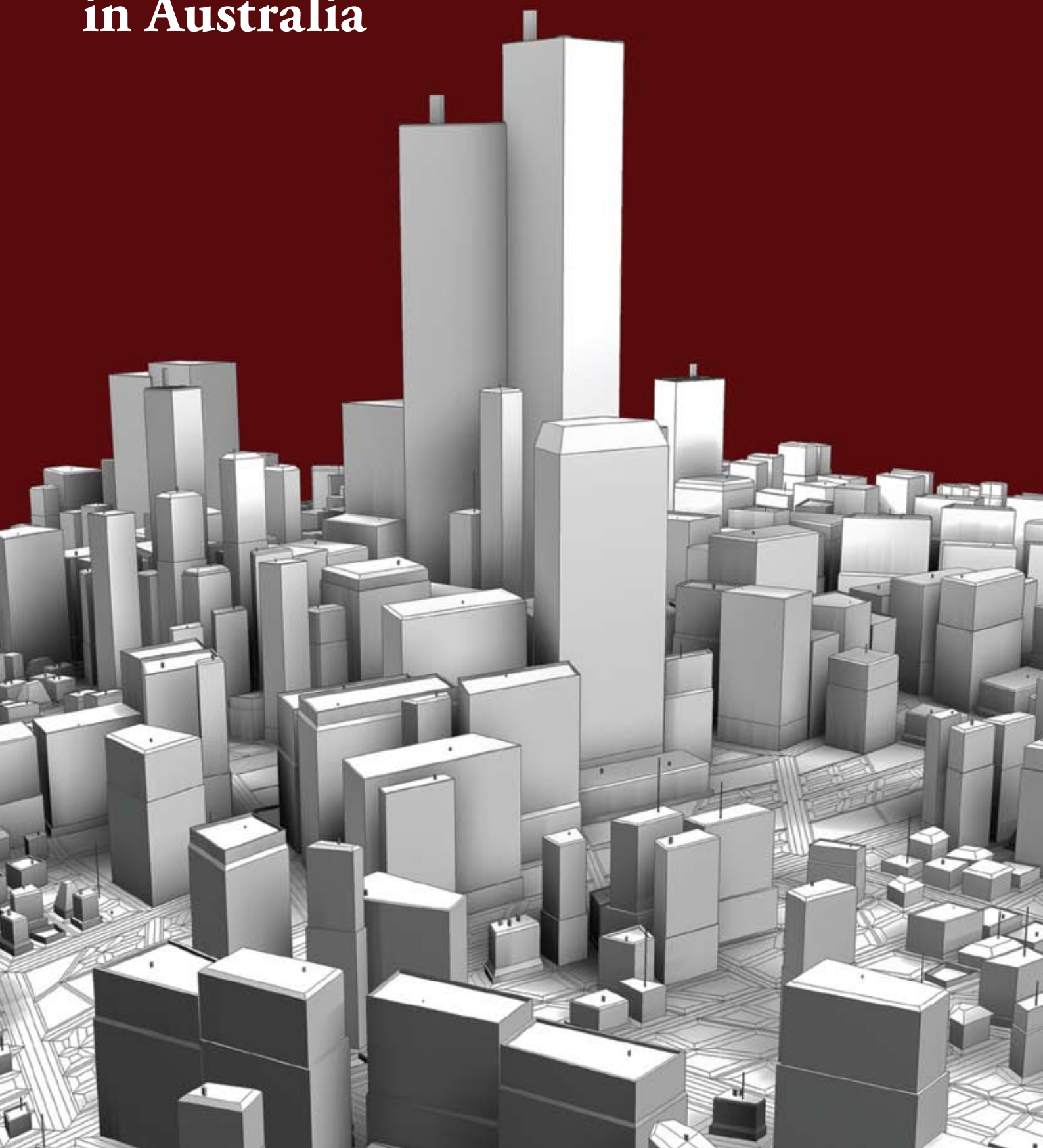


MEASURING PUBLIC SECTOR PERFORMANCE

*A study of government departments
in Australia*



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Executive summary

This study reports on a survey of performance measurement practices within state and federal government departments in Australia. It contributes to the public sector accounting and performance management literature by developing answers to the following major questions:

- a. How do government departments appraise their performance in the 'new' public sector environment?
- b. How is performance measured and reported in the focal organisations?
- c. What are the key elements of performance measurement and reporting?
- d. In addition to economic efficiency measures, does performance measurement cover social and environmental issues?
- e. How effective are the performance measures that are being used?

The findings reveal a number of facts. First, the performance measures used to a great extent in the department and agencies that participated were in the areas of cost efficiency and quality measures and for learning and growth measures. Second, the most common performance measures used were to satisfy community expectations and legislative requirements. Third, sustainability, environmental or social responsibility managers are the least-used performance measures. Fourth, the majority of participants agree that using performance measures has enhanced program efficiency, program effectiveness and that their entity has since been 'better off'. Fifth, new public management (NPM) elements have most commonly been implicated to a great extent in the area of accrual budgeting. NPM elements, benchmarking, and competition and emphasis on customer-focused strategy are reported to have been applied to a moderate extent given the change in recent literature, and the area least affected appears to have been in the adoption of private sector management styles.

Introduction

In recent years, there has been increasing pressure on all levels of governments globally to improve performance. In Australia, this has been reflected in the increased numbers of government programs, particularly in the areas of health, employment, social welfare, education, and defence (Parker and Guthrie, 1993; Clark and Corbett, 1999; O’Faircheallaigh et al, 1999; Hoque and Moll, 2001). For several decades, performance measurement has been used as an internal informational tool to evaluate departmental operations and make program and budgetary decisions (Ho and Ni, 2005). In the public sector, interest in performance measures has grown enormously, as evidenced by the large literature on new public management (NPM), benchmarking and balanced scorecards. NPM reforms advocate private sector-style management accounting processes to improve efficiency, effectiveness and accountability in the public sector (Hood, 1995; Humphrey et al, 2005; Hoque and Moll, 2001; Awio et al, 2007; Hoque, 2008). In contrast to the long-standing importance of rule compliance, NPM emphasises managing for outcomes (Hood, 1995; Kaboolian, 1998; Lapsley, 1999). The increased attention on performance evaluation by public sector managers, consultants and academics reflects the increased pressure on public sector organisations to improve performance to remain viable in today’s competitive and globally operating environment. In the present study, we attempt to shed some light on how government departments in Australia responded to such an increased pressure.

For the Australian government to meet these greater challenges, the commencement of a public sector reform was pursued in 1993, which considered the need to achieve a performance culture within the sector. Encouraging a performance management approach means managing *results*, not *rules*. Thus, the emphasis would be on performance and flexibility rather than on controls and compliance, as was viewed traditionally. Such emphasis is designed to maintain and focus on what is being achieved or produced (outcomes and outputs) and improving transparency and financial accountability in the public sector (Parker and Guthrie, 1993; Clark and Corbett, 1999; O’Faircheallaigh et al, 1999). The present study attempts to provide empirical evidence on how government departments measure and report their performance in the changing public sector environment.

