measurement essential to the organisation's existence. The BSC has been considered the appropriate tool to provide the information needs of hospitals' diverse sets of stakeholders (Kaplan and Norton 2001).

This study will examine the issues of BSC implementation in two public hospitals. In particular, the changing management accounting function is investigated to determine the influence the management accountant has in multi-dimensional performance measurement system adoption.

In this chapter the research purpose is specified in Section 1.2. Details on the research method are provided in Section 1.3. The subsequent key results are given in Section 1.4, and the thesis outline is detailed in Section 1.5.

1.2 Research Purpose

The BSC concept, although commercially recognised, is not matched with broad empirical research (Atkinson et al 1997; Otley 1999; Ittner and Larker, 2001). Malina and Selto (2001) found that most current BSC studies are normative prescriptions or relatively uncritical descriptions of BSC adoptions, and consider more research is required to understand the practical difficulties that are encountered with BSC implementation. Furthermore, there is comparatively little research into new management accounting practices and the processes involved in making organisational strategy become real (Otley 2001; Burns and Scapens 2000).

The majority of public sector organisations measure and report on numerous performance measurements, both financial and non-financial, nevertheless, the connection between performance measurements and subsequent management action is not widely researched (Otley 2001). This research will investigate the link between non-financial performance measurement, management action and organisational strategy. The research output will contribute to the examination of outcomes associated with the development of performance measurement and management control practices, in public sector organisations (Cavalluzzo and Ittner 2003). Abernethy et al (2003, p.3) state that relatively little is known about management control of health-care, despite being one of the largest and fastest growing sectors in most developed countries.

1.2.1 Non-financial performance measurement in public hospitals

Measurement of performance of a public hospital is conducted to satisfy the information needs of a diverse number of stakeholders. The diversity in stakeholders is matched by the diversity and volume of measures undertaken¹. Currently health-care organisations are regularly measuring and reporting on thousands of measurements. Institutional theory claims

¹ Note that 'measures' is a term used in performance measurement literature, synonymous with the term of units of 'measurement'. This paper recognises both terms, and uses them concurrently.

that systems implemented to satisfy external requirements are less likely to influence internal behaviour than are those implemented to satisfy the organisation's own needs (Cavalluzzo and Ittner 2003). The most powerful stakeholder is the government funding body and this research investigates whether the measurements selected, are measurements to satisfy the external funding requirements. The question to be explored is whether these measurements also satisfy the needs of the organisation and other key stakeholders in a health-care environment.

The move by public sector organisations to a BSC approach to performance measurement requires the inclusion of key non-financial performance measures. Insight into the ability of public health-care organisations to select a few key non-financial measures, for use in a multi-dimensional performance measurement tool will be part of this research contribution. Another purpose of this research is to answer Vaivio's (1999) calls for further research into how non-financial measures contribute to management control and organisational strategy.

To explore the implications of BSC implementation at both case site hospitals, the current approach to performance management and, hence, management control, through the inclusion of non-financial measures needs to be investigated. The first research question, explored through a management control framework is:

RQ 1: How have non-financial indicators of performance affected measurement and reporting systems and thereby performance management in a public health-care setting?

1.2.2 The management accounting function in public hospitals

The function of management accounting is to generate relevant information for internal management decision-making and control. Today, relevant information is considered to be a mix of financial and non-financial, 'lag' (outcome measures) and 'lead' (performance drivers). In the past, the management accountant in public hospitals was considered to have

a primarily financial focus. A considerable proportion of their time was spent preparing and monitoring annual financial budgets and providing business unit managers with monthly reports, detailing the unit's financial inputs and outputs. Now, with system improvements and innovative, multi-dimensional performance management systems, such as the BSC, being implemented by hospitals, the aim of this research is to discover whether the management accounting function in public hospitals has changed.

Non-financial measurement has been recognised as an important instance of management accounting change (Hopwood 1987; Innes and Mitchell 1990; Vaivio 1999). Vaivio (1999) considered that more needs to be known about whether management accounting is becoming oriented towards the fundamental drivers of performance.

Furthermore, Burns and Scapens (2000, p.4) argue that research into management accounting change does not investigate management accounting change as a *process*. This research contributes to an understanding of why and how an organisation's management accounting *becomes* what it is, or is not, over time.

Finally, the impact management accounting innovations have on the management accounting function are investigated. The second research question is:

RQ 2: How is the management accounting function in a public hospital, adapting to innovative accounting systems and organisational change strategies?

1.2.3 The BSC in public hospitals

The BSC has begun to be implemented in public hospitals. The opportunity to observe and report on the implementation process over a period of time will contribute significantly to the literature, as empirical research into BSC implementation in Australian public hospital is minimal (Abernethy et al 2003). Chan and Ho (2000) found that there was little systematic

evaluation of the use of the BSC in the Canadian health-care system. The issues surrounding BSC implementation in Australian public hospitals will be explored, to see if findings are similar to Chan and Ho (2000) or Cavalluzzo and Ittner (2003) who have found that contextual factors influenced the development, use and perceived benefits of the BSC.

The practical issues associated with implementing Kaplan and Norton's (1996, 2001) BSC are to be investigated. Norreklit (2000) disputes Kaplan and Norton's (1996) BSC claim that a generic 'cause-and-effect relationship' should exist between the areas of measurement, and, suggest that the BSC is *not* a 'strategic control model', as it does not monitor technological developments or address strategic uncertainty. Most importantly, Norreklit (2000) suggests that BSC development as a 'top-down' model disregards the personal involvement of senior management, creating dysfunctional behaviour. Norreklit's (2000) claims are investigated through this study.

Research conducted at two hospitals will help determine whether the BSC in public hospitals is aligned with strategy, whether cause-and-effect relationships among measures are developed and if the 'top-down' approach disregards the concepts of interactive employee involvement, employee empowerment and organisational learning. Evidence will be collected to help determine whether 'balance' in the BSC is achievable in two health-care organisations. Balance between the financial and non-financial measures, balance between the internal and external constituents of the organisation and balance between the lag and lead indicators of performance. These are considered when exploring the final research question:

RQ 3: What role does the BSC play in performance measurement in a public hospital?

1.3 Research Method

Given the nature of the research questions, the appropriate research strategy should provide the researcher with the ability to explore both existing and emerging theory. In particular, to

answer the posed research questions, detailed knowledge from real life settings would provide a rich source of data providing new insights into emerging accounting practice (Brownell 1995). Examples of available research strategies are experiment, survey and case study.

The case study method was selected as the most appropriate research strategy to address the research questions posed (Otley 2001; Ittner and Larker 2001). Otley (1994) recommended that case studies should take place in changing environments to provide rich illustrations of strategic management accounting practice. In response to Ittner and Larker (2001) exploratory case research such as this provides the means of obtaining the quality and level of data required to answer many managerial accounting questions. Furthermore, Otley (2001, p.256) considered:

‘...intensive, field-based methods are much more likely to pick up on the wide variety of control mechanisms deployed by organisations in practice and to ground theoretical development firmly in empirically observed practice...what would hopefully emerge from such work is inductively generated theory that could be subjected to further testing and development’.

The research design takes the form of a multiple-case with embedded units. Exploratory style research is conducted at two case sites. One site is a large metropolitan public hospital and the other, a large regional hospital. Given the significant differences in size, technical capabilities and patient mix, cross-case analysis was not considered appropriate for a major proportion of the research. Nevertheless, differences in the broader aspects of management control and BSC implementation were analysed applying cross-case strategies.

The investigation was conducted using semi-structured, taped interviews at both case sites. Nineteen personnel were involved altogether, with nine interviews being conducted at each case site. One manager at the regional hospital did not contribute to the semi-structured interview process but provided significant contributions to the analysis in the form of archival

data and early interview data. Evidence was gathered via case notes, minutes from meetings, management reports, BSC workshop notes and other internal memos. E-mail correspondence between hospital management, the interviewees and researcher provided additional support. A significant amount of evidence was gained as a non-participant in working party meetings to discuss management reporting at the metropolitan site. Transcripts were coded and analysed using NVivo 2 software, which also assisted with further data reduction and matrix formation around key research areas.

1.4 Key Results

The key findings were that non-financial measures are reported in abundance in both public hospitals, however, the key 'non-financial' measurements receiving the most attention by senior management are the activity measures that directly relate to funding.

The management accounting function is changing to become more 'business analyst' and to provide more support to clinical managers. Nevertheless, the management accounting role continues to be significantly focused on the financial aspect to health-care provision. Despite their new role incorporating analysis of the key business drivers within individual clinical units, these generally relate to funding or financial input/output data, not to the outcome measurements. All other non-financial performance measurements are monitored by 'non-accountants' in other departments within the organisation.

The significant impact of the external funding body on internal performance measurement has impacted on BSC implementation. The focus has been on the key funding measurements (financial and non-financial) which have resulted in predominant 'lag' measurements being reported on. Subsequently, 'balance' has not been achieved between the other non-financial measures. The information needs of the other key stakeholders are not always met, resulting in individual managers developing performance measurement systems, suitable for their own needs. These systems are generally retained 'in-house'.

1.5 Outline of thesis

In Chapter 2, the key literature is reviewed in three main areas, performance management and non-financial performance measures, management accounting change and the BSC. The literature provides the theoretical underpinnings for the research framework, discussed in detail in Chapter 3. Discussion on the case study as the research strategy is contained in Chapter 4, with the research sites being detailed in Chapter 5. Given the requirements for anonymity, the research site details are kept at a broadly descriptive level, with interviewees' descriptions being 'coded' in accordance with the signed confidentiality agreements between the researcher and both case sites.

The results are detailed in Chapter 6 with further discussion on the key findings and their subsequent implications for the management of public hospitals and for the management accounting function in Chapter 7. The limitations and conclusions are also discussed in Chapter 7.

Chapter 2: Literature Review

2.1 Introduction

The three broad areas of management accounting literature that provide the background to this research are:

- Performance Management and Non-Financial Performance Measures;
- Management Accounting Change; and
- The Balanced Scorecard (BSC).

In Section 2.2 the literature relating to performance management and management control systems is reviewed. The literature relating to management accounting change is discussed in Section 2.3. Finally, literature relating to the BSC approach to performance measurement is explored in Section 2.4.

2.2 Performance Management

Public sector reforms have initiated significant changes to performance management in public sector organisations around the world. In Australia, the paradigm shift in the management of public sector organisations has meant the traditional administrative approach has been replaced with ‘new public management’ (NPM) (Common 1998). Public health reforms have influenced both internal and external performance reporting, where limited resources have created greater emphasis on efficiency and accountability by hospital management. Recent empirical research into the design and implementation of systems for public sector performance measurement demonstrates this changing requirement by all stakeholders (Abernethy and Chua 1996; Modell 1998, 2000, 2003, 2004; Kloot 1999; Kloot and Martin 2000; Abernethy and Lillis 2001; James 2002; Cavalluzzo and Ittner 2003).

In this section the change in public sector performance management, specifically within the public hospital setting is researched. Literature detailing empirical research in changes to

management control and performance measurement systems is reviewed, to improve the understanding of the more recent multi-dimensional approach to performance management. Empirical research exploring the increasing emphasis of non-financial performance measures as part of the multi-dimensional approach to performance management is also reviewed. This section is divided into four areas:

- Management control and management control systems (Subsection 2.2.1);
- Performance measurement models (Subsection 2.2.2);
- The role of non-financial performance indicators and organisational strategy (Subsection 2.2.3); and
- Performance measurement in the public sector (Subsection 2.2.4).

2.2.1 Management control and management control systems

Management control is gained through development and implementation of formal rules and procedures that determine individual behaviour. Ittner and Larker (2001) suggested that management control be viewed as a complete organisational ‘package’ and a function of the environment and the organisation. The package should include accounting information systems, performance measurement and reward systems, allowing for choice and performance consequences (Hayes 1977; Scott and Tiessen 1999; Chenhall and Morris 1986). Moreover, management control should be linked to organisational objectives and strategies. According to management control theory, management control systems are intended to ensure that employees are not only aware of what is expected of them, but are capable and will exert themselves to accomplish their organisational goals (Merchant 1989).

The earlier work by Anthony (1965) on management control encouraged research into the organisational behaviour of management accounting. This was reinforced by Hofstede’s (1967) book, ‘The Game of Budget Control’. Since then there have been numerous empirical studies into organisational behaviour and the behavioural implications of management control. These include areas such as agency theory, management decision-making, management trust and evaluative styles (Hopwood 1973; Merchant 1984; Goold and

Campbell 1987; Das and Teng 1988; Lorange and Roos 1992; Langfield-Smith and Smith 2003; Bourguignon, Jenkins and Norreklit 2003). Abernethy and Brownell (1997) consider that the type of management control can affect the relationship between accounting and organisational change.

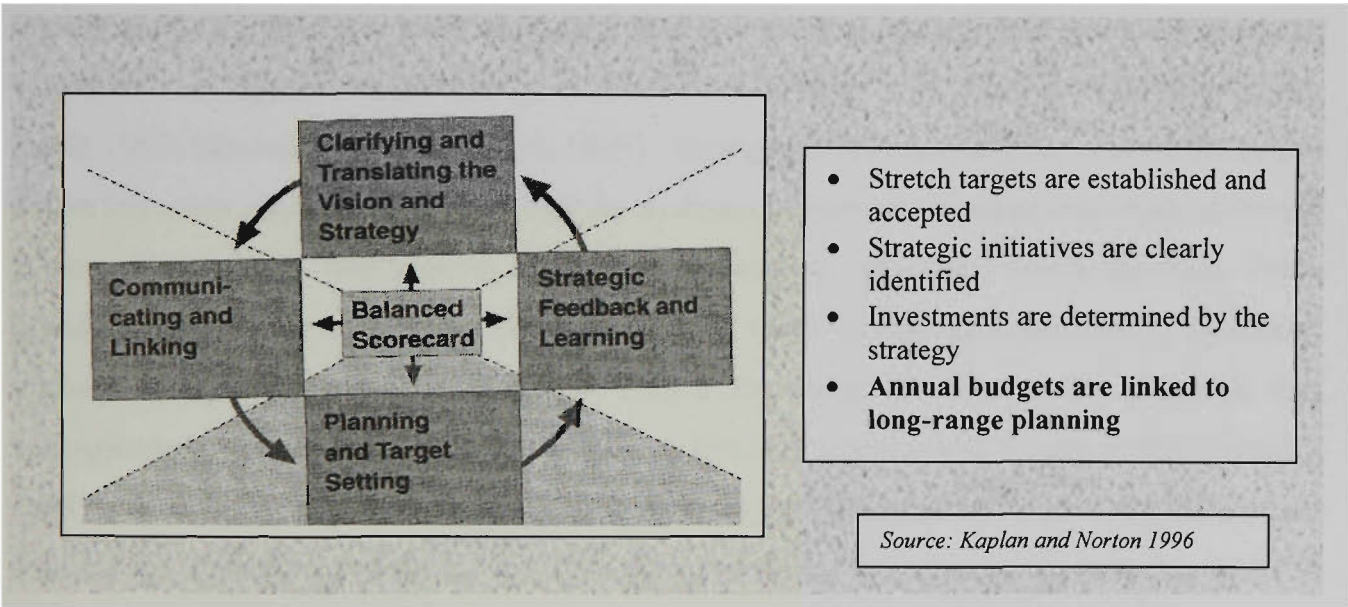
In particular, management control system *design* can affect management decision making, creating an environment for organisational change and subsequent organisational learning (Kloot 1997; Brooks 2002; Otley and Berry 1980; Marginson 1999). Marginson (1999) uses the predictive model concept and Argyris and Schon's (1978) 'single/double-loop learning' to develop a 'two-tiered' model of management control to predict the effect of an alternative action on a management control system. In knowledge-based organisations such as public hospitals, management understanding of behaviour and organisational learning is an essential component of developing organisational capabilities through management control system designs (Nonaka and Takeuchi 1995; Abernethy et al 2003)².

Anthony (1965) distinguished 'management control' from 'strategic control' and 'operational control'. He considered management control to be 'mid-range' with links to the higher level strategy and the lower level operations. Anthony's (1965. p.6) definition of management control was, '*the process by which managers ensure that resources are obtained and used effectively and efficiently in the accomplishment of organisational objectives*'. Anthony concentrated on 'management control' and deliberately ignored the operational and strategic control, meaning that financial measures were emphasised to the detriment of non-financial measures. The result was that economic control became synonymous with management accounting (Otley 1994, 1999; Langfield-Smith 1997). In more recent times 'strategic' and 'operational' control is merged with management control systems, inspired by the work of Johnson and Kaplan (1987).

² Knowledge-based organisations, such as hospitals, contain a vast array of knowledge asymmetry between top management, unit managers and subordinates. Knowledge-based organisations rely on their human resources as a supply source for developing knowledge and capabilities (e.g. physicians, clinicians, nurses, clinical support personnel). For further discussion see Abernethy et al (2003).

Management control has been traditionally focused around budgeting, even in the public sector where performance measures were used to support the budget process (Lauth 1985). Simons (1991) considers two types of use for budgeting in management control, that is, the traditional or ‘diagnostic’ form, or, the ‘interactive’ form which is becoming more popular in contemporary management accounting practice. The interactive form allows the budget to become a tool for implementing changes in strategy. Kaplan and Norton (1996) suggest that the budget becomes part of the multidimensional approach to management control as depicted in Exhibit 2.1.

Exhibit 2.1: The budget in Kaplan and Norton’s management system



The increasing emphasis on the non-financial component to management control means financial budgeting is no longer relied on as the sole form of management control (Wallander 1999; Otley 2001; Granlund and Malmi 2002). Recent empirical studies by Granlund and Malmi (2002) suggest real-time facts delivered by enterprise resource planning systems (ERPS) may eventually replace the more conventional modes of budget control. Furthermore, Wallander’s (1999) research into a Swedish organisation shows management has abandoned traditional forms of budgeting and replaced it with an information system providing real-time data for decision-making. The resource allocation decisions are based on

internal and external benchmarking procedures with individuals taking more responsibility, with less senior management control.

Despite recent research into management control and budgeting practices, empirical research only relates to single organisations or practices within specific global regions. Whilst making generalisations to other companies or countries, more difficult, it provides an opportunity for further global comparative research into the changing management control practices.

Management control practices have changed so that Anthony's (1965) definition of management control has been expanded to include *any* process designed to motivate employees to support organisational objectives (Merchant 1984; Otley 1994; Langfield-Smith 1997; Simons 1995; Marginson 1999). Strategy is now considered to be at the centre of performance measurement and control systems, meaning organisations with differing strategies and plans will require individual systems to suit their needs (Simons 1987; Guilding 1999; Ittner and Larker 1995; Perera et al 1997; Langfield-Smith 1997). Decision-making and performance measurement choice has been an avenue for research into management control (Ouichi 1979; Eisenhardt 1985; Anderson and Young 1999; Chenhall 2003; Luft and Shields 2002; Malina and Selto 2003). Malina and Selto (2003) consider that whilst organisations rely on management control systems, they also have great flexibility to choose the portfolio of measurements and controls. Furthermore, the strategic focus to management control has required some management control systems expand beyond organisational boundaries and consider management control in strategic partnership and external alliances (Otley 1994; Hopwood 1996; Speklé 2001; Langfield-Smith and Smith 2003).

Most empirical research has not explored the long-term strategic outcomes of decision-making and management control practices. Moreover, longitudinal studies are required to fully evaluate the effectiveness of the changing practices. Further research is also required to determine whether organisational performance is improved because of the innovative

changes to management control systems, or, whether successful management control has been achieved using other means.

2.2.2 Performance measurement models

Performance measurement models are an important component of management control systems. Performance measurement is intended to provide managers with the knowledge and motivation to act in the best interests of the organisation. In the public sector, 'performance' can take on many meanings. The definition of 'successful' performance also takes on different meanings, depending on the stakeholder's interests.

In particular, within a public health-care environment there are multiple stakeholders all requiring different information on organisational performance. Typical stakeholders of the health-care system are not only the patients they serve, but other members of community, the funding bodies, taxpayers as well as clinicians. For many stakeholders the definition of 'successful' performance may be a 'successful' clinical outcome, which is being able to deliver appropriate surgical and medical techniques, with the entire community having access to world-standard healthcare. For other stakeholders, efficiency is a key requirement. Health-care organisations recognise these multiple needs, reflecting them in their overall strategic planning. As such, a significant proportion of their primary strategic objectives are non-financial in nature, more in line with recent comprehensive performance models.

The constructs of 'effectiveness, efficiency and economy' are vital to measuring performance in a public setting (Otley 2001). They could be represented in purely financial terms, with overall performance measured using models like economic value added (EVA® by the Stern Stewart Corporation) or DuPont return on investment (ROI). Both EVA® and ROI are not considered comprehensive evaluation systems or models because they only measure financial outcomes within the boundaries of the organisation and do not include other determinants of organisational performance.

The more widely recognised comprehensive models for performance measurement are:

- Otley's (1999) performance management model;
- Ittner and Larker's (2001) value-based model (VBM framework); and
- The BSC (Kaplan and Norton 1996; 2001).

Otley (2001) suggested that for improved corporate governance a stakeholder framework to performance measurement model development would be most appropriate. Comprehensive performance measurement models reflect organisational knowledge of the relations between various performance measures and describe links among business decisions and outcomes (Malina and Selto 2003; Otley 1999). The models guide strategy, communication, implementation and feedback loops at multiple points along the organisation's value chain. Comprehensive performance measurement models, such as the BSC, generally include multiple measures of operational, strategic, financial and non-financial, both long and short-term (Kaplan and Norton 1996).

Comprehensive performance measurement models such as Otley's (1999) performance management framework for management control systems recognise the importance of connecting control systems with strategy. This framework highlights five main questions to be addressed when developing a system for managing organisational performance:

1. What are the key objectives that are central to the organisation's overall future success, and how does it go about evaluating its achievement for each of these objectives?
2. What strategies and plans has the organisation adopted and what are the processes and activities that it has decided will be required for it to successfully implement these? How does it assess and measure the performance of these activities?
3. What level of performance does the organisation need to achieve in each of the areas defined in the above two questions, and how does it go about setting appropriate performance targets for them?

4. What rewards will managers (and other employees) gain by achieving these performance targets (or, conversely, what penalties will they suffer by failing to achieve them)?
5. What are the information flows (feedback and feed-forward loops) that are necessary to enable the organisation to learn from its experience, and to adapt its current behaviour in the light of that experience? (Otley 1999, p.365-366)

The framework has been designed to take a manager's or a researcher's perspective depending on how the questions are approached. The topics relate closely to the central issues faced by contemporary organisations and management accountants in relation to making their strategy operational.

Itner and Larker's (2001) VBM framework for performance management, like Otley's (1999) integrate the emerging practices in accounting into one comprehensive system for performance. Their approach focuses on defining organisational strategies around shareholder value creation and implementing the information systems to assist value creation, whilst focusing on the underlying 'drivers' of value. With this framework is the necessity to align management processes and design performance measurement systems to suit and provide incentive compensation plans that reflect value creation. This is in line with the trend in management accounting practices, identified by KPMG Consulting (1999) and PricewaterhouseCoopers (1999).

Itner and Larker (2001) suggest their framework is the fourth evolutionary step from the traditional management planning and control. The other three evolutionary steps are:

1. cost determination and financial control, through budgeting and cost accounting systems;
2. Anthony's (1965) management control framework, which focused on providing information for planning and control; and

3. a move towards emphasizing waste in business processes, through quality management programs and accounting techniques such as activity-based costing, process value analysis and strategic cost management (Ittner and Larker 2001, p.2-4). The VBM framework whilst remaining consistent with economic models of managerial accounting practice also incorporates recent innovations in managerial accounting, such as activity-based management and the BSC.

To date there has been minimal empirical research of the VBM framework in organisations, or Otley's (1999) performance measurement model. The BSC, discussed further in Section 2.4 has received a significant proportion of more recent empirical research. Nevertheless, there is still a gap in the literature, identifying the current practices of companies. Are companies developing their own models around their individual needs, or, are they using the more widely known BSC, because it is linked to available software? Are companies relying on consultancy firms to recommend the optimal performance measurement models? This area has not been widely researched. There is even less available research on the design of performance measurement models best suited for public sector organisations, especially hospitals.

Empirical research of comprehensive performance measurement models has covered areas such as individual organisation implementation issues, and, the linking of cause-and-effect relationships between measurements or operational objectives and strategies (Banker and Johnson 1993; Banker et al 1995, 1996, 2000, 2004; Behn and Riley 1999; Foster and Gupta 1999; Perera et al 1997; Abernethy and Lillis 2001; Malina and Selto 2001, 2003). Empirical research into the effectiveness of performance measurement model 'design' is minimal (Ittner and Larker 1997, 1998). Evaluation of the approach taken to develop performance measurement models has been conducted by Abernethy et al (2003). They investigated the 'bottom-up' building of performance measurement models from expert knowledge. As mentioned in the last section, in knowledge-based firms such as hospitals, the 'clinical' members often have the tacit knowledge that needs to be converted to develop the essential measurements in a performance measurement system. Abernethy et al's (2003)

research was motivated by the doubt over efficacy of a 'top-down' approach to selecting the key factors (or components) in a performance measurement model required for organisational success (Hellstrom et al 2001; Brown and Duguid 2000; Davenport et al 1996). Operational 'success' tends to be implied in the majority of studies rather than being supported with definitions. A definition of successful performance is especially important in public sector organisations, where success is seen to be not only 'bottom-line' results. 'Bottom-up' performance measurement models developed in hospitals, may conflict with the senior hospital management views of 'successful performance'. Therefore further research extending Abernethy et al (2003) is required to evaluate the judgemental effects of 'bottom-up' performance measurement models.

2.2.3 The role of non-financial performance indicators and organisational strategy

Organisations have been moving away from relying entirely on conventional financial performance measurement and have incorporated a mix of financial with non-financial measures, to accurately reflect the changing environment and improve decision-making (McKinnon & Bruns, 1993; Campbell 1995; Libby and Waterhouse, 1996; Ittner and Larker 1998a). The more recent performance measurement models provide a comprehensive means of measuring an organisation's performance.

Changes in industrial conditions over the last 20-30 years required companies to revise their existing internal reporting systems and, over time, the majority of manufacturing firms have expanded their performance measurement to include a broader set of measures (Johnson and Kaplan 1987). The focus on productivity improvements in the 1980's soon identified the impact *quality* and *customer* satisfaction had on organisational revenue (Hogg 1993; Shank and Govindarajan 1993; Powell 1995; Boaden 1997; Hoque and Alam 1999). The new practices, emphasising quality control as well as just-in-time inventory systems and computer integrated-manufacturing systems, required a shift of focus in performance measurement. Increasing importance was given to the non-financial performance indicators, and companies began to incorporate measures revolving around quality and customer satisfaction.

Likewise, non-financial measures and quality programs have been given increasing attention in the public sector for many years now. Governments have encouraged the use of quality measures to ensure the health-care sector continue to provide world class services to the public despite limited and diminishing resources. In the mid to late 1990's quality performance reviews and programs such as 'continuous quality improvements' were considered a promising paradigm that would allow organisations, especially public health organisations, to reach these goals (Health Canada 1993; LeBrasser et al 2002; DHS 1996, 1999). Now the majority of the measurement being undertaken in public hospitals is non-financial in nature and some of these are mandatory reporting measures. Many are activity measures relating to funding arrangements and others relate to ISO (International Standards Organisation) compliance, accreditation standards and clinical effectiveness performance measurement. If included in a generic BSC, many of these measures would fit into the 'customer' or 'internal business processes' quadrant (Otley 2001; Abernethy et al 2003).

The move to the inclusion of non-financial measures in reporting systems was designed to provide more relevant information for decision-making. According to strategic management literature the inclusion of non-financial and other lead indicators of performance enabled strategy to be incorporated into performance measurement (Kaplan and Norton 1996; Ittner and Larker 1998a). Existing performance measurement systems, which were largely measuring financial or the lag performance indicators, did not reflect organisational objectives and strategy. Stakeholders considered that the reported financial measures alone were incapable of giving them a true insight into the company's strategic performance capabilities (Maines et al 2002). In recent times, following several significant corporate collapses there has been an increase in shareholder demand for more disclosure of the internal 'non-financial' strategic measures in the company's annual reports (AICPA 1994; Boulton et al. 2000; Norton 2000; Eccles 2001; Lev 2001; Maines et al 2002; BRW 2003). Recent studies have found that quality and customer satisfaction is positively associated with investor decision making and company revenues, resulting in increased market value for firms (Ittner and Larker 1998a; Behn and Riley 1999; Banker et al 2000; Nagar and Rajan 2001). Gleich (2003) considers organisations are responding to stakeholder pressure and are

attempting to gain legitimacy by conforming to external expectations regarding disclosure and choice of performance measurements. Empirical research into public sector performance measurement choice, finds management legitimising actions to their diverse range of stakeholders, is the purpose behind increased reporting of non-financial measures (James 2002; Modell 2001; Brignall and Modell 2000).

Research into the effectiveness of using non-financial measures for performance measurement demonstrates mixed outcomes (Eccles 1991; Abernethy & Lillis 1995; Chenhall 1997; Chenhall & Langfield-Smith 1998, Ittner & Larker 1995, 1998a; Perera et al 1997, Sim & Killiugh 1998). The studies which show that non-financial performance measures have been unsuccessful in performance management have often been where organisations have overemphasised the non-financial measures to the detriment of the financial indicators. In particular Chenhall and Langfield-Smith's (1998) research showed that where there was a heavy emphasis on customer satisfaction, the associated performance measures encouraged actions that were inconsistent with the overall company strategy of maintaining cost-efficiencies whilst satisfying customer's needs.

Many organisations still report non-financial measures at operational level but have not followed through with comprehensive performance measurement systems to match (Eccles 1991; Ittner and Larker 1998a). Other research indicates that despite increasing use of non-financial performance measures for operational targets and indicators, at a strategic or decision-making level, financial indicators still remain the dominant measure (Lipe and Salterio 2000; Gleich, 2003). Concerns by management about the measurement precision of non-financial indicators lead to questions of their actual reliability (Ittner and Larker 1998a; Maines et al 2002). Ittner and Larker (1998a) found that the need to quantify qualitative results is a major implementation problem. Other empirical research suggests that unique or non-financial measures tend to be ignored by senior management when making performance evaluation judgements (Lipe and Salterio 2000; Libby, Salterio and Webb 2002).

Non-financial measures are not new to the health- setting, and have been used for many years to determine clinical best practice. In 1993-4 the Australian Government introduced performance-based funding measurement, requiring regulated measures of efficiency, productivity, quality and access. Hence, the majority of the indicators required to be reported by public health-care providers are non-financial in nature. Measures such as waiting times for elective surgery, accident and emergency and outpatient waiting times, measures of average length of stay (ALOS) and hospital-acquired infection rates. Patient satisfaction surveys are also required to assist in determining the overall quality of providing a public service. Other measures include dimensions of efficiency, safety or may be related to hospital accreditation (DHS 2003). The subsequent inclusion of these measures in comprehensive performance measurement systems, require further exploration. There is little empirical research of board-level decision-making and the impact of non-financial performance measurement in hospitals.

2.2.4 Performance measurement in the public health-care sector

The last decade has shown dramatic changes to the way public funds are allocated, requiring significant changes to organisational management and their performance measurement tools. Public sector funding was historically input based and centrally controlled by the federal government. Public sector reforms have created autonomous public sector hospitals, managed by independent boards of management. Funding is set according to annual Health Services Agreement's between public hospitals and the federal and state governments. Funding has now changed to 'output' based funding called 'casemix'. Casemix funding reimburses organisations for the full cost of a public hospital service and hospitals receive an agreed amount of funding per year. The costs of each service provided by hospitals are calculated on average costs incurred for an average length of stay patient. Individual organisations have the autonomy to decide the mix of services provided but they are obliged to fulfil their agreed government (DHS) activity set targets. Furthermore, hospitals incur financial penalties if activity targets are not met (further details on casemix funding arrangements can be found in Appendix 2). Hence, public hospitals are not new to measuring

non-financial performance and monitor their activity indicators quite closely, justifying their outputs to qualify for funding (DHS 2003). Research into the last decade of public sector reforms demonstrate that organisations are actively responding to the imposed changes (Kloot 1999; James 2002; Modell 2003; Cavalluzzo and Ittner 2003; Modell 2004). The ‘new public management’ (NPM) reforms have been described as a paradigm shift for the management of public sector entities requiring significant changes to performance measurement systems and performance indicators (Common 1998; Hood 1995; James 2002; Modell 2003; Modell 2004).

The common government objectives for public, acute-care hospitals, is to provide cost effective acute and specialised services that are:

- safe and of high quality;
- responsive to individual needs;
- accessible and equitable;
- efficiently delivered; and
- free of charge to eligible persons who so choose (DHS 2000, p.58).

At the national level, the emphasis is on developing a framework for performance reporting as well as viewing reporting in the international context. For example, the National Health Performance Committee (NHPC) was formed to provide information and promote performance measurement activities (Fourth National Report on Health Sector Performance Indicators, DHS 2000). More recently a review into Victorian public hospital governance has lead to the development of a performance measurement reporting framework to assist with greater board accountability (DHS 2003).

As stakeholders, governments require assurance that their policies are effective, implemented efficiently and that the community, especially those most in need, is receiving the appropriate service mix. Governments consider that their agencies must be accountable for the resources consumed. Legislation requires mandatory performance measurement and the government is actively encouraging new forms of performance measurement and benchmarking for further improvement. Furthermore, they consider innovation or, ‘the introduction of new products or

processes is important for productivity growth in government sectors' (DHS 2002, p.6). There have been extensive efforts by governments to improve performance measurement and accountability. However, a study by Cavallunzo and Ittner (2003) showed that despite US government initiatives to improve public sector performance, the mandatory requirements have not demonstrated any perceived organisational benefits.

Public sector reforms have required public sector managers and accountants to adopt comprehensive performance measurement tools to assist them to manage the 'over-proliferation' or diverse sets of measures in public sector organisations. The difficulty the organisations face is to be able to provide a summary measure of performance that is comprehensive, readily understandable and applicable to public sector applications (Kaplan and Norton 2001). Strategic management literature would suggest that there should also be a strong link to strategy. However, in practice, this is not always found to be the case. Empirical research into Victorian local government suggests councils do not pay enough attention to the development of the 'lead' measures, or measures for long-term sustainability in their internal business processes and innovation and learning areas (Kloot and Martin 2000). Recent research by Modell (2003) into a public organisation suggests that the inability of public sector organisations to link their broad range of performance indicators to organisational goals (loose coupling) is not a sign of weakness, but as a natural response to the need to provide information to a broad range of stakeholders.

Nevertheless, for board reporting, a simple management report must be prepared from complex and often heterogenous cost centres within a single organisation. The report must also encapsulate the many key indicators. The funding body requires that performance assessment should consider both efficiency and effectiveness indicators (DHS 2003). Recent empirical research suggest the systems implemented to satisfy government requirements are less likely to influence internal behaviour than the systems developed within the organisation to satisfy their own needs (Cavalluzzo and Ittner 2003). Cavalluzzo and Ittner (2003) have also found that public sector organisations implementing strategic performance measurement

systems, that capture less-traditional performance information, are having difficulties with performance measure development and subsequent accountability.

The factors causing difficulty for successful implementation of public sector performance measurement initiatives include:

- technical issues
 - information systems unable to provide appropriate data;
 - organisational difficulty defining suitable measures
- organisational issues
 - management commitment;
 - decision-making authority;
 - training; and
 - legislative mandates (Kwon and Zmud 1987; Shields and Young 1989; Cavalluzzo and Ittner 2003)

Empirical research into the technical issues associated with new performance measurement initiatives demonstrate mixed results. However, as reported in Ittner and Laker (1998a), a Towers Perrin survey found that BSC implementation issues relating to the lack of highly developed information systems was a problem or major problem in 44% of cases. The same survey found that 45% of respondents found difficulty in quantifying qualitative results. Holstrom and Milgron (1991) also found that where measurements are difficult to evaluate or measure, the implementation and effectiveness of performance measurement systems are likely to be low. Further empirical research confirmed the relationship between implementation issues and technical capabilities (Atkinson et al 1997; Shields 1995; Anderson and Young 1999). Public sector difficulties towards managing vast arrays of performance measures, often lead to excessive proliferation of measures being used in performance measurement systems (Aidemark 2001).

Organisational issues make implementation and successful performance measurement difficult if there is not enough top management support (Shields 1995). Anderson (1995)

found a positive relationship between successful accounting system implementation and decision-making authority. Other empirical research concluded that successful performance measurement system use was directly related to employee empowerment and the extent of training or resources offered by organisations (Kwon and Zmud 1987; Shields 1995; Shields and Young 1989). Kloot and Martin (2000) suggest that where information flowed freely within an organisation, the culture allowed for improved performance management. In addition, public hospital research by Abernethy and Stoelwinder (1995) found the nature of the environment often precludes the use of accountability mechanisms to modify subordinate managers' behaviour. They describe conflict in environments where professionals were restricted in their self-regulatory activity:

'....the type of control environment which individuals with a high professional orientation find most offensive is one dominated by output forms of control, that is, an environment where superiors impose targets to be achieved and measure performance based on those targets.' (Abernethy and Stoelwinder 1995, p.13)

In the public sector, legislative pressure and budget cutting can sometimes undermine successful performance measurement systems development (Flynn and Talbot 1996). In the last decade, the legislative funding arrangements, designed to regulate medical practice or modify clinicians' behaviour by allowing them to become the objects of surveillance, has impacted on performance measurement in hospitals (Chua and Degeling 1993; Abernethy and Stoelwinder 1995; Covaleski et al 1993; Lowe and Doolin 1999). Abernethy and Stoelwinder (1995, p.13) found that:

'.... governments and third-party payers are creating pressure for the implementation of increasingly sophisticated management accounting systems, primarily to control professional behaviour'

It has been argued, by institutional theorists that the constraints of public sector organisations, prevent overall efficient operations and negatively impact on the implementation of

performance measurement systems (Modell 2000). On the other hand, organisations not bound by institutional processes tend to be more adaptable and open to change.

DiMaggio and Powell (1983) describe how public sector management attempts to maintain institutional norms through coercive, mimetic and normative behaviour. When institutional outcomes are dictated by legislative mandates, the organisation complies by forming structures, routines and systems to fit the needs of powerful stakeholders. Research into the legislative mandates behind performance reporting have found that managers of public sector organisations respond by implementing systems and performance measurement strategies to appear modern, rational and efficient (Brignall and Modell 2000; Covalleski and Dirsmith 1991; Cavalluzzo and Ittner 2003). James (2002, p.10) argues that public sector organisations voluntarily adopt mandatory requirements give the appearance of being legitimate, *'the performance measurement systems and the exercise of efficient management become signs of the organisation's willingness to commit to the public sector reform objectives of efficiency and accountability'*.

External bodies can influence, not only performance measurement systems but, other public sector accounting systems and management accounting behaviour (Abernethy and Stoelwinder 1995; Abernethy and Chua 1996; Covalleski et al 1993; DiMaggio and Powell, 1983; Abernethy and Vagnoni 2004). Abernethy and Stoelwinder (1995) considered that attempts to modify physician behaviour by increasing legislative power through funding arrangements and improvements to accounting information systems will directly impact on managerial and policy implications within hospitals. Nearly 10 years later further research by Abernethy and Vagnoni (2004) find that if the accounting information systems (AIS) does not fully reflect the performance of the clinical unit, it will not impact on modifying physician behaviour towards cost consciousness and that *'the higher the level of power of physicians the less they are likely to be committed to using resources efficiently'* (Abernethy and Vagnoni 2004, p.219).

Subsequent to the introduction of casemix, the majority of literature exploring the concept of legislative power and the impact on performance measurement systems in public sector organisations, is still to determine whether the external influence has negatively or positively impacted on long-term organisational performance. In addition, further research to extend the work by Abernethy and Vagnoni (2004) will help determine whether further changes to management accounting systems will provide relevant information to positively impact on cost consciousness and physician behaviour.

2.3 Management Accounting Change

In the last decade, publicly owned entities have moved from a traditional administrative approach to one that fosters new forms of management (Parker and Guthrie 1993). The change was integrated more slowly into public health-care organisations, allowing time for formal funding arrangements to be put in place. Now, following several years of capped funding arrangements and tighter legislative control, the management accounting function and management accounting system changes are being modified to better meet public sector reforms. With the more advanced management accounting techniques and delivery systems, the management accounting function in public hospitals faces considerable challenges and changes (Hopwood 1987)³. With this change comes the opportunity for the management accounting function to have a more strategic focus (Shank and Govindarajin 1993; Kaplan and Norton 1996; Bhimani and Kershtvarz 1999).

Key literature relevant to management accounting change, is explored under the following classifications:

- the role of strategy in management accounting change;
- factors influencing change;
- management accounting change – model development; and

³ Management accounting change is not entirely synonymous with the management accounting function, as in many organisations, the management accounting function is not always performed by management accountants. Nevertheless, for the purpose of this literature review, the 'management accounting function' being performed by management accountants is explored in terms of 'management accounting change'.

- institutional theory and framework for management accounting change.

2.3.1 The role of strategy in management accounting change

Strategic change is defined by Mintzberg and Westley (1992) as a change in the *direction* of the organisation, a result of both:

- concrete level change; and
- conceptual level change

The concrete levels are described as changes of programmes and facilities, and, when combined with conceptual change (i.e. vision and positioning) strategic change occurs. Strategic change can be either superficial or at the core of the organisation (Nyamori, Perera and Lawrence 2001).

Organisational change has been described as a change in the state of an organisation, as a result of change of culture or change in structure (Mintzberg and Westley 1992). However, Atkinson et al (1997) state that they believe organisations alter their structure, as part of their change management strategy. In general, strategy is considered to be the result of a consciously formulated plan, however, in practice this does not always occur and strategies are developed after plans or systems are in place (Mintzberg 1987).

Whilst exploring the literature relating to strategic change and the management accounting function, researchers noted that management accounting change has occurred in response to changing information requirements by management. With an increasing emphasis on fulfilling stakeholder needs, traditional financial information was no longer broad enough to encapsulate organisational strategy with organisational performance. To remain relevant in contemporary organisations management accountants need to reposition their roles within organisations to have a strategic focus (Kaplan and Norton 1992).

Strategic management accounting began to impact on industries in the late 1980s (Simons 1987; Johnson and Kaplan 1987). The change to management accounting practice was to expand traditional practice to one that emphasises:

- from historical to forward looking;
- from control to planning;
- from internal to external (customers, competitors etc.);
- from cost to value; and
- from production to marketing (Otley 2001, p.244).

The literature relating to the change in the management accounting function describes strategic change for the management accountant as being a change in day-to-day activities, such as a move away from a purely financial focus or budgetary control (Kaplan and Norton 1996; Vaivio 1999) to become a business support analyst or internal business consultant (Burns and Vaivio 2001; Ittner and Larker 2001). Roslender and Hart (2003) describe the management accounting role as moving through stages. The management accountant moved from a traditional relationship to a final synergistic relationship with others in the organisation.

Whilst investigating the characteristics and influence 'Systems, Applications and Products in data processing' (SAP) implementation had on management accounting change in an organisation, Scapens and Jazayeri (2003) found that change had occurred in four ways impacting on the role of management accountants:

- routine jobs were eliminated;
- there was increasing accounting knowledge amongst line managers;
- SAP provided more forward-looking information; leading to
- a wider role for management accounting.

The empirical research literature describing the change to the management accounting function within the organisational context is minimal. A significant proportion of management accounting change literature relates to systems and inputs, for example, literature relating to designing control systems for implementing strategy (Simons 1999). There are few empirical descriptions of the 'output' of change experienced by the

management accountant, with further research on whether the change is actually managed or performed by management accountants required.

In the late 1990's, Atkinson et al (1997, p.83) reported:

'..we have little in the way of systematic inquiry as to what the changes are, what features facilitate or impede the change process, and the consequences of not changing rapidly enough.'

Some years later, there is still minimal available research into 'what the changes are' or the origins of resistance to accounting system change (Granlund 2001). Empirical research into management accounting change tends to focus more on the 'factors that influence' management accounting system change. Empirical research conducted by Friedman and Lyne (1997) explored scenarios for the future role of management accountants but there is little literature on the 'consequences of management accounting not changing rapidly enough'.

2.3.2 Factors influencing management accounting change

Management accounting change occurs with the design and implementation of new management accounting techniques to meet broader organisational, environmental and managerial strategic change objectives (Dent 1990). Burns and Vaivio (2001) consider management accounting change is a result of a change to:

- organisational designs;
- competitive environments; and
- information technology

Libby and Waterhouse (1996) found that the changes in management accounting systems were in response to strategic organisational changes. Strategic organisational changes have been found to be the result of increased competitive environments (Baines and Langfield-Smith 2003). Baines and Langfield-Smith (2003) also found that changes in an organisation's external environment will lead to change in their management accounting systems, resulting in improved organisational performance.

Granlund and Mouritsen (2003) found the increasing use of advanced information technology influences the management accounting function. They explain that change to management control systems is due to the increased support that information technology gives to business processes. Atkinson et al's (1997) study into information systems demonstrates the impact that advances in information technology has on organisational change. However, the authors also suggest management accounting systems can inhibit change by focusing on performance measures that maintain the status quo and discourage experimentation.

Other factors influencing management accounting change have been reported by Vaivo (1999). He suggests the increasing use of non-financial measures is an active element that restructures organisational reality (Vaivo 1999, p.413). Cobb, Heliar and Innes (2002) considered regulatory change a factoring influence, whilst Kloot and Martin (2000) also found that government reforms have increased the relevance of non-financial performance indicators in public sector environments. Nevertheless, they consider further management accounting change is required to improve performance management. Anderson and Young (1999) applied results from previous empirical findings into their structural model for ABC implementation, describing these factors of change as contextual factors (individual and organisational factors) and process factors.

Further studies into factors influencing management accounting change not only investigate whether change does or does not occur, but also consider the rate of change (Kaplan 1986; Bruns and Kaplan 1987; Innes and Mitchell 1990; Agryis and Kaplan 1994; Granlund 2001; Gurd and Swaffer 2002). As outlined above, a range of organisational and contextual variables influence the 'initiation' of the change process but situational factors will influence the rate and impact of change. When investigating 'accounting lag', or the gap between technical change and improvement in the management accounting system, Agryis and Kaplan (1994) suggested that situational factors such as education and training, sponsorship of change and alignment of incentives influence the rate of change.

Finally, Granlund (2001) considers that the opposite of change, that is, the human need for 'stability' is a situational factor of change. This is considered by Burns and Scapens (2000), when they quote a literary classic '*If we want things to stay as they are, things will have to change*' di Lampedusa (1958). This concept requires further exploration with empirical research, especially within public sector institutions, such as hospitals. Traditional practices and 'stability' are often considered to be synonymous with institutional organisations compared with the rapid pace of innovative 'for profit' private sector companies.

2.3.3 Management accounting change - model development

Management accounting change has been conceptualised by researchers into models or frameworks that '*describe and explain analytical concepts which can be used for interpretive case studies*' (Burns and Scapens 2000, p.9). A review of the 'models of change implementation' include management accounting change models developed by Innes and Mitchell 1990; Vaivio 1999; Cobb et al 1995; and Kasurinen 2002. The institutional framework applied by Burns and Scapens (2000) to their management accounting change model is discussed in the subsequent section.

Innes and Mitchell (1990) developed a 'management accounting change model' following a series of empirical studies. They define three factors associated with change, *motivators* and *catalysts* (the major internal and external changes in general) and change agents or *facilitators*:

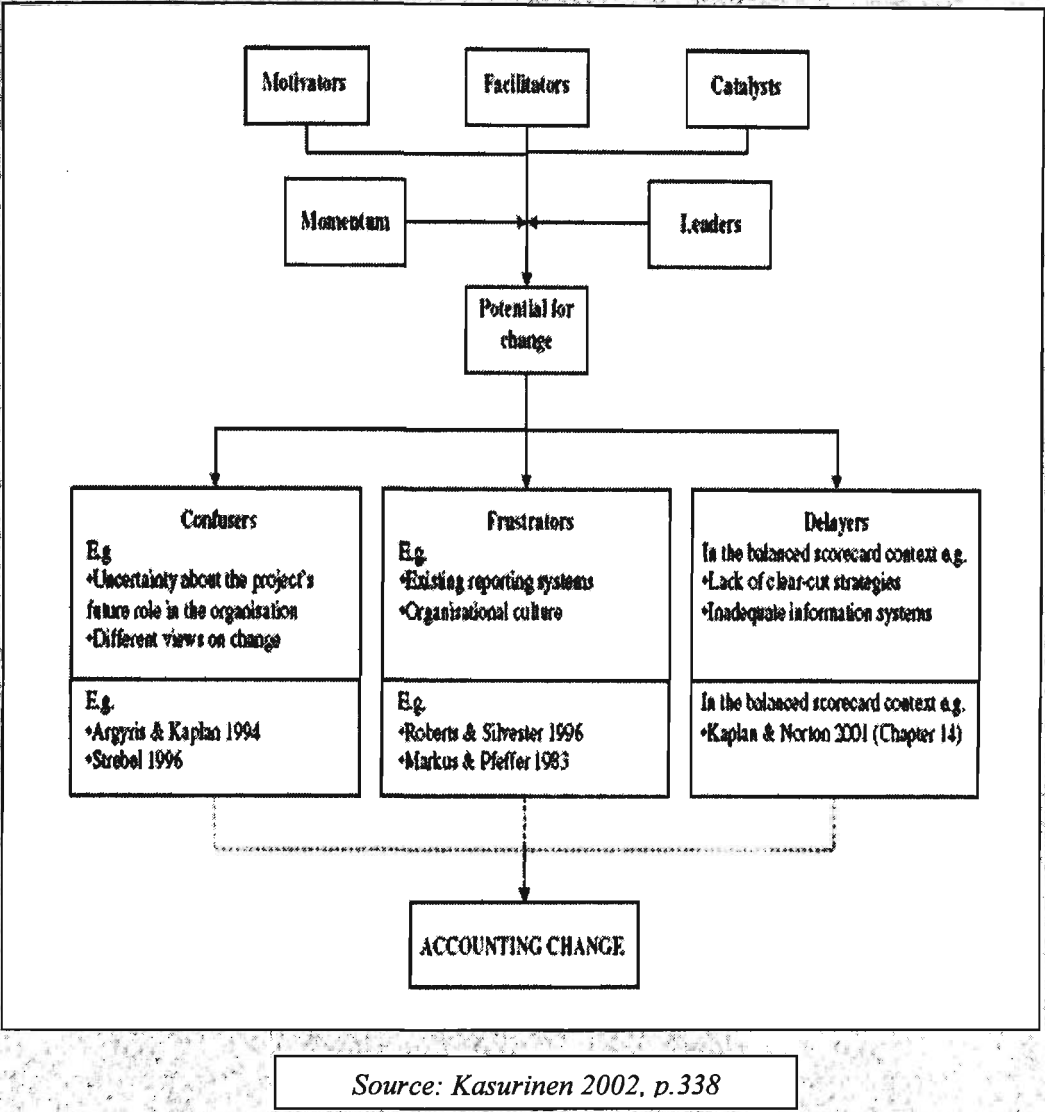
- *motivators* are organisational structure, competitive markets or external stakeholder pressure;
- *catalysts* are described as poor financial performance, loss of market share and the launch of a competing product; and
- *facilitators* are the support staff such as management accountants, who will play a role in change but not necessarily affect change itself. The degree of autonomy of the organisation was also considered to be a facilitator.

Cobb et al (1995) modified the Innes and Mitchell (1990) accounting change model. They described certain individuals within the organisation as ‘leaders’ of change who facilitate change. Changing priorities such as accounting-staff turnover and attitudes are seen as barriers to change.

Further modifications to the Innes and Mitchell (1990) and Cobb et al (1995) accounting change models were performed by Kasurinen (2002). This is illustrated in Exhibit 2.2. The adapted model was used to describe management accounting change and the effects on BSC implementation in a private manufacturing organisation. In Kasurinen’s (2002) model the barriers to management accounting change are described as ‘confusers’, ‘frustrators’ and ‘delayers’. Kasurinen (2002) found that BSC development in an organisation may be undermined by the barriers to management accounting change. In particular, Kasurinen’s (2002, p. 341) development and implementation of the revised accounting change model led to the suggestion that:

‘BSC building process does not pay explicit attention to the context of change implementation. The lack of this contextual analysis at the early stages of the project may lead to the understatement of the structural barriers, and to only limited implementation’

Exhibit 2.2: Kasurinen’s accounting change model (2002)



Other management researchers suggest ‘management styles’ can reflect the way an organisation changes. Beer and Nohria (2000) describe the different modes of change through management leadership styles which take either a top-down approach (economically driven, Type E personalities) or a bottom up approach (organisationally driven, Type O personalities). Management styles may have a direct impact on the implementation and acceptance of change processes, such as innovative performance management systems (Anderson 1995).

Management accounting in public sector organisations has responded to the criticisms that organisations place too much emphasis on financial control. With excessive performance indicators, public sector organisations are increasingly adopting multi-dimensional models to assist with performance measurement and accountability (Modell 2004; Guthrie and English 1997). With the multi-dimensional approach to performance measurement, there have been problems with associated trade-offs between measures to satisfying differing stakeholder needs (Ittner and Larker 1998a). The rationale behind performance measurement trade-offs to accommodate the most powerful stakeholder's needs, has been investigated to a small degree.

More recent studies into public sector change have drawn on institutional theory to explain the significant impact stakeholders have on organisations trying to achieve a balance between their conflicting needs (Brignall and Modell 2000; Modell 2001, 2003, 2004; Abernethy and Chua 1996; James 2002). Research to date has not fully explored how the trade-offs ultimately impact on the perceived success of organisational performance, or what influence differing stakeholder's needs have on management accounting practices. For example, in public hospitals, is management accounting an institutionalised practice that requires a powerful external stakeholder to create change? Further research is also required to determine if the outcomes of management accounting change are 'successful'⁴ to management accounting practices within hospitals?

2.3.4 Institutional theory and framework for management accounting change

Institutional theory suggests the behaviour of organisations is focussed on demonstrating legitimacy to the wider social environment in which they are placed. An institutional environment builds on the assumption that management accounting systems and practices are the routinisation of behaviour around a set of rules. The routines become taken-for-granted and hence, become institutionalised. Changes to rules then routines occur over time. They

⁴ The definition of 'successful', in this case means that management accounting practices, like management accounting change has moved beyond initial potential for change, to a change or practice that has become infiltrated and accepted (institutionalised) throughout the organisation.

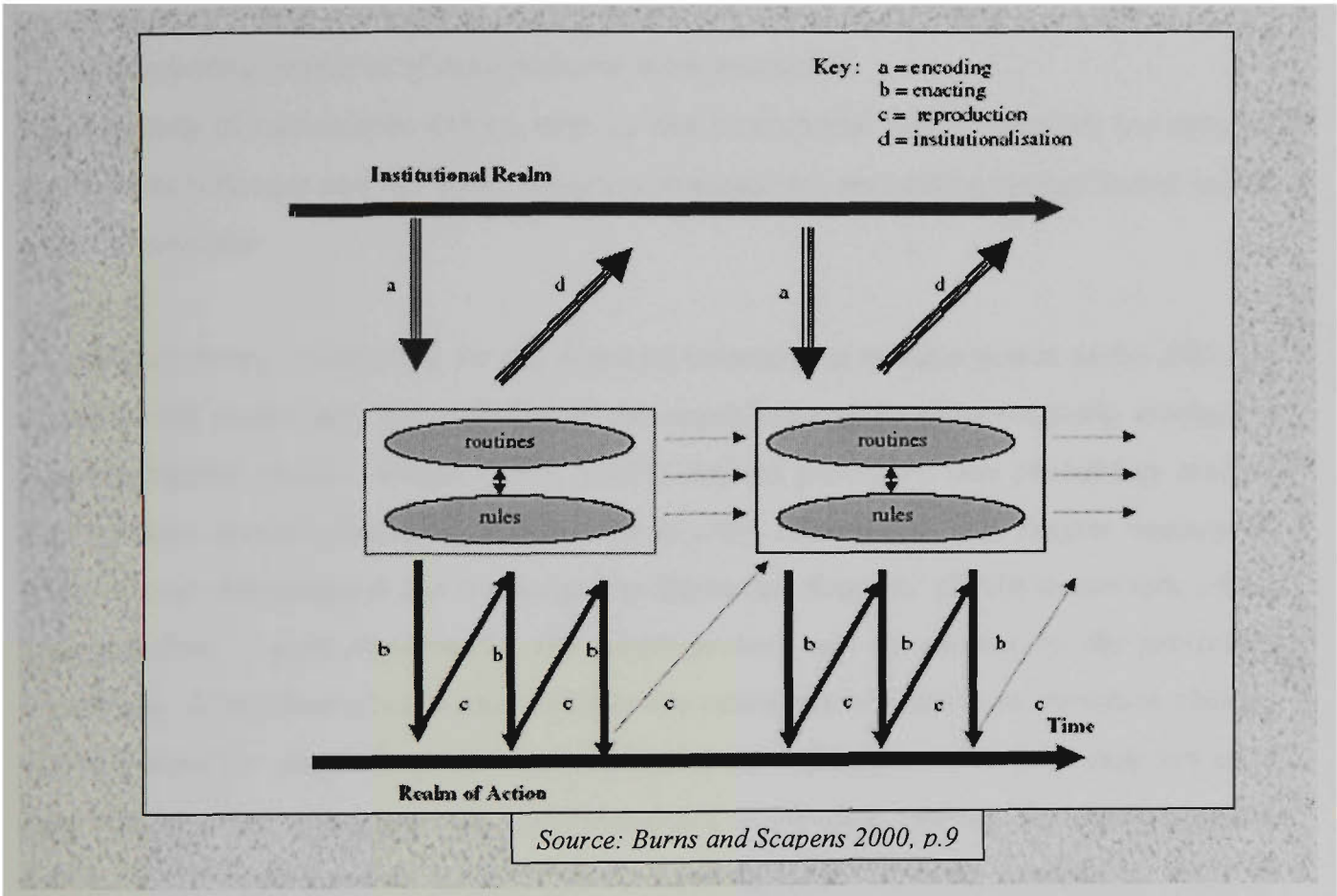
may occur either randomly or systematically, with practices, symbols, beliefs and normative behaviour conforming to receive support and legitimacy (Burns and Scapens 2000; Scapens and Roberts 1993; Abernethy and Chua 1996). The institutionalised rules legitimise the organisation to the broader community, hence ensuring their continued support (DiMaggio and Powell 1983; James 2002; Collier 2001).

Burns and Scapens (2000, p.9) suggest that '*Management accounting practices can both shape and be shaped by the institutions which govern organisational activity*' and have developed a framework to describe and explain analytical concepts which can be used for interpretative case studies of management accounting change. Burns and Scapens (2000) framework classifies change as being:

1. formal versus informal change;
2. revolutionary versus evolutionary change; and
3. regressive versus progressive change (p.18).

The framework, built from earlier institutional work by Scapens (1994), is depicted in Exhibit 2.3. In the management accounting change framework, details of the change processes from rules and routines to actions, repeated behaviour and institutionalisation are directed by arrows. Stability is achieved through the routines of institutional life, however, the existing routines can further influence change (see middle boxes). With change there may be resistance or a conscious decision to change, but, more than likely it will be a reflexive change with tacit knowledge about how things are done. The overall change within the institution takes far longer than the changes in action, which need to become widely accepted and re-enacted before they become institutionalised (the unquestionable form of management control). This is demonstrated by the arrows at the top and bottom of Exhibit 2.3.

Exhibit 2.3: The process of the institutionalisation of rules and routines in management accounting change



Burns and Scapens (2000, p.17) suggest resistance to change comes from three separate but interrelated elements:

1. formal and overt resistance due to competing interests;
2. resistance due to a lack of capability (knowledge and experience) to cope with such change; and
3. resistance due to a ‘mental allegiance’ to established ways of thinking and doing, embodied in existing routines and institutions.

Institutional theory has several strands (Scott 1995). Burns and Scapens (2000, p.5) model has been based around the ‘old institutional economics’ strand which is:

'concerned with management accounting as an institution within the individual organisation (and not focusing) on the effects of extra-organisational institutions (social, economic and political) on the accounting practices of organisations more generally'.

Other strands of institutional theory, such as neo-institutional theory, consider the external government influence and the wider effects of management accounting change within public sector institutions.

Institutional theory is criticised for the disparity between the relative power of the different organisational actors and the inability at the organisational level to reconcile competing interests (Collier 2001). Weber (1947, p.152) defined power as: *'the probability that an actor within a social relationship will be able to carry out his own will, despite resistance'*. The power of individuals is not challenged by Burns and Scapens' (2000) framework either. They say that *'...most importantly, the whole process will be shaped by the prevailing institutions. Institutions always exist prior to any attempt by the actors to introduce change, and will therefore shape the process of change' (p.11)*. The powerful actor may not have been able to effect change to the institutionalised accounting routines, but some routines evolve as the manager and management accountant find mutually acceptable ways of working. These factors are of concern in a public health-care setting where clinicians are competing with each other and with the management accountants for the limited resources with which to provide high quality care for everyone.

Modell's (2001) findings conflict with this institutional view of managers and organisations as 'passive' adapters. He examined whether managerial responses are primarily in search of conformity and legitimacy. The findings demonstrated that senior management in a Norwegian health setting were *pro-active* in the development of multi-dimensional performance measurement. Modell's (2001) empirical results suggest that the new modes of behaviour may not necessarily be passive responses to organisational pressures, with future implications for public sector disclosure of performance measurement for legitimisation. Legitimation to a wider social environment will require public sector performance

measurement systems to have both non-financial and financial indicators to balance conflicting interests of stakeholders (Modell 2001).

When investigating control system redesign in the Australian health-care sector, Abernethy and Chua (1996) examined managerial responses to processes. They found that the organisation's control system was contingent on a 'package' of both technical and institutional environment. James (2002) finds the necessity for public sector institutions to conform for legitimisation purposes provides the rationale behind the initial adoption of the BSC in a Government owned corporation in Australia. James (2002) applied the institutional considerations of DiMaggio and Powell (1983) to her research. They consider professionals adopt new modes of behaviour as a direct result of either:

- external pressures to conform (coercive isomorphism);
- mimicking other organisations when uncertain (mimetic isomorphism); or to
- justify their own control (normative isomorphism)

Institutional theory can assist with the investigation of management accounting change as an institution within the individual organisation (Burns and Scapens 2000). Management accounting can direct change or be directed in the change process. Furthermore neo-institutional theory provides a means of investigating the wider public sector difficulties with achieving a balance between improved measurement and information systems and conflicting stakeholder interest (Modell 2001).

2.3.5 Summary

The investigation into the literature on management accounting change shows that innovations in management accounting are perhaps an attempt to take a more strategic focus. However, new management accounting tools may not necessarily mean there has been a substantial change, merely a rearticulation of the 'old' (Burns and Vaivio 2001; Vaivio 1999; Malmi 1999). Furthermore not all change leads to more efficient practices or is a positive phenomenon (Hopwood 1987; Burns and Scapens 2000; Burns and Vaivio 2001).

Institutional theory suggests that accounting may act as a facilitating factor between the demands of greater external accountability and operational activity (Collier 2001). Performance reporting is also part of an organisation's attempt to achieve external legitimacy. However, to meet the needs of all stakeholders, a balance of financial and non-financial measurement is required (Modell 2001).

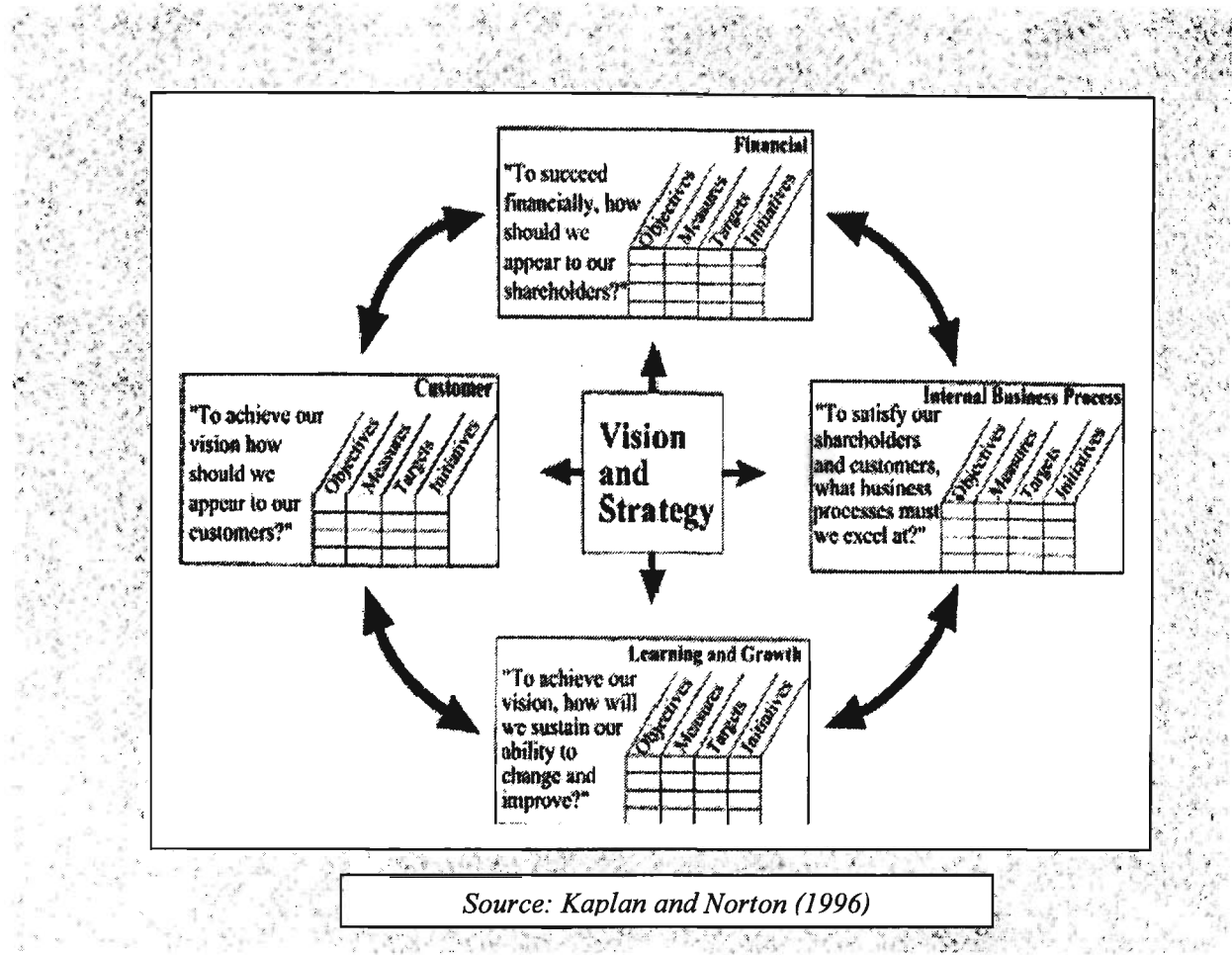
Finally, if organisational change does occur, it may be with or without the management accountant. This gives rise to future implications for the role of the managerial accounting function in the application of management accounting innovations (Abernethy and Brownell 1997; Chenhall and Langfield-Smith 1998).

2.4 The Balanced Scorecard

The declining confidence of managers and accountants in the ability of their tools to provide useful, timely, relevant and reliable information, required innovative changes to develop specialised systems providing relevant short and long-term performance measurement (Johnson and Kaplan 1987). Traditional accounting systems have generally been supplying single system information, that is perhaps appropriate for external reporting, auditing or for taxation purposes, but not appropriate for internal measurement and evaluation. Management accounting systems using predominately financial measures appear to be losing relevance (Johnson and Kaplan 1987).

To avoid a single dimensional approach to performance measurement, organisations are placing an increased reliance on management accounting systems to supply them with a more balanced view to performance measurement. The BSC has been designed to overcome many of the short-comings found in traditional accounting, and provides a more holistic approach to business performance. In Exhibit 2.4, Kaplan and Norton's (1996, p.9) BSC which 'provides a framework to translate a strategy into operational terms' is presented.

Exhibit 2.4: Kaplan and Norton's (1996) Balanced Scorecard



2.4.1 Development of the Balanced Scorecard

The BSC was originally designed to solve a measurement problem, where financial measures were unable to capture many of the value creating activities generated by an organisation's 'intangible' assets. To achieve this, the balanced scorecard design included different dimensions of performance. Measurements of performance were not only weighted on financial, quality, or customer alone, but include distinct measurements of:

- innovation and learning⁵;
- internal processes;

⁵ Kaplan and Norton (1996) initially referred to the perspective, employee 'learning and growth'. More recently this perspective has been also been discussed as 'innovation and learning' (Kaplan and Norton 2001). Both terms are intertwined and both will be referred to in the literature review.

- customer; and
- financial data.

The generic BSC has four perspectives, as outlined above and in Exhibit 2.4 however organisations have been designing their own unique BSC's with anywhere from three to six perspectives (Niven 2002). The objectives should reflect the critical success factors necessary for continued organisational success, and the measures should be closely linked to business unit strategy. In some organisations, measurements of occupational health and safety are substantial enough to require an individual perspective.

All measures are expressed in a cause-and-effect relationship to be viewed holistically. As they are linked together no individual measure or perspective is examined separately, thus adding to the 'balance' in the BSC:

- balance between the lag and lead indicators of performance;
- balance between financial and non-financial indicators of success; and
- balance between internal and external constituents of the organisation (Niven 2002, p.22)

Kaplan and Norton (1992) recommend a mix of 'lag' and 'lead' indicators. Lag indicators represent the consequences of actions taken, whilst lead indicators are the measures that drive or lead to the lag indicators (Kaplan and Norton 1992). In the past, performance measurement has focused on the lag indicators, which are historical in nature and lack predictive power (Niven 2002). In addition, Eccles and Pyburn (1992) consider lag indicators are oriented to the internal organisational environment rather than externally, to customers and other stakeholders. They consider that management control that only relies on internal performance to financial budgets, ignore external performance benchmarking, thereby making it difficult to determine the outcomes of management actions over time.

Kaplan and Norton (2001, p247) found the mix of lag and lead indicators allowed employees to distinguish between the measures they could not control and the measures they could

influence through their actions (the performance drivers). Individual scorecards for employees help show how the employee actions can influence the lag indicators. A summary table outlining definitions and examples of the ‘lead’ and ‘lag’ indicators is presented in Exhibit 2.5. The ‘lead’ measures are considered to be more predictive than the lag measures listed, inferring that if organisations spend more hours with customers, they are going to make customers happier thereby improving the organisation’s financial position. They may still be considered to be historical measures, and to date, there has been little research into the ‘predictive’ ability of the claimed ‘lead’ measures of performance.

Exhibit 2.5: Table to define the ‘lag’ and ‘lead’ measures of a BSC

	Lag	Lead
Definition	Measures focusing on results at the end of a time period, normally characterising historical performance	Measures that ‘drive’ or lead to the performance of lag measures, normally measuring intermediate processes and activities
Examples	<ul style="list-style-type: none">• Market share• Sales; Profit;• Revenue growth• Costs; ROI;• Cash flows• Employee satisfaction	<ul style="list-style-type: none">• Hours spent with customers• Depth of relationship• # Satisfied customers• Revenue mix• # new development projects• Personal goals attained• Absenteeism
Advantages	Normally easy to identify and capture	Predictive in nature, and allow the organisation to make adjustments based on results
Issues	Historical in nature and do not reflect current activities; lack predictive power	May prove difficult to identify and capture; often new measures with no history at the organisation

Source: The measures have been taken directly from Kaplan and Norton (1996) and Niven (2002)

The BSC provides a means of ensuring that the non-financial drivers of performance are acknowledged by management. Often, performance measurement in organisations is

monitored and reported by individual areas and not viewed as a single system by everyone. Kaplan and Norton (1992, p.97) suggest the main strength of the BSC, is that it

‘summarises many seemingly disparate elements of an organisation’s competitive agenda into one comprehensive management report’.

Performance measurement with a diverse set of financial and non-financial measures assists to improve decision-making. Kaplan and Norton (1992) claim that the BSC allows organisations to move away from the sole reliance on measures of past performance, to include others that are considered to be more forward-looking.

During the development phase, strategy maps are recommended to help with the development of cause-and-effect relationships (Kaplan and Norton 2001). For example, customer satisfaction may be considered a key result area. Measures are developed on the underlying strategic objectives of how customer satisfaction is going to be achieved, such as through increased quality, improved technical advice etc. Other measures should link into the strategy and provide a means-end relationship between the quadrants. Therefore according to Kaplan and Norton (1996) employee learning and growth and internal business processes should represent the means by which the desired results in the customer and financial quadrants are obtained.

Kaplan and Norton’s (2001) BSC has evolved from an innovative measurement system (Kaplan and Norton 1992) to a strategic management system and powerful communication tool (Kaplan and Norton 1996; 2001). They claim the BSC is meant to be a ‘forward-looking model’, however Simons (1999) found that the BSC has been used as a ‘diagnostic control system’ instead. Simons (1999) found that CEO’s have been using the BSC to identify problems within the organisation, as well as applying the BSC for implementing and managing strategy. Kaplan and Norton (2001) state that the BSC should not be used as a diagnostic control system, but is designed to be at the centre of an organisation’s control. They suggest control is achieved through measurement management, putting ‘strategy and vision’, not financial control, at the centre. Lingle and Shieman (1996) suggest that the rationale behind the BSC tool is to create ‘measurement-managed’ organisations rather than

organisations managed by financial control. They suggest the BSC improves the teamwork of senior management, enables open sharing of communication, and a higher degree of self-monitoring by employees.

Kaplan and Norton (1996) claim the most important aspect to the BSC is the link with strategy. This has been the major development since the initial performance measurement tool was designed in 1992. Kaplan and Norton (1996, 2001) emphasise strategy as being a crucial aspect of BSC development, and suggest the BSC is not to serve strategy, but to implement it. Ittner and Larker (2001) consider that, strategically, the BSC moves beyond the analysis of cost drivers to emphasise the ‘value drivers’ of organisational performance. Kaplan and Norton (2001 p.167) explain:

‘...strategy implies the movement of an organisation from its present position to a desirable but uncertain future position. Because the organisation has never been to this future place, the pathway to it consists of a series of linked hypotheses. A strategy map specifies these cause and effect relationships, which make them explicit and testable.’

The possible benefits of applying the BSC as a ‘stakeholder approach’ have been considered by Otley (1999) and Jenson (2001), although Kaplan and Norton (1996) insist that it is designed to increase shareholder value. The BSC gives precedence to the major stakeholders, such as the providers of finance and the customers, with other stakeholders such as suppliers, governments, local communities ‘given only passing mention’, perhaps indicative of the current cultural environment (Otley 1999, p.375; Norreklit 2000). Nevertheless, Otley (1999) suggests that a stakeholder approach is an advantage for specific organisations in both the public and private sectors.

Kaplan and Norton (1996 p.310) consider an organisation’s first BSC can be created in just over a 16-week period, however, there has been little research into this claim, or into whether the 16-week BSC is as beneficial to an organisation as a BSC that takes longer to develop.

The key claims to BSC success by Kaplan and Norton (1996, 2001) are that the BSC demonstrates:

- link to strategy;
- cause-and-effect relationships;
- 'balance' between BSC metrics;

They also claim the BSC is used as a communication tool, a measurement tool or a strategic management tool (Kaplan and Norton 2001).

2.4.2 Balanced Scorecard implementation - technical and behavioural issues

The BSC has been adopted by many private and public sector organisations worldwide. It has been considered the latest management 'fashion', with multiple seminars, books, workshops and software vendors providing tools for BSC implementation (Malmi 2001). The BSC has been taken up by Australian organisations. In a survey conducted by Zaman (2001) findings revealed that 58.33% of Australia's top 50 companies have adopted or plan to implement a BSC. Nevertheless, empirical evidence on the success of the BSC, thereby supporting Kaplan and Norton's (2001) claims, is still limited, especially in Australia (Hoque and Alam 1999; Hoque and James 2000). In the Australian manufacturing sector, Chenhall and Langfield-Smith's (1997) survey results indicated manufacturing plants found only modest benefits from BSC performance measurement. Hoque and James (2000) suggests that greater BSC usage is associated with improved performance. Internationally, Chan and Ho's (2000) survey of Canadian hospitals noted 95% of implementation was at the corporate level with 75% of these rating the implementation as moderate to quite successful. Davis and Albright (2001) found that the BSC improves financial performance, but Ittner and Larker (2001) found no significant change in branch managers' understanding of strategic goals or their connection to managers' actions.

Kaplan and Norton (1996, p.149) define strategy as a set of hypotheses linking non-financial measures to future value through a series of cause-and-effect relationships. Studies have been conducted into the perceived importance of linking the BSC to organisational strategy (Otley

1999; Simons 1999; Chan and Ho 2000; Ahn 2001; Malina, and Selto 2001; Van Veen Dirks and Wijn 2002; Niven 2002; Campbell et al 2002). Otley (1999) suggests that this has been a traditionally weak area for many organisations. Ahn (2001) found management-orientated strengths, such as benefits for long-term strategy planning and short-term action and budget planning, but is still to judge whether strategic feedback and learning occurred. Campbell et al (2002) demonstrated that performance measurement systems can be used to monitor, analyse and revise a firm's strategy. Their results suggested that where companies would generally develop cause-and-effect relationships based on *ex ante* expectations, the hypothesised links between measures can be used more extensively for continuous hypothesis testing *ex post*. (Campbell et al 2002). The BSC can be therefore used not to only communicate the strategy but also to test the strategy's performance.

The perceived benefits of developing cause-and-effect relationships amongst the BSC measures has been met with conflicting views and practical application difficulties (Laitinen 1996; De Haas and Kleingold 1999; Norreklit 2000; Hoque and James 2000; Malmi 2001; Ahn 2001; Otley 2001). Norreklit (2000) questions the cause-and-effect relationships between the perspectives and suggests that they are more logical relationships among the areas being analysed. Malmi (2001) found that early BSC adopters did not understand the linking or relationships between measures very well. Other researchers demonstrated BSC failure or abandonment because the organisation does not have the 'technical know-how' (Chan and Ho 2000). The empirical evidence gained through organisational experiences with BSC implementation shows that there are often insufficient guidelines or recommendations from Kaplan and Norton (1996, 2001) elaborating finer details of the BSC constructs. They provide little guidance on how to 'balance' the disparate measures (Ahn 2001; Otley 1999; Malmi 2001; Ittner, Larker and Meyer, 2003).

Other implementation issues surround the operational outcomes of using 'lag' and 'lead' indicators for performance measurement (Merchant 1989; Eccles and Pyeburn 1992). De Haas and Kleingold (1999) claim that linking the outcome measures with the performance drivers of outcomes, makes the BSC a 'feed-forward' control system, however empirical

findings to corroborate this demonstrate mixed results (Banker et al 2000; Norreklit 2000; Behn and Riley 1999; Ittner and Larker 1998a; Foster and Gupta 1999). Research findings, into the links between customer satisfaction and future performance, were varied between organisations (Banker et al 2000). Banker et al (2000) also found variations in how the questions were broached would alter the results of customer satisfaction measurement. Norreklit (2000, p.71) questions the timing between the lag and lead indicators suggesting that whilst the introduction of more efficient processes may yield higher customer satisfaction in a few months, innovations may not affect financial results until a few years have passed. Furthermore, invalid assumptions lead to incorrect performance indicators and in a feed-forward control system this may lead to dysfunctional behaviour (deHaas and Kleingold, 1999). Incorrect assumptions or the subjectivity of timing between lag and lead indicators of the BSC resulted in further implementation issues, such as linking performance to rewards.

Kaplan and Norton (1996) suggest benefits occur when linking the BSC to organisational budgeting and compensation, and firms are increasingly using the BSC for compensation plans (Kaplan and Norton 2001). Niven (2002) claims the linking of the BSC to key management processes such as budgeting, incentive and reward systems, overcome the barriers to implementing strategy. This was confirmed by Ahn (2001) who found considerable benefit when connecting long-term strategic planning and short-term action and budget planning. Eccles (1991) considered the need for 'balance' in the BSC, and when linking strategic performance to incentives schemes, the BSC should motivate holistic organisational performance. Recent studies have demonstrated that this does not always occur (Ittner and Larker 1998; Norreklit 2000; Lipe and Salterio 2000; Jenson 2001; Libby, Salterio and Webb 2002; Ittner, Larker and Meyer 2003; Banker et al 2004).

Ittner, Larker and Meyer (2003) found that the subjectivity in the scorecard plan allowed superiors to reduce the 'balance' in bonus awards by placing most of the weight on financial measures. The BSC (as an instrument for bonus planning) was eventually abandoned because of senior management 'game-playing' where it became 'unbalanced' through the uncertainty and subjectivity of measures applied in compensation agreements. Research has

found that where the BSC is used as a subjective performance tools by managers, they have the potential to trade performance results between the financial and non-financial measures for improved outcomes (Ittner and Larker 1998a; Banker et al 2004). Ittner and Larker (1998a) claim that trade-offs may undermine long-term strategy. Banker et al (2004) found in a five year study into the BSC implementation in a US telecommunications industry, that managers did trade off ROA to increase a non-financial measure. However evidence also suggests that if the non-financial measures are regarded, by senior managers evaluating individual business unit performance, as equal to financial measures, then trade-off does not occur (Ittner, Larker and Meyer 2003).

In addition Lipe and Salterio (2000) and Libby, Salterio and Webb (2002) found that dysfunctional decision-making occurred when reviewing common and unique measures in business unit performance measurement, questioning the validity of the BSC as a performance reward tool. As a communication tool, Jenson (2001) claims the BSC is a perfect vehicle for information transfer, however it is flawed as a performance reward tool, because it gives no final score of performance. As a control model, Norreklit (2000, p.81) finds the BSC is a *'hierarchical top-down model that is not easily rooted in a dynamic environment or in the organisation'*. Norreklit (2000) suggested unplanned organisational and environmental factors are not catered for in the BSC leading to the potential for it to become 'too rigid'. Consequently, this leads to trade-offs or a gap between planned strategy and the actions undertaken.

More recently there has been literature claiming the BSC is the latest management accounting 'fad' (Norreklit 2002). Norreklit (2002) considered the BSC was 'persuasive rhetoric' rather than a convincing management accounting theory. In a survey conducted by Chan and Ho (2000) hospital executives did not consider the BSC to be a fad. James (2002) considers that perhaps innovations in control systems reflect 'fad and fashion in organisational design' (Meyer 1985) but also the 'legitimate' thing to do. Ittner and Larker (2001) suggest that the initial enthusiasm of 'new' accounting topics by the business press, may stimulate corporate funding and greater access to research sites for academic research into the 'innovations'. The

patterns of interest tend to wax and wane with every new development. This was also noted by Brickley et al (1997) with just-in-time peaking in the late 1980's, total quality management in the early 1990's, followed by activity-based-costing and re-engineering. These were replaced by research into EVA® in the late 1990's.

Nevertheless, literature relating to the BSC or to 'multi-dimensional performance measurement' approaches is continuing and organisations in the public and not-for-profit sectors have followed the private organisations in adopting the BSC, suggesting that it will remain in the limelight for a while longer. In fact, the more recent literature on the BSC is being generated from public sector research (Modell 2004; Cavalluzzo and Ittner 2003; Abernethy and Vagnoni 2004; Abernethy et al 2003). Modell (2004) raises some doubts as to the extent of the performance measurement 'crisis' in public sector organisation. He considers public sector performance measurement 'myths' combined with the BSC rhetoric requires further 'in-depth' examination in future field research.

2.4.3 The Balanced Scorecard in public sector organisations

Public sector reforms in the early 1990s have changed the way performance is measured in public sector entities. Limited resources have put pressure on government organisations to improve financial management. Reforms have changed performance measurement by actively encouraging entrepreneurship and ensuring that operational effectiveness is measured as well (Abernethy and Lillis 2001). The reforms have resulted in public sector organisations becoming autonomous units. Now most public sector organisations, including public hospitals, are managed by their own boards, and they are required to report regularly to government on a standard suite of measures.

Public hospital boards are now in control of operations and determine such things as patient mix, patient volumes and organisational strategy. Since the mid 1990's casemix funding provides the majority of acute public inpatient health-care income rather than the original block grants (see appendix 2). The casemix dollar rate is meant to reflect the actual cost of

providing an inpatient service (e.g. appendicectomy, heart transplant, medical illness) and is currently calculated on average patient stay. The hospital is therefore motivated to improve discharge planning. The government considered casemix was a more accurate and equitable way of funding hospitals, and when initially introduced, the hospitals were allowed some flexibility in receiving revenue for the services performed. The funding targets have now been capped by the funding body (Duckett 1998). Individual hospitals are allocated funding targets, but have the autonomy to determine their own mix of patients within these arrangements.