To assess its performance an organisation needs to select some sort of yardstick or indicator for each critical success factor or activity. Lynch and Cross (1991) suggest that performance indicators must be made to fit the process flow and to focus attention on causal relationships and teamwork, which enables any non-value activities or faults to be recognised. At the individual level, employees use performance measures to track their performance against agreed targets. A performance measurement system allows employees at all levels of the business to assess progress in achieving targets, and to take corrective actions, if necessary.

The organisation development and strategic change literature suggests that a properly designed performance management and reporting program can have positive organisational results. However, many traditional performance measurement programs are short-lived and wither on the vine because they have been installed without adequate diagnosis of the situational factors (Lawler 1986; Lawler et al, 1995). Therefore, the suggestion is that the performance management program must take the entire organisation into account, including the support and reward systems; the program must be tailor-made to the specific organisational strategy, and other interventions, such as organisational structure and socio-political factors. Recently, newer forms of appraisals, such as the balanced scorecard approach, are being used in organisations (Kaplan and Norton 1996; 2001).

Research questions

This study sought to address the following research questions:

- f. How far has the NPM concept evolved within Australian government departments?
- g. To what extent do Australian government departments make use of the balanced scorecard (BSC) approach to performance measures?
- h. Why have Australian government departments adopted the BSC concept?
- i. To what extent do Australian government departments make use of the performance measures in their operations and decision-making processes?
- j. To what extent do Australian government departments make use of the social and environment-related performance measures?

- k. Why do Australian government departments implement the 'new' performance measures? And how are performance measures being implemented?
- l. Who are the users of the performance reports? What are the purposes of these reports?
- m. What roles do accountants play in the design, monitoring and communicating of performance information?
- n. How effective are the performance measures that are being used?

There were several reasons for undertaking this project. First, to our knowledge, to date, little progress has been made in studying the design and implementation of performance management systems within government departments in the context of an NPM framework in Australia. Investigating this will help develop an understanding of how performance measurement systems operate as part of the organisational control system in government departments. As mentioned before, it is an area that currently lacks empirical evidence. Such data will be helpful in assessing the usefulness of the many normative assertions about the role of performance management in government organisations. We were motivated to conduct this study in the Australian context by a study of the use and effect of using performance measures by state and local governments by the Government Accounting Standards Board and National Academy of Public Administration in the USA in 1997.

A second reason for undertaking this study was that it attempted to cover how the performance management choice was influenced by the organisation's internal strategic choice and external environment in government departments. It will assist in understanding the present forces that influence the use of the performance management system.

Government departments in Australia and overseas will benefit from the knowledge that would be gained in terms of the detailed description and analysis of the workings and further potential of their performance management systems. The project may result in a better understanding of the system and, possibly, an appreciation of how the systems can be improved, either in their design, implementation or both.

In recent years scholars have challenged the traditional performance measurement system. Consequently, the study has also drawn on recent developments in performance management studies; namely, the balanced scorecard (Kaplan and Norton, 1996). Our investigation of 'contemporary' performance management systems in the changing public sector context will help understand how far such private sector models have evolved within government departments and the reasons for their implementation.

Another reason for the research was to test models and theories of information and performance management systems in a specific case study with factual data. At present, little objective information is available concerning the usefulness of information for business performance management systems.

The study will help academia to understand whether a gap exists between what they teach and what public sector practitioners do in the field.

The findings of the study will help both academics and practitioners to find out the extent to which performance management in public sector organisations has changed or should change.

Finally, the study will help academic and professional accounting bodies consider the role of accountants in the design and reporting processes of performance measurement.

The remainder of this report is organised as follows. Firstly, we outline the study's context and research methodology adopted. Next, we present our findings and finally, we summarise the findings, outline some directions for future research and give our conclusions.

Context and methodology

New public management reform in Australia

More recently, as organisations and their technological, political, social and cultural environments have become more complex and more uncertain, the scale and intricacies of change in public sector organisations have increased. This trend has produced the need for a strategy-oriented performance measurement and reporting system. Additionally, the role of information produced by the performance measurement system in promoting organisational effectiveness (or performance) is an issue that has attracted particular attention not only in Australia, but also overseas, in the context of the NPM debate. NPM doctrines advocate the introduction of commercial accounting practices, such as accrual budgeting and key performance indicators. NPM encourages such managerial and commercial approaches to government entities, and emphasises managing for outcomes over simply rule compliance (Hood, 1995; Guthrie et al, 1999). From the context of NPM, it is necessary to understand how government agencies assess and report their organisational performance.

In recent years, the Australian public sector has experienced a relentless process of accountability reforms throughout all levels of government (Guthrie, 1999; Guthrie et al, 1999; Hoque and Moll, 2001). Areas of reform include the:

- implementation of National Competition Policy
- commercialisation/corporatisation of trading operations
- increased use of competitive tendering and contracting out
- organisational change, including reviews of boundaries and roles and functions, to enhance operational efficiency and accountability to local communities
- greater emphasis on strategic and corporate planning
- workplace reform and enterprise bargaining

The key objectives of such reforms are to promote a culture that emphasises performance and to make the public sector more responsive to the needs of the public by increasing managerial accountability, promoting efficiency and effectiveness, introducing consultative decision making and adopting a customer-focused strategy (Broadbent and Guthrie, 1992; Hood, 1995; Hoque and Moll, 2001). The changes create a greater demand for reform of organisational strategic priorities and related issues, such as organisational structure, accounting systems, strategic planning, and performance management and reporting in public sector organisations (Lapsley and Pettigrew, 1994).

It has been suggested that decision-making processes within public sector entities can be improved through 'new' accounting tools and techniques (Broadbent and Guthrie, 1992). One example of this in the Australian public sector is the recent introduction of accrual accounting. Accrual accounting was introduced in the Australian public sector to improve the accounting information produced and to enhance decision making (Parker and Guthrie, 1993). Additionally, technical rules set by standard-setting bodies have been linked to changes in public sector accounting information systems to improve the decision-making ability of government organisations.

Management accounting plays a central role in mapping the future direction of organisations by giving managers information for setting strategies and ensuring that inputs, processes and outputs are aligned to organisational goals and strategies. In a public sector context, there is one important additional potential use of this management accounting information; that is, for *external communication* to users with a vested interest in the direction and success (outcome) of the entity. These users fall into three groups: resource providers (employees, lenders, creditors, suppliers); recipients of goods and services (ratepayers, taxpayers and members of professional associations); and parties performing an oversight function (parliaments, governments, regulatory agencies, analysts, labour unions, employer groups, media and special interest community groups).

In addition to the requirements for reporting on planning, efficiency, effectiveness, performance and delivery of services to the community (where appropriate), the Treasury (state/territory/federal) now sets out the following additional requirements for reporting under the 'managing (or working) for outcomes' framework: (a) to report actual achievements against the approved output performance targets (quantity, quality, timeliness and unit cost), as specified in the budget paper, with explanations for significant variations in performance compared to targets; and (b) to report performance against the original budget for the revised budget.

The framework provides agencies and departments with the tools necessary to effectively monitor, evaluate and improve their performance in the delivery of outputs to the community. It promotes efficient and effective agency management with value-for-money service delivery. This is a contemporary financial management system derived from an accrual output-based framework. Agencies and departments are required to provide Treasury with quarterly performance information on actual performance compared to targets during the year. This information is then reported to ministers and Cabinet (adapted from Treasury websites).

Output measures capture the amount of products and services completed or delivered (Ho and Ni, 2005). Examples of such measures would be road safety services, community safety, crime prevention and victim support, road maintenance, numbers of emergency treatments in hospitals and providing educational programs or facilities. Outcome measures capture the results or the consequences of service delivery that are important to the public and customers (Ho and Ni, 2005). Examples of outcomes would be: maximising employment and training opportunities for all; improving educational outcomes for all students in all key areas; ensuring safe employment, learning and public environments; ensuring efficient and effective systems to facilitate improvement in the aforementioned priority outcomes; enhanced community safety and protection; and safer, fairer and expeditious handling of persons involved in the judicial system.

Methodology

Most organisations have some kind of evaluation system that is used for performance feedback, pay administration and, in some cases, counselling and developing employees. From the rational (economic) perspective, a performance measurement system represents an important measuring and calculation engine, recording and reporting outcomes from the processes controlled by the organisation that should promote economic rationality in management decision making. The performance management system is understood as being primarily a recording system that is separate from, and serving a different function to, the individual systems of control (such as the budgeting system) that management use as managerial aids (Simons, 1987; 1990; 1995; Ittner and Larcker, 1996; Kaplan and Norton, 1996).

The organisational strategy literature suggests that the control system of an organisation should be congruent with its strategy (Miles and Snow, 1978; Simons, 1987; Langfield-Smith, 1997). Furthermore, there is the view that a properly designed performance management system should have a positive impact on organisational performance (Otley, 1980; Chapman, 1997). Although the application of detailed performance measurement tools may enhance the quality of financial information, scholars suggest that organisations sometimes tend not to use such tools and information for making rational decisions (Meyer and Rowan, 1977). This implies that the performance measurement system is not a tool of *management* but just another type of *administration* (Hoque, 2005). Administration encourages a highly bureaucratic public system, which can be characterised by rigid adherence to rules and regulations, compliance, stability, predictability, input orientation, and inefficiency. Within such an environment, public sector entities may be undergoing change in their performance measurement systems, not to achieve organisational efficiency but to legitimise themselves to the electorate and other constituents, such as government and media (DiMaggio and Powell, 1983).

The mailed-out questionnaire used for this research was developed using research published previously, including the monographs published by the Government Accounting Standards Board of the USA in 2002.¹

¹ The study was conducted by Julia E Melkers, Katherine G Willoughby, Brian James, Jay Fountain and Wilson Campbell, sponsored by the Alfred P Sloan Foundation. For further details, see http://www.seagov.org/sea_gasb_project/survey_results.shtml

Context and methodology

The field of study is vast, given the time and resources at the disposal of this research. Consequently, it was decided to conduct the study within government departments only. The government departments (federal, state and territory) were chosen for two reasons. First, the use of performance measurement systems in this public sector is generally common. Second, the government departments have greater diversity and complexity in many areas, such as funding models, new competitive environments, information technologies and cost structure (in particular, the proportion and complexity of the overheads).

As part of the University Research Ethics policy, the research has not disclosed the names of the respondents who completed the survey nor has it identified the department names.

We sent questionnaires to 109 departments at two government levels – state/territory and federal. The questionnaire with a cover letter and a postage-paid, self-addressed return envelope was mailed to the selected manager (head of performance management) of each department. These managers were considered to be the people most likely to provide accurate and useful data concerning the department's operating environment and management processes, including budgets and performance management systems. The names of the participants were obtained by making telephone calls. Forty-two of the 109 questionnaires sent out in the first mailing were returned. A follow-up letter four weeks after the initial mail-out yielded a further nine returned questionnaires. Ten departments declined to complete the questionnaire, citing reasons such as contravening departmental policy and staffing constraints. Consequently, we received a total of 51 completed questionnaires, which represents a response rate of 46.8 per cent. To test for the existence of possible response bias, we undertook *t*-tests for two independent samples by testing the first and second mail-out. Statistically, we find no significant differences (at $p < 0.05$) in the mean scores on the department size (employment) and type of departmental activities between the early and late responses. Similarly, *t*-tests indicate no significant differences (at $p < 0.01$) between the responding and non-responding departments on the basis of the size and type of activities. Taken together, these results indicate no significant concern for the non-response bias. Table 1 briefly summarises the overall survey response patterns, and Table 2 provides the profile of respondents who completed the survey.

Table 1 Profile of the participating departments

Government	Questionnaires sent	Responses received	Response rate
Australian federal	13	7	53.8%
Australian Capital Territory	9	4	44.4%
Northern Territory	7	2	28.6%
New South Wales	16	6	37.5%
Queensland	18	11	61.1%
South Australia	5	2	40.0%
Tasmania	9	5	55.6%
Victoria	10	3	30.0%
Western Australia	22	11	50.0%
Total	109	51	46.8%

Table 2 Profile of the respondents (*N* = 51)

Length of service within government departments	Number of years	Frequency
	Below 2	11
	2–5	13
	5–8	5
	8–11	10
	11+	12
Age	Age group	Frequency
	20–29 years	2
	30–39 years	13
	40–49 years	22
	50+	14
Education level	Degree	Frequency
	Diploma	17
	Bachelor/Postgraduate	28
	Other	6
Gender		
	Male	31
	Female	19

New public management adoption in Australia

The approach of UK Conservative governments of the 1980s and 1990s to public service reform is often referred to as new public management (NPM) (Hood, 1991; 1995; Rose and Lawton, 1999). The public sector administration and management literature (e.g. Hood, 1995) identifies several elements of NPM; namely: (1) *hands-on professional management* – an emphasis on clear assignment of managerial responsibility for action; (2) *adoption of private sector management styles* – an emphasis on the adoption of private sector-type management practices and employment conditions; (3) *benchmarking and competition* – a focus on monitoring performance, both internally and externally, and competition for the provision of products and services; (4) *budgeting* – a focus on the adoption of accrual-based budgeting with an emphasis on cost-cutting, process efficiency, greater discipline and parsimony in resource use; (5) *emphasis on customer-focus strategy* – a focus on the processes in delivering products or services based on flexible outcomes influenced by clients, as opposed to predetermined outcomes by service providers; (6) *accountability (individually and departmentally)* – a focus on the degree of actual accountability exists for senior managers and what constitutes an accountability standard.