Many metropolitan hospitals have been struggling, and reporting deficits because the amount of funding that is allocated to pay for the current level of services provided is not sufficient (Duckett 2003). Public hospitals rely on both State and the Commonwealth for funding under the 'Australian Health Care Agreement'. Current political funding issues evident between both the Liberal (Commonwealth) and Labour (Victoria) parties have impacted on the level of funding received by the hospitals. According to Duckett (2003) if public hospital funding is reduced, there are three options:

1. treat fewer patients (resulting in increases in waiting lists and waiting times for elective patients); or
2. provide fewer funds per patient (this requires further improvements to efficiency); or
3. restrict capital spending (impacting on introduction of new technologies, building upgrades and renovations).

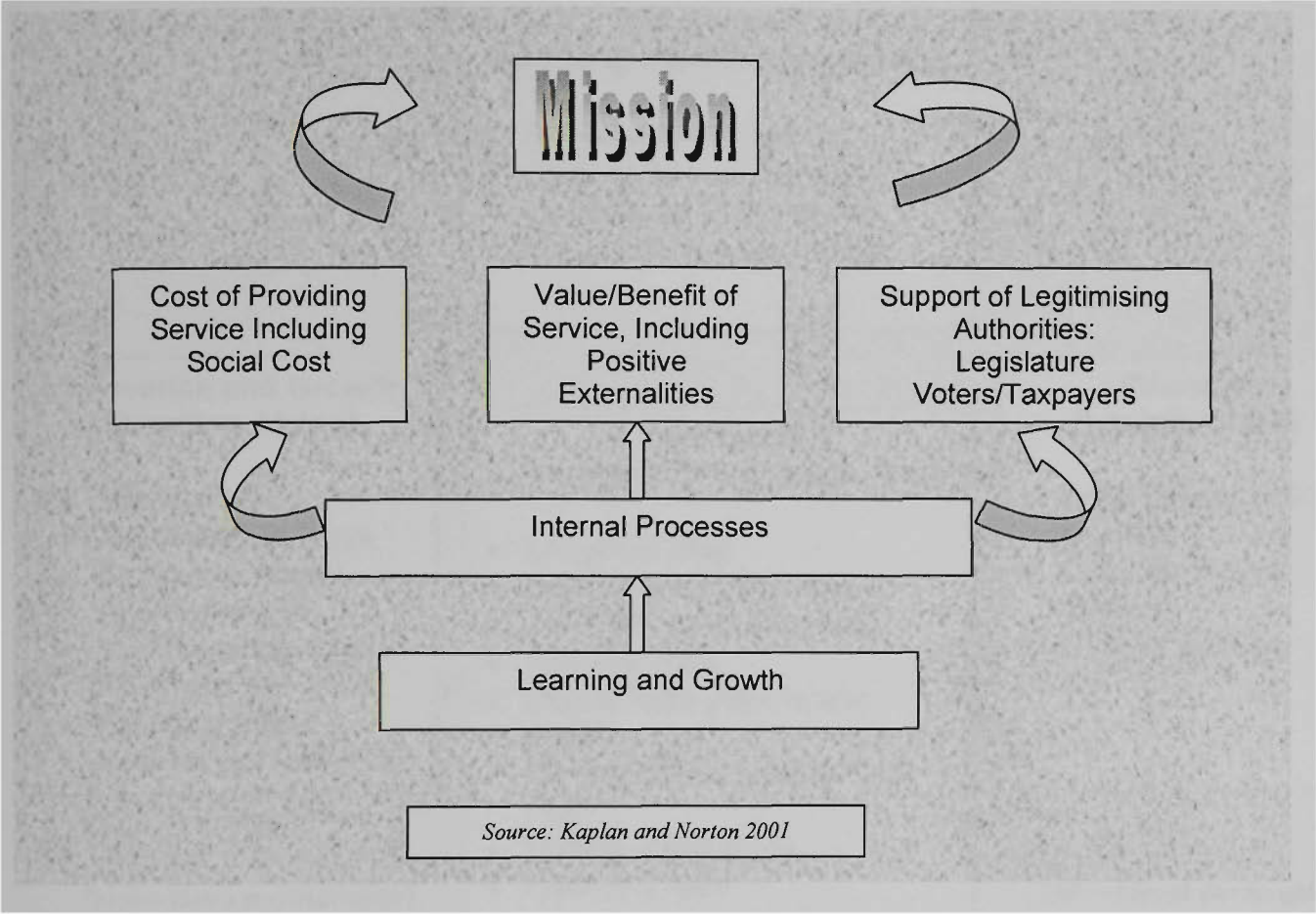
For sometime now, hospitals have been responsive to their tight funding arrangements as well as responding to the increasing consumer demands (Abernethy and Chua 1996). To improve patient throughput and operational efficiency, hospital management have been looking to new ways of monitoring performance and putting systems in place to assist with improving both efficiency and effectiveness. They have also made changes to organisational structures to improve discharge planning and to modify physician behaviour (Abernethy and Chua, 1996; Duckett 1998).

In the past, hospitals have been physician-dominated, however since public sector reform the change has moved to professional management. Abernethy and Vagoni (2003) study into the ‘cost conscious behaviour’ of physicians found that as the physician’s level of power increased, they were less likely to be committed to using resources efficiently. In knowledge-based organisations such as hospitals, key stakeholder involvement is essential for survival, and, physicians provide the necessary expertise required to design and implement procedures relevant to their clinical work (Abernethy and Lillis 2001).

In particular, the reliance by public hospital management on their clinical stakeholders means a majority of performance measures, performed by public health-care facilities, are non-financial measures or clinical activity measures. The key hospital objectives require a multi-dimensional approach to performance measurement to accommodate the varying stakeholder needs. Moore (2003) suggests that ‘non-financial’ activity measures are more relevant to an organisation providing a social service. Kaplan and Norton (2001) state that the public agency must strive to meet the objectives of its funding source (the legislature and, ultimately, citizens and taxpayers) and to do this they must also consider the other non-financial performance measures that help determine how successful the public sector entity is in meeting its primary objectives.

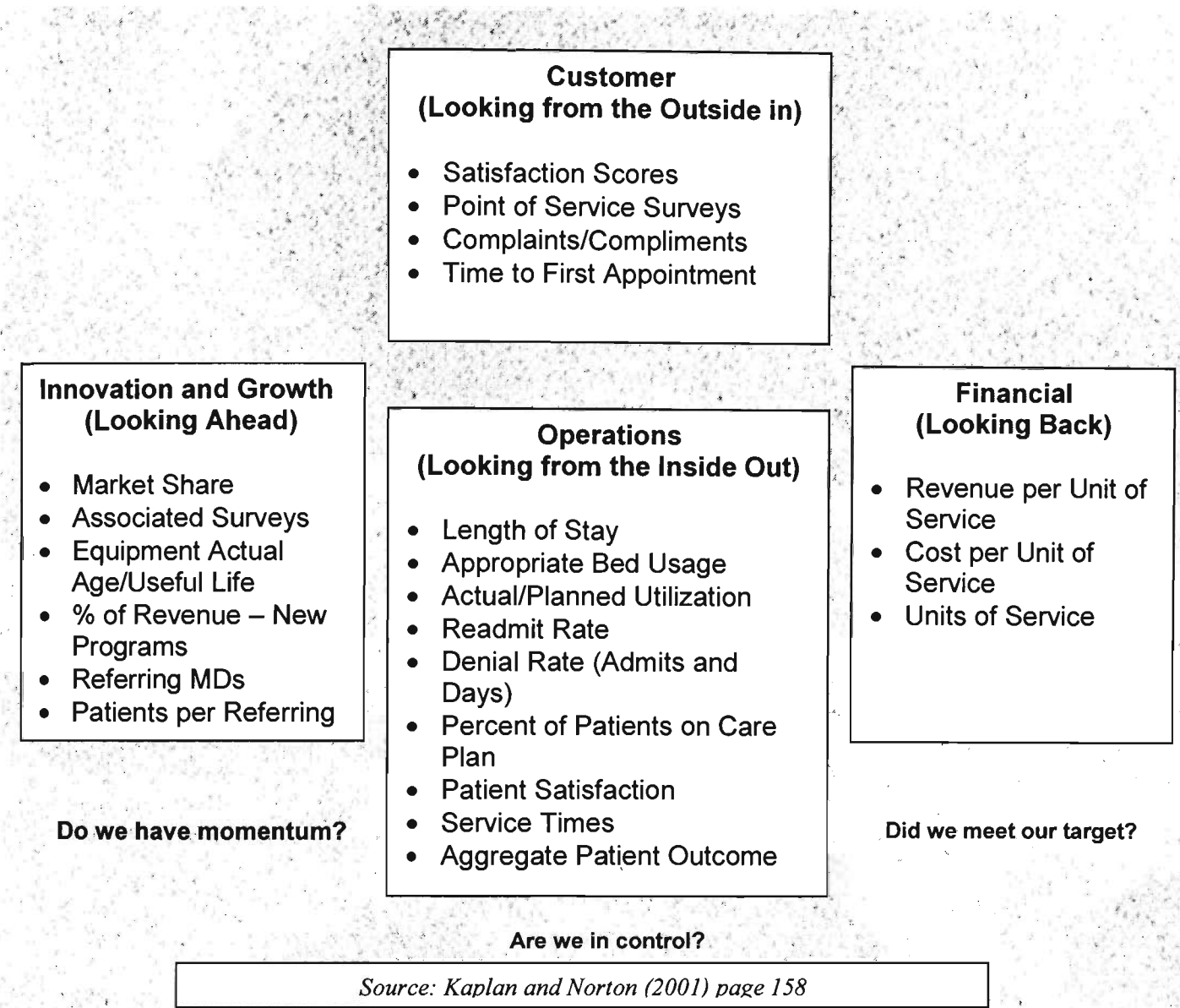
Originally designed for the private sector, the BSC has been considered appropriate for use in public sector entities. At the time of writing their book, *The Strategy Focused Organisation*, Kaplan and Norton (2001) stated they found public sector agencies had begun to implement the BSC around 1996. In 2001 they found that public sector entities had difficulty defining their strategy clearly. They thought it was more like initiatives than desired outcomes. Kaplan and Norton (2001) also considered public sector BSCs tend to be more like key performance indicator (KPI) scorecards. They also found the original architecture with the financial perspective at the top was not a true reflection of the primary objective of the public organisation. Subsequently Kaplan and Norton (2001) change the architecture of the BSC to suit public sector organisations. The BSC was rearranged to place customers or constituents at the top of the hierarchy, as demonstrated in Exhibit 2.6.

Exhibit 2.6: The Financial/Customer Perspectives for Public-Sector Agencies



Kaplan and Norton (2001) claim that the major adaptations to the generic private sector BSC reflect that, unlike the private sector, the customer both pays for the service and receives the service. They suggest that ‘the financial measures are not the relevant indicators of whether the agency is delivering on its mission’ (Kaplan and Norton 2001, p. 135). Instead of the ‘customer’ and ‘financial’ perspective (in the private sector model), they recommend three high-level perspectives of ‘cost incurred’, ‘value created’ and ‘legitimising support’ emerge from the modification of the framework. Kaplan and Norton (2001) discuss their public sector implementation experiences, with success stories from the City of Charlotte (state not identified) and The U.S. Department of Defence. An example of a BSC from Montefiori Hospital can be found in Exhibit 2.7.

Exhibit 2.7: Montefiori Hospital’s Balanced Scorecard



Following the international trend, Australian public sector entities have commenced to move beyond relying solely on traditional performance measures, with the BSC being adopted by Australian public bodies such as the National Library of Australia, Centrelink, The State Revenue Office, The Department of Defence, Australia Post, The City of Brisbane and Western Water (Haddrick 2000; Langfield-Smith et al 2003; Kaplan and Norton 2001). There is little Australian empirical BSC research to assess whether the BSC adopted fits the public sector model suggested by Kaplan and Norton (2001). James (2002) research into

BSC implementation in an Australian government-owned electricity corporation, found the BSC was adopted with ease. She considered it a direct result of wanting to appear legitimate in satisfying public sector reform criteria. Hoque and Alam (1999) reported similar findings in a New Zealand firm. However, in a recent study, Cavalluzzo and Ittner (2003), found little evidence that legislated performance measurement initiatives required by the US government caused public sector entities to increase their measurement and accountability practices.

Cavalluzzo and Ittner (2003) found that certain organisational factors have a significant influence on BSC measurement system development and use in a public sector organisation:

- top management commitment to the use of performance information;
- decision-making authority; and
- training in performance measurement techniques;

They also found technical issues such as:

- information system problems; and
- difficulties selecting appropriate performance measurement metrics in hard-to-measure activities; and
- difficulties interpreting appropriate performance metrics in hard-to-measure activities.

These findings are consistent with the information systems change model developed by Kwon and Zmud (1987) and the management accounting change model developed by Shields and Young (1989).

Recent applications of the BSC in international health provider settings have highlighted implementation issues (Wachtel et al 1999; Griffith et al 2002; Chan and Ho 2000; Chow 1998; Aidemark 2001). Chan and Ho (2000) examined the hospital executives' perception of BSC initiatives in Canadian hospitals via a survey and found that most have a reasonable understanding of the BSC characteristics and links to strategy. Despite being enthusiastic about the BSC, none of the hospitals investigated had yet been successful in focusing on strategy or becoming a 'learning and growing' organisation. The implementation issues cited are:

- lack of technical skills and know-how;
- too busy solving short-term impending problems;
- too time consuming to develop BSC;
- too difficult in defining and measuring outcome and performance drivers; and
- strategic goals were not in place before the BSC was implemented (Chan and Ho 2001, p.6)

Wachtel, Hartford and Hughes (1999) developed a BSC for use in a burn-centre, suggesting 'successful' implementation if a bottom-up approach is taken. Kaplan and Norton (2001) claimed 'successful' BSC implementation at Montifiori and Duke's Children's hospital. Aidemark's (2001) study finds that the excessive proliferation of public sector performance indicators can be 'amplified' in BSC implementation. However, Australian academic literature on BSC performance measurement and BSC adoption and usage in public sector entities is minimal (Kloot 1999; Kloot and Martin 2000; Hoque and James 2000; Zaman 2002).

There is little research on BSC in Australian public hospitals suggesting further investigation into this changing environment is essential (Abernethy et al 2003). Given the diversity of public sector hospitals, performance measurement may vary from department to department, even clinical unit to clinical unit. The following are examples of measures Abernethy and Lillis (2001) suggest may be used to evaluate clinical unit managers' performance in public hospitals:

- Budget performance
- Throughput targets
- Quality of patient care
- Research output of the unit
- Adherence to standard procedures
- Cooperation with other units in the hospital
- Harmony of the unit

To date, the effective use of measures such as these have not been tested in empirical research, or discussed in terms of performance measurement model application such as the BSC.

At a broad government level, there has been consensus about the need to use BSC reporting by health-care providers (Forgione 1998). Chang (2002) reported on the UK National Health Service, which has adopted a BSC approach to performance measurement, requiring the hospitals to report on set areas of hospital performance. Griffith et al (2002) examine the validity and reliability of potential BSC measures and considered that they represent a potentially useful set for evaluating most U.S. hospitals.

A significant proportion of literature on the BSC in public hospitals tends to be written and published by people other than accountants, perhaps indicative of the broad range of performance management 'stakeholders' in public hospital settings. Bouwens and Abernethy (2000) found that the hospitals that pursue 'service innovation' have more requirements for information. This is consistent with physicians and other clinicians having a significant role in hospital performance measurement, where they actively seek to provide a world class service using the most up-to-date equipment. Furthermore, hospitals have been taking a multi-dimensional approach to performance measurement for some years now (Abernethy and Lillis 2001). Abernethy and Lillis (2001) claim that the 'clinical units' within hospitals have traditionally operated as autonomous work groups. To harness the tacit knowledge of clinicians, the approach to developing a multi-dimensional performance measurement system, such as the BSC, would be more suited to a bottom-up approach in public sector organisations such as hospitals (Abernethy et al 2003).

Finally, the most recent work by Modell (2004) predicts that the goal-directed multidimensional models may eventually replace the myth that public service provision can only be improved by heavy reliance on financial control. His research demonstrates that organisational learning is taking place in public sector organisations, following implementation of tools such as the BSC.

2.5 Summary

In this chapter, the key literature and empirical findings in the fields of non-financial performance measurement, the management accounting function and the BSC, have been reviewed. By following the evolution in management control practices, from traditional cost control through budgeting to one of strategic management, a link towards the increasing use of non-financial performance measures and the development of innovative performance measurement models has been achieved in this literature review. Nevertheless, the literature review has identified gaps in management accounting research areas, especially literature describing the effects of innovation on a changing management accounting ‘public hospital’ environment.

The impact of multi-dimensional performance measurement and performance measurement systems within Australian public hospitals can be linked to the management accounting function through a tightly constructed framework. In the following chapter, development of the research framework is detailed, providing reference points back to this chapter. The research framework is used to define the boundaries of the study and to provide research guidance with the main contribution being its strong links to the literature.

Chapter 3: Research Framework

3.1 Introduction

The main role of this chapter is to explain the construction of the research framework, which defines the general direction of the research. Reviewing literature in three key areas has led to the identification of the lightly researched aspects of management control, management accounting change and the BSC in public hospitals. The objective of this research is to contribute towards filling the identified gaps in this area. The literature review (Chapter 2) provides the main guide for the development of the research framework.

The research framework (Exhibit 3.1) has been developed in stages: firstly the three stage research model, then the broad research questions, and finally the operationalising of the specific areas of investigation with the research instrument:

- the 3 stage research model (Exhibit 3.2; Section 3.3),
 - Stage 1 Management control (Exhibit 3.3)
 - Stage 2 Management accounting change (Exhibit 3.4)
 - Stage 3 BSC (Exhibit 3.5)
- the research questions (Section 3.4); and
- the research instrument (Section 3.5), detailing the specific areas of investigation.

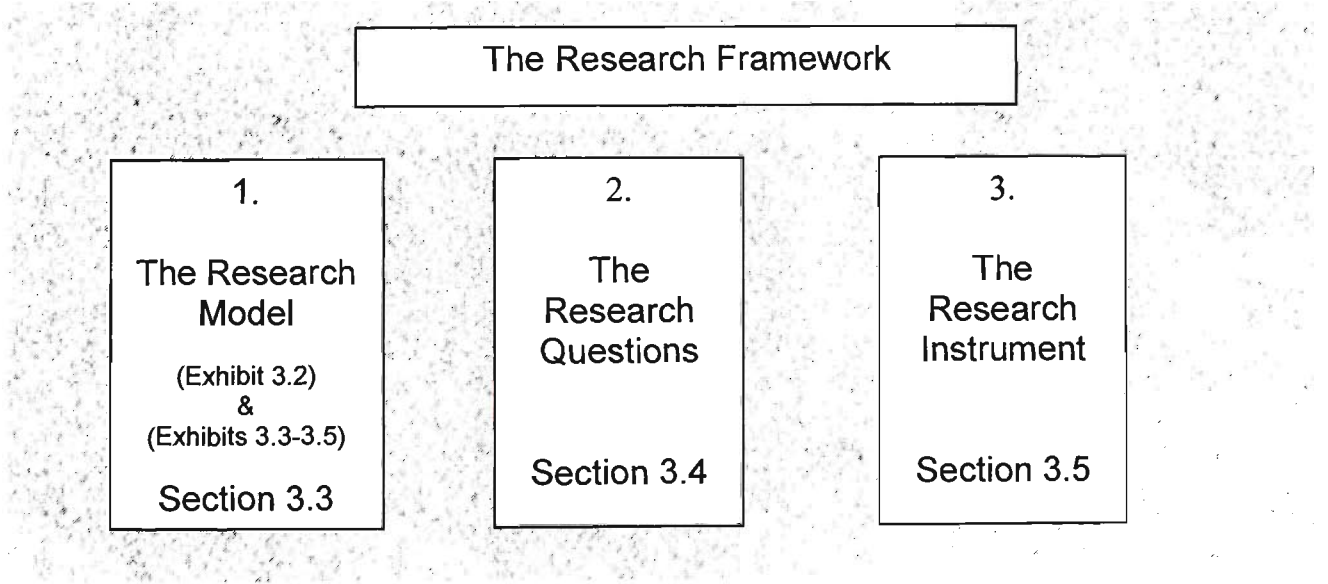
The research model is diagrammatically expressed in Exhibit 3.2 and outlines the three broad research themes, or stages, to be explored. The first two stages of the model are constructed around their individual theoretical frameworks, illustrated in Exhibit 3.4 and Exhibit 3.5. The three emergent research questions will be examined in Section 3.4 of this chapter. The research framework is arranged to ensure research outcomes have direct links back to the literature. In Section 3.5 and subsequent subsections, the specific details of the operational

component of the framework are explained. The chapter concludes, in Section 3.6 with the appropriate methodological strategy emerging from the research framework.

3.2 The research framework

In Exhibit 3.1, the research framework is depicted in diagrammatic format. The research framework provides an outline of the research process, which requires translation of the key literary constructs into research outcomes, through the application of an operational tool. Given that the research framework is tightly connected to the underlying theory, the research questions and operational research instrument are key components of the overall design of the research framework. For completeness, the links between the literature (discussed in chapter 2) and the operational components to this research framework will be discussed in this chapter.

Exhibit 3.1 Research framework made up of three components



The literature review (Chapter 2) has been undertaken to explore the links between the influence of non-financial performance, the managerial accounting function and the role of the BSC in public hospital performance management and strategy. Emerging from the literature review are three broad research questions which will be discussed in Section 3.4. To operationalise the research process, the instrument has been developed to answer the three

research questions. The research instrument makes operational the evidence collection through semi-structured interviews. In addition, the design feature includes a triangulation approach, where direct observation and archival data collection is used to corroborate the evidence gathered through the semi-structured interviews.

3.3 The research model

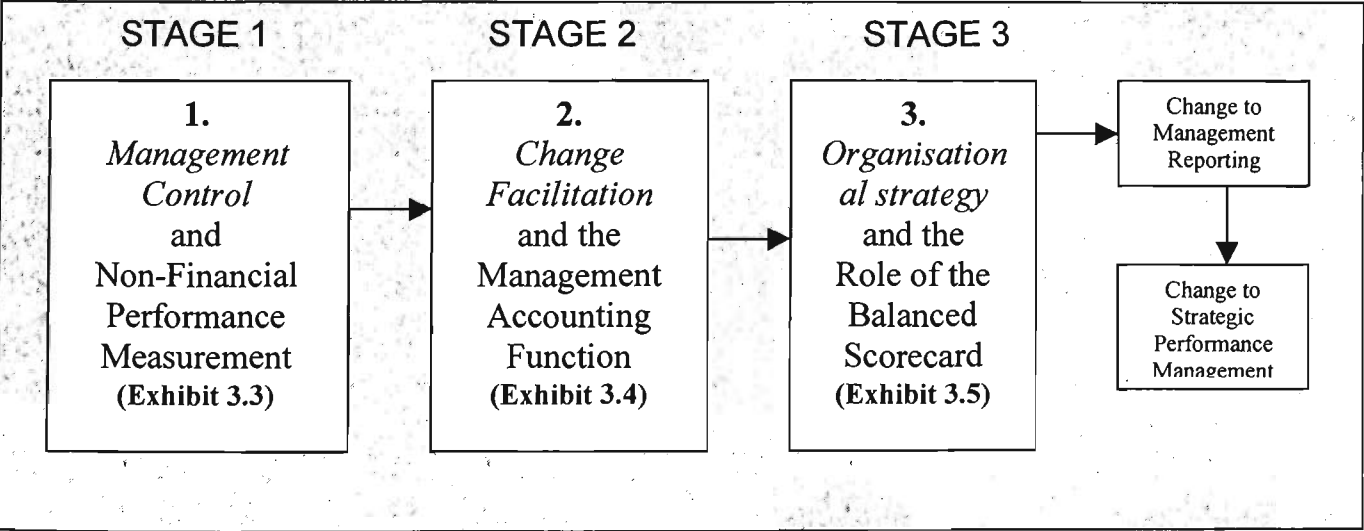
The research model (Exhibit 3.2) illustrates the general direction, or roadmap for this project. It commences with the investigation of the impact of non-financial performance measures on management control, and concludes with the output analysis of the ultimate impact on change to strategic performance management. The model depicts the three stages of investigation:

- management control and non-financial performance measurement;
- change facilitation and the management accounting function
- strategic innovations and the role of the BSC

These are the three broad fields of research presented in stages in Exhibit 3.2.

Exhibit 3.2: Research Model

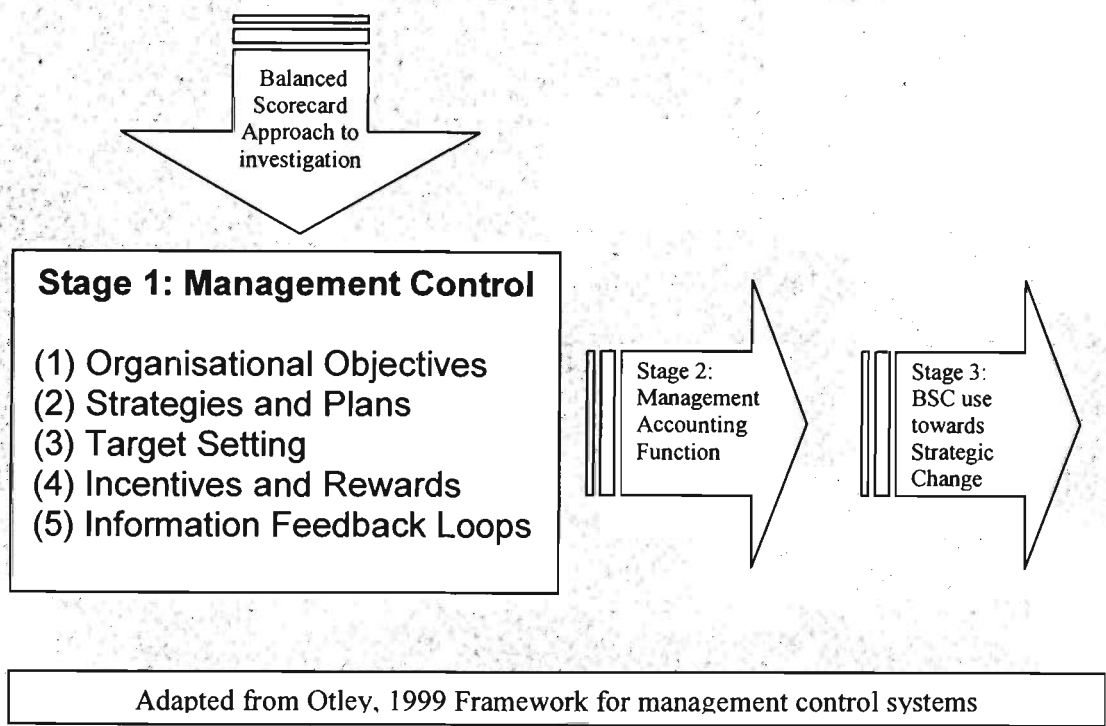
Performance management process – from control to strategic change



At stage 1, investigation of management control will be explored. The exploration of management control through the use of non-financial performance measurement is guided by

Otley’s (1999) framework for management control systems research. This framework has been adapted to suit public health-care sector investigation with strategic management literature primarily used to guide the theoretical direction. Specifically, Kaplan and Norton’s (2001) BSC has been used as the overriding ‘normative’ umbrella to the framework development. In Exhibit 3.3, stage 1 of the research model is demonstrated with the five central constructs under the heading ‘management control’. The framework for examining management control enables a holistic approach to the examination of strategic change to management control within a public health-care setting. The framework directs the analysis towards a management accounting perspective in a changing environment.

Exhibit 3.3: Stage 1- Management Control framework

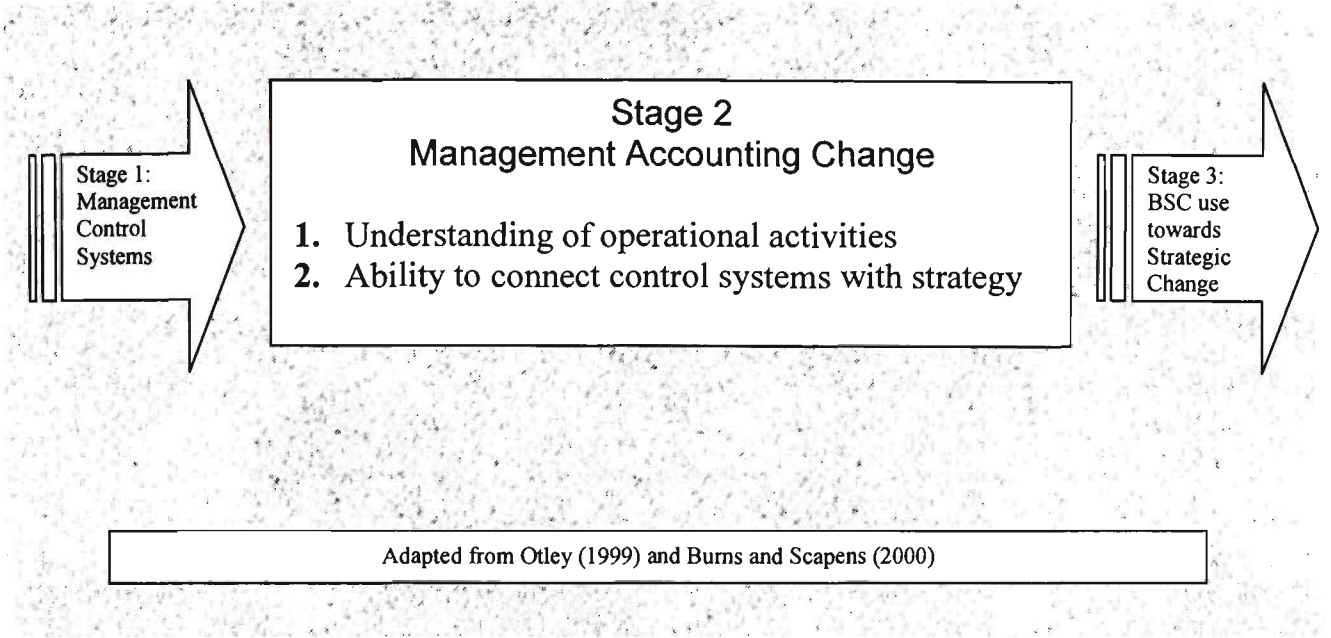


Otley’s framework for management control is well suited to researching public sector entities. Public sector reform has created an environment for a change to management reporting and performance measurement. Communication of information has been greatly assisted by technological advances, with new data warehousing and software facilities, allowing large amounts of data to be accessed and reviewed in the process of measuring

organisational performance. As well as computer based tools, there have been innovative approaches to management accounting and control with tools, such as the BSC, enabling key performance measures to be selected. These key measures provide some cohesion between the vast amounts of available data and organisational strategy. Addressing the five central management control constructs, the changes to public sector reform and the subsequent impact on hospital management is considered at stage 1 of the research framework. In particular, the central constructs will be examined taking a BSC perspective. The links between non-financial performance measurement and the management accounting function are investigated. Views from management accountants and non-accounting managers are gathered. Evidence from the clinical and other hospital support areas will be collected to give a balanced insight into the changing management accounting function.

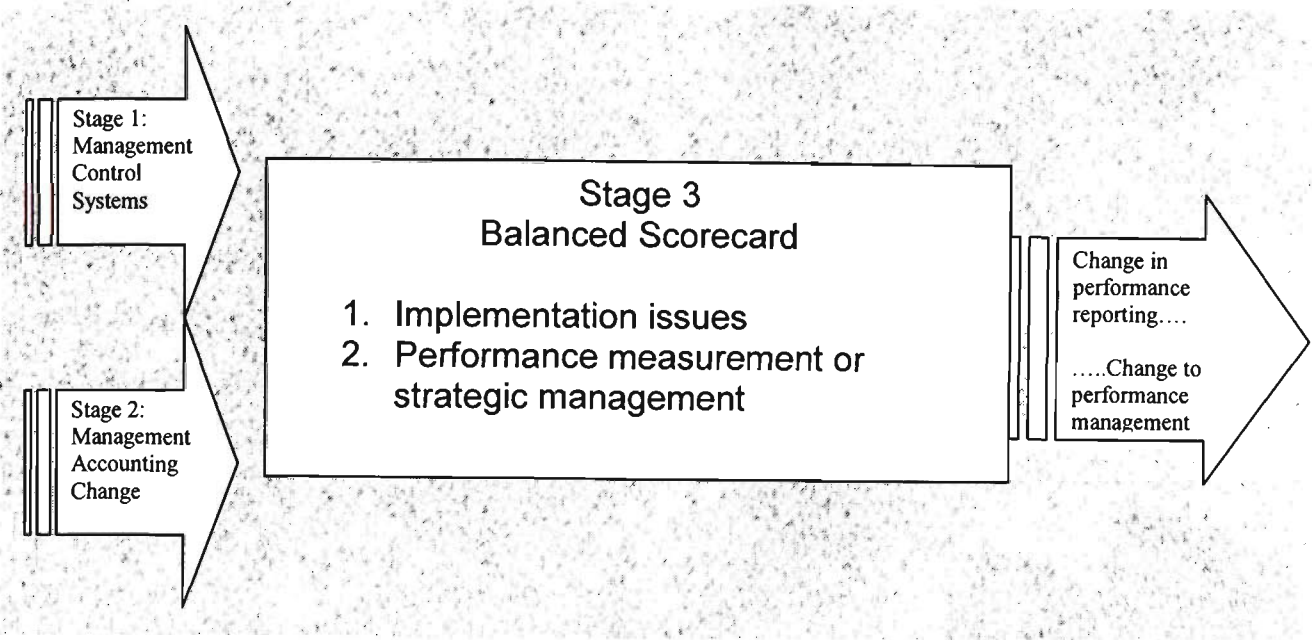
At stage 2, the management accounting function is investigated in more detail. The management accounting change framework has been developed from the management accounting change literature (Otley 1999) and institutional theory literature (Burns and Scapens 2000). In this stage, the management accounting function is analysed in terms of its changing environment. What role does management accounting play in organisational change? This framework guides the research towards investigating the management accountant's understanding of operational activities, the ability to connect the control systems with strategy and a view of their place in the broader context, both within the organisation and in the management accounting field.

Exhibit 3.4: Stage 2: Management Accounting Change framework



In stages 1 and 2, the BSC concept is used to investigate the constructs of management control and the management accounting function. Exploration of these areas is to be performed with the overriding theoretical concepts of the BSC rather than the traditional uni-dimensional approach to performance management. However, at the third stage of the research model, the framework development is around the role of the BSC itself within a public setting. The links between the stages assist in determining the role of strategic change in performance measurement. Stage 3 model development is constructed to ensure any implementation issues are uncovered in the research process, and, whether the BSC tool is used for performance measurement or performance management.

Exhibit 3.5: Stage 3: Balanced Scorecard



The broad level research model has been designed as a tool to introduce and describe the overall research direction with the research questions further defining the scope of the research (Yin 2003; Miles and Huberman 1994, Eisenhardt 1989).

3.4 The research questions

3.4.1 Stage 1: Performance management and non-financial indicators (RQ 1)

The move away from the sole reliance on financial performance measures when determining overall organisational performance has been acknowledged in the literature (McKinnon and Bruns 1993; Campbell 1995). Subsequently, this has lead to the development of innovative tools for private sector performance measurement (Kaplan and Norton 1996). More recently the strategic management literature has become relevant to management control and performance management in the public and not-for-profit sectors. As with the private sector, financial measures are no longer considered to be the relevant indicators for evaluating the success of delivering on a mission (Kaplan and Norton 2001).

The five key constructs at stage 1 guide the investigation towards determining how non-financial measures are perceived by hospital management. Are they considered reliable and valid forms of measurement to demonstrate meeting of objectives? Do they link with strategy? Does the hospital have targets or external benchmarks to base results on? What outcomes can occur with reporting of non-financial measures? For example, is there the potential for non-reporting or data manipulation if performance indicators are linked to hospital funding or incentive schemes? The enquiry links back to the main research question, relating to non-financial performance measures, investigated in this research. That is:

RQ 1 How have non-financial indicators of performance affected measurement and reporting systems, and thereby performance management in a health-care setting?

3.4.2 Stage 2: Management accounting function (RQ 2)

Performance measurement and reporting has traditionally been considered a management accounting function. Applying Burns and Scapens' (2000) institutional framework and Otley's (1999) management control framework, this case study investigates whether the management accountant is in charge of the management accounting function, or is the management accounting function performed by someone else? If so, who and why? What role do they play, and what role does the management accountant play in organisational strategy. Are innovative management accounting tools, such as the BSC being introduced by non-accountants? If so, are there any implications for the future role of management accountants in public hospitals? The second research question investigated encapsulates these questions:

RQ 2 How is the management accounting function in a public hospital adapting to innovative accounting systems and organisational change strategies?

3.4.3 Stage 3: The role of the BSC (RQ 3)

Since public sector reforms, world-wide public sector organisations, including hospitals, are investigating different ways to achieve their performance management goals. The aim of this study is to identify any issues emerging through the process of innovative management accounting systems changes and whether the BSC plays a role? The third and final broad research question investigated is:

RQ 3 What role does the BSC play in performance measurement in a public hospital?

3.5 The operationalisation of the research questions

This section focuses on the research instrument as a key part of the research model. Discussion of the research instrument at this stage is considered appropriate, due to the tight links to the literature review (Chapter 2), the emergent research framework (Section 3.2) and the research model (Section 3.3). Nevertheless, for completeness, more detailed issues relating to the research instrument and research methodology can be found in Chapter 4.

The research instrument has been developed as a tool to address the three broad research questions emerging from the literature. A triangulation approach, with respect to data, is planned to make the research questions operational. The main data collection tool is to be the semi-structured interviews, but equally important are non-participant observation at meetings, and, the use of archival data to confirm the consistency of the other data sources (Patton 2002). The research instrument is to be delivered via semi-structured interviews with key hospital personnel. A full copy of the research instrument can be found at Appendix 1. It consists of three components and is linked tightly to theory. Exhibit 3.6 outlines the links between the research instrument and the literature.

Exhibit 3.6 Table of literature used to develop research instrument

<i>Research Questions</i>	<i>Research Instrument Three Broad Stages</i>	<i>Associated Literature</i>
1	Management Control and non-financial performance measurement	Otley 1999; Lillis 1999; Kaplan and Norton 1996; Victorian Government 1999
2	Management Accounting Change	Otley 1999; Burns and Scapens 2000;
3	Balanced Scorecard	Kaplan and Norton 1996, 2001; Kwon and Zmud 1987; Cooper and Zmud 1990; Anderson 1995; Lillis 1999; Richard 1987; Chan and Ho 2000

In Stage 1 of the research model, Otley’s (1999) framework is to be applied to investigate five central constructs of management control. Non-financial performance measurement is the key area to investigate. The investigation follows the BSC approach to management control. The semi-structured interviews are to be the main data collection tool however management reports may assist to confirm findings. Open-ended questions are to be asked with associated prompts available to guide the direction of the enquiry. The informal interview style and the relevance of each question to every manager’s area of expertise means that not all prompt questions are required to be asked of every manager. Exhibit 3.7 is an example of the investigation at Stage 1. The topic area leads the discussion with the associated prompt questions numbered underneath. Links to the literature are provided in the right-hand panel.

Exhibit 3.7 Management control and non-financial measurement research instrument

Non – Financial Performance Measures	Links to literature
Topic Area: Discuss the increasing importance given to non-financial measures	
1. How reliable do you consider non-financial measures to be, compared with financial measures?	Kaplan and Norton 1996
2. Do you consider non-financial measures to be reliable and valid forms of performance measurement?	
3. The Victorian Government overview and recommendations on ‘Acute Health Performance Indicators’ suggest linking measures to hospital funding/incentive schemes may create a system which provides incentives for non-reporting or manipulation of indicator application. Do you believe this could occur? They suggest reliability and validity of the indicators would need to be assured.	Acute Health Clinical Indicator Final Project Report July 1999 Otley 1999 4.* Incentive and Reward Structures
4. If manipulation or non-reporting did occur, which would you consider the easiest to manipulate, the financial or non-financial measures?	
5. What weighting do non-financial measures have in relation to the financial measures in top management reporting? i.e. Is quality ever sacrificed for financial efficiency?	Adapted from Lillis 1999, p.103

* This relates to Otley (1999) Question 4 (see Chapter 2; page 15)

Stage 2 of the research model and instrument, concentrates on management accounting skills, personal development, involvement with strategy and the external context (Otley 1999; Burns and Scapens 2000). An example of one of the Stage 2 inquiries is shown in Exhibit 3.8.

Exhibit 3.8: Management accounting change research instrument

Management Accounting Change	Links to Literature
Topic Area: Describe the changing management accounting function	Burns and Scapens 2000
1. Do you consider the change to the management accounting function is representative of what has happened in the private sector?	Otley 1999 Management Accounting Function 1. Understanding of operational activities
2. Do you consider most hospital management accountants would be able to adapt to the changes with their current industry knowledge? Is support provided by the organisation for ongoing learning? How is this support actioned?	

At stage 3 the role of the BSC is explored, guided by the research instrument. The BSC implementation process is to be evaluated in the environment of management control and

management accounting change. The flexibility of the research instrument design allows the investigation to take ‘*advantage of emergent themes and unique case features*’ (Eisenhardt 1989, p.533). Stage 3 of the research instrument has been adapted from Chan and Ho (2000) with selected questions guiding the research in this area. As with the other two stages, stage 3 of the research is to be complemented with other data collection methods such as archival evidence and observation. The following Exhibit, 3.9, shows an example of the stage 3 questions with the associated literature source.