It has been suggested that successful implementation of these elements should put public sector entities on a more business-like footing, foster a more competitive environment and shift the traditional focus from a culture of complying with rules to a culture of managing for results (Broadbent and Guthrie, 1992; Hood, 1995).

How far have NPM ideals evolved within Australian government departments?

To assess the extent to which the NPM ideals have evolved within Australian government departments we provided respondents with a short description of each of the six NPM elements shown in Table 3, and asked them to indicate the appropriate number on a five-point scale, where 1 = to a little extent and 5 = to a very great extent. This six-item instrument was developed using prior research literature (Hood, 1995). Table 3 provides descriptive statistics of variables.

The results in Table 3 indicate that NPM elements have most commonly been implicated in government departments to a great extent in the area of accrual budgeting (highest mean, 3.81), followed by an emphasis on clear assignment of managerial responsibility for action (hands-on professional management). Accrual budgeting has been adopted to a large or very great extent by 71.4 per cent of respondents whereas 50–55 per cent of respondents have adopted hands-on professional management, accountability and emphasis on a customer-focused strategy to a large or very large extent. The NPM element, accountability and emphasis on customer-focused strategy are reported to have been applied to a large extent and, surprisingly, the areas least implemented appear to have been the adoption of private sector management styles (mean, 2.22) and benchmarking and competition (mean, 2.63). The former has been employed to little or no extent by 65.9 per cent of respondents and the latter by 44.2 per cent.

Table 3 Evolution of the new public management (NPM) concept

NPM element	Little or no extent	Moderate extent	Large and very great extent	Mean rank	Valid N	Missing N
Accrual budgeting	8 (19.0%)	4 (9.5%)	30 (71.4%)	3.81	42	9
Hands-on professional management	9 (22.5%)	9 (22.5%)	22 (55.0%)	3.43	40	11
Accountability (individually and departmentally)	11 (26.2%)	8 (19.0%)	23 (54.8%)	3.38	42	9
Emphasis on customer-focus strategy	11 (25.5%)	10 (23.3%)	22 (51.2%)	3.30	43	8
Benchmarking and competition	19 (44.2%)	12 (27.9%)	12 (27.9%)	2.63	43	8
Adoption of private sector management styles	27 (65.9%)	8 (19.5%)	6 (14.6%)	2.22	41	10

Balanced scorecard performance measurement practices

Measuring performance is a fundamental part of every organisation, whether it is run by a private sector or a government sector. A performance measurement system shows whether the organisation is on track in achieving its desired goals (Lynch and Cross, 1991; Kaplan and Norton, 1996; Simons, 2000).

It has been suggested that in today's competitive environment organisations need to be masters at anticipating customers' needs, devising radical new product and service offerings, and rapidly deploying new production technologies into operating and service delivery processes (Kaplan and Norton, 1996).

Pressure to perform and be effective in today's changing world is now not only an issue for organisations in the private sector but also for government departments. The changing socio-political, economic and technological environment is shaping a common future for the public sector globally, and there is a shift away from the traditional forms of accounting to Parliament to accounting for sustainable performance in government service provisions (Common, 1998; Funnell and Cooper, 1998; Ryan and Walsh, 2004).

In an attempt to adapt to this changing environment, the government sector worldwide has embarked on a series of financial management and accounting reforms that include accrual accounting and reporting, output-based budgeting, full-cost pricing and performance management (Broadbent and Guthrie, 1992; Funnell and Cooper, 1998; Guthrie et al, 1999; Hoque and Moll, 2001).

Furthermore, we now witness a new government sector in which organisational operations are invariably connected to multiple internal and external stakeholders or constituencies, such as government, media, community, politicians and employees. Government organisations attempt to measure and report their performance to satisfy these multiple parties. In addition to this, performance measurement is also crucial and relevant in today's government organisations, which face a significant reduction in government funding with increased community demand for quality services.

The remainder of this section focuses on the following issues: (1) description of the adoption of the balanced scorecard (BSC) approach; (2) the use of BSC performance measures in day-to-day operations; and (3) the effectiveness of performance measures.

Balanced scorecard performance measurement practice

The contemporary performance management literature (Kaplan and Norton, 1996; 2001) advocates the use of multiple performance measures in the organisation's performance management framework. Kaplan and Norton (1992; 1993; 1996) are well known for putting forward this idea, which is now commonly known as the balanced scorecard (BSC). The BSC approach focuses on both financial and non-financial measures within the following four dimensions:

- **Financial:** the financial perspective includes profitability measures such as cash flow, quarterly sales growth and operating income by division, increased market share and return on equity.
- **Customer:** the customer perspective encompasses such measures as market share, customer response time, on-time performance, product reliability, percentage of sales from new products, percentage of sales from established products, on-time delivery, share of key accounts purchases, ranking by key accounts and number of cooperative engineering efforts.
- **Internal business processes:** the internal business processes use such things as number of new patents; number of new product launches; process time to market; time to develop next generation; and quality, time and efficiency measures (such as direct materials efficiency variances, effect yield, manufacturing lead time, head count and inventory).
- **Learning and growth:** the learning and growth perspective focuses on people, information technology and systems and organisational processes with a view to create long-term growth and improvement. Three essential principles for this perspective, identified by Kaplan and Norton (1996), are employee capabilities, information system capabilities and motivation.

Balanced scorecard performance measurement practices

Kaplan and Norton (1996) suggest that financial measures should not be eliminated altogether, as a well-designed financial control system can actually enhance rather than inhibit an organisation's management program. The BSC integrates the financial measures with operational measures on customer satisfaction, internal processes and the firm's innovation and improvement activities.

Implementation of the BSC approach

To explore the extent to which government departments employed the BSC dimensions, we posed the following three questions to our participants:

1. Have you heard of a balanced scorecard (BSC) approach?
2. Does your organisation formally employ the BSC approach?
3. Does your organisation employ corporate BSC? Or are there cascading scorecards?

Forty-six (90.3%) of the 51 departments that responded to the survey reported having developed and used some form of performance measures in decision making and management for a substantial number of programs at divisional or departmental levels.

Of the 46 respondents, 43 (93.5 %) were familiar with the BSC approach, and 14 (30.4%) reported formally using this approach within their agency or department. Of these 14 agencies or departments, eight (57.1%) reported using a corporate-style BSC and only six (42.9%) reported using a cascading type.

Types of BSC measures implemented

To find out which BSC performance measures were being used, we asked participants the following question.

A number of key BSC performance measures are listed below. Please indicate by ticking the appropriate number of performance measures that are being used in your agency/department when measuring performance and to what extent? Check one that applies or check all that apply, using the following scale: 5 = to a very great extent; 4 = to a large extent; 3 = to a moderate extent; 2 = to some extent; 1 = to a little or no extent.

Table 4 presents the results. These results indicate that the BSC performance measures that were used to a large or very great extent in the departments and agencies who participated were in the areas of output measures (63.0%; mean, 3.57); cost efficiency and quality measures (47.8%; mean, 3.26); and measures of activities and processes (48.9%; mean, 3.22). On the other hand, the least used BSC performance measures were learning and growth measures (65.2%; mean, 2.20), and for input measures (37.8%; mean, 2.89).

Use of the BSC performance measures

To assess the actual use of BSC performance measures in their departments we asked respondents to indicate the extent to which BSC measures were used in the stated operational activities, on a five-point scale, where 1 = to a little extent and 5 = to a very great extent. The responses of the departmental managers are presented in Table 5. The data in this table show that performance measures were least often used for punishment or reward of staff (85.7%; mean, 1.50) or to follow others (88.1%; mean, 1.40). The most commonly used performance measures were to measure program performance (53.3%; mean, 3.53), to satisfy legislative requirements (58.7%; mean, 3.46) and manage an activity or program (53.3%; mean, 3.36). The limited use of performance measures to satisfy environmental goals, social responsibility goals and satisfying community expectations is discussed below.

Our findings (not shown in a tabular form) also reveal that the majority of participants indicated that their performance measurement systems were adequate for most of their needs. Only 6.5 per cent recorded that their performance measurement systems were adequate for all of their needs and 26 per cent reported that half of their needs were being met adequately by their current performance measurement system.

Table 4 Balanced scorecard (BSC) performance dimensions in practice

BSC dimension	Little or no extent	Moderate extent	Large and very great extent	Mean rank	Valid N	Missing N
Output (measures of the quantity of services provided)	6 (13.1%)	11 (23.9%)	29 (63.0%)	3.57	46	5
Cost/processes efficiency and quality measures	11 (23.9%)	13 (28.3%)	22 (47.8%)	3.26	46	5
Activity/process (measures of activities/processes)	10 (22.2%)	13 (28.9%)	22 (48.9%)	3.22	45	6
Customer/community satisfaction measures	14 (31.2%)	8 (17.8%)	23 (51.1%)	3.16	46	5
Outcomes (measures of the result that occur, at least in part, because of service provided)	16 (34.8%)	12 (26.1%)	18 (39.2%)	3.06	46	5
Inputs (activities planned)	17 (37.8%)	9 (20.0%)	19 (42.2%)	2.89	45	6
Learning and growth measures (employee satisfaction, employee turnover, employee training and education, employee absenteeism)	30 (65.2%)	9 (19.6%)	7 (15.2%)	2.20	46	5

Table 5 Use of the performance measures in operational activities

Activity	Little or no extent	Moderate extent	Large and very great extent	Mean rank	Valid N	Missing N
Measure program performance	10 (22.0%)	11 (24.4%)	24 (53.3%)	3.53	45	6
Satisfy legislative requirements (law, ordinance, policy etc.)	12 (26.1%)	7 (15.2%)	27 (58.7%)	3.46	46	5
Manage an activity or program	11 (25.0%)	10 (22.7%)	23 (53.3%)	3.36	44	7
Budget formulation	14 (35.6%)	11 (24.4%)	18 (40.0%)	3.13	45	6
Taking actions based on the results	17 (38.6%)	8 (18.2%)	19 (43.2%)	3.06	44	7
Budget execution	15 (34.9%)	11 (25.6%)	17 (39.5%)	3.05	43	8
Strategic planning	17 (38.6%)	9 (20.5%)	18 (47.8%)	3.02	44	7
Satisfy community expectations	19 (42.2%)	14 (31.1%)	12 (26.7%)	2.80	45	6
Social responsibility goals	22 (50.0%)	10 (22.7%)	12 (27.3%)	2.66	42	9
Goals in relation to local community impacts	24 (54.5%)	11 (25.0%)	9 (20.4%)	2.45	44	7
Environmental goals	30 (71.4%)	8 (19.0%)	4 (7.8%)	1.97	42	9
Satisfy professional associations	31 (76.7%)	6 (14.0%)	2 (4.8%)	1.77	43	8
Punish or reward staff	36 (85.7%)	4 (9.5%)	2 (4.8%)	1.50	42	9
Follow others	37 (88.1%)	5 (11.9%)	0 (0.0%)	1.40	42	9

Balanced scorecard performance measurement practices

The role of performance data in benchmarking activities

We also asked respondents to indicate the extent to which performance data were used for benchmarking. Table 6 indicates that performance data for benchmarking are most commonly used to a large or very great extent when benchmarking with prior periods (75.0%; mean, 3.77) and established targets (60.0%, mean, 3.44). Surprisingly 15.9 per cent of respondents do little or no benchmarking with prior periods and 26.7 per cent do little or no benchmarking with established targets. Performance data for benchmarking is most commonly used to a little or no extent within private sector organisations (69.8%, mean, 1.37), with other programs or agencies of other governments (64.4%, mean, 2.18) or within governments (72.1%; mean, 2.14).

Important aspects of successful implementation of a performance measurement system

We were also interested in exploring the extent to which government departments placed emphasis on the listed 10 aspects of successful implementation of the performance measurement process (see Table 7). To do so, we used a five-point scale, where 1 = to a little extent and 5 = to a very great extent. The results of this exercise are summarised in Table 7. In Table 7, the top three aspects rated as being the most important aspects of successful implementation of a performance measurement system were in order of importance: regular use of performance measures by executive leadership (62.2%; mean, 4.47), performance measures that help staff monitor progress toward intended program/service results (59.1%; mean, 4.41) and the adequacy of technology for collecting, analysing and reporting performance measures (47.8%; mean, 4.28).

It was most commonly agreed the least important aspects were citizen, client/customer, or stakeholder interest in government programs, additional or changed staffing for collecting, analysing, and reporting the performance measures and regular use of performance measures by elected officials.