Exhibit 3.9: Balanced Scorecard implementation research instrument

Balanced Scorecard Implementation	Links to Literature
Topic Area: Ascertain degree of implementation in the organisation	
Using the 6 sequential stage (at times overlapping) implementation model below, where do you consider your organisation is placed with BSC implementation? 1. Initiation; 2. Adoption; 3. Adaptation; 4. Acceptance; 5. Routinization; 6. Infusion	Kwon & Zmud 1987; Cooper and Zmud 1990 (applied by Anderson 1995)
1. What would you consider is required for your organisation to move to the next stage?	
2. Would you consider success to date was ‘technology determined’ or ‘organisationally determined’?	Anderson 1995 p.5
3. Does the BSC have top management support? How familiar is central management with divisional operations? What are the average management service histories?	Lillis 1999, p.218
Topic Area: Behavioural issues surrounding BSC implementation	
1. Is the BSC being used as a communication tool? What information is the BSC used to convey? Does it communicate the organisations strategy?	Kaplan and Norton 1996
2. Is the BSC used to convey short-term or long-term strategy?	
3. To what level is the BSC communicated to in the organisation (management only or operational level staff, entire organisation)	Richards 1987; Kaplan 1990; Lillis 1992
4. How is the BSC communicated throughout the organisation?	
5. What perspective is rated as the most important? Does everyone access data/rely on data from each perspective?	

3.6 The research framework and research strategy development

The research framework is an important building block, or foundation, on which the strength of the research is based. It guides the selection of the most appropriate research method.

Case study research is the qualitative methodological approach emerging from the research framework development and will be discussed in the following chapter. A criticism of case study research is that unless the researcher can demonstrate a systematic approach to discovery, the research outcomes may not always be credible (Ryan, Scapens and Theobald 2002).

To optimize research validity and reliability, attention to the research framework development is essential. The framework has been structured applying a sound theoretical base, and, as such, provides a methodological approach to data collection and analysis. In particular, the research framework provides the opportunity for a thorough exploration of the relationships between the key constructs, and, finally makes them operational by deciding how they might be assessed (Yin 2003; Ticehurst and Veal 1999, p.33).

Yin (2003) and Eisenhardt (1989) both suggest that an important strategy for completing successful case study research is the reliance on the underlying theoretical concepts identified in the literature. Theory development 'prior to the collection of any case study data is an essential step in doing case studies (as it) allows for determining what data to collect and the strategies for analyzing the data' (Yin 2003, p.29).

3.7 Summary

The research framework has been structured in terms of the theoretical underpinnings to the concepts being explored. The underlying desire is to maximize construct validity at each step of this research process. A structured approach ensures objectivity in prescribing the gathering of the qualitative data. It is essential then that the research framework design, based on underlying literature, is used adequately to define the areas of interest explored in this case study. Abernethy et al (1999) broadly defines construct validity as 'the extent to which the constructs of theoretical interest are successfully operationalised in the research' (p.8). With this in mind, the structure of the research framework ensures all data collection is directed towards answering the three broad research questions. The underlying theory has

also been used to develop the research questions and the interview schedule. This helps to ensure that the reliability of outcomes (data collection and subsequent analysis) is not compromised.

The research framework guides the researcher towards the optimal selection of research method. The case study is the most appropriate method in which to make the research framework operational. Detailed discussion of this follows in the next chapter.

Chapter 4: Research Methodology and Procedures

4.1 Introduction

In the previous chapter, the research framework development was outlined, resulting in the identification of the most appropriate research strategy to answer the three broad research questions. In this chapter, the rationale behind the decision to apply case study as the research strategy is explained (Section 4.2). Further discussion around role of theory and the theoretical approach is found at Section 4.3. The case study design takes the form of a multiple-case (embedded) design (Yin, 2003) and is detailed at Section 4.4. In this chapter the quality issues relating to case study design are also considered. To improve the reliability and validity of case study research, Yin (2003) suggests several tactics which have been followed and are detailed, with the case study procedures in Section 4.5

4.2 Case study methodology

Case study research is a suitable research strategy for understanding the dynamics of performance measurement within a public hospital setting. This method will assist towards theory building by linking the rich evidence collected on performance measurement and management from the two public hospitals directly back to the literature and the underlying theoretical propositions (Yin 2003; Eisenhardt 1989). Yin (2003) defines the case study method as:

“an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evidentand...relies on multiple sources of evidence” (Yin 2003, p.13)

Other methods such as experimental research, questionnaire survey, observation methods, historical inquiry or the analysis of archival information, on their own, do not give the

opportunity to gather such a rich supply of contemporary data in the field or allow for an intimate appreciation of the context (Brownell 1995). In particular, other more positivist methods were not considered appropriate, especially in the public sector or not-for-profit organizations where quantification of output is often difficult. The motivation for public sector stakeholders is often beyond the bottom line and the selected research strategy must be able to identify performance management practice that includes measurement of public organizations providing essential services to the broader community.

Case study methodology provides the opportunity to obtain qualitative evidence through utilizing multiple sources, such as interviews, observation and archives. Triangulation of sources in evidence collection strengthens research findings and allows for deeper insight into any inconsistencies at the analysis phase of the research (Patton 2002; Yin 2003).

Case studies can be descriptive, exploratory, or explanatory (Yin 2003). The case study approach can provide an opportunity to describe current performance management practices under the framework of existing theoretical propositions. Yin (2003) suggests exploratory case studies are appropriate methods for providing evidence in new topic areas. Given the context (BSC in Australian public settings) the case study method is suitable to generate a rich supply of data for analysis. In addition, where the BSC is considered to be an evolving tool, case studies into single or a small number of similar organisations will offer the best opportunity to study contemporary management accounting concepts (Kaplan 1986; Ahrens and Dent 1998; Ittner and Larker 2001). Ahrens and Dent (1998) suggest that smaller samples allow closer engagement with the organisation, thereby generating a rich account of the cultural properties and organisational change implications when adopting new accounting practices.

In the past, the case study approach to management accounting research has been criticized for being unreliable and as a method that tends to be poorly executed (Brownell 1995; Shields 1997; Foster and Young 1997). Researchers undermined the validity and reliability of their projects as systematic procedures were not being applied (Brownell 1995).

Furthermore the sequence of analyzing and interpreting the collected data has also been criticized for lack of trustworthiness and the potential for researcher bias (Chua 1995). With these criticisms in mind, the research strategy is designed to accommodate the practices recommended by Yin (2003) to ensure that the robust case study design will provide credible results. These are discussed in detail in Section 4.3 and 4.4 and include:

- ♦ the role of theory;
- ♦ construct validity;
- ♦ internal validity;
- ♦ external validity; and
- ♦ reliability

The role of theory is the most important aspect underpinning case study design, and assists with the development of high quality case research. To achieve high quality case study design, Yin (2003) recommended tactics are followed to ensure the design passes the tests of construct validity, internal validity, external validity and reliability.

4.3 The role of theory in case study design

4.3.1 Theory development for case study analysis

Theory development during the design phase is essential to case study research (Yin 2003). The aim of the research is to explore the practical applications of performance management structured around ‘management control’ and ‘strategic management’ theory in a public sector setting. Particular emphasis is given towards the changing role of the management accounting function with case research assisting towards theory building around management accounting change. Otley’s (1999) performance management model, Burns and Scapens (2000) institutional framework, and Kaplan and Norton’s (1993, 1996, 2001) original and most recent BSC provide the theoretical underpinnings to guide the analysis phase of the research.

Some aspects of this study, such as performance management and management accounting change, have a strong theoretical background with frameworks on which to build and apply comparisons across cases. The literature provides a powerful starting position, with theories or propositions used to define the case and unit of analysis (Yin, 2003). For example, Otley (1999) prescribes a performance management model and Burns and Scapens (2000) offer an institutional framework as a guide for researchers interested in studying management accounting change. Likewise, the strategic management literature by Kaplan and Norton (1996, 2001) has been the focus of more recent research.

Otley's (1999) performance management model was selected, as it provides a framework for comprehensive investigation into performance management. It is adaptable for any organisation, and reflects current practice, by aligning performance management with organisational strategy. Furthermore, the performance management model was appropriate tool to apply to this research as it ties management control with the strategic management literature, especially the BSC literature by Kaplan and Norton (1996).

The literature on 'management accounting change' describes change through two different approaches. The approach can either be investigating 'individuals' within the organisation, or by investigating the organisation as an 'institution'. Given the case study setting, the institutional change theory is appropriate for the methodological design. The management accounting change literature by Burns and Scapens (2000) develops the investigation towards change in the management accounting function within 'institutional' organisations.

Institutional theory has several strands and whilst the neo-institutional theory is more interested in exploring the external influence (social, economic and political), the 'old' institutional theory applied by Burns and Scapens (2000) is more suitable to investigating the 'institution' of change within the individual organisation. This is the desired direction of the research, given that it was a two-case case study and the aim was to investigate management accounting *within* these two organisations. Nevertheless, the external environment plays an important role and is not discounted in the research.

Other accounting change models by Innes and Mitchell (1990) and Cobb et al (1995) applied to the ‘individuals’ within the organisation, and less to the institution of change. The individual leaders of change are considered in the methodological design, however given the power of the hospital institution, institutional theory was more applicable to this research. Despite Kasurinen’s (2002) adapted model being applied to the investigation of the BSC, it was conducted in a private sector environment, where individuals rather than institutions have the power to facilitate change.

BSC application in *public settings* is still emerging theory, and provides a more fragmented framework on which to build. Best practice in the Australian public health-care setting is still being developed, requiring a somewhat exploratory research strategy for this part of the investigation. Yin (2003) acknowledges this dilemma, but confirms the importance of allowing theoretical propositions to guide the study. Patton (2002) suggests that theoretical underpinnings to qualitative enquiry are important and in practice they must be followed to remain focused towards the research questions. However he also considers the essence of good research lies in being open to what is offered and thinking about what it means.

4.3.2 The theoretical approach

The tendency towards subjectivity in qualitative case study methods could mean this case study leans to a more grounded theory enquiry as described by Glaser and Strauss (1967). But, where the true ‘grounded theory’ approach to data collection is based around a loose structure, with the conceptual framework emerging as the case study progresses, this framework has been structured with strong theoretical underpinnings, designed to be a guide for data collection. According to Yin (2003) theory development during the case study design phase is essential, and this aspect alone demonstrates the difference between other methods such as ethnography and grounded theory.

The theory-based focus, with the aim to explore ‘real life’ performance management practices within their own settings, suggests this qualitative enquiry will be more pragmatic,

rather than positivistic or taking a grounded-theory approach (Miles and Huberman 1994; Lillis 1999; Patton 2002). Miles and Huberman (1994) suggested a pragmatic approach lies somewhere in-between true grounded-theory, and a tight pre-structured qualitative design. A pragmatic grounded theoretical approach to research means the theoretical background, and, the underlying propositions and the purpose for the research emerge from the strong literary underpinnings. As a result, this general approach allows for analytic generalisations and further theory building.

A direct or pragmatic approach assists in producing clear, verifiable and credible results, with overall control gained from the underlying theory and strong research design. Formal propositions or quantitative testing of hypotheses does not form part of this research framework, more the contribution to literature and building of theory, based on the analysis and interpretation of the qualitative findings.

4.4 Case study design

A robust case study design provides a controlling medium in which to conduct qualitative research. A controlled case study design is achieved when the researcher understands the limitations and trade-offs required for that particular research (Patton 2002). The case study design applied to this research has been developed to suit a single researcher with a limited amount of resources. Given this requirement, identification of the key criteria essential for optimising the quality of case study research design is required. Yin (2003) suggests for a robust case study, attention must be paid to the quality tests of construct validity, internal validity, external validity and reliability criteria. The case study tactics, recommended by Yin (2003) and Brownell's (1995) evaluative criteria provide helpful tools for maximising the validity and reliability in this case study research. One of the main aims is to prevent the potential for researcher bias.

4.4.1 Construct Validity

To achieve high construct validity, the principal case study tactics of data collection have been applied (Yin 2003, p.34). They ensure that the research design accommodates and details the use of:

- multiple sources of evidence; and
- presents a chain of evidence;
- have the draft case study report reviewed by key informants.

The multiple sources of evidence listed by Yin (2003) have been included in this case study research design. The multiple sources of evidence required to fulfil the purpose of this research are:

- documentation;
- archival records;
- interviews; and
- direct observation.

Potential documentary and archival evidence available to the researcher include annual reports, internal management and performance reports, minutes from meetings, legislative guidelines, legislative reports, internal memos, e-mail correspondence, interview notes and interview transcripts. The actual documentary and archival evidence that was collected is detailed in Appendix 4.2

A chain of evidence is to be maintained throughout each stage of the research. Yin (2003) recommends that the external observer should be able to trace the steps from initial research questions to ultimate case study conclusions. Brownell (1995) says the chain of evidence helps to enhance the soundness of judgements, where separate pieces of evidence are presented within their own scenarios. As well as strengthening construct validity, the chain of evidence also increases the reliability of the data collected. The chain of evidence to be followed is detailed in Exhibit 4.2. The completed chain of evidence is presented in Appendix 4.3. Further to increasing construct validity, as suggested by Yin (2003), the key

informants will be provided with the opportunity to review their transcripts and provide comments or suggest changes prior to the draft case study report preparation.

Exhibit 4.1: Chain of evidence to be followed

Items	Description
1	All documentation relating to this case study, including case study protocol, to be securely filed and kept as a database.
2	Email correspondence to be saved in word document, printed and filed with the case study database.
3	Hand-written diary to be kept on all other personal contact or phone calls with both organisations. Diary notes should include dates and times of all meetings attended, comments and personal thoughts following the meetings. The notes are to include both formal and informal contacts with members of the organisation.
4	<p>Any other correspondence between researcher and organisations to gain approval for the sites to be used in case study – to be kept with case study database above.</p> <p>Dates and details of initial contact at case sites, with details of formal meetings and contacts to be kept. Any other meetings invited to attend or arranged prior to the taped interview process are to be documented. All documentation relating to these meetings (reports, minutes of meetings) to be kept with database file.</p>
5	<p>All details of interviews conducted on site including location to be kept.</p> <p>Audio-tapes of interviews to be kept in database file (ensure two tape recordings are taken at each interview to ensure reliability of transcription)</p>
6	<p>Transcripts to be typed in rich text format - saved on disc, printed copies made and kept with database.</p> <p>All correspondence with transcriber to be kept on file. All typed transcriptions to be checked word by word by researcher Ensure all transcripts are returned to interviewee for comment.</p>
7	Original copies of NVivo coding – to be printed and filed with database. Further copies with hand-written notes and first stage data reduction to be placed on file.
8	<p>Follow-up correspondence with interviewees and alterations to transcriptions to be saved on disc, printed and kept on file. Further data reduction through NVivo and additional coding must be performed to accommodate changes to original transcripts. Changes to transcripts should only be to:</p> <ul style="list-style-type: none">• remove confidential data of concern to participant; or• add additional information to improve response to question; or• add additional information where tape recording was poor researcher could not hear transcription
9	Cross-check all coding using NVivo ‘search’ function – i.e. type key words to check all responses to ensure nothing is missed in the coding process. Save ‘search’ items in the NVivo file. All NVivo files to be saved on disc and filed with database. Keep an NVivo Node Listing to facilitate case analysis and results.
10	Thesis writing – all internal correspondence relating to this project to be kept on file. These are to include candidature proposal, ethics submission, correspondence with supervisors and chapter drafts.

Developed from Yin 2003

Another important aspect to construct validity is the ability of the researcher to take the theoretical model into the field (Lillis 1999; Abernethy et al 1999). The research questions have been developed from sound theoretical underpinnings. To minimise subjectivity, the research instrument follows closely the underlying constructs by Otley (1999), Burns and

Scapens (2000) and Kaplan and Norton (1996, 2001) which have been detailed in the literature review (Chapter 2) and the research framework (Chapter 3). Examples of the link between the research model and the research instrument were provided in Exhibit 3.7, 3.8 and 3.9, with full examples of the research instrument detailed in appendix 1.

Abernethy et al (1999) discuss the issue of subjectivity in qualitative case studies, stating abstract, theoretical constructs with less than perfect proxies, may lead to random measurement errors and biased results. They highlight the importance for researchers to pay attention to:

- the domain of observables;
- the relations among measured items; and
- the relations of measured constructs with other constructs.

During the case study design phase, enhanced construct validity is obtained by ensuring both field and theoretical knowledge, is used to map the constructs and measures. To achieve this, views from clinical, non-clinical, accounting and non-accounting managers at both case sites are to be gathered for this research. To improve the case study design and overcome potential analytical errors or researcher bias, participant views from varying backgrounds will be sought. Furthermore, for relationships between constructs to be observed, careful attention to the selection criteria of participants is essential to improve overall construct validity.

To optimise construct validity approximately 18-20 interviews would be required (9-10 interviewees at each site). The key personnel are required to be involved in management reporting or the Balanced Scorecard implementation process. It would be beneficial to interview managers, from both clinical and non-clinical backgrounds, at each organisation. If possible, the same variety in roles is to be matched at both organisations. The flexible interview schedule (Appendix 1) is to be presented at each interview and allows both common and unique questions to be asked. An open-ended approach is to be taken with the unique questions tailored to the specific individual or department (i.e. accounting versus non-

accounting or clinical versus non-clinical). Unstructured interviews to clarify decisions taken as events unfold assist in providing a holistic account of BSC implementation within the organisation.

4.4.2 Internal Validity

Internal validity in research has been developed largely to satisfy the requirements of experimental research where causal inferences are explained and competing relationships eliminated (Campbell and Stanley 1966; Cook and Campbell 1979). In experiments, the attempt to increase internal validity is often sacrificed to the detriment of external validity. Yin's (2003) recommends four tactics to assess whether the measures adopted by the researcher really measures what they say. The tactics have been considered to have parallels with experimental research or the more positivist approach to an enquiry (Brownell 1995). However, Yin (2003) suggests that they are more appropriate for explanatory cases studies than for descriptive or exploratory case studies. Yin's (2003, p.116-127) four tactics to maximise internal validity are to:

- do pattern matching (using the theoretical underpinnings to predict patterns) ;
- do explanation-building (hypothesis-generation to develop ideas for further study);
- address rival explanations (meaning if one explanation is valid, the other cannot be); and
- use logic models (matching empirically observed events to theoretically predicted events).

The questions and prompt areas of the research instrument were developed to enable pattern matching between the key constructs identified in the literature. For example, the exploratory questions help understand the type of management control within the public hospitals being investigated, and how that is influenced by new performance measurement tools such as the BSC. Links to the management accounting function is to be achieved with specific questions asked of both accounting and non-accounting managers. The research instrument is used to develop the key nodes to be applied in the NVivo software analysis program. This will allow for more in-depth pattern matching and subsequent explanation-building at the analysis phase. Further data reduction and the development of matrices also assist with pattern

matching. The research instrument has been designed to ensure any rival explanations can be explained. This has been achieved by the style of question at construction phase, and, by asking the same type of question, but in a different way, later in the interview process. Eisenhardt (1989) recommends that relationship explanation is crucial to the establishment of internal validity, made possible through clear identification of the key literary constructs, and made operational through optimal research instrument design.

As the research instrument has been developed from the literature, at the analysis stage logic models can be observed by matching the theoretical claims to empirical observation. The research instrument has been designed to corroborate theoretical predictions with evidence from the case study sites. Increased internal validity occurs when research outcomes or emergent theory can be tied to existing literature (Eisenhardt 1989). Furthermore, the case study design strengthens internal validity by preventing the researcher from deviating from the predetermined boundaries set by the research questions (Yin 2003).

Lillis (1999) addressed internal validity by obtaining multiple sources of evidence. This assisted identifying plausible explanations or possible relationships between the management accounting function and performance management (Abernethy 1999). Following the analytical approach taken by Lillis (1999), the approach with this case study design was to ensure possible relationships between three 'independent' variables could be identified. That is, performance management, the management accounting function and innovative tools for performance measurement. Further to Lillis (1999) the 'causal' model is to be tested qualitatively by applying multiple sources of evidence.

Given the research focus and the qualitative nature to this research, this case study is concerned with theory building and refinement. The approach to maximising internal validity is not to achieve a formal output of testable hypotheses. Like Lillis (1999), the motivation behind the research design is to explain the presence of these variables. The design is less concerned with supporting assertions of their cause-and-effect relationship (Abernethy 1999).

4.4.3 External Validity

External validity is concerned with the notion of generalisability. Generalisation has been considered difficult to achieve in case research, especially single site studies. Brownell (1995) suggests that generalisability does not even apply to case studies because the unit of analysis is the case itself. The case study design follows Yin's (2003) views, where the aim is to maximise the external validity at an analytic or theory-based level.

Yin (2003) recommends for multiple-case studies, that replication logic may be applicable. As this is an exploratory case study, and given the potential for concerns of researcher bias, the need to maximise external validity for generalisation at a statistical level or for direct replication between cases was not sought. Nevertheless, the opportunity to analyse evidence of performance management or management accounting data at a broad level, with the application of 'cross-case' analytical techniques may be useful, especially given the similarity of issues within both organisations. Yin (2003) says the analysis is likely to be easier and the findings more robust than only having a single case site, and will help strengthen external validity.

Abernethy (1999) claims external validity can be maximised through the illustration of the theoretical arguments. The setting and participants are therefore crucial to developing the theoretical process and assist to maximise external validity. To research the BSC in public hospitals, the potential population comprises 15 major Victorian metropolitan hospitals and 7 large regional Victoria service providers. They are all potentially suitable sites for this case research. A final sample of two hospitals, one metropolitan and one regional were selected, resulting in a "two-case" embedded case study (Yin 2003). Two sites were selected to provide the possibility of investigating contrasting situations or for direct comparisons in some areas of the investigation (Yin 2003), but as stated above, not for generalisability between sites. Despite both organisations being public hospitals, they were selected for the following reasons:

- ♦ The metropolitan site was selected because it was one of the largest hospitals in Victoria, and considered to be a leading hospital in its clinical endeavours. The

annual report detailed the implementation of a new information and performance measurement system. Research into this site would provide the perfect opportunity to study the change in innovative management accounting practices.

- ♦ The regional hospital was also selected because it had begun implementation of the BSC. This provided the opportunity to investigate both the technical and behavioural issues surrounding BSC implementation.

The case research aims to maximise external validity by ensuring optimal sites provide the variety of participants necessary to obtain evidence to corroborate the theoretical claims. Where generalisations may be difficult in most case studies, well selected case sites should provide a strong enough basis for external validity, as long as the underlying theory is reliable, consistent and links back to the field of research (Eisenhardt 1989).

Both organisations have the capacity to demonstrate similar organisational issues at a macro level, the use of a “two-case” case study will also help to overcome the potential of presenting researcher bias with results from a single organisation. Yin (2003) considers that a “two-case” case study will improve the chances of doing a good case study rather than putting “all your eggs in one basket” with data collection from a single organisation. He says;

‘In general, criticisms about single-case studies usually reflect fears about the uniqueness or artifactual condition surrounding the case (e.g., special access to a key informant). As a result, the criticisms may turn into scepticism about your ability to do empirical work beyond having done a single case study. Having two cases can begin to blunt such criticism and scepticism. ...having at least two cases should be your goal’. (p.54)

Abernethy (1999, p23) considers issues of external validity should be approached “*in the context of a body of research rather than at individual study level*”. This case research has the potential to contribute to a broader body of research. The research aims to provide preliminary or emerging research on which subsequent, perhaps future longitudinal

investigations can be made (Ryan, Scapens and Theobald, 2002). Longitudinal field studies within the Australian health-care sector would possibly allow for testing of hypotheses, theory building and generalisations on performance management.

4.4.4 Reliability

Reliability in case study research is directed towards the elimination of errors and biases (Brownell 1955). In order to maximise the reliability of case research, Yin (2003) recommends researchers use a case study protocol at the data collection phase or a formal, presentable database to review evidence directly. The protocol consists of four areas:

- the project overview;
- field procedures;
- case study questions; and
- case study report framework.

According to Brownell (1995) the case study database should contain case notes, documents/artefacts, narratives, data analysis material and research output. The case study protocol and the case study database, both essential strategies for maximising design quality, are required to be kept throughout the research. The completed case study protocol and database can be found in Appendix 4.1 and Appendix 4.4 respectively.

4.4.5 Analytical design and procedures to be applied

The analytical applications have been designed to follow Miles and Huberman (1994) who suggest that:

- data reduction can be performed by manipulating the data into different arrays, making a matrix of categories and placing the evidence within those categories; and
- data displays (flowcharts, graphs, tables) will help to explain frequencies and relationships.

Computer software is to be relied on during the analysis phase of the research. It is to be used for the process of data reduction and data display through thematic matrix constructions.

The emergent themes are to be constructed around the three research questions with subsequent evaluation comprising an overlapping of strategies, or triangulation (Morse and Richards, 2002). Observation and archival analysis should help to provide the corroborating thematic evidence. In Exhibit 4.2, the manipulations to be applied through the systematic analytical process are detailed. The completed analytic manipulations are provided in Appendix 4.2.

Exhibit 4.2: Analytic manipulations to be applied during the analysis phase of this case study

Preliminary Data Reduction	Interview data to be: → transcribed; → reviewed by interviewer and interviewee; → saved in rich text format (rtf) files; and → the entire complete document to be saved into NVivo 2 software; Initial coding of complete transcripts to: → research site (Metropolitan or Regional) Subsequent broad level coding within transcripts to: → the three broad research questions (Performance measurement; Management accounting function; BSC) → Classify as the 3 'parent' nodes
Data Arrays	
Further Data Reduction	Further coding to: → <i>Noisy</i> data filed as 'Not relevant'; 'individual role description' or 'refer later – interesting comments' → underlying theoretical framework creates the 5 'sibling' nodes within NVivo ('Organisational Strategy'; 'Budgeting'; 'Communication'; 'Knowledge, Skills and Abilities'; and 'Changing Function') → Matrix formation as themes emerged; code these as new 'sibling' nodes with appropriate titles given
Node Listing (coding tree)	
Matrix Formation	
Output Data	Coded data to be displayed/saved/printed separately under each code. Provide details of the analysis at this stage and any other thematic reconstructive analysis, and, procedures for cross-checking of coded data, explanation building, or, evidence of rival explanations.
Data Displays	
Cross-Checking and Validation	Where possible ensure the printed output data and initial drafts are reviewed by the research supervisor.

4.5 Summary

Case study as the most appropriate research methodology has been outlined in this chapter. The case study design and analytical procedures to be applied in this research have been

tightly constructed according to the literary underpinnings, with particular attention given to the quality issues of reliability, internal, external and construct validity. The importance of case site and participant selection is discussed in the following chapter.

Chapter 5: Case Site Selection and Health-Care Industry

5.1 Introduction

In Chapter 4, the rationale behind using case study as the methodological approach was justified. The planning stage continues in this chapter with principal decisions behind the site selection and sampling detailed in Section 5.2. An overview of the organisations selected and the health-care industry is provided in Section 5.3.

5.2 Site and participant selection

In accordance with Eisenhardt’s (1989) goals of theoretical sampling, it is important to allow the emerging analysis to guide the selection process. To achieve these aims the settings and sample were purposively selected. The field of enquiry and the motivation behind this research led to a search for Victorian public hospitals that may be considering the implementation of a BSC, or some form of innovative change to the way they deal with current performance measurement and management issues. The selection criteria, outlined in Section 5.2.1, was followed when choosing appropriate research sites.

5.2.1 Selection Criteria - Site

The main criteria for the selection of the case sites were that:

- the organisation must be significantly large and well regarded by peers, a leader in innovative practice (not necessarily only performance measurement). A major metropolitan or regional public sector health-care organisation would provide the opportunity to investigate ‘leading’ industry changes to performance management;
- the organisation have a significant management accounting function to be able to investigate the management accountant’s role and involvement with the process of change; and

- there would be at least 8-10 middle to top-level managers who understood and played a role in the issues to be explored, and were willing to assist with providing evidence for this research; and
- there would be an ability to observe and have access to other forms of data, such as management reports, to validate and address any conflicting information; and finally
- the geographical location allowed access to an organisation in Victoria. This was necessary to explore the local legislative environment, as funding arrangements and management control differ slightly from state to state. In addition, Victorian sites would provide easier access and opportunities for the researcher to observe management practices and protocols.

The sites selected were one Melbourne metropolitan hospital and one Victorian regional hospital. Both hospitals met the selection criteria. The Melbourne metropolitan hospital had details of changes to performance management listed in the 2002 Annual Report which fit with the field of research being conducted. The Director of Management Accounting was approached and approval was given for research to be conducted. The regional hospital was selected for similar reasons. The researcher was provided with details of recent BSC adoption by this organisation. Subsequent investigations, led to the researcher requesting to use this site for BSC research. The Health Information Executive was the appropriate contact and permission was granted.

5.2.2 Background to case sites selected

The first case site was at the initial stages of introducing a performance measurement system, called a 'Report Card'. This was documented in their 2001 Annual Report. On initial observation, the 'Report Card' was similar in layout and content details to the BSC, however at this preliminary stage the researcher gained only a limited knowledge and details of the system. Introductions to the management accounting department in this organisation led to the willingness of this hospital to be involved in this case research, as well as an invitation for the researcher to sit in on some of their 'management reporting working party committee'

meetings. Following ethics approval samples of reports and ideas of new report generation were also shared with the researcher.

Following analysis of the selection criteria, this site was considered one of the ‘best’ or most optimal examples of the issues surrounding the introduction of an innovative performance measurement system in a large public hospital. This organisation is one of the largest in the Victorian metropolitan region. It is well regarded by its peers, and has demonstrated a willingness to undertake innovative practices in the clinical field. Further to the selection criteria, it has a large management accounting function, led by a Director of Management Accounting. The ability to become an observer in the working party meetings was an added bonus and also provided the opportunity to source the necessary 8-10 willing interviewees and other data. Exhibit 5.1 shows a brief overview of the hospital.

Exhibit 5.1: Case Site 1 Overview

Case Site 1	
Location	Melbourne metropolitan Member of a metropolitan group, comprising 3 hospitals
No. of beds	~ 450 (inpatient)
Funding arrangements Paid in 24 payments based on quarterly targets specified by the hospital - According to Health Service Agreement (HSA) Note: These are approximate figures with totals being the consolidated group totals See Appendix 2 for further details	Total Expenditure Budget 2002/2003 ~ \$155,000,000 <u>Comprising:</u> Budget target A volumes ~61,000 WIES* ⁶ (agreed rate) Budget targets for Department of Veteran’s Affairs (DVA) – 2,000 WIES (agreed rate) Targets for Transport Accident Commission (TAC) – 5,400 (uncapped WIES) Non-Admitted Patient Grants ~ \$40,500,000 Training & Development Grants ~ \$13,000,000 Superannuation adjustment ~ \$1,000,000 Other specified grants ~ \$95,000,000 Hospital Demand Management Strategy ~ \$4,000,000 Quality Framework ~ \$2,500,000
Speciality	Teaching Hospital ‘High tech’ services such as trauma and heart-lung transplants Other services comprise extensive acute surgical and medical services, Emergency, Intensive Care Unit (ICU), Burns, Hospital in the home (HITH), psychiatric, aged care
Performance Measurement Issues	Working party to discuss new ways of management reporting; New IT capabilities through data warehousing; Report Card 1 (discontinued - introducing an updated model) Management accounting playing role in change

As often happens in case study research, ‘snowball sampling’ may occur (Morse and Richards 2002; Patton 2002). Once investigation for suitable sites commences, the researcher was provided with details of other similar sites suitable for the field of enquiry. At the preliminary stage of this research, details were provided that led to enquiries being made at a major regional hospital. The regional health-care group had also been assessing and developing a reporting system that would take on a BSC approach, and, likewise were keen to participate in this project.

⁶ Weighted Inlier Equivalent Separation (WIES) is the most measured activity in Victorian public hospitals. It is an ‘inpatient coding and classification’ system providing the basis for Federal and State Government payments to public hospitals in Australia (See Appendix 2 for further discussion on casemix funding and WIES activity and definition at Appendix 5).

This second organisation was one of the largest regional health-care groups and also met the selection criteria. Although smaller in bed size than the other metropolitan hospital case site, it is more diverse, as it provides a larger variety of services, essential to a regional hospital. This organisation had undergone recent changes to its organisational structure. A change to the way performance measurement was managed and reported on was considered to be an essential component to their strategic plan, with strong support emanating from the CEO and other Board members. The BSC was central to this change strategy and the management accounting department were playing a role in this change. Senior management considered if organisational members were part of this research, it would provide an overall benefit for their *own* organisational learning and development. Group executive were keen to reinforce and promote BSC communication throughout the organisation. See Exhibit 5.2 for a summary overview of the health-care group.

Exhibit 5.2: Case Site 2 Overview

Case Site 2	
Location	Victorian regional health-care group
No. of beds	~350 (inpatient)
Funding arrangements	Total Expenditure Budget 2002/2003 ~ \$80,200,000 Comprising: Budget target A volumes ~16,000 WIES (agreed rate) Budget targets for DVA– 1,200 WIES (agreed rate) Targets for TAC – 230 (uncapped WIES) Non-Admitted Patient Grants ~ \$10,500,000 Training & Development Grants ~ \$2,100,000 Superannuation adjustment ~ \$330,000 Other specified grants ~ \$22,150,000 Hospital Demand Management Strategy ~ \$750,000 Quality Framework ~ \$1,100,000
See Appendix 2 for further details	
Paid in 24 payments based on quarterly targets specified by the hospital - According to Health Service Agreement (HSA) * Approximate figures	
Speciality	Regional service provider Providing acute surgical and medical services, emergency, dental, paediatrics, obstetrics, aged care, psychiatric and rehabilitation
Performance Measurement Issues	BSC workshops (consultant) Using BSC approach for top management reporting only New performance measurement division developed in change process

5.2.3 Selection Criteria – Participants

Following the selection of sites in which to conduct the research, the next stage was to ensure the participants would also meet the selection criteria. Although taking a management accounting focus, it was an essential requirement to have a mix of clinical and non-clinical staff members for a more holistic view of both organisations. Furthermore the participants were also required to:

- be working within the organisation in a middle to senior management role;
- be involved with management reporting and budgeting;
- be privy to organisational strategy; and
- play some role in the implementation of new performance measurement systems.

Although the selection criteria provided a guideline for the selection of participants, it was necessary to rely on the senior management accountant (metropolitan hospital) and the Director of Information Management (regional hospital) for recommending the most appropriate selection of participants, at the preliminary stage of the project. Generally a thorough understanding of the emerging analysis and of the theory being developed will assist with theoretical sampling (Glaser 1978). True to theoretical sampling, there were situations when other potential interviewees may become apparent (after site selection and well into the in-depth interviews) however, this required an increase to the number of participants and was beyond the research scope.

5.2.4 Background to interviewees selected

The key contact in the metropolitan hospital was the senior management accountant. He was also Chair of the Management Reporting Working Party. This meant he had good working knowledge of the organisation and the people within it. Initial meetings with the key contact and his Director were spent discussing the research, the research questions and the outcomes to be achieved. From there a suitable list of candidates to be interviewed was drawn up. The potential interviewees were contacted by the senior management accountant with formal request to be interviewed, along with the relevant confidentiality forms and ethics approval

documentation. The potential interviewees then contacted the researcher and interview particulars were arranged.

The key contact at the regional organisation had a role within the information management division of the organisation. His charter was to review the role to be played by the BSC in integrated management reporting and to commence initial reporting in a BSC format, initially, for Board level only. Several informal discussions with this key contact led to formal introductions and meetings with his Director. From there, recommendations were made on the most suitable interviewees. All interviews were arranged for the researcher over a 3 day period.

Every potential interviewee approached accepted the invitation, and all agreed to the interview being taped. In Exhibit 5.3 the interviewees and their area of responsibility are shown. This list of participants is coded and both organisations are included with the individual roles intertwined for confidentiality. In Exhibit 5.4 the interview details are listed.

Exhibit 5.3 Areas of responsibility of interviewees

ID	Position
M1	Senior management accountant Chair of management reporting working party
M2	Associate Director of Nursing, Resource Development Support
M3	Principal managing scientist
M4	Nurse Manager, General Intensive Care unit
M5	Manager, Clinical costing and performance in reporting and analysis
M6	Co-director (Nursing) Musculo-skeletal and intensive care
M7	Director of Pharmacy
M8	Manager, Learning and Organisational Development, Human Resources
M9	Director, Department of Anaesthesia and pain management
M10	Executive Director, Ambulatory and Community Services and Residential Services
M11	Group Director, Human Resources
M12	Director Infrastructure Development, Group Executive
M13	Executive Director Surgical Services and Executive Director of Nursing
M14	Business Manager Clinical Effectiveness Unit
M15	Systems Integration
M16	Financial Controller
M17	Clinical Information Systems Manager
M18	Manager Performance Reporting
M19	Strategic Decision Support

Exhibit 5.4: Interview Details

Code Name	Role/Area	Date	Interview Type	Interview length	Transcript word count
M1	Management accountant	26 Sept 2002 4 Dec 2002 13 Dec 2002 7 Feb 2003 18 Feb 2003 15 July 2003 24 Oct 2003 17 Nov 2003	Phone Intro Meeting MR Meeting* MR Meeting Meeting Meeting Meeting Interview	10 mins 1 hr 1.5 hrs 1.5 hrs 30 mins 15 mins 30 mins 1 hour	3,451
M2	Nursing	17 Nov 2003	Interview	45 mins	4,085
M3	Scientist	6 Nov 2003	Interview	1 hr	6,080
M4	Nursing	7 Nov 2003	Interview	45 mins	3,846
M5	Clinical Costing	17 Nov 2003	Interview	45 mins	5,468
M6	Nursing	19 Nov 2003	Interview	1.15hr	10,617
M7	Pharmacy	6 Nov 2003	Interview	40 mins	1,564
M8	Human Resources	17 Nov 2003	Interview	45 mins	6,186
M9	Anaesthetist	31 Oct 2003	Interview	1 hr	4,410
M10	Nursing	10 Nov 2003	Interview	1 hr	5,836
M11	Director (HR)	12 Nov 2003	Interview	45 mins	2,126
M12	Infrastructure Development	31 July 2003 11 Nov 2003	Intro meeting Interview	1 hr 1.5 hrs	7,938
M13	Nursing	10 Nov 2003	Interview	45mins	3,383
M14	Clinical Effectiveness Unit	11 Nov 2003	Interview	1hr	5,323
M15	Systems Integration	10 Nov 2003	Interview	45mins	4,314
M16	Financial Controller	31 July 2003 10 Nov 2003	Intro meeting Interview	10 mins 1hr	7,659
M17	Clinical Information Systems	11 Nov 2003	Interview	1.5hrs	12,164
M18	Performance Reporting	12 Nov 2003	Interview	1hr	5,453
M19	Strategic Decision Support	18 March 2003 16 April 2003 31 July 2003	Meetings & regular email contact until his retirement – these were held prior to formal taped interviews at the case sites		

* MR Meeting – Management Reporting Working Party Meetings where the researcher played a non-participant observer role. The researcher was included in the minutes of the meetings, with copies of minutes and internal documents relating to the meeting, being provided to the researcher.

Both case sites provided other forms of research evidence, such as management reports, internal memos, draft proposals, workshop notes. These were all related to their individual progress towards meeting their goals in management reporting and performance measurement. These data, along with the ability to sit in on some meetings, strengthened the ability to work inductively and provide a strong chain of interwoven evidence for analysis.

The particulars gathered satisfied planning requirements and strengthened the construct validity. Over the time the research was being conducted, the evidence gathered confirmed that the researcher was in the 'right' place with the 'right' people.

5.3 Overview of the organisations

To understand the rationale behind the selection and sampling decisions, a brief overview of the organisations in the case research is given. Information on current performance measurement and reporting systems is provided, with the external guidelines on which public hospital funding is based. Due to confidentiality agreements with the two research sites, descriptions will be broad and extremely general in nature, avoiding any specific data that may lead to identification of either site or personnel therein. The following sections rely on information obtained from both organisations 2002/3 Annual Reports and websites. For confidentiality reasons, data are merged and figures are approximated in places, to give an overall generic picture, rather than specific individual details.

Both research sites have been in existence since the mid to late 1800s and are:

- public sector health-care organisations, owned by the State Government on behalf of the people of Victoria;
- have an executive committee which is responsible for the day-to-day operation and administration of the hospital;
- have a finance sub committee whose role is to examine monthly statements, and advise the board on the health of the organisation;
- have approximately 4,000 and almost 3000 staff respectively, with wages amounting to nearly 70% of overall organisational expenses;
- treat more than ¼ million patients annually (including all separations⁷ and occasions of service);
- provide comprehensive specialist medical and surgical services;

⁷ 'Separations' is a terminology for the mode of discharge. This can be either death, a transfer to another hospital or home.

- the metropolitan hospital is one of three member hospitals under an umbrella group, enjoying the reputation as one of the world's leading health-care providers largely attributable to its concentration on specialist "high tech" services. The consolidated group reported an operating deficit of around \$7 million last financial year (2002 -2003 annual report); and
- the regional hospital group has three main campuses covering 25% of the landmass in Victoria, and is considered to be one of regional Victoria's largest providers of comprehensive health services. It reported an operating surplus of nearly \$5 million (2002-2003 annual report).

5.3.1 Hospital performance measurement

Management of public sector health organisations involves complexities and tradeoffs between the desired outcomes (world class health-care and access for all Australian citizens) and financial sustainability (DHS 2000). The resources are finite hence performance management and reporting has a large role to play.

Performance measurement in the past has largely been dictated by external reporting requirements and funding targets set by Department of Human Services (DHS) or other funding bodies such as the Transport Accident Commission (TAC) and Department of Veteran's Affairs (DVA). To develop a broad perspective of what is considered 'performance reporting' by public hospitals, the organisational annual reports have been analysed. Typical performance reports contain both financial and activity (operational) analysis. Both organisations report on similar measures, however the reports of the regional health-care group also include staff statistics with their 'performance at a glance' section of the annual report. Measures include number of staff (full time, vacancies, those attending orientation) as well as the number of work experience students per annum.

Activity or *non-financial* key performance indicators include patient 'access' to health care indicators, monitored and reported on a monthly, quarterly or annual basis. Although non-

financial, they have a direct link to ‘bonus funding’ for meeting performance targets. The main activity areas regularly measured and reported on by both organisations (when applicable) are:

- access to elective surgery;
- the emergency department performance (ambulance bypass and readmission rates are also measured);
- the average available acute care beds;
- critical care and coronary care (number of intensive care/coronary care beds open/available);
- Hospital in the Home Separations; and
- Other separations by source of admission (Acute, sub-acute, mental health, aged care, emergency, elective, maternity) are measured and reported according to total separations, public separations, total WIES, separations per available bed and total bed-days

Examples of the monthly KPIs to be reported against budget are;

- occasions of ambulance bypass;
- % emergency department (ED) patients who wait more than 12 hours for admission;
- % Triage Category 1 patients seen immediately;
- % Elective Category 1 patients admitted within 30 days

There are additional KPIs to be reported quarterly or annually, and are mostly based around access issues. Public health-care organisations have been required to report for external purposes for many years now, and in many cases DHS obtain data directly from the individual hospital data bases on a regular basis. Some of these data are used for funding purposes and other measures are used for quality of service provision and for external benchmarking, such as those required for International Standards Organisation (ISO) compliance, quality and infection control measures and measures to maintain accreditation standards. Within organisations, individual departments and directorates have their own

reporting processes and procedures and many of these relate to clinical best practice rather than financial or bottom-line performance.