Table 6 Use of performance data for benchmarking activities

Benchmarking activities	Little or no extent	Moderate extent	Large and very great extent	Mean	Valid N	Missing N
With prior periods	7 (15.9%)	4 (9.1%)	33 (75.0%)	3.77	44	7
With established targets	12 (26.7%)	6 (13.3%)	27 (60.0%)	3.44	45	6
With national standards or guidelines from Federal agencies, accreditation and/or professional groups	21 (46.7%)	10 (22.2%)	14 (31.1%)	2.62	45	6
With other programs/agencies of other governments	29 (64.4%)	10 (22.2%)	6 (13.4%)	2.18	45	6
With other programs/agencies within your governments	31 (72.1%)	5 (11.6%)	7 (16.3%)	2.14	43	8
With private sector organisations	30 (69.8%)	12 (27.9%)	1 (2.3%)	1.37	43	8

Table 7 Important aspects of successful implementation of performance measurement system

Aspects	Not important	Important	Very important	Mean rank	Valid N	Missing N
Regular use of performance measures by executive leadership	3 (6.7%)	14 (31.1%)	28 (62.2%)	4.47	45	6
Performance measures that help staff monitor progress toward intended program/ service results	3 (6.8%)	15 (34.1%)	26 (59.1%)	4.41	44	7
Adequacy of technology for collecting, analysing and reporting performance measures	5 (10.9%)	19 (41.3%)	22 (47.8%)	4.28	46	5
Communication of the purpose for using performance measurement to employees	4 (9.1%)	23 (52.3%)	17 (38.6%)	4.18	44	7
Staff participation in the process of developing performance measures	4 (8.9%)	24 (53.3%)	17 (37.8%)	4.15	45	6
Training for management and staff about performance measurement development and selection	4 (8.9%)	24 (53.3%)	17 (37.8%)	4.13	45	6
A link of performance measures to budget decisions	6 (13.6%)	17 (38.6%)	21 (47.8%)	4.07	44	7
Citizen, client/customer or stakeholder interest in government program performance	10 (22.7%)	23 (52.3%)	11 (25.0%)	3.73	44	7
Additional or changed staffing for collecting, analysing and reporting the performance measures	9 (20.0%)	18 (40.0%)	18 (40.0%)	3.60	45	6
Regular use of performance measures by elected officials	11 (24.4%)	21 (46.7%)	13 (28.9%)	3.53	45	6

Sustainability performance measures

The role of sustainability measures in the public sector

Sustainability performance encompasses performance in connection with: natural resource conservation and emission levels; other environmental activities and initiatives; aspects of employment; occupational health and safety; community relations; stakeholder involvement; and economic impacts of the organisation other than those financial measures used in the financial accounts. Although there is no one agreed worldwide standard or guideline, there are a number that are commonly used or referred to by organisations in selecting sustainability performance measures. Perhaps the best known of these are the Global Reporting Initiative (GRI) 2002 Sustainability Reporting Guidelines www.globalreporting.org/guidelines/2002/GRI_guidelines_print.pdf

The GRI is an independent institution 'whose mission is to develop and disseminate globally applicable sustainability reporting guidelines' (GRI Guidelines, 2002, p. 1). It was created by Ceres (www.ceres.org) and the United Nations Environment Programme, in 1997, and became an independent body in 2002. The GRI is a multi-stakeholder organisation, and includes members from the broader business and public sectors (organisational stakeholders), who elect a stakeholder council which, in turn, elects the board of directors.

The guidelines of the GRI aim to assist all organisations in reporting the economic, social and environmental perspectives of their operations. Two sets of guidelines have been published to date. The 2002 guidelines were developed following the provision of extensive feedback by companies that had adopted the 2000 guidelines. The GRI has recently released an enhanced version of the guidelines, 'G3' (www.grig3.org/guidelines.html). The key components of the GRI guidelines are the reporting guidelines, technical protocols and sector supplements. The reporting guidelines are applicable to all organisations and represent the core component of the GRI guidelines. The technical protocols assist organisations in measuring their performance on sustainability related issues; for example, measuring water or energy usage. These are specific supplements available for certain sectors/industries.

In January 2004, the GRI published *Public Agency Sustainability Reporting: A GRI Resource Document in Support of the Public Agency Sector Supplement Project* (www.globalreporting.org/guidelines/resource/public.pdf). It notes that public sector sustainability information tends to be scattered across a number of documents; tends to focus on policies rather than performance information; tends to be presented inconsistently across the board; and tends to focus on measurement of external conditions (as in 'state of the environment' reports) rather than public agency performance and impacts. The public sector supplement to the GRI 2002 guidelines aims to identify performance indicators that are important to public agencies but which are not fully reflected in the guidelines.

The GRI guidelines for reporting on sustainability are based on reporting principles of transparency, inclusiveness, auditability, completeness, relevance, sustainability context, accuracy, neutrality, comparability, clarity and timeliness. The contents of a typical report should address the areas of: vision and strategy; organisational profile; governance structure and management systems; GRI content index; and performance indicators (on the economic, social and environmental dimensions).

An important Australian initiative is the *Australian Guiding Principles on Extended Performance Management: A Guide to Better Managing, Measuring and Reporting Knowledge Intensive Organisational Resources* released in November 2005 by the Society for Knowledge Economics (www.ske.org.au/downloads/Australian-Guiding-Principles). One of the stated aims of the Society for Knowledge Economics is to 'develop and test a series of guiding principles to enhance the management of knowledge and innovation within public, private and third sector organisations' (p5). The *Guiding Principles* argue that 'new accounts of performance', such as social responsibility reports, triple bottom line reports and intellectual capital reports (referred to in the guidelines as extended performance accounts), make visible knowledge-intensive organisational resources, giving a broader and more balanced perspective of organisational wealth and shed light on an organisation's ability to create wealth in the future. The document outlines the importance of extended performance management and proposes a framework for developing an extended performance account.

Prior research indicates a lack of accountability for social and environmental performance in the Australian public sector relative to the private sector. Gibson and Guthrie (1995) analysed the contents of the 1994 annual reports of 20 public sector entities and 40 private sector entities, finding that only 18 per cent of public sector entities compared with 67 per cent of listed companies had a separate section on environmental performance. None of the public sector organisations reported environmental performance against targets. Given the strong link between external reporting and data collected within an organisation, this indicates that environmental performance measurement in public sector organisations is inadequate.

Burritt and Welch (1997a) examined the annual reports of 60 Australian Commonwealth public sector organisations over the 10-year period 1984–93. They found that budget entities funded from taxation revenues disclosed a much larger volume of environment related data than non-budget entities funded by the market, and that differential increased markedly in the 1990s. Burritt and Welch (1997b) note that, although private sector organisations are held to account by competitive market forces, corporate legislation and shareholder pressure, the Joint Committee on Public Accounts (JCPA) has raised concerns about the lack of mechanisms to scrutinise the accountability of commercially-oriented public sector entities (Commonwealth of Australia, 1995).

In their report (Commonwealth of Australia, 1992), the JCPA called for the measurement and reporting of performance on social and environmental issues, including a consistent use of indicators over time and the reporting of performance against targets. The current state of sustainability accounting and reporting in the public sector indicates that this call was not heard. Yet Ball's (2005) case study of a UK local government council demonstrates how environmental accounting contributes towards improved sustainability performance.

Sustainability-related measures in practice

To assess the extent to which government departments made use of the socially and environmentally related measures shown in Table 8, we asked respondents to indicate the appropriate number on a five-point scale, where 1 = to a little extent and 5 = to a very great extent.

The data in Table 8 indicate that few socially and environmentally related measures are being used to a very great extent. The most commonly used measures were employee diversity and economic impacts other than financial measures used in the financial accounts. Employee diversity measures and economic impact measures were used by 43.1 per cent and 41.5 per cent of respondents, respectively, to a large or very great extent. With the exception of natural resource conservation and emission levels, more respondents for all other categories (employee diversity; economic impacts; occupational health and safety; stakeholder involvement in community; social and environmental issues; community relations; and employee satisfaction) used performance measures to a large or very great extent than respondents using them to little or no extent. Natural resource conservation and emission levels measure was reported as being used to a little or no extent by 34.1 per cent of respondents.

Table 8 Use of social and environmental related measures

Measures	Little or no extent	Moderate extent	Large and very great extent	Mean rank	Valid N	Missing N
Employee diversity	4 (9.1%)	10 (22.7%)	19 (43.1%)	3.14	44	7
Economic impacts (excluding financial measures used in financial accounts)	3 (7.3%)	11 (26.8%)	17 (41.5%)	3.12	41	10
Occupational health and safety	5 (11.6%)	13 (30.2%)	17 (39.6%)	3.02	43	8
Stakeholder involvement in community, social and environmental issues	5 (11.9%)	12 (28.6%)	13 (30.9%)	2.90	42	9
Community relations	6 (14.3%)	11 (26.2%)	11 (26.2%)	2.67	42	9
Employee satisfaction	10 (22.7%)	9 (20.5%)	14 (31.8%)	2.6	44	7
Other community, ethical, social and environmental issues	7 (16.3%)	11 (25.6%)	8 (18.6%)	2.56	43	8
Natural resource conservation and emission levels	14 (34.1%)	5 (12.2%)	12 (29.3%)	2.48	41	10

The responses to this question are reinforced by those in Table 3, which shows that 65.2 per cent and 31.2 per cent of respondents, respectively, said they were using learning and growth measures (employee satisfaction, employee turnover, employee training and education, and employee absenteeism) and customer/community satisfaction measures as BSC performance measure to little or no extent. Furthermore, Table 4 records that performance data were used to little or no extent to satisfy environmental goals by 71.4 per cent, goals in relation to local community impacts by 54.5 per cent, social responsibility goals by 50.0 per cent and community expectations by 42.2 per cent.

The low use of social and environmental data is alarming given that some issues, such as occupational health and safety and equal opportunities, are covered by legislation. It would seem that the call by the JCPA for the measurement of performance on social and environmental issues has had little impact on practice despite the availability of voluntary guidelines, such as those of the GRI. It raises questions as to how the government can effectively encourage the private sector to be more accountable for its social and environmental impacts, a matter currently subject to an enquiry by the Commonwealth's Parliamentary Joint Committee on Corporations and Financial Services, when measures of social and environmental impact have such low use in the public sector.

To understand the recording, reporting and communicating patterns of performance measures by government departments, we asked a series of questions. These are discussed in turn.

Recording, reporting and communicating performance measures

Recipients of the performance report

The results (not shown in tabular form) indicate that the majority of output measures are for the benefit of internal management (84.4%) and elected officials (80%), with 27 participants (60%) reporting output measures for citizens and the media.

Reasons for generating reports

Table 9 shows that reports generated from performance measurement systems were used equally for external financial reporting and internal managerial control (71.7%). More than half of the participants also indicated that reports were used for budget preparation (58.7%) and legal requirements (50%).

Table 9 Purposes of reports generated from performance measurement systems

Report purposes	Number		Percentage	
	Yes	No	Yes	No
External financial reporting	33	13	71.70	28.30
Internal managerial control	33	13	71.70	28.30
Budget preparation	27	19	58.70	41.30
Budget execution	20	26	43.50	56.50
Legal requirements	23	23	50.00	50.00
Triple bottom line	12	34	26.10	73.90
Other	5	39	11.40	88.60

Users of the report

When asked about the users of the performance reports, the respondents indicated, as shown in Table 10, that the Treasury Office is the most likely to use performance measures to a great extent (mean, 3.36), followed by program managers (mean, 3.21). Financial managers, budget analysts, operating managers and human resource managers are all equally likely to use performance measures to a little extent. Least likely to use performance measures to a great extent or very great extent are sustainability or environmental managers (mean, 2.06).

Table 10 Users of the performance report

Users	To little extent	Moderate extent	Great or very great extent	Mean rank	Valid N	Missing N
Treasury Office	6.7%	26.7%	66.6%	3.36	45	6
Program managers	14.3%	35.7%	50.0%	3.21	43	8
Parliament	13.3%	26.7%	60.0%	3.16	45	6
Elected officials	15.0%	20.0%	65.0%	2.98	40	11
Operating managers	19.0%	16.7%	64.3%	2.90	42	9
Financial managers	22.0%	12.8%	65.2%	2.85	41	10
Budget analysts	20.5%	12.8%	66.7%	2.71	42	9
Citizens and media	27.5%	27.5%	45.0%	2.40	40	11
Human resource managers	27.5%	13.7%	58.8%	2.20	35	16
Sustainability, environmental or social responsibility managers	41.9%	16.1	42.0%	2.06	31	20

Methods used to develop performance data

As shown in Table 11, of the methods used to develop performance measurement systems, an in-house approach was most common among the respondents (91.3%). This was followed by equal use of a contractor, software package or other method.

Table 11 Methods used to develop performance measurement system

Methods utilised	Number		Percentage	
	Yes	No	Yes	No
In-house	42	4	91.3	8.7.0
Contractor	6	40	13.0	87.0
Software package	6	40	13.0	87.0
Borrowed	0	46	00.0	100.0
Other	6	40	13.0	87.0

Performance data entry techniques

The data in Table 12 indicate that the majority of participants use a manual data entry technique (47.8%), with online (21.7%) and PC to PC (17.4%) methods being the next most popular data entry methods.

Table 12 Principle method of data entry

Method of data entry	Number		Percentage	
	Yes	No	Yes	No
Manual	22	24	47.80	52.2
Batch interface	7	39	15.20	84.8
Online	10	36	21.70	78.3
PC alone	5	41	10.90	89.1
PC to PC	8	38	17.40	82.6
Other	2	44	4.30	95.7

Maintaining and communicating performance data

Thirty-five (76.1%) of the 51 departments that responded to the survey reported the use of hard copies when submitting their performance report to the various stakeholders, including Treasury. This is followed by other mechanisms such as emails and diskettes. Of the methods used to communicate the performance data, the annual report was most common among the responding departments (82.4%). This is followed by the department budget request, departmental websites, reporting to parliament, press releases, government newsletters and other financial reports.

The role of accounting in the performance measurement process

This study found a significant linkage between accounting functions and the performance measurement process. The findings (not shown in tabular form) reveal that data used in BSC performance measurement systems is largely gathered from statistical procedures (73.9%) and general ledgers (71.7%). Estimates, budget entries and historical data were also common among participants.