The specific measures used for reporting and *financial* monitoring comprise:

- regular monitoring of above budget weighted WIES activity; and
- the actual and forecast financial position to budget.

These entail detailed investigations and corrective action where revenue and expenditure items show unfavourable budget variances. Items specifically investigated are private patient revenue in excess of targets, salary costs, increased medical, and diagnostic and pharmacy costs.

The primary operational and financial objectives of both organisations are to meet the activity targets set by DHS and to meet the budgeted financial targets. Weighted Inlier Equivalent Separation, or WIES activity, is the most measured activity in Victorian public hospitals. This ‘inpatient coding and classification’ system provides the basis for payments to the public hospitals in Australia and according to Duckett (2000 p.120) must ‘withstand careful scrutiny by public hospital managers and officials in funding organisations.’ The way the hospitals receive their funding is complex, and a brief explanation found at Appendix 3 will assist with understanding the complexities of managing public health-care funding in Australia and the influence casemix may have on the implementation of performance measurement systems.

The organisations in this case study rely heavily on casemix funding. The WIES budget targets allow for some organisational management and planning, however, many organisations struggle to remain within target suggesting that ‘there is a problem with the amount of funding that is allocated to pay for the current level of services that are being provided to the community’ (Duckett 2003). The industry remains dynamic with continual trade-offs between the clinical and administrative goals. Internally, hospital managers are reviewing their systems and processes to cope with the widening deficit, and externally, the government or resource provider is also under pressure to ensure Australia’s limited resources can provide the world class health-care, that is anticipated by the community. In the following chapter details the results of the analytical process are provided.

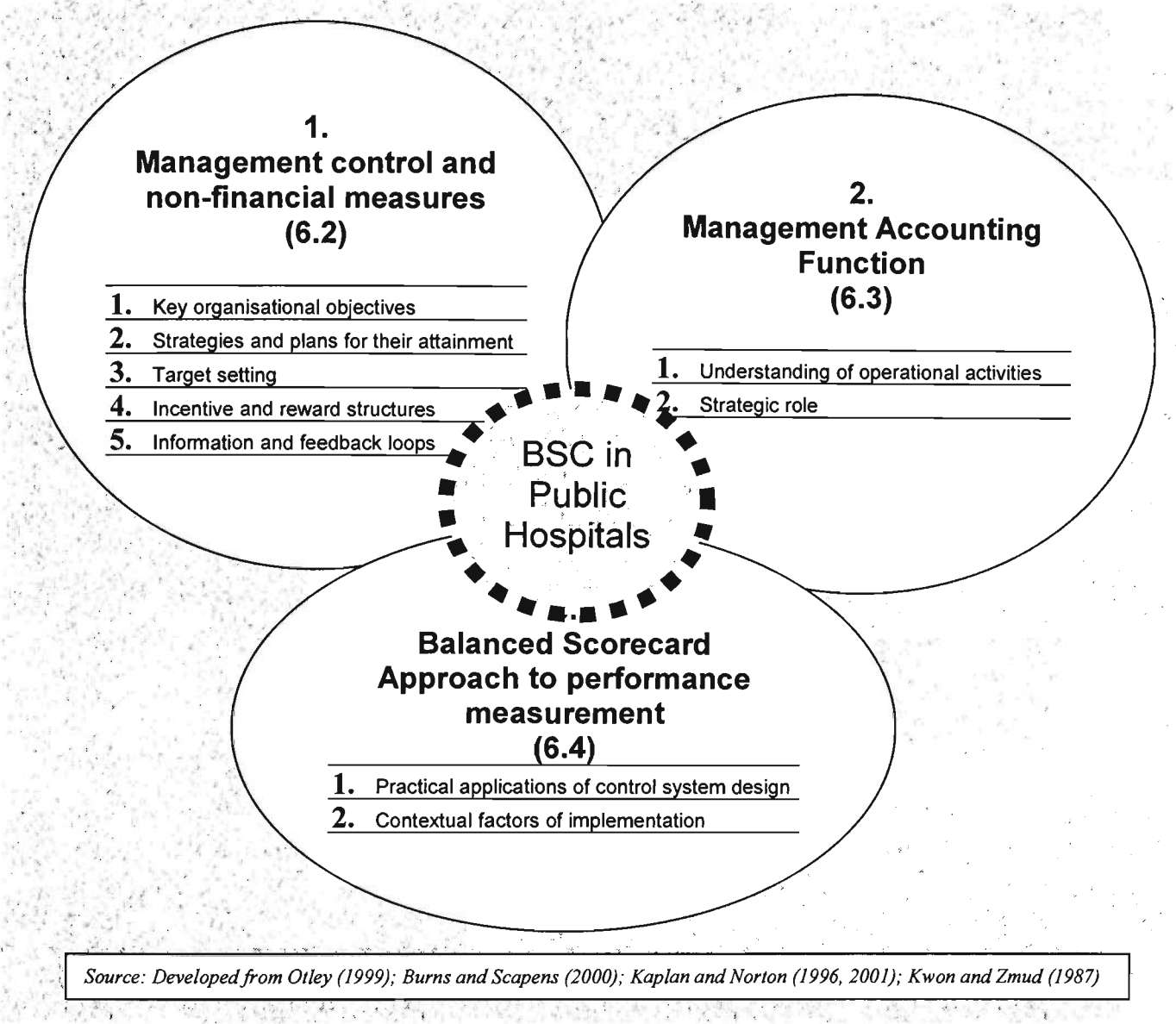
Chapter 6: Case analysis and results

6.1 Introduction

An outline of the health-care industry and the selection criteria of the two research sites in Chapter 5 provide the background for collating and analysing the data, which has been accumulated over a period of more than 12 months. The main objective of this Chapter is to describe the key issues emanating from the three research areas. The results of the analysis are detailed, and where possible, direct quotations have been used to support the findings. The criteria used to analyse each construct investigated and a brief table of findings are provided in each of these areas. Chapter 7 will follow with interpretation and discussion of the inferences resulting from the analysis.

The analytical framework (Exhibit 6.1) provides a guide for the analysis. The research model (Exhibit 3.2) was used to develop the analytical framework to ensure the tight links to the literature were maintained throughout the research process. Otley's (1999) framework for management control systems research, explained in detail in Chapter 2 (p.14 -15) provided the framework to analyse the impact of non-financial performance measures and the strategic role of performance management in five stages. These are outlined in Section 6.2 where the focus is on exploring management control especially the impact of non-financial performance measures on management reporting and performance measurement. In Section 6.3 details of the investigation into the management accounting function and how it is adapting to change in performance management. It is explored under the institutional framework described by Burns and Scapens (2000) in the literature review (Section 2.3.3). In Section 6.4 the analysis and discussion revolves around the role of the BSC in performance management with the key literature source being Kaplan and Norton (1996, 2001). BSC implementation issues are described in terms of Kwon and Zmud's (1987) five contextual factors of implementation, which have been discussed in the literature review (Sections 2.2.4 and 2.4.3) and have been listed again in this chapter in Section 6.4.3.

Exhibit 6.1: Framework followed during the analytical process



The key literature from Otley (1999), Burns and Scapens (2000), Kaplan and Norton (1996, 2001) and Kwon and Zmud (1987), through application of the analytical framework (Exhibit 6.1), provides a basis for broad level coding, node listing data reduction, matrix formation and data displays as detailed in Appendix 3 and Appendix 4.5.

6.2 Management control and non- financial measures

The impact of public sector reform within the health-care sector has provided public hospital management with an incentive to enhance their performance measurement and management. Ten years ago, inefficiencies within public health-care organisations led to one of three options, change the hospital management, increase monitoring, or close the hospital.

As far as possible, the future of each hospital will be in the hands of that hospital and the community it serves. If the hospital cannot provide service efficiently, it should not expect to survive. If a hospital cannot persuade local people to use its service rather than those of nearby hospitals, then again, it cannot expect to survive. (DHCS 1993a, p.21)

Management control through efficiency (input) measurement in public sector organisations has traditionally been much easier to monitor than effectiveness or output measures. Efficiency is measured by the number of patient services provided for a given cost. Effectiveness of the public health-care service, measured through the quality of care, has never been monitored well by public hospitals (Abernethy et al 2003). Given the intense work by government since the introduction of casemix (an output measure) 10 years ago, public sector service providers and resource providers are now making inroads into the way hospital performance is managed and reported.

To assess the changes to management control within public hospitals, a strategic management approach through the application of a BSC perspective to performance management is taken. The first component of this investigation focuses on the influence of non-financial indicators on internal performance measurement and management reporting (RQ 1). The analysis for this first segment of the research is structured around Otley’s (1999) framework for analysing the operation of management control systems. This requires analysis of data relating to five central constructs:

- key organisational objectives (Section 6.2.2);
- strategies and plans for their attainment (Section 6.2.3);
- target setting (Section 6.2.4);

- incentive and reward structures (Section 6.2.5); and
- information and feedback loops (Section 6.2.6).

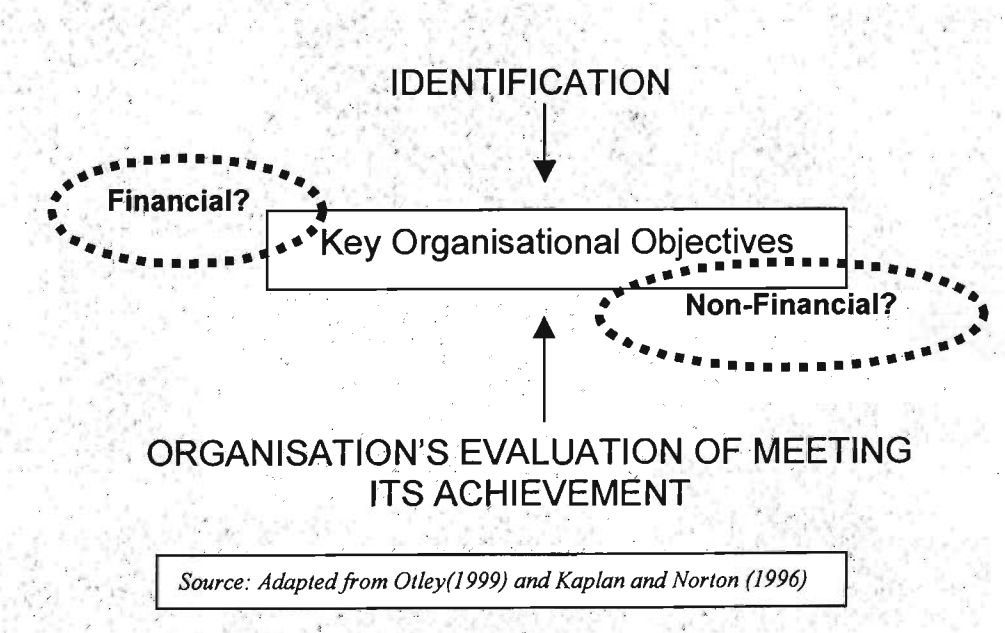
6.2.1 Key organisational objectives

The analysis of the first of the five constructs relates to:

- 1) identifying the key objectives for future success; and
- 2) organisational evaluation of achievement of key objectives.

According to Otley (1999) the aim of the analysis in this construct is to elucidate the key objectives central to the organisation’s overall future success, and how the organisation goes about evaluating its achievement of these objectives⁸. When considering the first research question, the relationships between organisational key objectives and non-financial performance measures are investigated. Analysis follows the flowchart in Exhibit 6.2.

Exhibit 6.2 Guide to interpreting the first construct: key organisational objectives



⁸ Otley (1999) is concerned with the organisational objectives put in place to meet stakeholder aspirations. No assumption is being made about the nature of these goals, whether they are short-term or long-term, or in fact if they meet ‘all’ stakeholder aspirations. In particular, Otley (1999, p.366) suggests ‘the relative importance given to different goals may well reflect the relative power of different stakeholders’.

Identification of key organisational objectives

Public sector reform has placed more emphasis on the need for disclosure and commitments to external parties, such as community, government and other stakeholders. Public health-care entities meet this disclosure and outline the ‘key organisational objectives’ for operational success in their annual reports. In Exhibit 6.3 the broad objectives listed by both organisations in their annual reports are outlined. The key objectives are the major efficiency measures, patient activity (or throughput) and performance to budget. Some of these key measures are non-financial in nature.

Exhibit 6.3 Key Objectives identified

Key Organisational Objectives	
Prime operational objective	Meet activity targets set by DHS
Prime financial objective	Meet budgeted financial targets
Note: The regional group’s ‘performance at a glance’ also included broad staff statistics	
Source: <i>Regional Hospital – 2002/2003 Annual Report; Website; Internal management reports</i> <i>Metropolitan Hospital - 2002/2003 Annual Report; Websites of both individual hospital and consolidated group</i>	

Evidence of organisations evaluating their level of achievement was found in archival data and current internal management performance reports. The analysis has been divided into two parts:

- organisation’s evaluation of achievement of activity targets; and
- organisation’s evaluation of achievement of budgeted financial targets.

To comply with confidentiality agreements signed at both organisations, evidence will be ‘merged’.

Organisation’s evaluation of its achievement – Activity Targets

Examples of performance reports used for ‘internal management reporting’ at executive level were given to the researcher by both organisations. All the ‘activity’ or non-financial measures reported relate directly to funding. They are also the ‘activity’ or non-financial measures required by the DHS. Examples are WIES targets, separations, ALOS, VACs, Separations, HITH and all bonus funding measures. This analysis demonstrates that

extensive 'evaluation' of achievement of the first major objective listed at Exhibit 6.3 is being regularly performed by both organisations.

Further evidence confirming activity evaluation has been found in the interview data. In the past both organisations have been measuring and reporting 'activity' and 'financials' through separate channels. Now, there is a concerted effort to merge the two areas, providing the opportunity for greater relationship analysis. The management accounting department has taken on this function at the metropolitan hospital and the regional hospital has just established a new 'performance' reporting department, specifically for this purpose. It is managed by a senior clinical manager, with a team of management accountants directly reporting to this manager. Most other activity measures are being calculated by departments other than management accounting. Analysis of interview transcripts over all areas of both organisations confirms the importance given to activity measures relating to funding. The following are extracts from discussions with management accountants at both case sites. A senior management accountant was asked whether the main measures were part of external purposes:

"Yes they are really. They go into the health system, state-wide for the WIES, etc."

The management accountant was then asked whether there were any measures that were used for internal management purposes only.

"Can't think of any. The only other indicators we have, 'x' sort of looks after. They are based around hospital (running issues) - our access issues, like how many times we go on bypass, any 12hr waits in ED, day of admission rates, and most of them are actually externally reported as well, and, they also drive funding as well. So again, it is coming back to the dollar. All of our performance measures are based around the way the funding works."

A financial controller was asked what types of measures were in their performance reporting.

"The performance reporting at this stage is limited purely to financials. We have some activity data which we measure and we follow throughit is mainly to do with WIES and VACCS and all the capped targets that we have

to meet with DHS. But we haven't gone to the next stage which is all the clinical costing data that comes out. That process is now being put into place. We hope that in another 3 months onwards, we will start the amalgamation ...start devising the relationships between activity data and the financials...and the payroll."

The ability of both organisations to evaluate the meeting of activity targets appeared to be made possible through the strong routine processes in place and the necessity for accurate compliance reporting for revenue. The participants familiar with the measurement of activity targets said they were comfortable with the reliability of the measures, as both organisations enter the data for direct extraction by DHS. As one executive director said:

"We have a strong mechanism in place for compliance with external reporting or statutory reporting. We know we do that well."

For internal management reporting, the main problem appears to be timeliness issues due to casemix coding delays. For one organisation, this results in estimates, albeit reasonably accurate ones, until the actuals are received some (six) weeks later. Externally, strong stakeholder influence is evident in the rigour of compliance reporting being undertaken in both organisations.

Organisation's evaluation of its achievement – Financial Targets

Direct observation of the departmental monthly budget reports showed various broad measures relating to staffing and consumable budgets. The payroll costs are close to 70% of total organisational expenses, hence measures around staffing (eligible full time (EFT), Nurse Bank and Agency payroll and leave entitlements) are considered to be key operational measures. Other budget data include cost of medical supplies and equipment and other costs related to specific departments. Other archival data apart from the management accounting budget reports were shown to the researcher during interviews. Examples were spreadsheets generated by business units for their own use, or special reports provided by management accounting or IT to meet an individual manager's needs assisting with budget target evaluation.

The majority of issues with budget evaluation came from the senior management and department heads who report frustration and system anomalies. These reduce their overall confidence in the accuracy of 'budget evaluation'. The frustrations are not always the result of internal system failure, but also as a result of the external funding bodies. Two senior managers reported this issue:

"I suppose people get very frustrated too, because the funding bodies often change where the goal posts are. They don't tell them, or we don't get our funding guidelines until really, really late, and, one of the problems is that all our budget preparations are done in the first half of the calendar year but it is all done on, well we think the funding will be roughly about the same and then you get it around the last week of June and find that jeez, it is quite totally different. And so I think that is quite frustrating that they keep changing, or they don't give the hospital adequate warning."

"...because so much effort in relative terms is already consumed in meeting the statutory requirements for the people like the Department of Human Services, Veteran's Affairs, Health and Aged Care. For all of them there are requirements in terms of reporting. Because the focus has been on those, on top of that they also want you to give us information of other things, and so it has become a bit of an impost to be honest."

The reported internal anomalies cause many operational managers to believe their accountability is affected, especially when the systems do not provide them with the necessary information to manage their departments properly. Despite many advances in systems capabilities, the comments from a senior manager and an operational manager that reported business unit costs on areas such as 'payroll' and 'supplies' suggest they often have major errors that can be difficult to identify and time-consuming to correct:

"And one of my frustrations that I can't get anyone to understand is that no top level reporting is any good if it is rubbish in and rubbish out. I just feel really frustrated at times that we can't seem to get it right...so it is hard to explain variances when you don't know if they are right in the first place."

"... and the way it is reported you can't even find out what has blown your budget for that month... and we just go on gut feeling."

The findings suggest that effective evaluation may be problematic at operational level, or by top management when assessing monthly budget variances. At operational level there can often be an explanation for unfavourable variances, but the systems for cross-checking by

senior management prevent true root-cause analysis. The following comments are from clinical operational managers of varying departments:

"I think there probably is a clearer view that until they ... have got the processes in place to give the line managers what they need to manage, they are not rapping us over the knuckles, because they understand that I don't have what I need to be able to manage my consumables effectively. But if we got to a point where we did, then I think the accountability around that aspect would rise and that would be reasonable...As the reporting processes improve I am sure that will improve."

"We know that it is important, but we just don't have the time and the accountability now is not there, so not many times managers are pulled up for going over budget."

"Going back to these large number variances, what actually happens when you are way off budget targets?" "(Laughing)...I get told I am in the red and I nod and say give me a report that helps me how to manage it...From the staffing perspective there is a lot more accountability, and I have got good reports, becoming better from finance. But internally I have my own systems where I can monitor what is going on and if I have gone over my salary wages budget, I know why and I can defend that quite easily....I am quite comfortable that we have good accountability systems in place, but as for consumables, it is an absolute dog's breakfast."

Over time, to combat system inefficiencies, the department managers interviewed have put their own systems in place for cross-checking purposes as well as for improving their own accountability. These performance system data do not go beyond their department and are generally used for that department's internal management. Despite the picture painted in the operational area, most individuals are confident that there are strategies in place for improvement in this area. Many have reported seeing major advances in just a few months. This is especially in the areas where some of the traditional paper-based systems are now being replaced by superior payroll systems and other IT systems allowing for data warehousing and drill-down capabilities. Changes to organisational structures and job descriptions are also helping to break down 'silos' allowing for a more team-based approach. However, some still consider they have a long way to go, as shown by this comment from a senior support service manager:

"This silo mentality is actually affecting the strategy of the hospital".

At the executive level, the realisation that these changes needed to occur is apparent, and innovative performance measurement provides an opportunity for future performance management improvement. A group executive director, involved with the development of the BSC within their organisation said of their current reporting:

“I think that the problems we have is that both of them (financial/non-financial measures) are very purist based around operational performance....By that I mean that they are not looking at delivery as a system. They are looking at a measure in a point in time. It is a bit like measuring the flow of the river without understanding the health of the river. We know what the flow is (what the numbers going in and out are), we know how long they are staying, but we don’t have a good measure of what the quality of that care was...so, we don’t actually do that. We have not thought that through a system, so our measures are very much about measuring a parameter in time, but not the health of a system.”

When asked whether the BSC approach would help with measuring the quality of care, and the ‘health of the system’, the director replied:

“It will get us there. It will pick up things on the organisational development side as well, where we are not doing well. I think it will pick up on the quality of care stuff as well which is another area where we do some reporting around clinical indicators, but which is not meshed in with the activity performance or the financial performance.”

Exhibit 6.4 summarises the findings for the first key construct of key organisational objectives.

Exhibit 6.4: Summary of findings for the first key construct: key organisational objectives

Key Construct	Steps to analysis Evidence collection	Summary of findings
Key organisational objectives (Section 6.2.1)	1. Identify key objectives 2. Organisations evaluation of its achievement Evidence collected via: Predominantly Interview and Archival analysis; Annual reports; Website; Internal management budgets	✓ Key objectives identified in annual reports and management reports ✓ Evidence suggests intensive analysis – only around financials and ‘activities’ or non-financial relating directly to funding

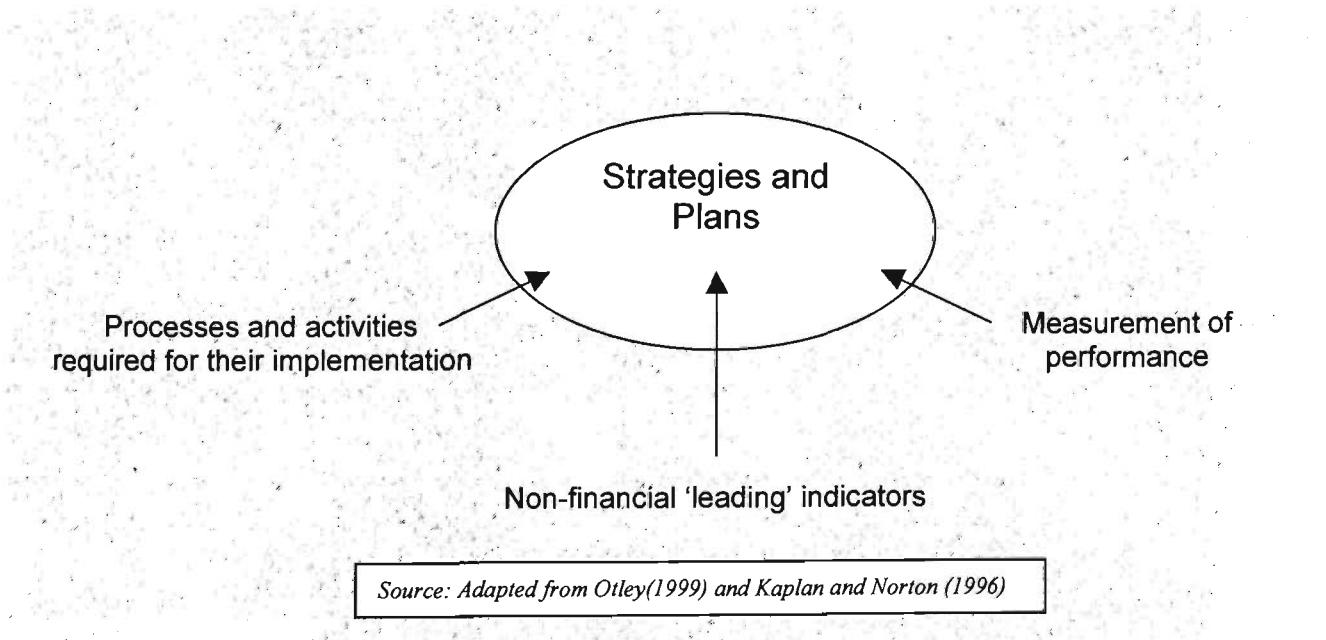
6.2.2 Strategies and plans for their attainment

To gather data relating to this construct, it was necessary to explore and document senior managers’ business strategies currently in place. According to Otley (1999, p.367),

‘Strategies can be seen as the means by which an organisation has decided that its aims can be achieved... Even in the public sector public sector the continual need to justify the use of resources produces similar pressures for improvement and efficiency’⁹.

This required archival data, such as Strategic Plans to be accessed to determine the organisations strategies, plans and overall direction. Annual reports have also assisted in the assessment of achievement. Associated interview evidence was been coded and retrieved via NVivo allowing matrix formation, flowcharts and further thematic reconstruction to be performed. In Exhibit 6.5, the guide to interpreting the second construct are outlined.

Exhibit 6.5: Guide to interpreting the second construct: strategies and plans for their attainment



⁹ ‘This is closely connected with issues of strategy formation and deployment, and with very practical issues of business process and operations management. It represents the codification of the means by which objectives are intended to be attained’ (Otley 1999, p.366).

Strategies and plans at each organisation have been identified in archival data. Analysis of the evidence relating to strategic planning is constructed around three major areas:

- the processes and activities required to implement strategic plans successfully;
- measurement of performance; and
- whether the measures are non-financial ‘leading indicators’

Processes and activities required to implement strategic plans successfully

In Exhibit 6.6 the findings from the strategic plan analyses are shown. These broad categories also give an insight into the processes required to achieve these goals. Note that archival reports relating to internal strategic measurement *outcomes* were not sighted at either organisation, they were only discussed generally.

Exhibit 6.6: Key Objectives in Strategic Plan

Strategic Objectives – Strategic Plan (Metropolitan)	
With our consumers, communities, staff, stakeholders and carers we will:	
Put safety first	provide a safe environment; minimize the risk of adverse events; be responsible for the community at large for patient safety and quality of care
Enhance practice	use technology to work effectively and efficiently; staff training; provide good equipment; processes and protocols; debate ethical concerns about health care; encourage innovation; manage and protect intellectual property
Improve access	free bottlenecks; improve efficiency so people can get timely access to our services; link with other health and community services
Integrate Services	move patients through an integrated service (rather than many small services); reduce delays, duplications and the risk of errors; enhance continuity of care
Performance Goals and Measures focus on these key areas: <ul style="list-style-type: none">• Key Services• Older people• Patient Safety• Staff• Service Access• Knowledge	
Strategic Objectives – Strategic Plan (Regional)	
The overarching goal of their strategic plan is to be recognised as the premier regional health service in Australia, to: <i>‘...develop virtually all clinical areas as a provider of complex tertiary level specialist health care. We want to deliver the health services that best meet the needs of our community. To make this a reality we need to provide all except the most specialised services in ‘x’ to make them more accessible for people living in the region’ (reference withheld)</i>	
Performance Goals and Measures around these key areas: <ul style="list-style-type: none">• Development and fostering of priority services;• Leadership in ‘rural health care provision’;• Recognising that more complex service inter-dependencies, higher skill levels and more sophisticated infrastructure will be needed;• The recognition in a broader health-care sector that this organisation is a provider of tertiary level services	
These are broken down into a further eight specific areas with the key processes necessary to achieve these goals over the next 5 years.	
Source: Strategic plans from both sites. The metropolitan hospital’s strategic plan is also part of a consolidated group	

Both hospitals reported increases in attention to strategic planning. This has been instigated by their CEOs. They have strategic planning days, where plans are developed and put in place for the next five years. Evidence gathered for this construct indicates that top management in both organisations spend considerable time developing strategic plans. This is evident in one senior manager's comments:

"We have to anticipate what is going to happen in the next 5 yrs, and we have to restructure ourselves to meet what we think is going to happen in 5 yrs time. The population is getting older. The emphasis on health is going to change. There is going to be more impact, more demands on health, so our strategy has to start addressing the issues that are going to hit us in 5-10 yrs from now. Some of that feeds into the Government, with all the mechanisms the Government has in place to anticipate what is going to happen in the future, and things will start happening. The pace that which it happens is questionable. But the strategy has to be there. We can't work on the premise that the Government is going to fund us, irrespective of what happens and we just sit back and do nothing about it. We have to be proactive with our management."

Departmental business plans are linked to the hospital wide strategic plan. Strategic plans and results achieved are reported on every year in the annual reports. Furthermore, both organisations have their strategic plans detailed at their website. Strategic planning is determined at executive level, with management group meetings at both organisations to maintain momentum. However, there appears not to be the same rigour towards measurement in this area as there is in operational performance. One executive member commented:

"We are meant to be having a strategic plan implementation meeting on Friday. It has been cancelled. I think probably 3 out of the past 4 have been cancelled. The momentum is lost. Your interest goes away. You forget about half of what you are meant to be talking about and dealing with. Then you go...oh, where to from now".

Generally it was found that the clinical areas of both organisations, reported that the daily operations took precedence over any strategic planning:

"Everything we do is supposed to be related to the strategic plan but I think that wears out. People have got their own agendas. Maybe it is health and maybe it is because you are trying to be responsive to the issues of the day, but you are really in fix-it mode for the present, not looking at 5 yrs out."

“So I think now that if you went to most of these managers, their focus is certainly on operational performance for today, but their business plans certainly include in them, some consideration as to what they have got to do for the strategic plan.”

Evidence suggests both organisations run budgeting and monthly performance reporting separately to strategic and business plans, without evidence of a strong relationship between daily operations and long-term strategy. The ultimate goal of linking business performance with strategy through the BSC is on its way to being achieved at the regional hospital.

“... that is what we are trying to do with our business plan. That picks up this as well, so people can report against their business plan which will pick up the strategic plan as well as the operational stuff.”

Despite trying to link strategy with operations, this comment from a senior executive suggests the process of communicating strategy to lower levels of the organisation has not yet been achieved:

“...we used it (the BSC) for our strategic plan. For our planning days we used the quadrants of the BSC, so, it is known to the organisation, but as I say, as you get further down the organisation, I think it is probably less known.”

At the moment the BSC is being developed to include measures of financial performance linked to the currently reported measures of activity, but up until now one manager said:

“We had one person putting stuff on the spreadsheet, and all he gave us was one quadrant, or a percentage of one quadrant, because it was on throughputs and targets. It wasn't about financial performance. It wasn't about staff development. It wasn't about staffing levels or anything like that. So we have a long way to go.”

When asked whether the measures in place were part of a wider, more holistic approach? *“If there is, I'm not aware of it!”* or if the current changes being made to performance measurement were part of the strategic plan *“I would actually have to go and find the strategic plan again to be able to find out, but I think it probably is...”* demonstrates that there is a separation between daily activities and communication of strategy. An IT manager, who was also an advocate for the BSC, said:

“When you talk about performance reporting, for us there is patient performance, there is financial performance, then there is all the survey based stuff that we give to our patients, so profiles and planning data and all of that...patient satisfaction, staff satisfaction...the list goes on. And then there are all the HR measures, as well. Each of those measures, we are not really...they are silos. Within HR, they understand it. Within a work unit they definitely understand them, but no-one else gets to see them in a quadrant, basically a BSC. No-one gets to see that”.

Measurement of performance

The strategic achievements or outcomes to date were detailed in both annual reports. Further evidence of continued assessment and measurement of achievements was found in the interview data. At executive level, there appeared to be a strong focus on measuring the achievement of strategic objectives. One executive who was part of the strategic planning group said, that they look at 73 key outcome measures that fit with the strategic plan. These measures relate to:

“...service delivery and development, organisational development, staff level training, infrastructure development, information management, communications and marketing. Each have indicators to tell us how far we are progressing...we simply traffic light them.”

The regional health-care group’s performance towards strategic objectives was measured and reported to top management in a qualitative format. At executive level, the strategic planning for the next 5 years involved discussion around linking the BSC to business plans:

“We certainly have started with our strategic plan being built around the BSC and what we have done in the last few months is actually have the business plans, under the headings of the BSC, linked to the strategic plan, which, in theory always should have been, but I don’t think they were. Hearing back from the managers concerned, I don’t think there has been a clear link developed in the past. “

Furthermore, a narrative was required to be attached to operational performance reports on performance in relation to meeting strategic objectives, or the KPIs listed in their business plans. They were then discussed at executive level meetings. Any capital investment requests were looked at in terms of whether they were meeting the objectives of the strategic plan. At operational level, most business plans included measures relating to occupational

health and safety and quality. These generally form part of the regular compliance reporting required for accreditation, ISO compliance or for other external purposes. They also included measures specific to particular units. Measures relating to staff learning and growth, patient satisfaction, quality of care, etc. were reported through various channels or as required by external bodies.

Some aspects of the strategic plan were focused with achievable targets. However, others such as, 'encourage innovation', 'enhance continuity of care' or 'provide complex specialist care', did not have easily identifiable measures to assess performance. Other desired outcomes were dependent on funding and not currently financially achievable. Strategic objectives related to effectiveness outcome measures, but others related back to operational efficiency. This was reflected with several operational managers commenting:

"You know when you read our strategic plan, it says this, this and this and you think well where is the money coming from for that? ... There is a lot of 'ifs' in there".

"The strategic plan is divided into several items and one of them is live within our means, so we are working towards living within our means".

"The strategy is limited to a purely financial objective at this point in time. From a clinical aspect, yes, we do look at our strategy. Looking at what is going to happen to us in 6-8 months, but it is more of the case of not what better services we can provide, but what we need to do to maintain the status quo".

Non-financial 'leading' indicators

There are a significant number of non-financial measures being used in a hospital environment. Many are reported on by the performance reporting units of both organisations. In the management accounting departments of both organisations, the general performance reporting prepared related to the key operational or 'activity' and financial performance measures. Further questioning about whether measures were non-financial in nature lead to the following responses at the metropolitan hospital:

“The only other thing is ...yes, staffing, any activity we look at, but there is no other...we don’t look at quality or sort of HR the only thing I can think of, we look at but we don’t actually report on, is things like, for analysis reasons is sick leave & annual leave... but in a BSC sense we don’t look at any other...”

When asked if they look for a cause and effect relationships, such as whether increased sick leave is related to staff dissatisfaction, the reply was:

“Those intangible things, no.....any other operational things that have happened in the hospital we are starting to look at increased costs and that sort of thing, but those intangible... and we don’t look at the cause and effect.”

At the regional hospital, the management accountant when asked about other measures specified in the BSC, and whether they are beginning to report on some of the other non-financial measures like customer and staff satisfaction responded:

“In my opinion we are not even thinking of that yet. We are still struggling to get the financial bits together and the activity bits together. We do have, lets say, the subjective accounting parameters that exist, but they aren’t presented in a BSC form or even in a concise report. They are more on an ad hoc basis at this stage. We have quite a distance to go.”

Both organisations appear to be at similar stages, in broad terms, with their management reporting of performance measurement. One organisation is taking the BSC approach whilst the other has moved away from the ‘Report Card’ format that was originally demonstrated at the first site visit. They are currently attempting to link activity to financials for their main performance reports, however, other ‘intangible’ or qualitative measures are a long way from being reported in conjunction with the tangible input/output data. In addition, there is not an easily identifiable link to organisational strategy.

Nevertheless, although operational performance measurement does not have a deliberate link to strategic planning, much of the strategic planning is directed to improving operational outcomes. System development takes a high priority, for example, both have implemented new payroll systems and are investigating electronic patient records. One organisation has

processes in place for future improvements to their supply chain management and they both have or plan other IT developments such as data warehousing with drill-down capabilities which will open the channels of communicating strategy to the lower levels of the organisation. Exhibit 6.7 provides a summary of findings for the second key construct.

Exhibit 6.7: Summary of findings of the second key construct: strategies and plans for their attainment

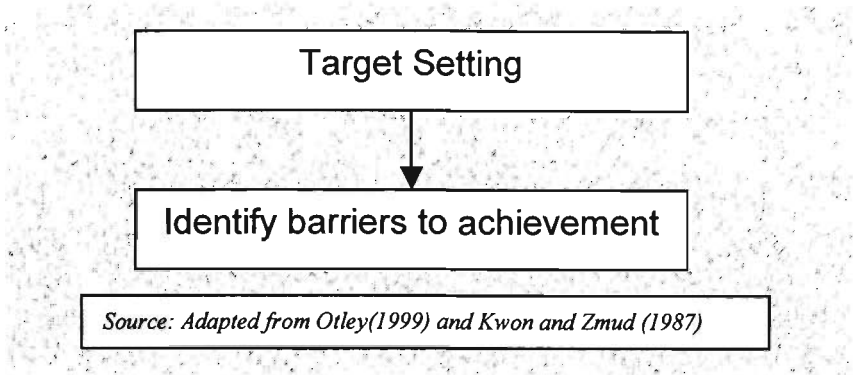
Key Construct	Steps to Analysis Evidence Collection	Summary of Findings
<i>Strategies and plans for their attainment (Section 6.2.2)</i>	<div><div>1. Identify strategic plans (Exhibit 6.4)</div><div>2. Identify Processes and activities required to successfully implement strategic plans</div><div>3. Identify how organisations measure their strategic performance</div><div>4. Evidence of non-financial ‘leading’ indicators</div></div> <div>Evidence Collected via: Interview and Archival analysis:- Strategic plans; Annual reports</div>	<div><div>✓ Key objectives identified</div><div>✓ Employee learning and growth strategies identified</div><div>✓ Some plans are not readily achievable; others not easily measurable</div><div>✓ Evidence of achievement (identified in Annual report and internal documents given to researcher)</div><div>✓ Operational and strategic plans are managed separately</div><div>✓ Strategic plans are directed to improving operational outcomes but is not deliberately linked to daily performance activities (archive material at regional hospital suggest this should be occurring – not identified at this stage)</div><div>○ Operational pressures cause strategy to be undermined at times</div><div>○ As far as a BSC approach, both organisations are still trying to link financial with activity targets (funding measures)</div><div>○ ‘Leading’ indicators reported/monitored by executive management and delivered through various channels when required by senior management or other external party</div></div>

6.2.3 Target-setting and achievement

Analysis of this construct relies on the findings in the first construct, determining the level of performance required to achieve operational and strategic objectives. ‘Budgeting’ appears to be the main form of operational management control in both organisations. In Exhibit 6.8, the details for interpreting this construct are outlined. According to Otley (1999) research in this construct should explore the level of performance an organisation is required to achieve its goals and how it goes about setting appropriate targets. The analysis requires target

setting techniques to be identified and the identification of Kwon and Zmud’s (1987) contextual factors, or barriers to BSC achievement.

Exhibit 6.8: Guide to interpreting the third construct: target setting and achievement



In this construct, the majority of responses are from the metropolitan organisation, where there were more operational managers interviewed. Analysis of interview data relating to this construct were extracted from NVivo. Large amounts of interview data were gathered in this area. Data reduction and thematic matrices to highlight recurring issues is an essential component of the analysis in this construct. Further archival budget and monthly report evidence was gathered during the interview process. Many of these reports were several pages long with thousands of line items. Online reporting has contributed to more timely data being received by managers throughout both organisations. A significant amount of time is spent preparing and analysing budgets. In particular, it was noted that routine commentary, at every visit to the finance department, revolves around “month end” as a reference to the focus on the budgeting process.

In addition to related discussion in 6.2.1, where managers complained that the current systems prevented effective evaluation of financial and operational achievement, analysis of this construct expands discussion of the contextual factors influencing performance measurement. The contextual factors influencing effective measurement of long and short-term performance achievement to emerge from the analysis were:

- external funding constraints and board pressure for balanced budgets;
- inadequate information systems;
- clinician manager versus financial manager; and
- lack of adequate benchmarking capabilities

Budget setting is often difficult due to Government funding with subsequent pressure and incentives on hospital Boards to deliver a 'balanced budget'¹⁰. In particular, public hospital budget deficits tend to become the subject of political arguments with reductions in funding, the casemix arrangements, or the delivery of above target services resulting in organisations trying to deliver a balanced budget. Furthermore, the short-term focus and funding constraints also affect long-term planning and strategy. The following views are from managers struggling with the day-to-day operational factors relating to budgeting issues:

"...\$90,000, we have worked out per patient stay in ICU.... The WIES funding might give us \$85,000 for that particular DRG, so we would lose 5 grand each time we have a patient with that DRG. But, we don't fund the department on that basis, you would end up having all the clinical units making a loss if we base it on casemix. So each of the clinical units have a profit and loss..."

"What happens is I put up a proposal based on my estimates. The finance department always want to cut it back. I can buy the best I can, with our buying power, and I can source the best I can, but I have no control over patient volume. So every year it is the same, I put in my estimations, they cut it back, and every year there are blowouts and I then have to explain it".

When asked whether budgeting was set around achieving a balanced budget, the responses from the managers of the performance reporting unit and management accounting department respectively were:

"...the board wanted the balanced budget. So you would say that the budget put up was a bit 'pie in the sky' to make them ...to appease their wishes"

¹⁰ A 'balanced budget' is a budget for which expenditures are equal to income. Note that sometimes a budget for which expenditures are less than income may also be considered 'balanced'.

"...As best as we can. At the moment we are probably looking at a bottom line gap of about \$x million. We try to fund departments the best we can to the full cost of providing their service, the full direct cost."

Frustration with systems result in difficulties for the budget setting and variance analysis process. New IT systems were being implemented at the metropolitan hospital and the regional group were following suit, nevertheless both hospitals still reported problems with many paper-based systems still in place, providing less than adequate data. An executive director and management accounting reactions were:

"...all that activity level is recorded and monitored and the revenue around that is in the budget....but that is where we have broken it into two streams. It makes it difficult to do good reporting because at one level we are looking at the activity in isolation to where we are looking at the budget."

"We do, let's say, not exactly zero-based budgeting, but we try and use the concept of zero-based budgeting, so every expense is broken down into the lowest denominator that we can identify, and we budget at that level and at cost centre level. It is a massive exercise for us, and with very unsophisticated systems."

There was consensus with this comment by a support manager at the regional hospital. This manager confirmed that inadequate system capabilities prevented senior management being able to dispute the clinical rationale behind unfavourable budget variance. She says:

"Each month (they) go through and say why each cost centre is over or under and why. And you see and hear some of the most inventive stories, but at the end of the day, they can say what they like. What are they going to do about it, nothing really. So another month goes by and nothing is actually done ..."

Another barrier to performance target setting and achievement is the dilemma hospitals face between clinical outcomes versus budget constraints. In many cases, the managers of clinical departments are often clinicians who have moved through the ranks into a management role. Budgeting is embraced by some, however, others consider it secondary or even a nuisance to their clinical roles.

"In one of the units here, probably one of the leading units, they are using variance analysis and they are using it in a really productive way, in terms of being able to budget for so many dollars for drugs, so many dollars for transportation of patients and he plots the variances ... and that actually has quite a lot of meaning to the senior clinicians because they can understand

that if our budget falls, if transport is over, then why is it over? Do we have to chase up something in the system? They know that if that budgets over, the money has to come from somewhere so it is going to be deducted from somewhere else. So that actually means more to those people."

"Different nursing co-directors have different focuses on the financial part of things. Some of them hate it and will let you do what you want to do and only tell them when there is a problem and when they want to know, they don't quite understand it..."

Other clinician managers provide services not budgeted for, basically work for nothing, but get frustrated by the system when they cannot get the tools they need for their role.

"It is hard to get the processes right...if I want that light bulb changed, I do a charge advice to hospital services. If someone wants an anaesthetic given they just ring us up and say can you do it, why not? I'll do it thanks...you mightn't get the thanks but it is a \$500 service that it is done with a nod, or we might agree to do an anaesthetic for someone out of hours that costs \$2000 or \$3000 for a long procedure on a Saturday. It is done with a nod, but I can't spend \$1500 for a new computer. It is hard to get consistency."

External benchmarking for cost comparison is being investigated by all areas within the organisation. The problem identified by the interviewees is that different organisations use different systems and apply different assumptions to their underlying figures. This makes detailed benchmarking in practice difficult and, furthermore, there are not many other hospitals that an individual hospital can be contrasted to directly. It is not easy to find an organisation providing a similar range of services, even globally. This has been commented on by most areas in the organisation, both clinical and non-clinical. Attendance at benchmarking groups takes a more 'networking' focus and tends to revolve around discussions on the different processes employed, the key performance indicators measured, or broader measures for comparison:

"We look at turnover. We look at our personnel costs. We look at some of the activities to see how we compare, but we don't compare because we don't have information right now is what would be the per capita activities or the per unit activities to see if we are more efficient than some other hospitals. We don't have that data available, except on a very personal basis. It doesn't flow through automatically to us."

In Exhibit 6.9, the construct findings so far have been summarised. The barriers to target setting and performance measurement can lead to other difficulties such as rewarding or penalising poor performance.

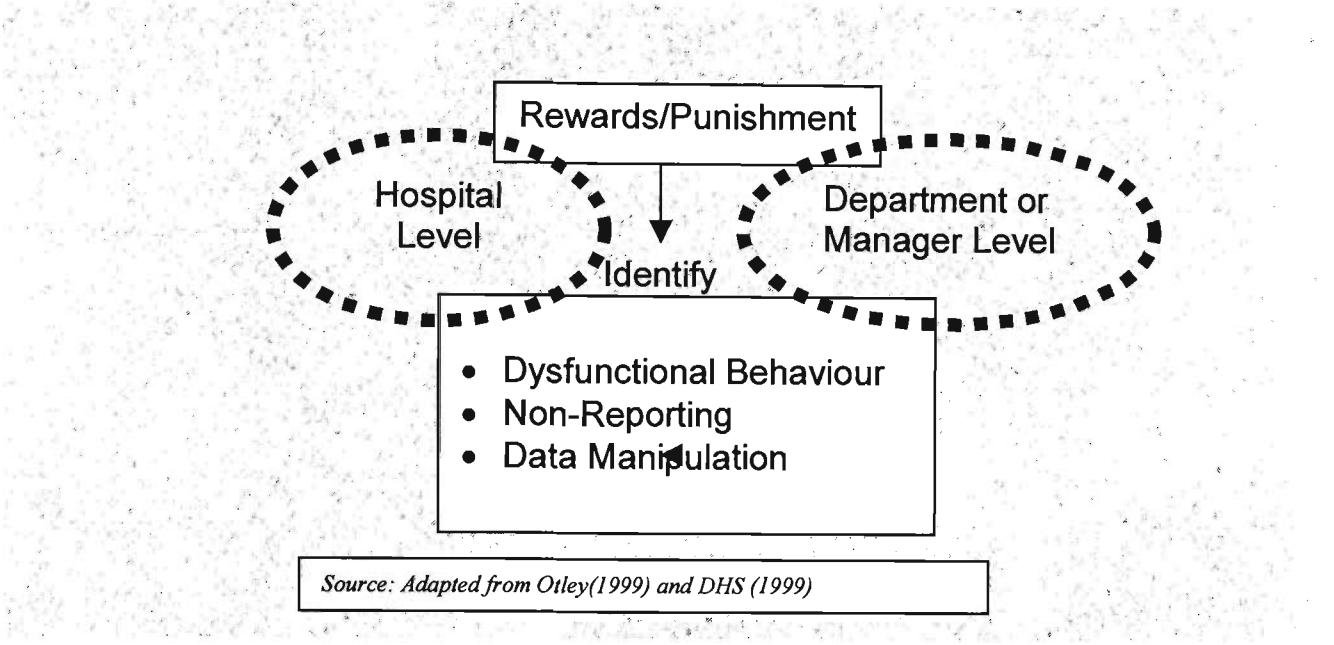
Exhibit 6.9: Summary of findings of the third key construct: target setting

Key Construct	Steps to analysis Evidence collection	Summary of findings
<i>Target Setting</i> (Section 6.2.3)	<div>1. Identify target setting evidence<ul style="list-style-type: none">✓ Internal budgets observed✓ Management reports observed✓ IT systems demonstration✓ Interview analysis/strategic target setting</div> <div>2. Barriers to achievement<ul style="list-style-type: none">✓ Interview analysis</div> <div>Evidence collected via: Interview and Observation analysis: Observation of monthly management reports; IT systems observation</div>	<div>✓ Target setting mostly around budgets</div> <div>✓ Strategic targets around 5yr planning</div> <div>✓ External funding constraints for operational/strategic target achievement</div> <div>✓ Board pressure for balanced budgets means operational targets become ‘unreal’</div> <div>✓ Systems still inadequate – for realising achievement</div> <div>✓ Clinical v non-clinical (quality patient care) – undermines target setting</div> <div>✓ Lack of comprehensive benchmarking capabilities</div>

6.2.4 Incentives and reward structures

The objective in this section is to analyse the rewards (penalties) gained by achieving (failing) to meet performance targets. This can be analysed at either the hospital level or at management level. The analytical technique linking the data from this construct to the first research question was performed using ‘explanation building’ (Yin, 2003). According to Yin (2003) explanation-building is a special type of pattern matching. When exploratory case studies rely on explanation-building as an analytical strategy, the identification of causal links between the literature and case analysis, may lead to the development of ideas for further study. In this construct, The Victorian Government (DHS 1999) have suggested that linking rewards or incentives to performance in public hospitals may lead to dysfunctional decision-making and practices. This statement has been used in the research of this construct, to determine whether public hospital managers believe dysfunctional behaviour is possible at both hospital level and management level. Exhibit 6.10 is a guide to interpreting analysis of incentive and reward structures within public hospitals.

Exhibit 6.10: Guide to interpreting the fourth construct: incentives and reward structures



At a broad hospital level there is a strong incentive to achieve performance targets set for the organisation by the external funding bodies. As well as pressure from the Boards to achieve balanced budgets, there is also pressure from the Victorian and Federal Government funding bodies. Moreover, there are financial penalties for poor performance. Bonus funding schemes do provide some reward for specified hospital performance, but, as one financial manager said, ‘the systems aren’t too tight’. Others consider the definition of ‘performing well’ needs to be clearly established. In public hospitals it seems that non-reporting or manipulation of data to funding bodies *can* and *does* occur, undermining the potential for incentive schemes at the broad organisational level. The following are the views of some of the senior level managers:

“ ...I worked at (...) for many years, and, I can tell you from that background there are many organisations that do fudge their figures for a lot of reasons. I think bonuses and incentives against performance against a standard suite...in a health environment, where there is just not enough money, probably would be a problem. Organisations will tend to go for opportunities and if that actually leads in some way that you could massage the figures, then yes. Organisations will do that.”

“...we have done some gaming ourselves, and, it can be done if you get away with a bit. What I mean by that is that you know - you have a block of activity. We can count things differently, because it is all a counting game, and ‘disclude’ some other bits and pieces ...so (if you do give incentives) it has to be absolutely standardised and there is no clause...call it Communism...I have been in the game for 5 or 6 yrs and you can get away with a fair bit. You shouldn’t be doing it - that is my opinion”

“...a lot of hospital superstructures are about gaming. I am attracted to rewarding good performance, but the trouble is there is too much superstructure that is more interested in the game than patient care...”

Other managers consider that the pressures to deliver balanced-budgets may result in non-reporting or data manipulation. They state that:

“...the budget pressures are so high now there would be the possibility that people would do it’ (exploit the system)”

“...it does occur...everyone knows that people play the game to some extent (turn off the tape!...no you can leave it on)...A good example is...”

Some consider the incentives should be based on a reliable input of statistical data, or transaction-based data that would be considered less easy to manipulate. At the moment, manipulation or non-reporting tends to be around activity and summary compliance reporting. Capped WIES funding has affected the accurate measurement and reporting of some activities. However, the automated processes DHS has put in place for direct data collection have changed internal management views towards data reliability and they consider those measures are less likely to be manipulated. Two managers’ thoughts are:

“...if you are sending the real data, there is not much you can manipulate about that, but I suppose summary stats you could”

“...but I honestly think that these days, the health-care facilities are so busy and it is more an automated process these days, so there is no ability to actually manipulate...”

In the clinical area, linking rewards and incentives to good performance is not a common occurrence for public hospital staff members; however, in the regional hospital this has been debated at senior management level. Sick leave is a major hospital expense and they have looked at incentive schemes to reduce this cost. Revenue earning other than through

government funding is another potential area with which to link incentives. One manager said;

“We haven’t actually pursued the reward and recognition in financial terms to our unit managers, but we are debating about it. Say if we have a drive to increase our private patient revenue, yes, we could give incentives to those areas where the revenue is generated”

The analysis of interview data shows that incentives schemes, providing financial rewards to individual managers, were not always considered appropriate for the current hierarchical and funding environment. Comments related to department managers not having the power to control their own spending and decision-making. Some said the information systems were not totally reliable and incentive schemes would result in too much time being spent scrutinising budgets, taking time away from patient care. Examples of unreliable information systems given were payroll allocations to wrong departments, supplies incorrectly allocated and reports not detailed enough to highlight or find errors.

This had been reported as a problem that had been present in the health-care organisation for several years. One senior clinical manager said that it had been occurring since he had been working there (10 years). At present many of the errors were just accepted by managers even though that charge was meant to go to another department. The managers know they could ‘cost shift’ to make their own budgets look better, but as one manager said, *‘is it really that important, I don’t know’*. The clinical managers are faced with a dichotomy in focus. Whilst being aware of their responsibility for budgeting, they are also driven by physicians, patients, technical advances. They consider their time is better spent with research and developing their clinical expertise through further education and understanding new techniques for delivering patient care. Therefore, it was not surprising to find negative responses from various business unit and clinical managers on providing incentives at the unit level:

“..it wouldn’t work. It would create silos. People would stop working together, and that is one thing where (we) are so different. I mean the nursing co-directors all met this morning and we are all on the same tram...I don’t think it would be constructive. Everyone will say, you take this, I will have that and it would be terrible”

Some clinical managers felt powerless to the physicians they were working with. They considered that unless physicians are given more control of the management of the department costs, then incentives as part of management control will not work. One clinical manager considered that:

“...unless these costs are put back to the units and they are totally responsible for all those, then I feel that it will be worthwhile. If they feel that they are spending someone else’s money, then it is not worth it”

Another manager considered that the budgeting process would need to change before incentive schemes would work. This manager said at the moment:

“... people don’t get rewarded, so those who have done less, get less next year...”

Nevertheless, within units there are individual reward recognition programs in place. In the intensive care unit, one manager said:

“we have an in-house reward recognition program which four times a year the staff get nominated....day-to-day, I have a database in regards to what study leave we grant and how many dollars we give to support staff outside the organisation....sometimes certainly in nursing we don’t think we get much, but when you put it all together it is a substantial amount of time and money”

Many of the issues raised in the analysis of the data relating to this construct, also relate to issues of communication and benchmarking which will be discussed further when analysing the current information and feedback loops. Whilst reviewing data at each construct of management control, there are consistent themes emerging. In Exhibit 6.11 a summary of the findings for the fourth construct are outlined.

Exhibit 6.11: Summary of findings of the fourth key construct: incentives and reward structures

Key Construct	Steps to analysis Evidence collection	Summary of findings
<i>Incentive and reward structures</i> (Section 6.2.4)	<div>1. Identify systems for reward/punishment</div> <div><div>✓ Dysfunctional behaviour</div><div>✓ Non-reporting</div><div>✓ Data manipulation</div></div> <div>Evidence collected via: Interview and Archive analysis: 'Victorian Public Hospital Funding Guidelines 2002-2003'</div>	<div><div>✓ External punishment/rewards for target achievement</div><div>✓ Data manipulation possible</div><div>✓ Incentives for employees – department/manager specific and tend to be personal development/education related</div><div>✓ Some discussion about financial rewards for business units</div><div>✓ Talk of financial incentives for individuals not to take sick leave (wages are a big issue in hospitals)</div><div>✓ Rewards at business unit level not viewed favourably;<div><div>○ Individual departments do not have total control over decision-making</div><div>○ May destroy 'team work' – create an environment for 'nit-picking'</div><div>○ Systems not able to provide reliable data for bench-marking reward structures</div></div></div></div>

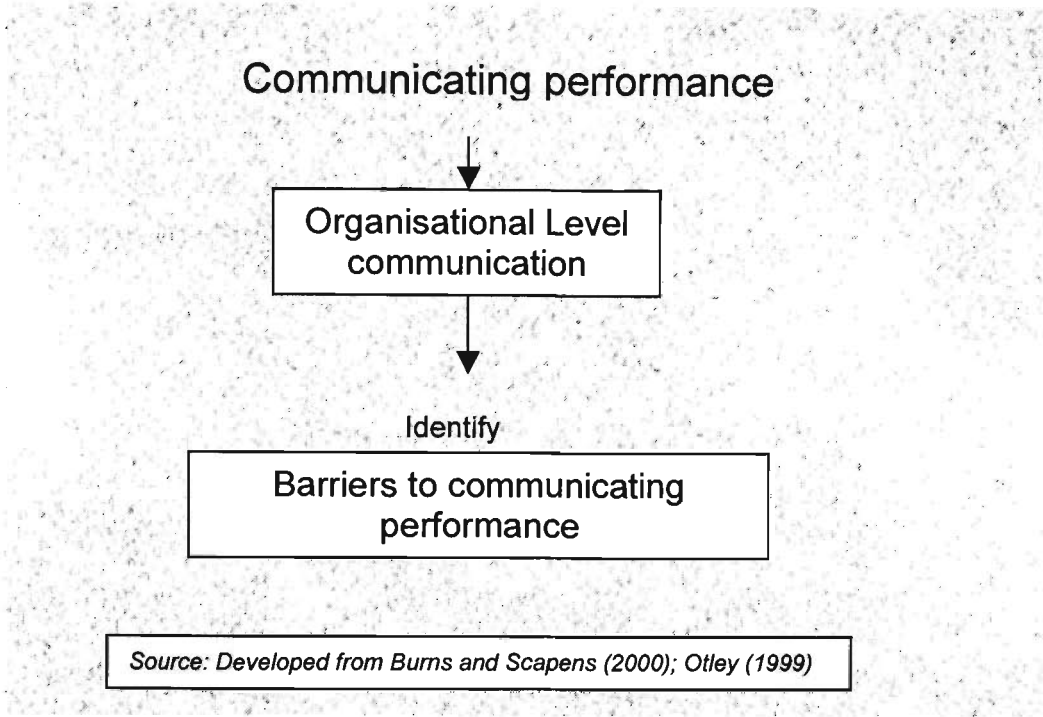
6.2.5 Information and feedback loops

This construct is concerned with tools that are available to an organisation to improve communication channels. Not only is the analytical process directed towards investigating changes to management information systems and other IT developments, but the analysis also links to issues of organisational learning, employee empowerment and emergent strategy. These are the results of organisations adapting their behaviour and learning from their experiences. The management accountant can be viewed as a facilitator or barrier to successful communication within the organisation. This construct assists with analysis of the management accounting function (Section 6.3) and the BSC approach to performance measurement (Section 6.4). In Exhibit 6.12 a guide for interpreting this final construct, relating to information and feedback loops, can be found.

The analysis of this construct is kept to communication of performance measurement at an organisational level, as outlined in Exhibit 6.12. The analytical process has been constructed to determine the *barriers* to effective communication of performance measurement. As mentioned in Chapter 5, cross-case comparative analysis is difficult at times due to the

significant differences in organisational size, structure and clinical mix. The approach taken by both organisations to communicating performance has been identified. Note that this is for illustrative purposes only, and not to suggest one approach is better than another.

Exhibit 6.12: Guide to interpreting the fifth construct: information and feedback loops



Identification of barriers to communicating performance

Interview data suggest that whilst there is an emphasis on preparing strategic and business plans, both hospitals have problems with information and feedback loops, or, communicating the final analysis of performance results to the lower levels of the organisation. The data indicate that this is due to:

- information gained via benchmarking is often limited as direct comparisons are difficult to find and measurement systems are not always similar;
- no-one effectively communicating *holistic* performance, or, lack of an overall performance ‘champion’ tying strategy to operational measurement and presenting it back to the organisation;

- data overload;
- new ‘top-down’ reporting tools being ignored (need prompting to review reports; no power to make change; not relevant to needs; time from report to meeting does not allow for proper analysis);
- organisational routines around budgeting and financial results undermine innovations or change strategies.

Externally there has been an increase in benchmarking activity facilitated by organisations such as the ‘Health Round Table’, where management information is shared and discussed at a broad public hospital level. Analysis of benchmarking activities is also performed by both organisations at operational level. Benchmarking often reveals difficulties with direct comparisons due to the individuality of tasks performed or incompatibility of measurement systems used. Furthermore, the benchmarking output is often kept within the individual hospitals, departments or management hierarchy. This information is viewed as being ‘owned’ by that particular area and confidentiality agreements within specific areas mean communication of information might be compromised. The holistic overview is developed at executive level on receipt of separate reports from each department, and is selectively filtered up to the board and often not communicated back down to operational levels.

There appear to be several ‘performance measurement champions’ within both organisations whose individual roles are either activity performance or financial performance. Both organisations have made concerted efforts to combine these areas, but are acting on measures relating purely to funding and the efficiency aspects to performance management. The divisions still appear to be working in isolation, with monthly reporting providing the only formal holistic measure of performance, or management control. Generally these budget reports are unit specific and are not shared throughout the organisation. Analysis shows that, at times, the organisational rules for performance measurement strategy have not always been made clear to individual managers. The following managers’ comments were indicative:

“I don’t think the ‘hospital’ does performance management that well or since I have been here. I’ve never seen performance management of directorates or divisions and departments. I don’t think it does it that well. I don’t think

we have got everything clear, so the 'hospital's' performance measurement is based in terms of dollars, the bottom line. I don't really get that impression and I don't think we have any performance measurement champions."

"the hospital hasn't really worked out what it is trying to do...some days the hospital is on about providing 'high quality of care', and the other days it is about the 'bottom line'...and it fluctuates...unfortunately we are going towards the bottom line, but it is not really that we sacrifice quality of care because of the dollars...but it is more that we can't make decisions about where the dollars should be. That is because we don't actually know how to allocate the costs"

"We just don't have that sort of sense of this is an absolute requirement to know how business is going on a day-to-day basis (as in the private health sector)"

The communication systems are improving, with new data warehousing and drill-down capabilities helping to translate measures into meaningful data. However, there appears to be a situation of data overload or times when data are collected but may not be used, or the output analysis is not communicated back to lower levels. In the archival data the following comments relating to this construct were: *'in an organisational climate that does not in general display great enthusiasm for information management some progress has been made at (this hospital)'*. Several managers reported:

"...my perception is that we collect a lot of data as an organisation and what we are not very good at doing is going the next step and analysing it and then feeding it back to the people that then are going to effect the change"

"Up to date, this is excellent data-wise, it is quite rich, but to actually distribute that..."

"...from where I sit...you get little or no feedback from executive about it. That either tells me, A, they don't look at it, or B, they don't understand it, and I suspect it might be a bit of both"

"...they know they would like to know how (we) are doing, but they don't quite know how to get that information. So we probably need to tell them that we provide this information...there is almost too much information there"

Changes to reporting tools aimed to provide a single source for data collection; however, this still appears to be sometime away for both organisations. On-line reporting has helped, but

many managers have said that they need to get reminder e-mails to prompt them to look at the reports. Some do not even bother looking at them and others have said that there is no use, because they do not have the power to act on them anyway. Timing is still another issue, where management performance meetings are conducted soon after reports have been sent out. In particular those that do require specific information, still report problems obtaining the right kind of data they require. The comments from the following managers corroborate this evidence:

“...a big issue in this hospital is the fragmentation of the data”

“I have been around long enough to know where to go and how to get this and can get lots of things myself. But if I were a new person in this organisation, trying to get it, no! Definitely not! ... however we are moving towards changing that”

“the report comes out about 3 days before the executive is going to discuss it, and so there is not a lot of time to do any real in-depth analysis...”

At one organisation business unit managers were presented with a new, advanced system of performance measurement, but had not been involved with the decision-making or process of change. An executive manager says the organisational attempts for change had failed to some extent through senior management's own failings in communication:

“it is actually very powerful if they use it or want to use it...but because it was never highlighted that way, most people only actually saw the downside to that change”

Finally, it is apparent that the over-riding performance management control is still through financial measures or the budgeting process. Generally the ‘soft’, ‘intangible’ or ‘fuzzy’ data (as one manager called it) are not considered to be as essential, or used regularly to evaluate organisational performance. Despite improvements to data communication, through on-line reporting, attention is not regularly paid to these other non-financial measures (unless they are directly related to funding). The metropolitan organisation ceased its Report Card Version 1, and even now with the new generation tool, only one quadrant is being viewed

frequently. One clinician said ‘*I only look at the quadrant that shows me how we are going against WIES targets - the others do not concern me*’. Despite changes to the communication channels, overall organisational routines have not changed. The new systems have allowed for improvements to existing routines; they have not changed the overall strategic approach to performance measurement. As suggested by Burns and Scapens (2000) the underlying rules and routines have not been challenged by the new systems. The strong focus on target achievement means funding-related data takes priority. Hence, organisational communication is strong in ensuring funding-related targets are well communicated to all managers. Nevertheless, other areas of organisational communication do not receive the same commitment. Priorities in reporting performance have meant that financial or funding-related measures have taken control to the detriment of effective communication of other non-financial indicators. This following comment was from an IT manager.

“...you can actually click on all of these KPIs, but as I said too many. No-one can understand that (pointing to old version Report Card). They will need a PhD themselves.....it was just a scorecard with all ticks and crosses...so we cleaned it up...in a funny way, as soon as you get finance on board, your dollars speak universally, all languages. That is the big driving force. Put that into something and you get good feedback”

Exhibit 6.13 is a summary of the findings from this construct.

Exhibit 6.13: Summary of findings of the fifth key construct: information and feedback loops

Key Construct	Steps to analysis Evidence collection	Summary of findings
Information and feedback loops (Section 6.2.5)	<div><div>1. Identification of organisation wide information flows</div><div>2. Evidence of barriers to communication</div></div> <div>Evidence collected via: Interview, Observation and Archival analysis: - IT systems observed; communication at management level meetings observed; communication observation at informal and interview meetings:</div>	<div><div>✓ Information flows for benchmarking difficult</div><div>✓ No overriding performance champion</div><div>✓ Data overload</div><div>✓ New tools often ignored</div><div>✓ Organisational routine around budgeting undermines communication and innovative tools for strategic change</div></div>

6.2.6 Summary of evidence of management control and non-financial performance measures

Key management objectives are well articulated in the annual reports and strategic plans. They are measured independently throughout the organisation and reported separately to the Board. The key performance measures used in monthly reports are all efficiency measures. They are centred around financial and activity measures relating to funding and staffing and are the only measures reported on directly by the management accounting department. Despite being funding-related measures, the external compliance ‘activity’ measures do ensure strict monitoring of patient activity and community access. According to the strategic management literature, these activity measures could be considered appropriate measures relating to community and stakeholder needs (BSC - ‘customer’ perspective). To date there are no cause-and-effect relationships in place between the activity measures and the financial measures; however, both organisations are aware of this and are working towards this goal.

Non-financial measures, typically found in the internal business processes and employee learning and growth perspectives of a BSC, are not yet part of either hospital’s suite of performance management reports. Nevertheless, both organisations are actively involved in non-financial measurement. They have been conducting regular patient satisfaction surveys, organised and reported through to a section within DHS. There are other areas of the organisation that report on staffing, quality measures, occupational health and safety (OH&S) measures, and other HR measures such as staff satisfaction surveys and skills-based monitoring. The Board receive these measures independently via these departments and some are part of the strategic plan. However, these measures are not incorporated with activity and financial data, into a single management performance report.

Evaluation of achievement and management control tends to take a traditional ‘budgeting’ focus and is mainly related to the efficiency measures. External and Board pressure for a ‘balanced budget’ ensures the focus remains on daily, short-term operational activities. System inefficiencies are blamed for poor performance reporting and root-cause analysis of variances is difficult, leading to difficulties with accountability and management decision-

making. This does not create a suitable environment for reward systems, as not all data are considered to be reliable. Inadequate systems relying on paper trails allow for potential data manipulation to achieve targets. This is not generally the case for compliance reporting data. Most interviewees consider this data to be reliable (statistics based, daily data entry) and not easily manipulated.

Both internally and externally, information flows are being developed, especially through IT developments and through increased benchmarking activity. Involvement in formal external benchmarking groups is increasing. There are still concerns that ‘apples are not being compared with apples’. Internally, the changes to management reporting are viewed as a move towards improved communication and information flows; however, the underlying institutionalised practice of management control through budgeting means that strategic change to performance measurement is being undermined by the existing rules and routines in place to accommodate budgeting (Burns and Scapens 2000). Nevertheless, there are processes in place to challenge or collectively question the existing rules and routines. The management accounting function is one of them, and will be explored in more detail in the next section.

6.3 Management Accounting Function

Performance measurement has traditionally been a management accounting function; however in the public health-care sector, staff other than accountants are performing some of these activities. Examples of roles involved with performance measurement are information systems management roles, health analysts, performance reporting managers, clinical directors and unit managers. Not all of these employees have management accounting backgrounds and some require management accounting assistance.

In this sub-section the role of the management accountant within a diverse knowledge-based organisation is investigated. Analysis is based on the necessary management accountant skills identified by Otley (1999) and the concepts of management accounting change through

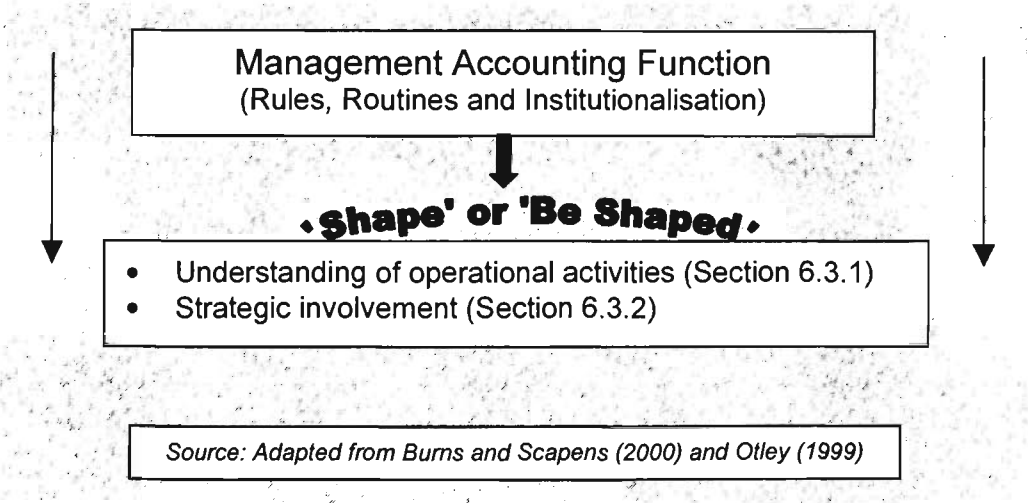
Burns and Scapens’ (2000) institutional framework. Burns and Scapens (2000, p.5) consider that the research into management accounting change and practices must recognise that management accountants can *‘both shape and be shaped by the institutions which govern organisational activity’*. The analysis in this construct is directed towards the identification of the power the management accounting function has to change management accounting practices in public hospitals.

Analysis of the ‘management accounting function’ is conducted under two key headings:

- 1. Understanding of operational activities (6.3.1); and
- 2. Strategic involvement (6.3.2)

This analysis was performed to assess the level of change in the management accounting function and overall management control of both hospitals, through the institutionalisation of change. Exhibit 6.14, is a flowchart used to guide the analytical process.

Exhibit 6.14: Flowchart used to guide the analysis of the processes of management accounting change



6.3.1 Management accounting function and understanding of operational activities

The nature of the health-care organisation means that many managers originate from a clinical background. Their main focus is the patient and clinical outcomes rather than

understanding budgets. Nevertheless, they are required to be involved in varying levels of target achievement and performance measurement within their area of control. Clinical managers often require guidance with financial and performance reporting and assistance with data analysis. The way information is prepared and reported to them needs to be meaningful in a clinical sense. The management accountant is beginning to play an important role in this area. Previously the management accountant was isolated from daily operational activity, with a more authoritarian focus. The manager of a newly formed 'performance reporting unit', whose role is to amalgamate the management accounting team with the clinical units, said that now:

"We can support the people who we have been beating around the ears for bad budgetary performance, but, in fact it is beyond their control, because of 'x', 'y' and 'z' factors"

Generally, most operational managers now view the management accountant as a colleague rather than someone 'holding the purse strings'. One clinical manager recollected:

"I remember the time when no-one knew where the money came from...and you didn't ask questions. When you wanted something, you just went cap in hand..."

The changing function is still new to both organisations and the change has originated from executive and senior management level. Change has occurred at the metropolitan hospital over the last 3 years and the regional hospital reports a significant change to this area over recent times. One executive commented:

"management accounting in this organisation, up until recently, which without decrying them, was a bunch of accountants sitting there with a series of spreadsheets, doing manipulations and presenting them as tablet in stone"

Instead of trying to train management accountants to fit the changing role, the strategy for the regional hospital was to employ people with the necessary skills. In particular the hospital has been looking to recruit from the private sector. The Finance Director has come from a private sector organisation (1½ yrs ago) and the organisation has just employed a new CFO from a 'non-health' related private sector industry. The anticipation is that there will be more changes to the management accounting function when he commences. In the meantime, one HR manager reports that not all currently employed management accountants are adapting

well to the change. Some have 'retired' and some that have remained have been resisting change. One manager reported that the new, enthusiastic management accountants:

"... are being dragged down by those who just simply say, "It is not my role, I am an accountant." Hang on you are not an accountant now. Not on those terms."

Two executives involved with the changing performance measurement focus and the subsequent recruitment of new staff said:

"everyone going into these resource manager's jobs are in every case (bar one) qualified accountants...but they are not just there because of their strong accounting skills, that is, the other thing turning this model around, is that we are looking for is people with strong analytic skills and understand the drivers of the business"

"... although there is still financial control activities that a management accountant must undertake, and be part of, increasingly it is about sharing knowledge and information, as well as tools to help the management staff, the clinical management staff, so they can understand what is going on with their budget. So it has actually gone from going single, uni-dimensional where you don't have to have a personality at all. All you actually had to do was be a good accountant. But these days you have to be a good accountant as well as being a good communicator."

The management accounting function has changed as a result of organisational structure change, and this has been the case at both organisations. One management accountant said of their changing role:

"The concept of the traditional management accountant has disappeared into what we call the resource analyst"

Both organisations report changes in structure, now requiring the management accountant to become a resource to the clinical units, rather than function in isolation. Each clinical area has a designated management accountant working along side it as a resource person. One manager described the new management accounting role:

"Her role is to actually manipulate the information so that it is useful for managers, and to seek out information, to respond to questions, to create the questions and sort of learn the business. She is learning it from the clinical perspective and the managers are learning it from an accounting perspective"

At a clinical level the change is being noticed. An intensive-care nurse manager commented on their experience of the change, and, another nurse manager who has had problems with receiving user-friendly reports said:

“There is much greater collaboration between finance and end-users. They seem to be really trying to meet the needs of people like me in regards to asking for stuff that is helpful...the driver is...that we have to be more accountable for the dollars that we are spending”

“I feel that maybe (x) and I have started working out how to work on the system together for the last two months and we might be moving somewhere, and, it is possible that we are going to get somewhere”

There is evidence from the interview and observational data to suggest that the management accountant is playing a role towards developing an understanding of the operational activities. In terms of Burns and Scapens (2000), the rules and routines around involvement at operational level are now becoming institutionalised. The drivers of this change have been:

- organisational structural change;
- senior management’s strategic focus; and
- the clinical manager in response to a greater pressure for accountability.

The findings of this construct are summarised in Exhibit 6.15.

Exhibit 6.15: Summary of findings of management accounting function and understanding of operational activities

Key Construct	Steps to analysis Evidence collection	Summary of findings
<i>Understanding of operational activities (Section 6.3.12)</i>	<div>1. Identification of operational involvement through:<ul style="list-style-type: none">✓ Direct communication of operational involvement; and✓ Observation of operational involvement at meetings</div> <div>2. Evaluation of operational involvement through analysis of:<ul style="list-style-type: none">✓ Organisational rules and routines; and✓ Degree of operational involvement</div> <div>Evidence collection via: Interview and Observation analysis: -Communication of operational involvement at management level meetings observed; operational involvement observed at informal and interview meetings</div>	<div>✓ Operational involvement observed</div> <div>✓ Senior level instigation of change<ul style="list-style-type: none">✓ Corporate structure change✓ Response to greater accountability</div> <div>✓ Involvement initially met with some resistance by more entrenched management accountants</div> <div>✓ Majority of actors consciously or reflexively act on change</div> <div>✓ Change has been repeated and is now becoming institutionalised</div>

6.3.2. Management accounting function and strategic involvement

In this section, the role of the management accountant in control systems design change and organisational strategy is investigated. The predominant data collection tool was the interview; however, observation at meetings allowed the researcher to gain further insight into the role of strategy and the management accountant. Post-meeting notes and the minutes of the meetings were used in the analytical matrix construction. Analysis of this construct builds on the findings from the first research question which was strategic planning and measurement of achievement.

Interview data suggest that the role of the management accounting function is still very operational and focused on day-to-day activities. Despite the changing function, from

traditional accountant to resource analyst, the focus is still directly in terms of operational activity and budgeting, all within a defined framework. One management accountant described his role and the expected changes:

“We concentrate on telling business units exactly what funding they will get, what their expenses are and how they are tracking....the next stage now for the resource analyst, is really to say, this is how you are going and these are the activities and this is how it correlates to your finances, and, you work out how your activities can be made more efficient, so your finances also improve or give reasons why it can't be done”

Further evidence suggests that their changing role has been the consequence of strategic decision making by senior management. The driver has been the CEOs of both organisations instigating structural and hierarchical change, with one of the outcomes being to bring the management accounting skills out into the operational areas. The strategic role has therefore been generated from changes to the management accounting function rather than being generated from the management accounting department itself. When asked, whether the management accountant has more strategic influence in the organisation now, one manager's response was:

“Exec staff do, management accounting will always focus on the function. This is account number '2000', this has the salary and wages in it. This is the leave reports. I can see here that your leave is the problem. You have got 5 staff here that took a month off together. Why? They are very good at that sort of analysis.”

However, the manager of the new 'performance-reporting unit' said that this will change. To date the management accountant has not been involved in strategic planning or the implementation of innovative new systems, she said:

“They probably haven't so far, but I would anticipate in the future they will be. In fact they will play a key role in doing the analytical work with what we have put them in”

Again these comments are about the 'management accounting function' rather than the management accountant instigating the change themselves. Further to Burns and Scapens (2000), the management accounting function was being shaped by those governing organisational activity.

The major metropolitan hospital had established a 'working party' to improve management reporting. The senior management accountant had the key role as *chair* of the 'working party' meetings. The working party consisted of managers throughout the hospital with clinical and non-clinical or support management roles. The atmosphere at the meetings was relatively informal, with a team-based approach to management reporting. Others put forward their ideas and comments, with the final 'say' on the data to be reported decided by the management accounting department. The original idea was to investigate the BSC further as a tool for management reporting (rather than a tool for management control or performance measurement). The idea for BSC had come from a hospital director who had since left the organisation, and the original 'Report Card' interface and reporting framework had been implemented from his direction.

Two to three months into the 'working party' meetings, bonus funding was received for IT system improvements. The IT improvements resulted in interface changes (not content). This IT change to some extent influenced the BSC approach to management reporting. At the early stages of the working party meetings, the BSC was high on the agenda, with discussion based on the current 'Report Card' user interface. This was going to be developed further towards a BSC reporting format. Because of the user interface change the focus on the BSC as a reporting tool changed. The management accounting team were still in control of the content or performance measures, and considered the direction of management reporting to be more important than implementing the BSC. The content remained driven by budgeting and external financial and activity performance measurement requirements. The BSC as a performance measurement system was abandoned.

At the regional hospital the BSC was being implemented for Board reporting only at the time of this investigation. Control was with the executive team who arranged BSC workshops and training for other senior employees. They employed a health information systems manager to commence generating reports for the Board, using the BSC format. The management accounting team were involved with the workshops. The finance director was part of the executive team; however, the management accounting department did not have complete

ownership of the BSC. In the BSC framework, they had control over the financial quadrant, with the new performance reporting division bringing in the activity component. The strategic plan was developed to align with the BSC. The archival data showed the formal links between strategy and that the actual measurements in place were still at initial stage of BSC development.

Despite senior management activity on strategic related measurement, the regional hospital's key measures were based around financial and activity relating to funding. The management accounting and performance reporting areas were beginning to incorporate key activity analysis into their performance measurement systems. Management accounting continued to maintain control over budgeting and monthly management reporting, but when asked about the impact of information systems on management reporting, the following comments were made:

".. I don't believe it is IT's role to decide what reporting should be done or who should get the reports. That is another part of the organisation's responsibility, primarily finance."

Burns and Scapens (2000) suggest institutionalised rules revolve around the earlier budget routine behaviour. In this organisation, new systems were accepted, but maintained as separate or parallel systems, to improve but not change or challenge traditional techniques. As suggested by Burns and Scapens (2000) the existing routines around budgeting appear to be institutionalised, or the 'taken-for-granted' way of behaving. Exhibit 6.16 shows a summary of findings.

Exhibit 6.16: Summary of findings of the management accounting function and strategic involvement

Key Construct	Steps to analysis Evidence collection	Summary of findings
<i>Strategic Involvement</i> (Section 6.3.2)	<div><div>1. Identification of strategic involvement</div><div><div>✓ People and communication</div><div>✓ Systems design</div><div>✓ Performance measurement ownership</div></div><div>2. Evaluation of:</div><div><div>✓ Organisational rules and routines around management control</div></div><div>Evidence collection via: Interview, Observation and Archive analysis: - IT systems observed; communication at management level meetings observed; communication observation at informal and interview meetings:</div></div>	<div><div>✓ Ownership of major management accounting technique - 'budgeting'</div><div>✓ Some control over measurement choice – but is somewhat dictated by external compliance reporting</div><div>✓ Measures only budget/funding based</div><div>✓ If viewed in BSC format, would only have control over financial quadrant – but now bringing in key activity measures</div><div>✓ Implicit threat to traditional management accounting role from IT solutions providing more timely data for decision-making</div><div>✓ Organisational routine around budgeting undermines true adoption of innovative tools for strategic change</div><div>✓ Strategic involvement for 'management accounting function' – part of strategic planning by senior management</div><div>✓ Management accounting being 'shaped' by organisational influences</div></div>

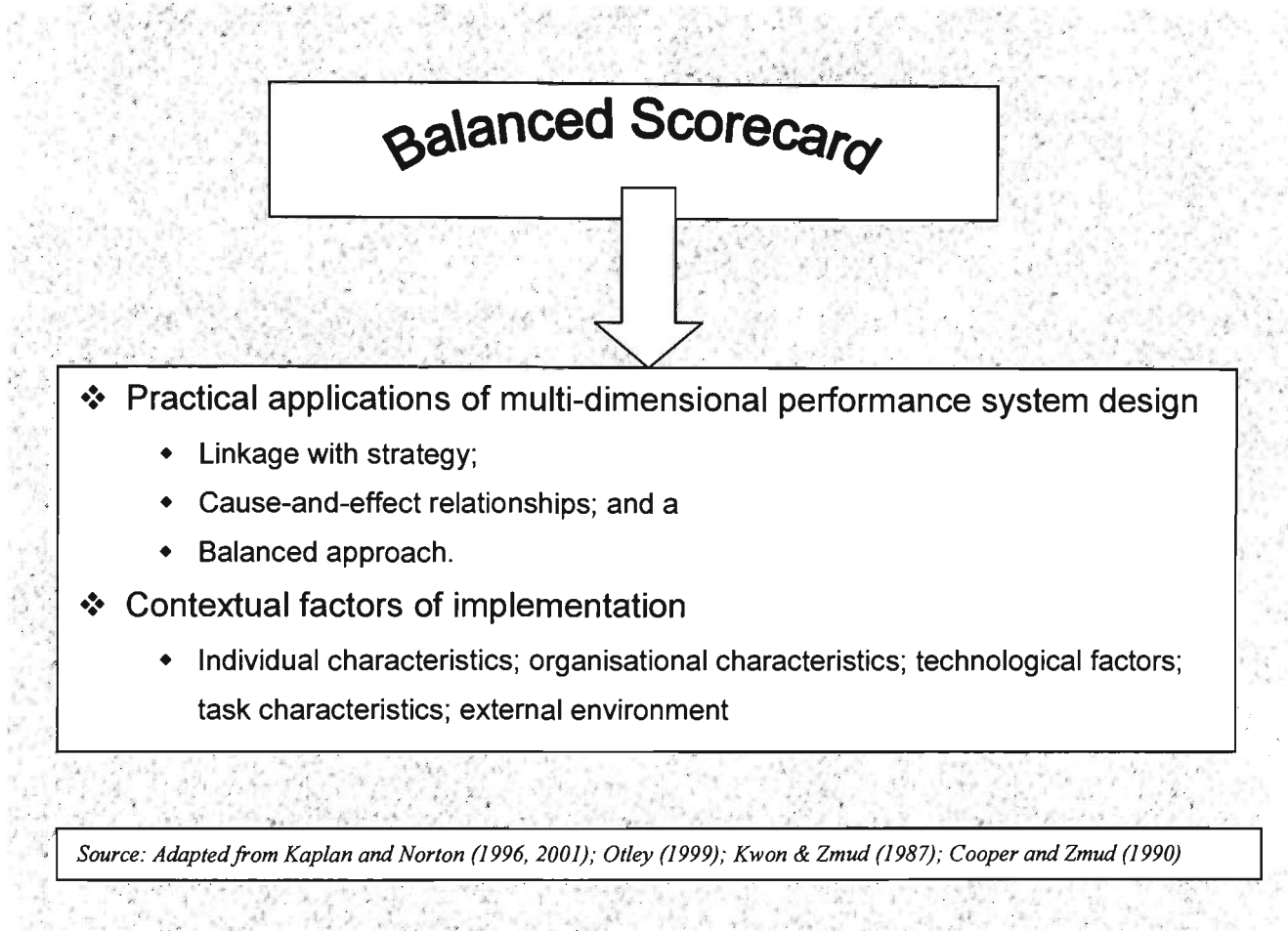
6.4 **Balanced Scorecard Approach to performance measurement**

Analysis on whether the BSC implemented by the case sites incorporates measures around financial, internal business performance, customer, stakeholder and learning and growth. Furthermore, the analysis will assist in determining whether BSC implementation in public hospitals is linked to organisational strategy as required by Kaplan and Norton’s (1996) BSC. The ‘cause and effect’ relationships between measures and perspectives are also investigated to determine whether the BSC provides a dynamic and meaningful performance measurement and management tool for public hospitals.