Among the respondents a general ledger (43.5%) was the most common management system and function integrated in performance measurement systems, followed by management accounting (34.8%) and program accounting (28.3%).

Effectiveness of the performance measurement system

The effectiveness of the performance measurement system has been defined as the achievement of the objectives set for a task (Cinquini and Mitchell, 2005). In management accounting literature, researchers have used the subjective overall success level assessments of management accounting practices by organisational managers who are involved in such practices (e.g. Shields, 1995; Swenson, 1995; Innes et al, 2000; for a review see Cinquini and Mitchell, 2005). These researchers used managers' perceived effectiveness of the system adopted in the organisation.

Effectiveness of the performance measurement system

In this study, we also attempted to identify the effectiveness of the performance measures that are being used in various managerial activities. We asked respondents to rate, using a Likert five-point scale (where 1 = not effective and 5 = very effective), whether or not success has been achieved as intended in a number of managerial activities. Table 13 presents the results.

The data in Table 13 indicate that of the performance measures being reportedly used to a moderate extent, increasing the awareness of and focus on results was the most common response among participants (mean, 3.37), followed by increasing awareness of factors affecting department performance (mean, 3.36) and improving responsiveness to clients (mean, 3.11).

In addition to this question, we also asked respondents, on a five-point scale, to indicate their agreement or disagreement with the following three statements.

- Performance measures have enhanced program efficiency.
- Performance measures have enhanced program effectiveness.
- The entity is 'better off' since using performance measures.

The results indicate the majority of participants agree that the results of using performance measures have enhanced program efficiency (mean, 3.33) and program effectiveness (mean, 3.46), and that their entity is 'better off' since using performance measures (mean, 3.71).

The majority of participants also indicated that their performance measures were adequate for most of their needs. Only three of 46 (6.5%) responding departments recorded that their performance measures were adequate for all of their needs, and 12 of 46 (26%) reported half of their needs being met adequately by their current performance measures.

Table 13 Effectiveness of performance measures

Area	Not effective	Somewhat effective	Highly effective	Mean rank	Valid N	Missing N
Increasing awareness of and focus on results	2 (4.3%)	14 (30.4%)	28 (60.9%)	3.37	42	9
Increasing awareness of factors that affect performance results	1 (2.3%)	14 (31.8%)	25 (56.0%)	3.36	44	7
Improving responsiveness to customers	3 (6.7%)	14 (31.1%)	22 (48.9%)	3.11	42	9
Improving programs/service quality	4 (8.9%)	14 (31.1%)	23 (51.2%)	3.09	45	6
Communicating with the public about performance	7 (15.2%)	12 (26.1%)	24 (52.2%)	3.04	43	8
Improving effectiveness of agency programs	4 (9.1%)	19 (43.2%)	20 (45.5%)	2.93	43	8
Changing strategies to achieve desired results	6 (13.3%)	15 (33.3%)	20 (44.5%)	2.91	42	9

Effectiveness of the performance measurement system

Area	Not effective	Somewhat effective	Highly effective	Mean rank	Valid N	Missing N
Changing the substance or tone of discussion among legislators about agency budgets	7 (16.3%)	13 (30.2%)	15 (34.9%)	2.72	42	9
Improving communication with the legislature and legislative staff	7 (16.3%)	15 (34.9%)	14 (32.6%)	2.70	41	10
Changing the questions legislators or their staff ask government managers/executives	10 (23.8%)	10 (23.8%)	13 (31.0%)	2.59	46	5
Reducing duplicating services	13 (31.0%)	9 (21.4 %)	13 (31.0%)	2.52	45	6
Changing the substance or tone of discussion among legislators about oversight of agency	10 (23.8%)	13 (31.0%)	11 (26.2%)	2.48	45	6
Improving external government cooperation/coordination	13 (28.9%)	12 (26.7%)	13 (28.9%)	2.47	45	6
Cost savings	14 (33.3%)	10 (23.8%)	13 (30.9%)	2.47	44	7
Improving cross-agency cooperation/coordination	13 (28.9%)	14 (31.1%)	18 (40.0%)	2.40	41	10
Changing appropriation levels	12 (29.3%)	12 (29.3%)	8 (19.5%)	2.34	1.15	1–5
Reducing environmental impacts	16 (39.0%)	16 (39.0%)	4 (9.7%)	1.95	1.02	1–5

Concluding comments

In recent years, new public management (NPM) doctrines worldwide advocate private sector-styled accounting and performance measurement practices for public sector organisations. However, the application of such practices varies in different organisational contexts. This report documents the incidence of performance measurement and reporting practices of 109 state/territory and federal government departments in Australia.

To collect the data, we mailed out a questionnaire. A series of inter-related research questions were developed and addressed. The findings revealed a number of facts.

First, the performance measures utilised to a great extent in the subject departments were in the areas of cost efficiency and quality measures and for learning and growth measures.

Second, satisfying community expectations and legislative requirements was the most common performance measure.

Third, sustainability, environmental or social responsibility managers were the least-used performance measures.

Fourth, the majority of participants agreed that the results of using performance measures would enhance their departments' program efficiency and program effectiveness, and that their entity was 'better off' since using performance measures.

Fifth, the NPM elements have most commonly been implicated to a great extent in the area of accrual budgeting. NPM elements, benchmarking and competition, and emphasis on customer-focused strategy are reported to have been applied to a moderate extent, given the recent change in the public sector operating environment.

We attempted to explore the extent to which government departments made use of the BSC concept in measuring organisational performance. Our findings have revealed considerable use of the BSC concept, which focuses on such key dimensions as inputs, activities/processes, output/outcomes and community satisfaction.

The major rationale behind such practices was the Australian government's recent reform policy regulation and 'working for outcome' framework. The use of sustainability, environmental or social responsibility measures was reported to be little used by government departments. The majority of participating departments agreed that the results of using performance measures had enhanced their program efficiency. This study suggests that the NPM concept has most commonly been implicated to a great extent in the area of accrual/output budgeting.

The results reported here have drawn attention to the importance of multiple performance indicators in measuring the effectiveness of an operation. In particular, it has led to a greater understanding of how balanced scorecard performance (BSC) measures play an important role in improving the performance of a government department. These findings are consistent with the results reported in several private sector settings. To conclude, we like to emphasise that this study's findings support our literature review: that the public sector is not setting a good example for the corporate sector.

The aforementioned findings are, nonetheless, subject to various limitations. Like all cross-sectional studies, this study is likely to suffer from subjective perceived measurements based on a survey methodology. Multiple case studies of similar government departments that are based on face-to-face interviews may shed light on the role of management control systems in the planned change in the public sector. Future research may wish to undertake an assessment of whether effectiveness or performance is a function of the 'fit' or match between the government departments' regulatory environment and use of the different combinations of BSC performance measures. The academic community largely supports claims that because BSC performance measures focus on a firm's long-term critical success, they may lead to improved organisational performance.

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