An aspect to this analysis is focused on the five ‘contextual’ factors to successful implementation outlined by Kwon and Zmud (1987) and incorporated by Anderson (1995) in

her case study. In Exhibit 6.17 the guidelines followed in the analytical process is detailed. Data collection was predominately from interview and archival data.

Exhibit 6.17: Guide to interpreting the role of the BSC



6.4.1 Practical applications of multi-dimensional performance system design

In this section, the area of analysis is on the practical applications of BSC design and implementation under the sub-sections:

- linkage with strategy;
- cause-and-effect relationships; and the
- balanced approach.

Linkage with strategy

In Section 6.2.3 data on ‘organisational strategies and plans for their attainment’ were analysed. Evidence suggests that the operational and strategic plans are generally viewed separately, but attempts are being made to link strategy to individual unit’s business plans. Evidence also shows that operational pressures often cause strategy to be undermined and the daily funding/activity requirements take precedence in analysis of performance measurement. Analysis in this section develops the earlier data interpretations on BSC implementation. A significant proportion of data has been gathered from the regional hospital, as they have continued with the BSC.

Archival evidence from the regional hospital has been used in the analytical process. A discussion paper on BSC implementation was provided, outlining the process taken to BSC implementation. Copies of initial BSC reports given to the board were also provided. The archives suggest that the BSC implementation approach has been firstly, to prioritise KRA (key results area) measures and secondly, fit them into a BSC format. Currently, the measures reported only fit one of the four quadrants, the ‘operational performance’ or the activity-based measures. The discussion paper on the BSC continues *“leaving the remainder largely untouched and certainly not integrated into a single comprehensive measurement system”* (p.2).

The four perspectives of the BSC planned to be reported on at the regional hospital are:

- ♦ finance;
- ♦ operational performance;
- ♦ patient satisfaction/quality assurance/clinical pathways; and
- ♦ workforce/staff development (BSC discussion paper 2001)

Details found in the November 2001 discussion paper explain the importance of linking the BSC to organisational strategy but do not specify how this is going to be done. This paper also describes management reporting as three distinct but overlapping waves. Currently the performance measurement process is still only at the first of the three waves.

- The 1st wave focuses on the measurement of operational efficiency, evident in the current reporting format.
- Links between the activity and financial measures are being established, providing the 2nd wave decision support models. Part of this process has been the ‘more empowered generation of decision-makers’ as a result of organisational change. This has also lead to the management accounting function providing analytical skills for the clinical manager, to assist with future prediction and planning.
- The BSC is seen as the 3rd wave in the process to monitor performance.

Most managers interviewed at this organisation consider the BSC to be a worthwhile tool, especially providing a ‘balanced view’ of public sector issues. They consider it is important to take the focus away from the financial aspect to management control. One senior executive said:

“I think everyone is fairly well sold on the concept and we are looking at how we can pull together our existing reporting and put it in the framework, and then...how then it is utilised.”

The implementation progress is slow, with the organisation suggesting this is due to limitations or constraints arising from the current software. Some managers consider that the ‘loss of momentum’ experienced with strategic planning, is something that will also occur with the BSC process. Other managers consider that linking the BSC to business plans and strategy would mean that the BSC will never become a working management tool and said:

“It might have also something to do with the fact that we were going through the process of the strategic plan at the time, and then they started to want to link this business...the BSC to business plans. To me that was just a meaningless sort of way, that meaning the BSC that was never going to get off the ground.”

“I am just trying to think how long ago it was...at least probably 18 months ago we had some workshops on the BSC here. Key people through the organisation sort of looked at how it might work. So I suppose you might call that initiation, but we haven’t really moved far along from there.”

Earlier analysis shows the external reporting requirements and terms of funding means there is an emphasis to remain focused around the key activity and funding measures. Funding measures have taken priority in the BSC reporting, and the other 'softer' measures have not yet been incorporated in the design. According to Kaplan and Norton (1996) this would undermine the capability of using the BSC as a strategic performance measurement tool. When asked about BSC design and reporting at board level some manager comments were:

"We are only looking at...we haven't got a BSC really. We only just measure, really LOS, WIES, volume (number of patients), whether we are meeting the targets (there are targets each month for it) and maybe private patients, public patient mix, rural patient initiative (we have to put through a certain number of patients for that), whether we are meeting our outpatient's targets. There are some quality indicators. We do all that ...quality indicator reporting stuff around in the quality area..."

"I would be surprised if...all the elements of the BSC are being reported to the board, but not together, so that you could see the link ...so there is certainly quality information, certainly financial stuff, some level of activity stuff, but they are not all being pulled together, as far as I'm aware."

Another question was asked of a senior manager about whether they thought there was a balance between the financial and non-financial measures being reported. Her response was:

"No. I don't think so ... It is still a novelty for us. We haven't got it down to the reporting needs and I think the BSC is the next step, once we have bedded down our activity based and financial reporting."

Cause-and-effect relationships

As discussed in the literature review the development of cause-and-effect relationships in BSC design is a crucial aspect to the development of a meaningful tool, however the mapping of means-end relationships is not always performed well by any organisation. Both case study organisations have not developed cause-and-effect relationships in their performance management systems. The regional hospital is no further forward, despite the BSC being in the early stages of development. The development of cause-and-effect relationships has not taken priority during early design. This is clearly an issue of some difficulty as evident by the responses of one of the key players in BSC reporting. When asked whether they were able to link the activity quadrant to the financial quadrant, the following response was:

“...That was always the point and we are not there yet. People understand that is what we have got to do, and that is why we went through the process of trying to get people to understand the balanced scorecard really was or trying to get them to understand ...one about linking our reporting ...currently one is about long-term activity and the other about financial performance we want to be able to link the two together”

The director of information management was asked about the initial development phase of the BSC and whether they were paying attention to the cause-and-effect relationships between the measures and perspectives. He responded:

“Ideally that should be going on now. It is a hard one to answer. I take a leap of faith, I assume, no that is not the right word, I take on faith that sort of cause and effect relationship is going through people’s mind when they are setting up their measures, but I have not actually asked the question of them to be honest.”

At the metropolitan organisation, despite the decision to move the focus away from BSC reporting, they still acknowledge that in-depth analysis of data requires some sort of relationship development. Managers from both clinical and support said:

“I think an IT issue and most people are aware of it but the data is a bit fragmented. (The management accounting) group has been working on, some sort of data warehouse. I don’t know whether that is going to solve the problem. I think that’s more driven by matching, well preferred lumps of data that are separate like the patient turnover type data so you’ve got three big blocks of data which are all really interrelated but not connected.”

“Now, I guess we are not analysing that just yet, but we can, and I think that is where we will be going. We have had a lot of that data for a long time, but I guess we haven’t had the right sort of departmental structure to actually use it properly or analyse it....and use it for decision making, and, how that relates to the financial position and all that sort of stuff.”

“It needs to be all linked together. I wouldn’t mind seeing something like my little ‘dinky monthly activity report’ which has got lots of manual data entry in, put together from finance for nurse managers in some way... That is part of why I set all this up, because what was your budgeted sick leave, and what were you actually doing? So is it actually a problem or did we just budget wrong? ... If your overtime is increasing what is happening to your sick leave? Do people work extra at the beginning of the week and then end up sick at the end? If you have got no staff, do people leave? (This ward) is a prime example, they seem to manage, but they never have enough staff, and, they can always keep their beds open, but some (nurse)

bank staff won't go there. They just refuse, it is too heavy and there is just not enough support ... (but) we are not actually measuring the staff turnover, so we don't know if that much EFT is the same EFT. There might be people coming for six months and walking out and a new lot of staff coming in."

Despite the acknowledged 'need' demonstrated by pockets of areas measuring their own 'cause and effect' relationships, the management accounting area has only started looking at the analysis of relationships between the WIES funding targets and the target activity measures. This is at a similar stage to the regional organisation, where the other 'softer' quadrants of the BSC have not yet been incorporated in the holistic management report. One metropolitan management accountant responded when asked whether they look for cause-and-effect relationships or consider issues like the cost of staff perhaps not being happy:

".... any other operational things that have happened in the hospital we are starting to look at increased costs and that sort of thing, but those intangibles... we don't look at the cause and effect."

The difficulty in designing or mapping relationships between measures is just one technical issue found with performance measurement design at both organisations. The other major issue is the ability to include all four quadrants of the BSC in one report.

Balanced approach to performance measurement

The metropolitan hospital found that when using their 'Report Card' reporting system, some quadrants were not regularly reviewed and up-dated. Only the WIES activity quadrant was being regularly used. Some of the 'softer' measures in other quadrants, like the number of research papers presented, were not kept up-to-date. As they were not current, they were considered not to be reliable measures. This was a concern for the IT manager who inherited the Report Card (Version 1) when he started in the role. In particular, he was concerned that staff would make decisions, or, rely on data that was not current and decided to stop hospital-wide access to the Report Card altogether, until they had the next version ready to install on the hospital intranet.

A 'screenshot' of the current metropolitan hospital KPI performance report card, with the key measures being reported is attached (see Appendix 6). This KPI performance report card, although similar to the BSC format, is still only partially developed. Other hospitals who consider they are using BSC reporting, have also reported problems with putting all quadrants together in one report. They call their performance reports 'Balanced Scorecards'; however, they do not align their design with Kaplan and Norton's (1992; 1996; 2001) BSC. One manager said:

"One day I was talking to a lady from (a large metropolitan public hospital) about BSC. That was when it first got on to the agenda. Things sort of run in a fad here, and we started to ask, well what have you actually got in your BSC, and it really only came down to a few quality measures. They really hadn't done anything else, so to me it wasn't really a true BSC at that stage."

Analysis revealed that at the moment the measures taking priority with BSC or other performance reporting are the funding/activity measures. The approach has not been through 'strategy mapping' or development commencing with the 'employee learning and growth' and relationship building through the quadrants. The other measures have been ignored until the ones perceived as 'more important' by the organisations have been put into place.

Exhibit 6.18: Summary of findings of the practical applications of multi-dimensional performance system design

Key Construct	Steps to analysis Evidence Collection	Summary of findings
<i>Practical applications of control system design (Section 6.4.1)</i>	<div><div>1. Identification of the use of BSC approach to development of perspectives and measures</div><div>2. Evaluation of linkage with strategy</div><div>3. Evaluation of cause-and-effect relationships developed at design stage</div><div>4. Evaluation of ‘other’ emerging technical issues</div></div> <div>Evidence collected via: Interview, Observation and Archive material</div>	<div><div>✓ Need to link strategy with performance measurement systems acknowledged in theory, but not in practice</div><div>✓ Cause-and-effect being attempted at operational activity and financials around funding only in performance reports</div><div>✓ Evidence of attempts by individuals to identify cause-and-effect relationships in their own areas</div><div>✓ BSC does not qualify as true Kaplan and Norton (1996; 2001) BSC</div><div>✓ Other ‘softer’ quadrants not considered as essential in initial stage performance reporting – when used in performance reporting, soon became neglected, not updated, hence unreliable for use as a balanced or ‘holistic’ tool</div></div>

6.4.2 Contextual factors of implementation

The five contextual factors that may influence successful implementation are:

- individual characteristics;
- organisational factors;
- technological factors;
- task characteristics; and
- external environment (Kwon and Zmud 1987; Anderson 1995).

The evidence collected on performance measurement at both case sites demonstrates that the progression towards an optimal performance reporting system (whether it be a BSC or something else) is very slow. It would seem to be years away. All five contextual factors are present to some extent, influencing the successful development of performance reporting.

Comments from both organisations suggest that *technological factors* are the main cause behind their slow progression, with the existing systems not providing the data essential for transition through the implementation process. However, earlier analysis shows the *external environment* and legislative pressures creates a central focus around activity and funding targets, which also impedes development. In particular, *organisational factors* such as poor communication flows and lack of formal benchmarking capabilities impact on progression. Furthermore Otley (1999) suggests when organisations determine if they provide value to their external customers, they should focus on the value chains required to complement the vertical and hierarchical approach to control. Evidence of difficulties with communication of information or strategy, to complement the approach to control has also been found. One manager reported:

"We had a project here, an external consulting supply chain company. I don't know if you have heard about them, but we are doing a whole heap of work around that. They were actually following a patient type for us, in this situation, a cardiothoracic case and they were recording all the consumables that went into the waste bin in that room. They were going to give us a figure for that type of patient. Likewise they were going to follow a standard trauma patient. They were observing what was used in the room, what went in and what came out and what was left in the room. So they were actually going to try to give us an indication of what that patient type's costs were for the normal length of stay. Which was something we had quite never had before and it was going to be quite interesting. However the project fell over, only last month, and I am yet to know how far they had got along, and whether we have access to that data. I don't believe so, they sort of left and now it is just lost information."

The contextual factor, '*individual characteristics*' has affected changes to performance measurement. This is evident in the lack of an organisational champion to ensure organisational focus on performance measurement is maintained. Within individual areas performance is being measured, however, there does not appear to be an individual or group communicating performance in a 'holistic' manner to the entire organisation. The operational goals are not aligned in a single performance measurement system.

Observational data also suggest 'time' contributes to this issue, where daily operations take precedence over planning, indicated by meeting cancellations and loss of momentum. The

holistic approach is also undermined by *task uncertainty*, where a team-based approach is often required, but responsibility is bound by individual role descriptions, making performance reporting segregated. This is also evident in the conflicting clinical influence where the organisational climate requires priority to patient treatment over adhering to strict performance targets or guidelines.

Despite a team-based approach to performance reporting being encouraged by senior management, it is apparent that many departments still have 'ownership' issues. The archival documents at the regional hospital state:

"While primary responsibility for leadership of information management lies with IMD (Information Management Department), all parts of the Group must be involved and must accept a measure of ownership and commitment. Successful deployment of the BSC is therefore heavily dependent on Group-wide organisational, cultural and attitudinal values as much as on the technical expertise of IMD personnel."

In practice this is not so obvious. Some managers have difficulties with new systems perhaps considering them a threat to existing practices. Changes have been met with some resistance throughout the organisation. Observation and interview data suggest performance measurement 'ownership' may be an issue at both organisations. The emergent BSC reporting tool has an impact on many areas within the organisation, as one manager explained:

"There was a lot of talk here about BSC last year. I went to a course on it for a couple of days, and then it all got a bit complicated... they were talking about four quadrants....and it sort of all became quite a threat to the clinical component of it, the quality component ...they felt that it was really their tool to be driving, and the finance people really felt they were going to run the show, so it all sort of went tumbling down into nothing for quite some time, and I don't know if it has ever really come back on the agenda, really."

When asked whether the BSC was a management accounting 'fad', most people responded that they thought it was here to stay for some time and that it was a good fit for the hospital environment. However, some 'non-accountants' expressed their concern that if management accounting had complete 'ownership' of performance reporting, the focus would turn back to

bottom-line. Despite changes to the management accountant's role, the implied view of the management accounting function within both organisations is that it still contributes with a significant financial function. This is reflected in the following clinical managers' comments:

“If it is going to be a ‘balanced scorecard’ it can’t just be finances view of the world. It has got to be the things that we as nurses know intrinsically make a difference, like if overtime goes up, does sick leave go up. If annual leave is not given out what effect does it the ward and their vacancies and that type of thing? Will everybody quit at Christmas time because they can’t get leave, like what are the trends over the year and that sort of thing. You must look at the whole picture.”

“Do you think it is a management accounting fad? ... I think management accounting probably think it is. I probably think it is the solution, the big ‘monitorer’.”

The difficulties encountered at the early stages suggest that this may affect the degree of implementation of the BSC in the organisation. To analyse the degree of implementation, Kwon and Zmud's (1987) six sequential (at times overlapping) implementation stages provided guidance. The stages of implementation are:

- initiation;
- adoption;
- adaptation
- acceptance
- routinization; and
- infusion.

Interview analysis revealed that the majority of interviewees at the regional hospital consider BSC implementation is at initiation stage. When asked how far off do you think it will be before you move to the next stage, adoption, one response was:

“A long way off. In my opinion, a long way. You will get different opinions from other people, but in reality, looking at it from a management accountant's eyes, we are a long way off.”

The design issues, such as the ability to link the BSC to organisational strategy, the lack of cause-and-effect relationships, and the technical and contextual issues mentioned, will need to be addressed if the desired result is a Kaplan and Norton (2001) BSC.

Exhibit 6.19: Summary of findings of contextual factors of implementation

Key Construct	Steps to analysis Evidence Collection	Summary of findings
<i>Contextual factors of implementation (Section 6.4.3)</i>	<div>Identification of themes around:<ul style="list-style-type: none">✓ Individual characteristics;✓ Organisational factors;✓ Technological factors;✓ Task characteristics;✓ External environment</div> <div>Evidence collected via: Interview and Archive material Participant observation at management level meetings and during informal and interview meetings</div>	<div><ul style="list-style-type: none">✓ Evidence of contextual factors✓ Technological factors blamed for majority of implementation difficulties;✓ Individual characteristics – many individual areas of performance measurement but no overall performance champion tying results together✓ Communication flows difficult through loss of momentum, hierarchy issues where business managers do not have total control over decision-making✓ Time and clinical needs undermine successful implementation of performance measurement systems✓ External pressure creates central focus around funding measures, detracting from both long and short-term✓ ‘Routinisation’ of roles can cause difficulties with BSC ‘ownership’ and where/how performance is measured and reported</div>

6.5 Summary

Analysis of the non-financial management and management control was developed from Otley (1999) and the broad findings suggest that management control focuses on meeting external compliance and funding targets. Targets were set around the key activity and financial measures, with day-to-day operational issues, undermining the momentum of the long-term strategy of both organisations. This will have implications for any BSC implementation. The external funding constraints could possibly create an environment for dysfunctional behaviour if incentive and reward schemes were given for good performance.

This is due to inadequate or incompatible measurement systems providing reliable data, difficulties with benchmarking and the potential for data manipulation.

Analysis of the management accounting function was in line with Burns and Scapens (2000) who recognised that the management accountant can either shape or be shaped by the institutionalisation of rules and routine. Analysis revealed the necessary skills identified by Otley (1999). The management accountant's greater understanding of operational activities has been a desired outcome of organisational change. The role has changed from traditional accounting to become one of resource analyst, working with the clinical managers to improve efficiency and accountability of decision-making. This has been as the result of the management accounting function 'being shaped' by the organisation and some resistance to change has been noted. In particular, strategic involvement by the management accountant has been at director level only with management control over budgeting and monthly financial reporting. Some activity reporting and analysis is part of the management accounting function, but only those measures that relate directly to funding. Other non-financial measurement is managed and 'owned' by other parts of the organisation.

The BSC analysis broadly demonstrates that strategy, cause-and-effect relationships and balance have not yet been achieved in performance management and reporting. Kwon and Zmud's (1987) contextual factors have been used to demonstrate the barriers to successful implementation. These factors mainly revolve around external funding pressures, technical factors such as adequate IT systems for performance measurement, poor communication flows, and individual resistance to change. This creates a segmented approach to performance measurement. Analysis suggests there is no overriding champion tying the financial and non-financial aspects of performance measurement together. The key issues emerging from this analysis are considered in the next chapter.

Chapter 7: Discussion of issues

7.1 Introduction

The discussion in this chapter is arranged accordingly:

- management control and non-financial performance measurement;
- change facilitation and the management accounting function;
- strategic innovations and the role of the BSC;
- summary of research questions; and
- the limitations, further research and implications.

7.2 Management control and non-financial performance measurement

Evidence on management control in the public hospital setting was gathered using the research instrument as a guide for the interview process. Other key data were gathered via direct observation at management meetings and via archival data.

Analysis of the first research question contributed significantly towards the total research analysis. The holistic approach guided by Otley's (1999) framework, assisted in understanding the current state of management control and performance management within both organisations, providing data to answer, not only the first research question, but assist in answering *all* three research questions.

According to Otley (1999, p.364) an organisation that is performing well is one that '*is successfully attaining its objectives; in other terms, one that is effectively implementing an appropriate strategy*'. To understand the operation of management control systems, Otley (1999) prescribes analysis of an organisation in the five key areas outlined in Section 2.2.3.

The findings, based on the analysis of these five key constructs, have been detailed in Section 6.2. The subsequent issues arising from each will now be considered.

7.2.1 Key organisational objectives

The evidence collected in this construct was mainly via archival data, however, interview comments further confirmed findings. The key objective identified in both case settings, was to meet activity and budget targets, or in other words, to achieve organisational 'efficiency'. These findings are in line with Kloot and Martin (2000). Both organisations, whilst understanding the importance of the key measures for long-term sustainability, pay less attention to the operational 'effectiveness' determinants.

For public hospitals to demonstrate their ability to meet expectations on health service provision, varying stakeholder information requirements must be fulfilled. To determine public sector hospital performance in this area, performance measures that are not purely financial in nature are required. In other words, the operational 'effectiveness' objectives identified in the analysis relate to the standard of health-care delivered to the community. Nevertheless, as mentioned above, whilst there is a significant amount of 'non-financial' measurement being undertaken at both organisations, it plays a secondary role to the main focus on the 'financial' or efficiency measures. Consistent with Otley (1999) and Abernethy and Stoelwinder (1995), the evidence demonstrates that the prime focus remains on the source of funding. The relative importance given to different goals, reflect the relative power of different stakeholders, in this situation, the political funding body. Despite more recent changes and developments in performance measurement and management reporting, the primary form of output control in hospitals still involves the use of budgets, key financial targets and activity measures. This research shows that political and funding power will continue to impact on any performance measurement and management control changes made by the public hospital, unless other stakeholders can assume a similar position of power.

7.2.2 Strategies and plans for their attainment

Strategy formation is an essential component to management control systems and helps determine the practical issues of strategy deployment through business processes and operations management (Otley 1999). CEOs at both organisations consider strategic planning to be an essential component to hospital management and both organisations spend considerable time developing strategic plans. Both organisations have clearly set out their strategic plans, in terms of meeting the aspirations of key stakeholders such as community and their clinical staff. Many of these strategies fit with operational effectiveness.

Evidence indicates that strategic planning in public hospitals might reflect Kaplan and Norton's (2001) views that public sector organisations struggle with clearly identifying strategic objectives and define lists of programs and initiatives rather than outcomes they want to achieve. The strategic planning in both organisations, despite being reflected in business unit plans, is not directly linked to the routine operational performance measurement systems. Some strategic objectives do not have easily identifiable measures for attainment and although given priority at senior management level, they are not communicated well throughout the organisation. Even at senior level, once strategic plans are in place, the momentum behind them dwindles. These plans are managed separately, and are often undermined by operational pressures.

Despite operational pressures, there have been changes to the organisational structures of both organisations over the last two to three years with the aim of improving both organisational efficiency and effectiveness. The structural changes are the result of strategic planning and have been made to improve patient flows throughout the organisation, and, to create autonomous directorates looking after defined 'streams' or clinical lines of patients. However, the structural changes (in one organisation) have resulted in some business units, being attached to one stream, but providing services to other clinical directorates. This causes problems with the strategic goals of trying to match resources with casemix funding (Modell 2004). It also creates difficulty when trying to develop cause-and-effect relationships between measures, or when trying to cascade performance in a 'top-down'

manner for a holistic approach to monitoring organisational performance (Norreklit 2000). Finally, decision-making around measures relating uniquely to these unit may also be impacted (Lipe and Salterio 2000; Libby, Salterio and Webb 2002). This case research has shown that, like Abernethy and Vagnoni (2004) physician power has been stronger where the accounting systems do not provide adequate information to evaluate their performance.

Nevertheless, at both case sites, the focus is on trying to identify cause-and-effect relationships between measures. Both hospitals are currently developing links between their activity measures and their financial measures. In line with this objective, the management accounting focus is changing from predominately budgeting and monthly report generation, towards an operational level approach as analyst and support person for business units. By aligning the management accountant with business units, the hospital may provide information that is more relevant to clinical managers and physicians, thereby promoting cost conscious physician behaviour. Furthermore, this change follows the rationale behind the introduction of casemix funding, that is to modify physician behaviour (Duckett 1998). It also means that physicians will be less able *'to bypass the authority systems implemented by senior management (and) avoid accountability for the resource management of clinical units'* (Abernethy and Vagnoni 2004, p.211).

The importance of the research in this construct is that it can be shown that as most strategic changes have an operational focus, the type of performance measurement required by senior management for decision making is not easily translated into a multidimensional strategic performance measurement tool like the BSC. This may be why BSC implementation in the two public hospital case sites has not developed as it has been shown to do in other organisations.

7.2.3 Target setting

The research evidence gathered in this area considers both the long-term and short-term target setting. Further to Otley (1999), more recent benchmarking practices emphasise the importance of this construct.

Strategic targets are set in the context of a 5 year plan and are monitored by senior level management. At one case site, executive level monitoring takes a traffic-light approach, based on nearly 80 strategic targets. The traffic-light system has been designed to flag every strategic target. The problem areas are indicated with a red traffic-light, and, the areas where strategic plans are on target are indicated with a green traffic-light. The areas where the strategic targets that may be improving or deteriorating and need attention to ensure they continue in the strategic direction intended, are given an amber lights.

Allocation of funding for major projects is based on the strategic plan as are the operational plans. However, given the dynamic nature of the health-care environment, strategic direction may change within that time, and if clinicians or business unit managers can justify their deviation from strategic planning, this may be accommodated. These findings are consistent with Abernethy and Stoelwinder's (1995) physician power and resource management. This is more obvious in one case site where physicians have a higher level of power and are not integrated well into formal structures.

Operational target setting in both case sites has a traditional focus and is set around a strong history of the use of 'budgeting' as a form of management control. The key issue identified in this construct is that both hospital boards demand a 'balanced' budget. Evidence suggests that powerful stakeholder pressure may have the propensity to undermine the use of budgets in management control. Strategically the organisations desire budgeting to become an 'interactive management tool' (demonstrated with the 'interactive' changes to the management accounting function). However, consistent with Simons (1991), funding pressures suggest that they return to being used as a 'diagnostic' tool. Pressure is routinely applied to business unit managers to meet often 'unrealistic' budgets.

Budget pressure is further compounded by technical issues that impact on the organisation's ability to move from 'diagnosis' to apply forward-planning and 'inter-action' in target-setting (Kwon and Zmud 1987). Other issues such as external benchmarking make the target setting task difficult with both systems and organisational incompatibilities being reported. Furthermore, out-dated systems (often paper-based) do not allow for true 'root-cause analysis', hence, target setters have difficulty refuting or agreeing with clinical interpretations.

Analytical interpretation of this construct suggests current organisational management control is being pulled in both directions. Without adequate systems for true 'root-cause' analysis, powerful stakeholders can manipulate target achievement. In some respects, the *conflicting* key stakeholder pressure moderates systems difficulties. This is where the physician's struggle for clinical best practice conflicts with external political funding pressures, and as such the power of the key revenue generators (or physicians) has enabled them to maintain control over resources to some extent (Abernethy and Vagnoni 2004). As a result, target setting might not receive the lower-level management commitment intended.

7.2.4 Incentive and reward structures

Whilst incentives and rewards structures are not generally associated with business unit level performance in a public health-care environment, there are broad level funding incentives/punishments for meeting/not meeting operational activity targets. Likewise, senior executive employment contracts may include KPI performance-related bonuses.

As discussed in Chapter 2, Kaplan and Norton (1996) do not provide much information about linking the BSC to reward systems, however offering operational or business unit level incentives may help to connect traditional management control to a multi-dimensional approach (Otley 1999). Moves to attenuate the dominant stakeholder needs, or the politically driven efficiency focus may be achieved by linking multi-dimensional performance to reward

systems. Furthermore, by incorporating the less tangible aspects of recognition, status and reputation to performance measurement and rewards, the operational manager's short-term focus can be modified through reward systems to fit with long-term strategic planning.

If reward systems became part of a BSC approach there may be the potential for 'game-playing' between senior management when weighting BSC performance measures for rewards (Ittner, Larker and Meyer 2003). Furthermore the potential to link hospital performance with rewards may create uncertainty amongst other stakeholders, especially if reliance on government funding leads to senior public sector managers aligning themselves with politically elected bodies (Brignall and Modell 2000). As highlighted in the last construct, bench-marking difficulty prevents 'fair play' between organisations. Nevertheless, the Victorian Government promote hospital performance comparisons between 'peer' group hospitals (DHS, 2003).

Where information system limitations prevent managers from receiving timely and reliable data in a cost effective manner, the performance measurement system's use for decision-making is likely to be limited (Cavalluzzo and Ittner 2003). Furthermore, linking rewards to performance measurement may be undermined by inadequate information technology. This is particularly difficult if rewards are linked to BSC performance which requires reliable information about a diverse number of lag and lead measures. De Haas and Kleingold (1999) suggest optimal control system should link operational outcomes to long-term goal achievement, measured by a mix of lead and lag indicators. Results at both organisations suggest that because of funding pressure and limited resources, the inadequate systems can allow for data manipulation.

Discussion of incentives at the operational level predominantly focused on rewarding employees not to take sick-leave, perhaps a short-term financial focus, rather than considering (with multi-dimensional performance measurement) the underlying reasons behind the level of sick-leave.

In particular, within health-care organisations, the formal structure and cultural environment, revolves around autonomous but intertwined work-groups that share their resources. This is a necessary aspect to overall patient care within hospitals and has become ‘institutionalised’ behaviour over many years. The senior management staff felt that if incentives for performance were given based on meeting budgeted targets, the current environment of teamwork and sharing would be undermined. There would be increased surveillance of budgets resulting in further demands for timely, accurate data.

With the current performance measurement environment focused on financial achievement, the long-term strategic benefit described by Otley (1999) would not be achievable.

7.2.5 Information and feedback loops

The purpose behind analysis of this construct was to determine whether the management control systems currently in place encouraged organisational communication that would be reflected through employee empowerment, strategic growth and organisational learning (Otley 1999; Kaplan and Norton 2001). These were analysed in terms of organisational ‘barriers’ to communication.

The current performance measurement systems generate multiple performance measures, numbering into the hundreds. The problems identified were consistent with the literature. There is data-overload, measurement issues (measuring the ‘wrong things right’ and the ‘right things wrong’), and not measuring the implicit or being able to quantify qualitative results (Ittner and Larker 1998; Chan and Ho 2002; Cavalluzzo and Ittner 2003; Niven 2003). Further issues identified were poor information flows for bench-marking and newly implemented ‘top-down’ performance measurement systems being ignored.

At both organisations, despite the motivation behind performance measurement and reporting, there was no overriding champion to bring all measures together and report them back in a multi-dimensional form. Current measurement was being performed by individuals

for a particular purpose and ownership had not been delegated to any individual or group. Both organisations were moving to link key activity measures with financial measures, for improved decision-making; however, this was a top-down management initiative.

Converting clinical experts' tacit knowledge to the hospital's explicit knowledge provides a means of developing performance measurement models that capture expertise and foster a 'learning organisation' (Abernethy et al 2003). This is not occurring and many of the individual performance measurement systems remain 'in-house' with the organisational manager. In one organisation, the attempts at providing an organisational multi-dimensional performance tool for communicating strategy were abandoned. This was rejected by the lower level managers as being not clinically relevant to their needs. Currently communication and management control continues to focus around the *routine* 'diagnostic' budget tool (Simons 1991; Burns and Scapens 2000).

7.2.6 Research Question 1 discussion

The first research question is:

How have non-financial indicators of performance affected measurement and reporting systems, and thereby performance management in a healthcare sector?

The impact of non-financial indicators of performance on current public hospital performance management systems is significant. The key organisational objectives (identified in Exhibit 6.3) have a financial focus. The key activity measures are non-financial in nature, but are considered to be output measures for funding and not outcome measures for strategic growth. As Abernethy and Stoelwinder (1995) found the focus on reporting at senior management level remains on monitoring the key budget and activity indicators.

Other non-financial key measures that are considered essential to hospital performance measurement are generally clinical in nature, to ensure the hospital provides a quality service

to the community. Most are reported separately and do not form part of the current performance measurement system. In particular, many comply with regulatory requirements and ensuring hospital accreditation standards are maintained. Institutional theory suggests many of these measures are performed for 'legitimation' reasons (DiMaggio and Powell, 1991). Modell (2004) also considers the government are responding to pressures to strengthen their politically established goals by expanding the regulatory performance measurement requirements.

Other non-financial performance measurement is being performed daily and monitored by lower-level managers, who have tacit organisational knowledge. This is not being captured in organisational-wide multi-dimensional performance measurement and reporting systems with the knowledge remaining with the individual units. This is consistent with the findings of Abernethy et al (2003).

The legislative changes to performance reporting being undertaken by the Victorian Government to improve hospital governance (DHS 2003) provides a means to combine the multiple, often unrelated, non-financial performance measures (Brignall and Modell 2000). However, with the vast number of performance measures, there is also the propensity to continue to proliferate performance indicators thereby undermining the goals of the BSC (Aidemark 2001). The findings of this study are consistent with Modell (2001; 2004) where the increasing response to developing multidimensional performance measurement systems might be considered to be 'symbolic buffering' or 'rational management'. Nevertheless, the focus is retained on the financial and the most important non-financial performance measures are 'translated' into efficiency-based control measures.

7.3 Change facilitation and the management accounting function

The investigation of the management accounting function in public sector hospitals was guided by institutional theory and management accounting change literature (Burns and

Scapens 2000). Management accounting skills are important to integrating the performance measurement framework within organisations. The necessary skills are:

- that management accountants need to understand operational activities; and
- they need to connect control systems design with issues of strategy.

Overriding this is the necessity to focus on the external context with which the organisation is set (Otley 1999). The aim of the investigation was to find evidence of these skills within public hospital management accountants.

Triangulation of evidence for analysis was collected via interviews, observational evidence and archival data. The interview data were the dominant form of evidence used in this area. Open-ended interviews with both clinical and non-clinical managers allowed for further exploration of the organisation-wide perception of the management accountant.

Furthermore, non-participatory observation at the 'working party' management reporting meetings (metropolitan site), was a valuable source of case research evidence on the management accounting function. Observation significantly contributed towards the understanding of the process of management accounting change and the current issues with performance measurement.

7.3.1 Operational involvement

The management accounting function has undergone recent changes within both organisations over the last year or so. The findings indicate that management accountants have become more involved with the daily operations of the organisation. Those with the ability to move into this changing role have welcomed the move to business analyst and resource function, whilst other more traditional management accountants have resisted. The organisations have responded with the employment of staff with the skills they consider essential to the role. In relation to Burns and Scapens (2000) change model, the change could be described as 'formal', 'evolutionary', and 'progressive'. Furthermore, the changing role has been 'shaped' by organisational needs rather than the management accountants shaping

their own role. The management accountants have responded to the change and it is now becoming institutionalised.

The understanding of operational activities has been a skill acquired through operational involvement rather than formal external education. For example, casemix funding knowledge is gained whilst working in the role, learning via discussions with peers or senior managers. One senior management accountant had originated from a large National Health Scheme (NHS) hospital in the UK. When asked how he had learned about the intricacies of Australian casemix funding, he replied ‘through my manager, or on the website’. Nevertheless, when talking with senior managers and physicians, this senior accountant was considered to be one of the leading ‘management accounting change agents’ within the hospital, generally because of his industry background and knowledge in this field. Moreover, he was willing to become an active team member and clinical members were comfortable working with him. When discussing the role of management accounting within this hospital, one senior physician considered the educational standards for hospital accountants to be different (assumed to be better) in the UK than in Australia, and that was why this management accountant was perceived to be ‘more knowledgeable than others’ in his role.

7.3.2 Strategic involvement

The changing management accounting function has been the result of organisational strategic change, where emphasis has been placed on the need for autonomous units to manage themselves more efficiently. The majority of unit managers are *clinicians* and, given that the nature of their roles is not always financially focused, they do not often have the time to devote to management control procedures, such as budgeting. The purpose of the management accounting change was to provide increased support to business unit managers to help them understand and monitor the major cost drivers within their units. Earlier, in section 7.2.2, discussion of the strategic change to the management accounting function might also have been considered an executive level response to prevent physicians using their

power to retain control of resources (Abernethy and Vagnoni 2004). Modell (2004, p.49) questions whether changes will achieve *'top-down alignment of goals, performance indicators and organisational action ... (rather they)... might be weakened by 'corruption' of goal-directed, multidimensional performance measurement models'*

Further to the discussion above, the emphasis placed on meeting budgets has undermined the strategic role that management control systems can play in an organisation and, in spite of the move to an analyst/business unit support role, management accountants are still concentrating on operational efficiency. Currently, management accounting still tends to focus on the input/output measures and not the outcome measures required for achieving the organisational strategic objectives. All the other non-financial and the majority of the activity indicators are measured by people other than accountants within both organisations.

7.3.3 Research Question 2 discussion

The second research question is:

How is the managerial accounting function in a public hospital adapting to innovative accounting systems and organisational change strategies?

The management accounting function is changing; however, it is being 'shaped' by organisational structure changes. Management accountants are still viewed by others and themselves to have a predominantly financial focus. All the other non-financial measures are performed by other 'non-accounting' departments. Departments such as information systems provide data for external compliance reporting, while clinical units and support departments such as pharmacy, pathology or anaesthesiology design and use their own performance reporting 'in-house'.

The management accountants have input into performance management and reporting but not overall control, with innovative system development, such as the BSC or the Report Card, being jointly 'owned' by several departments. Currently a 'top-down' approach to management control has been used to implement and manage the current performance

measurement systems at both case sites. In accordance with Norreklit (2003), this has been met with some resistance by the end-user, perhaps indicating the need for more 'bottom-up' performance system development. Currently the management accounting function remains focused on management control through the budget process and monthly financial reporting.

Nevertheless, there is potential for management accounting to move away from concentrating only on operational efficiency. As they continue to expand their focus in the clinical areas of the hospitals, some of the 'dinky little reports' (as one nurse manager called her own performance tool), may eventually be included in a 'multi-dimensional' performance reporting system. The business analyst role now held by the management accountants provides an environment potentially to build a 'bottom-up' performance measurement system, capturing the needs and knowledge of the entire organisation.

7.4 Strategic innovations and the role of the BSC

The investigation of the role of the BSC in public sector organisations draws on the strategic management literature, management accounting innovation and information systems change literatures. The multi-dimensional approach to performance measurement is receiving increased attention by public health-care organisations as a means of achieving organisational objectives, increasing accountability and improving decision-making (Ittner and Larker 1998; Cavalluzzo and Ittner 2003). Furthermore, innovative tools such as the BSC are beginning to be adopted by public sector organisations in Australia.

When applying goal-directed models, such as the BSC in a public hospital setting, the BSC's role can assist with the evaluation of an organisation's ability to provide a public service. One of the roles of the BSC is to communicate the provision and performance of this service to the varying stakeholders, including the funding bodies. Analysis of data gathered from both sites provided an insight into the intended role of the BSC. Further analysis on the role of the BSC, was based on Kaplan and Norton's (2001) views that public sector organisations should focus on developing measures in the 'innovation and learning' and 'customer'

perspectives, and not only rely on performance measures based on 'financial' results when taking a BSC approach.

In addition, data were collected at both case sites, focusing on the practical issues relating to the multi-dimensional approach to performance management. The investigation of issues relating to Kwon and Zmud's (1987) contextual factors of BSC implementation was conducted. Archival evidence and the information gathered via semi-structured interviews was relied on. Valuable archival data were studied at the regional hospital, which had begun the BSC implementation process in 2001.

7.4.1 Practical applications of multi-dimensional performance system design

Practical applications of BSC design were investigated in terms of Kaplan and Norton's (1996, 2001) BSC where the issues of linkage with strategy, development of cause-and-effect relationships and a 'balanced' approach are central to optimal BSC design.

BSC implementation had begun at the regional hospital over two years ago, providing valuable data for analysis. The metropolitan hospital's approach to performance measurement has also been useful. The metropolitan hospital's multi-dimensional form of performance management is similar to the regional hospital, despite their move away from a typical 'BSC' approach to performance management.

The findings suggest that both organisations' senior executives consider that meeting the future needs of the community is vital to the development of their organisations. Both organisations have been reporting on and measuring their strategic progress. The 'goal-orientated' approach to performance measurement, espoused by the BSC, is understood well by senior executives. However, 'loose coupling' or the lack of direct linkage and communication of strategy to operational performance measurement, in practical terms, is present at both organisations. Furthermore, the multi-dimensional measures of performance have not come together in a 'single' performance measurement tool. Cause-and-effect relationships have been loosely investigated but have not yet formed part of performance

reporting in either organisation, with 'balance' between measures and perspectives not being achieved.

Whilst measures in all areas are being performed, and reported on, the operational focus remains around the budget, key activity and funding measures. Currently, there are myriad hospital measures and reporting systems in place to measure organisational performance. This is carried out by people in varying management roles within the organisation, not just accounting. Results are viewed by senior management in a consolidated format and others measures are reported directly to the funding bodies. Despite many measures that could be considered measures appropriate to 'innovation and learning' or 'customer', the focus of BSC reporting at the executive level is on activity and financials.

Multi-dimensional performance management is being conducted at both hospitals. However, at this stage it does not meet the BSC criteria espoused by Kaplan and Norton (1996, 2001). The contextual factors (to be discussed at 7.4.2) have hindered further BSC development at the regional hospital and have contributed towards the difficulties of achieving 'balance' in BSC development.

7.4.2 Contextual factors of implementation

The contextual factors that may influence the success of BSC implementation are described by Kwon and Zmud (1987) as individual characteristics, organisational factors, technological factors, task characteristics, and the external environment. All these factors were present to some extent in both organisations and contributed to the slow adoption of, or the decision not to adopt, the BSC. The regional hospital has been in the process of BSC implementation for about 2 yrs, but the BSC is still only used for executive level reporting. The metropolitan hospital discontinued its earlier version Report Card as it was not adequately supporting organisational objectives.

Consistent with Chan and Ho (2000) the findings suggest that management were too busy solving short-term impending problems. The out-dated IT systems and the external funding

pressures were major factors impeding BSC implementation. Whilst there was top management commitment, there was no individual or group bringing all measures together. The regional group were working towards this with a newly formed performance reporting unit; however, at the senior level the focus remained on understanding the key operational and activity measures.

The pro-active efforts by both organisations to implement the casemix controls has taken priority over the other non-financial performance measurements that reflect the interests of other stakeholders such as staff, clinicians and patients. Modell (2001, p.459) considers that a public sector institution's reliance on the source of funding has ensured managers assume 'a relatively passive role as recipients of information', generated by technically deficient systems. Contextual factors have, therefore, contributed significantly towards BSC implementation.

7.4.3 Research Question 3 discussion

The third research question is:

What role does the BSC play in performance measurement in a public hospital?

Currently the BSC appears to be playing a 'legitimation' role only. Findings at both organisations demonstrate poor communication of performance and performance related goals to operational level managers. Furthermore the BSC has not assisted with improving communication of hospital performance to other key stakeholders. Whilst proving to be a valuable tool for reporting financial and activity performance to the regional hospital's board, the infancy of BSC development means that the board are not being provided with a 'balanced' view of hospital performance. Problems encountered at both organisations contribute to the limited role the BSC has been able to play. The excessive number of performance measures contributes to data-overload, with the 'proliferation' of performance indicators preventing a link to clearly stated goals. Findings are in line with Modell (2003) who suggests this is a natural response to the need to provide information and appear

legitimate to the multiple public hospital stakeholders. Whilst the need to appear legitimate has contributed to initial BSC implementation, the dominant funding body has meant that the BSC role has been undermined to concentrate on the key funding measures.

At an executive level, strategic plans *are* in place and *are* mostly being met, given the uncertainty and heavy dependence on the funding body. However, whilst some strategic plans are linked to long-term organisational visions, many are related directly to improving operational activities. At the moment, none of these activities or measures have been included in a BSC or performance reporting format. Currently, to overcome the inadequacy of the current systems, measurement at the micro-level of the organisation is being performed by clinicians to meet their individual requirements.

This leads to questions about the actual role for the BSC in a healthcare organisation. It also might suggest that where Kaplan and Norton (2001) consider public hospitals have difficulty defining their strategy, perhaps their strategy is really more 'short-term' and operational. Clinicians and physicians 'expect' and 'are expected' to provide world class health care. The provision in strategic plans for expensive equipment to remain at the 'leading edge' *must* take a short-term focus. Public hospitals are generally not in the position to refuse the delivery of patient services, and even category 2 and 3 patients may move to a category 1 status at some stage. Hence waiting lists are merely a delay in the provision of service and given the political ramifications behind long waiting lists, tied in with the short political term in office, the actual *need* to have a 'single' performance measurement tool, such as the BSC, directly linked to strategy is debatable.

Despite this, at operational level the need for an improved multi-dimensional performance measurement system is required. Such a system may:

- help communicate the individual manager's tacit knowledge and individual or 'unique' performance measurements to a wider audience;
- provide a means of capturing and reporting the 'in-house' systems that monitor strategic innovation and learning, measuring staff performance, and patient clinical 'outcomes';

- provide additional information to the ‘input’ and ‘output’ financial measures currently supplied in monthly reports. Furthermore, more relevant information may assist modify physician behaviour and increase cost consciousness among the clinical staff;
- provide a means for developing and managing the causal links between the measures;
- moderate the powerful influence the funding body has over hospital management, ensuring other stakeholder information requirements are not neglected in public sector performance measurement systems;
- provide a means of developing a ‘bottom-up’ rather than a ‘top-down’ performance measurement tool; and
- provide a balanced focus, not just financial or funding activity related.

Whilst the BSC is not assisting with these needs at either hospital, there is the potential for the BSC to play a role in hospital performance measurement by providing more relevant information to the users. The BSC role needs to be developed to become more than an ‘easy fix’ to a perceived crisis in performance measurement, or a tool to appear ‘legitimate’ to the multiple stakeholders.

7.5 Summary of issues

Where management control is currently focused around a single dimensional performance model (predominantly financial budgeting), a more multi-dimensional, goal-orientated approach to performance measurement appears to be welcomed by the clinicians and end-users, who are currently developing their own systems to meet these requirements. In particular, analysis reveals that most interviewees find the current form of management control is not assisting them with accountability or assisting with improved decision-making. Despite a proliferation of performance measures (financial and non-financial), within the public hospital system, the measures are not directly linked to organisational strategy. Measures relevant to the clinical manager’s decision-making are not available in current performance reports.

Institutional theory suggests that loose coupling is either a 'given' feature of institutions, or, a result of pro-active resistance at the micro level (Brignall and Modell 2000; Oliver 1991; DiMaggio 1988). Micro-level resistance has been noted following attempts at innovative 'top-down' changes to management control systems. The innovative system has not provided a clinically 'superior' alternative to what is currently being designed and used by individuals. It would appear that whilst there is some form of pro-active resistance from within the organisation to a multi-dimensional approach to performance measurement, this is related to the contextual factors and not resistance to institutionalised change. The contextual factors are predominantly out-dated systems and external stakeholder pressure ensuring the internal reliance is maintained around casemix control. Clinical level performance is directly contingent on government funding, requiring hospital management to maintain their focus on activity and financial performance.

Consistent with Abernethy et al (2003) the tacit knowledge of clinical operational managers is not being adequately captured and converted to a formal performance measurement system, despite operational willingness to change the current performance management. Managers have developed their own systems 'in-house' to accommodate system inefficiencies. In accordance with Modell's (2001) findings, clinical operational managers have begun to make pro-active attempts to develop 'bottom-up' multidimensional performance measurement systems for their own use. This appears to be greater where multiple constituencies make their influence felt, and is in response to the individual manager's desire for greater accountability.

The management accounting function is changing with a new focus at operational level. The management accountant's new role as business support analyst has the potential to move from a predominantly financial focus. By closely monitoring the business unit operations and developing performance measurement systems to include some of the 'leading' performance indicators, the tacit knowledge held by clinicians may be captured into organisation-wide performance measurement systems (Abernethy et al 2003). Moreover, a greater understanding of all operational aspects of the organisation will assist with identification of

the performance measures essential to long-term sustainability. The new 'operational' management accountant has the potential to become the vehicle for improving communication and organisational learning.

Modell (2003) suggests that loose coupling is potentially open to challenge and pressures for change. The hospital management have made moves to rationalise the proliferation of performance measures and bring them together using the innovations in management accounting. Both organisations considered the BSC as the appropriate tool to implement strategic change. Practical and contextual factors have affected the implementation process, resulting in the performance measurement system presently conforming to meet the needs of the most powerful stakeholder, the funding body.

7.6 Limitations, further research and implications

Notwithstanding the limitations of case study research and the capabilities of a single researcher over a two year time period, this case study gives rise to several questions and provides the potential for further research into BSC development within public hospitals. The questions arising are;

- will the BSC provide 'balanced' information to all stakeholders or will the power of the funding body continue to undermine the multidimensional approach to performance measurement;
- will the current corporate governance reforms in public hospitals create an environment more suitable for 'holistic' BSC implementation;
- if the government follow other health-care sectors around the world, and require hospitals to take a BSC approach to their external performance reporting, will this be aligned with individual organisational strategy;
- will the BSC remain a 'top-down' performance management tool and can it be successfully cascaded to the individual business units within the hospital;
- will the BSC be used as a 'performance measurement' tool, a 'strategic management' tool or a 'communication' tool;

- will the management accounting function take a multidimensional focus; and
- will the management accountant become proactive in hospital performance measurement?

The implications arising from this research for hospital management are to:

- ensure the BSC does not become ‘unbalanced’ due to external funding body pressure;
- take advantage of the tacit knowledge of the clinicians and other support staff in the development of the multidimensional approach to performance management that will satisfy the needs of all stakeholders;
- develop the clinical knowledge of the management accountant further to ensure identification of both financial and non-financial key performance drivers, critical to the organisations success;
- apply management accounting, or business analyst knowledge, to rationalise the performance measures currently performed within the organisation.

The implications arising from this research for management accountants in public hospitals are:

- to be proactive in taking a multidimensional focus and consider other non-financial ‘leading’ indicators;
- gain an understanding of the ‘in-house’ clinical performance tools that are being developed by individual managers, to satisfy their own needs, throughout the organisation.

Finally, the implications arising from this research for management accounting education is to better prepare the ‘public sector’ management accountants with education that focuses on the specific needs and issues arising from public sector management. This is not to suggest that the intricacies of casemix funding arrangements need to become formalised in management accounting education. However, this knowledge is acquired by management accountants whilst ‘on the job’, whereas other health professionals, such as those involved with IT in public hospitals, receive this as formal ‘health information systems’ education.

In particular, the education needs to transcend disciplines, so the management accounting function, does not become lost to 'health information' or 'systems management' staff, currently undertaking a significant proportion of the non-financial or activity performance measurement within public hospitals. Furthermore, education opportunities, such as elective subjects at the undergraduate level, will bring disciplines together, such as IT and accounting to foster future generations of 'team workers'. The ability to share skills for problem solving is vital to organisations such as hospitals, where traditionally the clinicians have taken a team-based approach to patient care.

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Appendix 1: Research Instrument

Topics to be explored under the umbrella of David Otley 1999

Performance management: A framework for management control systems research

Management Control - Organisational Objectives and Strategies

1. Organisational size and Responsibility centres – overall organisational objectives
2. Key players in budgeting, management reporting and performance measurement
3. General change to performance measurement and funding in the public health-care industry over the last few years (effects on individual departments)

Management Control - Reporting & Performance Measurement

1. Reporting Hierarchy – Information and feedback loops
2. Performance Measures – financial/non-financial
3. Influences of non-financial measures (reliability, validity, benchmarking)
4. Reporting Requirements – Board Level /Government
5. Consequences of Performance Variances –Target setting

The following topic explored under the framework of Otley (1999) as above, and; Burns and Scapens (2000) Conceptualizing management accounting change: an institutional framework

Management Accounting Change

1. Change to the management accounting function over the last decade
2. Role of the management accountant and organisational strategy
3. Management accounting innovations and organisational strategy (i.e. BSC)

The use of Kaplan and Norton's (2001) BSC is the overriding framework

Balanced Scorecard

1. Degree of implementation (Kwon & Zmud)
2. Behavioural issues (top management support, communication tool, trade-offs)
3. Technical issues (IT influence, data access, measurement choices)

Research Questions

RQ 1: How have non-financial indicators of performance affected measurement and reporting systems and thereby performance management in a public health-care setting?

RQ 2: How is the management accounting function in a public hospital, adapting to innovative accounting systems and organisational change strategies?

RQ 3: What role does the BSC play in performance measurement in a public hospital?

Topic Area & Prompts below in question format	RQ Links (1, 2 or 3) Literature Ref.
Management Control	Otley 1999
Performance Measurement and Management Reporting	RQ - 1, 2
Topic Area: Gather details on the hierarchy and use of performance reports	
Prompts:	Otley 1999
1. Do you prepare performance reports?	Management Control
2. How frequently are reports required?	
3. Who requires them?	
4. Who determines what is reported on?	
5. Has government performance reporting requirements impacted on internal performance reporting? If so, discuss how this occurs.	5.* Information and feedback loops
6. What are the performance reports used for?	
Topic Area: Discuss the current reporting format	
Prompts:	Some questions adapted from Lillis 1999, p.103
1. In what format is performance reporting information provided/accessed? (hardcopy, intranet – IT access)	
2. What measures are included in the performance reports?	
3. Are the measures mainly financial or non-financial?	
4. How many measures are used? Do you consider the number of measures used in your specific performance report to be not enough/too much?	
5. Do you have a ‘say’ in the format/content?	
6. Do you have to ‘wade’ through the report to find the essential data you require?	
7. Do you consider the current format to be user friendly?	
8. How is the information obtained?	
9. Is the current performance reporting system adequate as far as understanding clear goals & responsibility lines to output measures	Under the framework of Otley 1999
Topic Area: Discuss any recent changes to performance reporting	
1. Have there been any recent changes to reporting requirements?	Under the framework of Otley 1999
2. What has brought about this change?	
3. Has this change altered operational routine?	
4. How has IT influenced reporting in your area?	
	Management Control

5. Who decides on the software interface to be used for operational/BU level access to performance reports and other general data access? Discuss any difficulties with choice/communication of needs.	2. Strategies and plans for their attainment Management Accounting Function 2. Strategic Role
6. Can the implementation of new software or programs, influence the choice of data to be included in reports? Has this occurred in this organisation? If yes, what impact has this had on management reporting?	
7. What changes would you like to see with the way you report or receive reports?	
8. What changes could improve the way performance measured or approached by this hospital?	
Topic Area: Discuss details of the reliance on performance reporting	
1. Are there any performance measures you consider dysfunctional to organisational/BU operations? (i.e. causing inappropriate behaviour or decision making)	Otley 1999 Balanced Scorecard 2. Focus on external context Otley 1999 Management Control 1. Key organisational objectives 2. Strategies and plans for their attainment 3. Target setting 5. Information and feedback loops
2. Do you use other performance measures outside the ‘formal system’?	
3. Are trade-offs between performance measures, made - due to certain constraints (i.e. time, budget, staff numbers)?	
4. Are the current government performance indicators, the only measures used in performance reporting?	
5. Are performance measures based on external benchmarks of best practice? If yes, what is the source? If no, would benchmarking be helpful? Explain.	
6. Does the current legislated performance measurement requirements, create competition between public hospitals? Do you share information with other public hospitals, or do you consider the environment not conducive to open discourse? Are you guarded about information sharing?	
7. How are performance targets set? (based on last year’s performance or based entirely on budget targets set by the government/organisation/Board) Do you have a ‘say’?	
8. Is continuous improvement built into performance targets?	
9. Do you consider performance measures and objectives are linked to organisational strategy? Has this been discussed at performance measurement meetings? Is achieving organisational objectives the main goal of performance measurement in this hospital? Is the linking of organisational strategy to performance measurement a new development in performance measurement and reporting for this hospital?	

Topic Area: Performance targets and budgeting - Consequences of performance variances		
1. What happens when you become aware that performance in your area of responsibility is not on target?		Some questions adapted from Lillis 1999, p104 Otley 1999 3. Target setting 4. Incentive and reward structures
2. What actions do you take with unfavourable performance measurement variances?		
3. How are you made aware of this variance?		
4. What action is taken? (i.e. root cause analysis)		
5. Do you have a direct control over performance measure outcomes in your area?		
6. What action is taken following unsatisfactory results with surveys conducted by Dept of Human Services? (i.e. Victorian Patient Satisfaction monitor)		
7. Are performance measures linked to departmental budgets?		
8. Are performance measures (financial/non-financial) linked to overall hospital funding and/or incentive/disincentive schemes?		
Non – Financial Performance Measures		RQ - 1
Topic Area: Discuss the increasing importance given to non-financial measures		
6. How reliable do you consider non-financial measures to be, compared with financial measures?		Kaplan and Norton 1996
7. Do you consider non-financial measures to be reliable and valid forms of performance measurement?		
8. The Victorian Government overview and recommendations on ‘Acute Health Performance Indicators’ suggest linking measures to hospital funding/incentive schemes may create a system which provides incentives for non-reporting or manipulation of indicator application. Do you believe this could occur? They suggest reliability and validity of the indicators would need to be assured.		Acute Health Clinical Indicator Final Project Report July 1999 Otley 1999 4. Incentive and Reward Structures
9. If manipulation or non-reporting did occur, which would you consider the easiest to manipulate, the financial or non-financial measures?		
10. What weighting do non-financial measures have in relation to the financial measures in top management reporting? i.e. Is quality ever sacrificed for financial efficiency?		Adapted from Lillis 1999, p.103

* This relates to Otley (1999) Questions 1-5 (see Chapter 2; page 15)

Management Accounting Change		RQ - 2
Topic Area: Describe the changing management accounting function		Burns and Scapens 2000
1) Has the role of the public hospital management accountant changed over the last decade?	Otley 1999 Management Accounting Function 1. Understanding of operational activities	
2) Do you consider the change to the management accounting function is representative of what has happened in the private sector?		
3) Do you consider most hospital management accountants would be able to adapt to the changes with their current industry knowledge? Is support provided by the organisation for ongoing learning? How is this support actioned?		
Topic Area: Discuss the current role of the management accountant or the management accounting function		
1. Do non-accountants perform any part of the management accounting function in this hospital? For example, discuss the part played in budgeting, performance reporting, costing - unit costs; cost per casemix adjusted separation; labour costs per separation; cost per non-inpatient occasion of service, other...by non-accountants	Otley 1999 Management Accounting Function 1. Understanding of operational activities	
2. What is the main aspect to the management accounting function today? What department/who performs this role at this hospital?		
3. How is the management accounting function viewed in the organisation? What do most 'non-financial' managers consider the role of the management accountant to be? Does this role have an operational or strategic focus?		
4. Do certain aspects of the management accounting function undermine others? Is too much time required to be spent in one area? i.e. budgeting		
Topic Area: Discover the influence the management accountant has on organisational strategy		
1. Does the management accountant become involved in strategic decision making processes?	Otley 1999 Management Accounting Function 1. Understanding of operational activities 2. Strategic Role	
2. What role does the management accountant play in development of organisational performance measurement?		
3. How do you perceive the management accountant in your organisation? Are they helpful? Do they make your life difficult? How? What information do you obtain from the management accounting department?		

Balanced Scorecard Implementation	RQ - 3
Topic Area: Ascertain degree of implementation in the organisation	
Using the 6 sequential stage (at times overlapping) implementation model below, where do you consider your organisation is placed with BSC implementation? <div><div>1. Initiation</div><div>2. Adoption</div><div>3. Adaptation</div><div>4. Acceptance</div><div>5. Routinization</div><div>6. Infusion</div></div>	<div>Kwon & Zmud 1987; Cooper and Zmud 1990 (applied by Anderson 1995)</div>
4. What would you consider is required for your organisation to move to the next stage?	
5. Would you consider success to date was ‘technology determined’ or ‘organisationally determined’?	Anderson 1995 p.5
6. Does the BSC have top management support? How familiar is central management with divisional operations? What are the average management service histories?	Lillis 1999, p.218
Topic Area: Behavioural issues surrounding BSC implementation	
Five contextual factors that influence success at each stage of implementation: <div><div>1. Individual Characteristics<ul style="list-style-type: none">disposition towards change/ intrinsic reward in change;education;job tenure;role involvement;informal support (e.g. sponsors, champions)</div><div>2. Organisational factors<ul style="list-style-type: none">degree of centralised decision-making;degree of functional specialisation versus multidisciplinary approaches;internal communications (existence of informal communication networks):extrinsic reward systemstraining investments</div><div>3. Technological factors<ul style="list-style-type: none">complexity experienced by users;compatibility with existing organisational structures and systems;</div></div>	<div>Kwon & Zmud 1987; Cooper and Zmud 1990, discussed by Anderson 1995, p.6-10</div>

<ul style="list-style-type: none">• technical improvement relative to existing practices (accuracy and timeliness);• relevance to managers’ decisions <p>4. <i>Task characteristics</i></p> <ul style="list-style-type: none">• task uncertainty;• task variety;• worker autonomy;• worker responsibility <p>5. <i>External environment</i></p> <ul style="list-style-type: none">• heterogeneity of external demands on the organisation;• competition• uncertainty caused by external turbulence;• external communication networks	
6. Is the BSC being used as a communication tool? What information is the BSC used to convey? Does it communicate the organisations strategy?	Kaplan and Norton 1996
7. Is the BSC used to convey short-term or long-term strategy?	Richards 1987; Kaplan 1990; Lillis 1992
8. To what level is the BSC communicated to in the organisation (management only or operational level staff, entire organisation)	
9. How is the BSC communicated throughout the organisation?	
10. What perspective is rated as the most important? Does everyone access data/rely on data from each perspective?	
11. What behavioural problems, if any, have occurred with BSC implementation?	
12. Have you anticipated problems and taken steps to avoid these occurring? Discuss these anticipated problems.	
Topic Area:	
Technical issues surrounding BSC implementation	
Prompts:	
1. Have you used consultants to assist with BSC understanding and/or implementation procedures?	
2. Have you conducted staff workshops, training programs to educate on BSC implementation? Describe the ways in which you have communicated the BSC down through the organisation?	
3. Have you implemented new IT systems to assist with BSC implementation? If yes, are these generic hospital BSC designed programs	
4. Have you had a BSC ‘champion’ in the organisation? What about an informal organisation of champions?	Anderson 1995, p.6 Richards 1987
5. Have you found the design of the BSC difficult? i.e. have you been able to find suitable measures for the chosen perspectives?	
6. Are you running the BSC in conjunction with other performance measurement systems?	

13. What technical problems, if any, have occurred with BSC implementation?	
14. Have you anticipated problems and taken steps to avoid these occurring? Discuss these anticipated problems.	
7. Have there been any disagreements on the measures used in the BSC?	
General Background	
Topic Area: Organisational Responsibility of individual interviewee (discuss at conclusion of interview)	
1. Discuss your role and responsibility within the hospital.	
2. What length of time have you been with this organisation?	
3. What is your educational background?	
4. What do you consider is your area of expertise?	
5. Who do you report to?	
Management Accounting Innovations Generic BSC Questions* - Likert Scale	Adapted from Chan & Ho 2000
1. The BSC should be linked with an organisation's mission and strategy using objective measures	
2. The cause-and-effect relationship between measures is important	
3. A mix of 'lag' and 'lead' performance indicators is necessary	
4. The BSC is a collection of financial and non-financial performance measures organised into three to five perspectives	
5. It is essential for there to be 'balance' in the BSC	
6. The BSC should include all KPI's already identified and reported by the hospital	
7. The BSC is a performance measurement system	
8. The BSC is a strategic management system	
9. The main benefit of the BSC is to condense performance reports into a single page document	
10. Time and resource constraints are important when deciding whether to implement the BSC	
11. The benefit would outweigh the cost, if successful	
12. The BSC represents the latest management accounting 'fad'	
13. The BSC is a reporting tool for top management use only	
14. The BSC should use organisation wide 'common' performance measures only	
15. The BSC should it cascaded throughout the organisation (therefore requiring unique measures to be adopted at individual department level)	
16. The BSC should be linked to budgets	
17. Incentive/Compensation plans, incorporating financial/non-financial performance measures, should reward successful BSC outcomes	
18. Incentive/Compensation plans should not be implemented for fear of dysfunctional behaviour (manipulation/omission of data)	
19. Where 'trade-offs' between measures need to be made, the non-financial measures should take precedence over the financial performance measures	
20. Do you question the validity or reliability of certain BSC measures?	
a. Financial Measures?	
b. Customer or Stakeholder Measures?	
c. Internal Business Process Measures?	
d. Innovation and Learning Measures?	
* A statement of definitions will be given to the interviewee prior to the interview	

Appendix 2: Casemix Funding Overview

The public health-care industry

Total health expenditure is 8.3% of the Australian Gross Domestic Product and is paid in the ratio of two to one from public and private sources (WHO 2000; Magarry 1999). Federal social expenditure has been declining in most areas, except for health, which has been steadily rising with forecasts for the 2003-04 year budgeted at \$31,183 million (Federal Budget Papers 2003-04).

Significant funding for the provision of Australian health services is made available through the “Medicare” system. This is a federal and state partnership, which has been in existence since 1984, with the main aim to ensure the Australian population has access to both medical and hospital services. Part of the funding is managed on a national, or Commonwealth basis (the medical component), however the hospital funding component is managed jointly with the states and territories. Medicare pays 85% of scheduled fee for “out of hospital services” (e.g. medical services, pathology and x-rays). “In hospital services” provide free treatment in public hospitals if treating a public inpatient. If treating a private patient in a public hospital, Medicare covers 75% of the scheduled fee for medical services. The scheduled fee is set by the Federal government. Medicare has also played a role in funding the Casemix Development Program. Casemix is the mix and number of patient care activities (both inpatient and non-inpatient activities) undertaken by public hospitals.

Casemix and the AR-DRG classification system

Funding for the public hospitals is generally managed at a state or territory level with most states applying casemix funding (Duckett 1998). Hence the decision making responsibilities, including the decisions about the way public hospitals are funded, is a state responsibility. The Victorian government have undertaken to apply casemix funding/accounting systems to

their public hospitals. Casemix arrangements vary between hospitals within Victoria and also with other casemix funding arrangements interstate.

The AR-DRG v4 classification (Australian Refined Diagnosis Related Group classification, version 4) is the Australian inpatient casemix classification currently in use (prior to 1992 it relied on a modified U.S. Casemix classifications). It is managed by the Australian Casemix Clinical Committee, with members considered to be clinical experts, providing advice on contemporary practice (Duckett 2000). The casemix classification system allows individual patient treatment to be clinically classified and coded. The individual case is assigned to one of the 23 Major Diagnostic Categories (MDC), for example MDC 02 is 'Diseases and disorders of the eye' and MDC 22 is 'Burns'. Each of the MDCs is subdivided into 'Adjacent DRGs'. These are related procedures, both surgical and medical, which are generally divided according to the principal related diagnoses. The final classification has a total 661 groups of AR-DRGs in all (MDC 22 'Burns' has 8 Adjacent AR-DRGs).

The major reason for this classification system has been to provide an *average* measure of resource utilisation for every recorded diagnosis. Over time this system is being modified and developed. Where the resource consumption has and is still based principally on length of stay, more refined patient level costing data will be used in future versions of AR-DRGs (Duckett, 2000). The estimated resource consumption is calculated via a ranking system where every diagnosis is assigned a "complication and comorbidity level" (CCL). This value is between 0-3 for medical episodes and 0-4 for surgical and neonatal episodes (0 – no complication or comorbidity level; 1- minor; 2 – moderate; 3 – severe; 4 – catastrophic). Some patients may fall into several AR – DRGs and the system allows for this through a summary patient-level measure ("Patient clinical complexity level" or PCCL) providing codes for the majority of episodes. The coding assists with providing each respective DRG with a weighting.

Casemix and WIES10 Targets

Hospitals are paid according to their activity and throughput. The unit of measure for casemix adjusted throughput is known as WIES10 (weighted inlier equivalent separation, version 10). This measure of activity is calculated by multiplying the DRG weight by the number of Inlier Equivalent Separations in the DRG and summing over all DRGs. As mentioned earlier, length of stay is the measure of resource usage. There can be lengths of stay ranging from low to high outliers and funding is based accordingly. As an example, a caesarean delivery, without complicating diagnosis, is considered to have an average length of stay of 4.9 days, and is given an inlier weight of 1.3877 (taken from the WIES10 2002-2003 Victorian Cost Weights). This was a brief outline of casemix accounting system AR-DRGs classification system however for further information see <http://www.casemix.org> or <http://www.health.gov.au/casemix/index.htm>.

The total number of WIES10 for all Victorian public hospitals in 2002-2003 is 835,160. The public WIES rates vary in accordance with the size and nature of the provider between \$2,515 and \$2,788. The conditions of funding require that all funding is provided to hospitals on the basis that they provide services to that current range of budgeted activity. Throughput above target will generally not be paid and penalties can occur for underutilisation.

Summary of 2002 - 2003 Public Hospital Payment Rates

Table 10: Payment Rates, 2002-2003

Payment	Hospitals	Providers	Group B >13000 WIES WIES	Group B 7500- 13000	Group B 5000- 7500	Group B <5000	Group C	Group D &E
In patients		\$2,515	\$2,629	\$2,707	\$2,773	\$2,788	\$2,625	
Public WIES 10	\$2,659							
• Private WIES 10			\$2,058	\$2,151	\$2,215	\$2,270	\$2,282	\$2,155
• Rural/Isolated Hospital	\$17/\$42							\$2,187
Payment per WIES 10								
• Nursing Home Type	\$154							
Patient per Day								
• DVA per WIES 10			\$2,603	\$2,632 ⁴	\$2,662 ⁵			\$2,702
Sub-acute								\$2,736
• CRAFT (episode)	\$10,226							
• Rehabilitation Level 1 (per diem rate)	\$470							
• Rehabilitation Level 2 (per diem rate)	\$390							
• Geriatric Evaluation & Management (per diem)	\$390							
• Interim Care Beds (per diem rate)	\$269							
Non-Admitted Patients								
• VACS Payment per Weighted Encounter	\$125							
• Allied Health per Occasion of Service	\$45							
• Emergency Services Grant	See Ch.11							
• VACS Base Grant	See Ch.11							
• VACS Teaching Grant	See Ch.11							
Training and Development Grants	See Ch.12 See Ch.12							
• Training and Development Payments • Research Grants								
Specified Grants								

1. The rural and isolated hospital payment will apply to those hospitals as designated.
2. Ballarat Health Services and Bendigo Health Care Group are the only Rural Group B hospitals funded through VACS.
3. The above rates do not include savings required from embedded taxes and network review savings.
4. Rural Group B over 10,000 WIES.
5. Rural Group B under 10,000 WIES.

Source: Victoria – Public Hospitals and Mental Health Services Policy and Funding Guidelines, 2002 – 2003, Sect. A, p2

Appendix 3: NVivo2 Node Listing

NVivo revision 2.0.163 Licensee: Gillian Vesty

Project: Gillian's Masters - Final User: Gillian Vesty Date: 21/01/2004

NODE LISTING

Nodes in Set: All Nodes
Created: 8/01/2004 - 3:50:11 PM
Modified: 21/01/2004 - 5:21:06 PM

- Number of Nodes: 25
- 1 Individual Role Description
 - 2 Not relevant
 - 3 Refer Later – Interesting Comments
 - 4* NEW FREE NODE – Amended data
 - 4 (1) /Performance Measurement
 - 5 (1 1) /Performance Measurement/Systems + Reporting
 - 6 (1 2) /Performance Measurement/Measurement Selection
 - 7 (1 3) /Performance Measurement/Benchmarking Activities
 - 8 (1 4) /Performance Measurement/Budgeting
 - 9 (1 4 1) /Performance Measurement/Budgeting/Budget Setting
 - 10 (1 4 2) /Performance Measurement/Budgeting/Budget Variances
 - 11 (1 5) /Performance Measurement/External Reporting Requirements
 - 12 (1 6) /Performance Measurement/Top Management
 - 13 (1 7) /Performance Measurement/Financial Measures
 - 14 (1 8) /Performance Measurement/Organisational Strategy
 - 15 (1 9) /Performance Measurement/Decisions, Culture, Communication
 - 16 (1 10) /Performance Measurement/Champions
 - 17 (1 11) /Performance Measurement/Cause and effect
 - 18 (1 12) /Performance Measurement/Data Reliability and Validity
 - 19 (2) /Management Accounting Function
 - 20 (2 1) /Management Accounting Function/KSAs
 - 21 (2 2) /Management Accounting Function/Changing function
 - 22 (3) /Balanced Scorecard

* New Free Node created – “Amended Data”

This node was created for the purpose of including all changes to original transcripts, returned with amendments from the interviewee, subsequent to data analysis commencing. All data used was checked to ensure amendments were included.

Appendix 4: Research Methodology Output

4.1: Formal Case Study Protocol

Case study protocol	Reference
Project Overview	Chapters 1, 3 , 4 & 5 contain: Study's major research question and motivation Major propositions to be examined Clear identification of the constructs Identification of the levels of analysis Logic by which data will be linked to propositions (pattern-matching; explanation building) Criteria for interpretation and inference
Field Procedures	Ethics submission – securely filed contains the documents and identification of all the authorities, approvals and endorsements from research sites. The file also contains the range of data collection techniques planned (i.e. cooperation of others – identity, location and draft timetable of data collection)
Case Study Questions	Interview schedule is contained in Appendix 1 Chapters 1, 3 and 4 contain an outline of the case study questions. Case study questions are answered in Chapter 6 and discussed further in Chapter 7.
Case Study Report Framework	An outline of the development of the case study report is kept on file. This includes all theses writing to draft stage, with amendments and supervisor comments. The final thesis is presented here.
Source: Adapted from Brownell 1995, p.67-68	

4.2: Table of sources of documentary evidence

Annual reports
Strategic reports
Internal performance reports
Minutes from 'Management Reporting Working Party' meetings
Victoria – Public Hospitals and Mental Health Services Policy and Funding Guidelines (2002/2003)
Victorian Patient Satisfaction Monitor (2002 Summary of results)
Statistical data from DHS database
BSC consultants reports
BSC workshop data
Internal correspondence on BSC development for Board reporting
PowerPoint presentation and academic paper on Health information management (to be provided by one of the managers from the Regional Hospital)
Text book to be provided by interviewee - 'Business Intelligence Strategy' and "Health Management Information Systems'
Interview transcripts
Handwritten interview notes
E-mail correspondence

4.3: Chain of Evidence

Items	Description
1	All documentation relating to this case study, including case study protocol, has been securely filed and kept as a database.
2	Email correspondence has been saved in word document, printed and filed with the case study database.
3	Hand-written diary has been kept on all other personal contact or phone calls with both organisations. Diary notes include dates and times of all meetings attended, comments and personal thoughts following the meetings. The notes include both formal and informal contacts with members of the organisation.
4	<p>Other correspondence between researcher and organisations to gain approval for the sites to be used in case study – notes kept with case study database above.</p> <p>Initial contact at metropolitan site was made on the 26 September 2002. A formal meeting was arranged with Director of Management Accounting on site, on the 4 December 2002. Further meetings were arranged prior to the taped interview process (see Exhibit 4.3 for interview details). These dates also include attendance at the Management Reporting working party meetings. All documentation relating to these meetings (reports, minutes of meetings) has been kept with database file.</p> <p>Initial contact at the regional site on the 18 March 2003. A follow-up meeting was held on the 16 April to discuss process further. The key contact at this organisation was planning to retire once he had completed the project he was on (BSC initiation). A meeting was arranged with the Group Executive/Director of infrastructure development, the financial controller and contact on 31 July 2003 to hand over the management of the case research at this site. Relevant documentation was presented to the researcher at this meeting (kept in database file). Further contact was made through the Group Executive's secretary who arranged all subsequent meetings and interviews with prospective participants.</p>
5	<p>Interviews were all conducted on site in participant's office. Details can be found in Exhibit 5.2.</p> <p>Audio-tapes of interviews kept in database file (two tape recordings made at each interview to ensure reliability of transcription)</p>
6	<p>Transcripts typed in rich text format - saved on disc, printed copies made and kept with database.</p> <p>All correspondence with transcriber initially employed to help with transcription have been kept in file. All typed transcriptions were checked word by word by researcher with the majority of transcripts typed and double checked by the researcher and participant.</p>
7	Original copies of NVivo coding – printed and filed with database. Further copies with hand-written notes and first stage data reduction have also been placed on file.
8	<p>Follow-up correspondence with interviewees and alterations to transcriptions have been saved on disc, printed and kept on file. Further data reduction through NVivo and additional coding performed to accommodate changes to original transcripts. Note the changes to transcripts have been to:</p> <ul style="list-style-type: none"> • remove confidential data of concern to participant; or • add additional information to improve response to question; or • add additional information where tape recording was poor researcher could not hear transcription

9	Further coding performed through NVivo 'search' function – where key words were typed to check all responses to ensure nothing was missed with original coding. The 'search' items have been saved in the NVivo file. All NVivo files have been saved on disc and filed with database. Appendix 3 contains the NVivo Node Listing used to facilitate case analysis and results, as per Chapter 6.
10	Thesis writing – all internal correspondence relating to this project have been kept on file. For example, candidature proposal, ethics submission, correspondence with supervisors and chapter drafts.

4.4: Case-study database

Case notes	<u>Case notes</u> (in diary format) maintained throughout all research phases – planning; data collection and analysis
Documents/Artefacts	<u>Physical evidence</u> gathered from the case sites –catalogued and filed Items provided to researcher – minutes; internal performance reports; BSC workshop notes; BSC consultants reports; BSC reports to board members; internal memos <u>Other items sighted</u> – listed and catalogued Supply reports, budgets, management accounting reports; new systems development – IT demonstration (OLAP cubes, data-warehousing; Report Card version 1 and 3)
Narratives	<u>Transcripts</u> of interviews with key informants kept in hard and soft copies format Audio tapes of all interviews Hand written 'impression' notes following each interview
Data analysis material	NVivo output data Node Listings and handwritten coding notes
Research output	Thesis chapter drafts
Source: Adapted from Brownell 1995, p.68 - 69	

4.5: Analytic manipulations applied during analysis

<p>Preliminary Data Reduction</p> <p>Data Arrays</p>	<p>Interview data were:</p> <ul style="list-style-type: none">→ transcribed;→ reviewed by interviewer and interviewee;→ saved in rich text format (rtf) files; and→ the entire complete document saved into NVivo 2 software; <p>Initial coding to full transcripts was to:</p> <ul style="list-style-type: none">→ code the transcripts to research site (Metropolitan or Regional) <p>Subsequent broad level coding within transcripts was to:</p> <ul style="list-style-type: none">→ code the transcripts to the three broad research questions (Performance measurement; Management accounting function; BSC). These were classified as the 3 'parent' nodes
<p>Further Data Reduction</p> <p>Node Listing (coding tree)</p> <p>Matrix Formation</p>	<p>Further coding to:</p> <ul style="list-style-type: none">→ <i>Noisy</i> data filed as 'Not relevant'; 'individual role description' or 'refer later – interesting comments'→ underlying theoretical framework used to develop initial node listings ('Organisational Strategy'; 'Budgeting'; 'Communication'; 'Knowledge, Skills and Abilities'; and 'Changing Function') – data filed to the original 5 'sibling' nodes within NVivo→ Matrix formation (performed manually) as themes emerged; themes coded to newly created 'sibling' nodes; data was often coded to more than one node. The total node listing can be found in Appendix 3.
<p>Output Data</p> <p>Data Displays</p>	<p>Coded data were displayed/saved/printed separately under each code.</p> <p>Analysis was performed by physically reading the printed output and within NVivo converting the key comments to software tables (saved in word format). These were considered the key evidence relating to each theme, and for possible use in thesis write-up</p> <p>Further analysis of key emergent themes was performed through NVivo. Thematic reconstructive analysis was made possible and all key themes were collected via the search tools within NVivo. This enabled cross-checking of all coded data, for more through explanation building and to find any further evidence for rival explanations.</p>
<p>Cross-Checking and Validation</p>	<p>Where possible the printed output data and initial drafts were reviewed by the research supervisor.</p>

Appendix 5: List of abbreviations and definitions

AGENCY STAFF – Mostly ‘nursing’ staff employed via an agency to fill nursing shortages. Generally employed when there is no available fulltime or nurse bank staff

ALOS – Average length of stay

CASEMIX – ‘A set of ideas about classifying health-care products, and how improved classifications can be used’ (Hindle, Degeling and Braithwaite, 1998)

EFT – Effective full time employees

EPISODE OF CARE – A unit of care production which involves care only in one setting. Most casemix classifications are ‘Episodes of Care’ based.

HITH – Hospital in the home

HOSPITAL(S) – Public hospital(s), and metropolitan and rural health service(s)

HSA – Health Service Agreement

KPI - Key performance indicator

LOS – Length of stay

NURSE BANK – Also referred to as ‘bank staff’. They are ‘casual’ nursing staff employed by the hospital when nursing shortages occur or additional staff are required to cover sick leave, annual leave etc. They are paid at a causal rate (approx. 125% of normal rate)

SEPARATIONS – mode of discharge: either death, transferred to another acute hospital or home

STREAM OF CARE - involving care in multiple settings

VACs - Victorian Ambulatory Classification System

WIES – ‘Weighted inlier equivalent separation’ caseload weighted by intensity of care (currently at 10th Revision). The majority of patients in hospital will be eligible for WIES funding. Patients not included are the geriatric management patient in the Aged Care Program (separately funded program) or contracted patients. WIES is unable to be calculated for incomplete or un-coded episodes.

Appendix 6: Metropolitan Hospital KPI Performance Report Card

KPI Performance Report Card

MTHYTDRefreshClose

Period

Campus

Directorate

Unit

Jan 2004

Objective and Strategies	Objective and Strategies	Objective and Strategies	Objective and Strategies
Patient	Resource Use	Patient Care Processes	People, Learning & Innovation
Performance Drivers	Performance Drivers	Performance Drivers	Performance Drivers
	Acute Seps - Total (SD+MD)X		
	ALOS - Total (SD+MD)X	HITH Bed Days as % of Bed Days (MD)X	
	ALOS - Multi DayX		
	Wies / Sep - Total (SD+MD)✓		
Performance Outcomes	Performance Outcomes	Performance Outcomes	Performance Outcomes
	Wies - Total (SD+MD)✓		
		Unplanned Readmission within 30 days Rate2%	

Source: Metropolitan Hospital 'Screenshot' provided by management accounting department.
Any direct reference to hospital removed for confidentiality purposes

