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STRENGTHENING THE LINK BETWEEN PERFORMANCE MEASUREMENT AND DECISION MAKING

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Many public agencies now face dual pressures to meet external accountability demands on one hand, and improve their internal performance on the other. This begs the question whether the demands that are made on public agencies to externally report on their performance have a limited or wide ranging impact on the utilization of performance indicators (PIs) for internal improvements. This article addresses this question via a small group of public agencies and public accountability authorities in Australia. It also examines the main factors that affect the use of PIs for decision making. The evidence suggests that the agencies use PIs more for meeting external reporting requirements than for achieving internal improvements. Various constraints on the use of PIs were identified, mainly technical problems, and to a lesser extent, political and organizational issues.

INTRODUCTION

Although not a new idea, performance measurement and reporting has been embraced by governments under the New Public Management (NPM) movement to deal with issues relating to accountability, efficiency and effectiveness in the public sector (Holzer and Yang 2004; Halachmi 2005; Taylor 2007). So much so, that many public agencies are required under legislative or executive mandate to measure and report on their performance achievements to key public accountability authorities using performance indicators (PIs). In recent years, however, public administration scholars and practitioners have observed that the establishment of a performance measurement and reporting system has not always been accompanied by the effective use of performance information (de Lancer Julnes and Holzer 2001; Boyne *et al*. 2002; Coplin *et al*. 2002).

This raises two issues. First, as many public agencies are now facing dual pressures to meet external accountability demands on one hand, and improve their internal performance on the other, it begs the question whether the demands that are made on public agencies to externally report on their performance have a limited or wide ranging impact on the utilization of PIs for internal improvements to key public accountability authorities. In Australia, for example, many accountability authorities, such as government auditing bodies, have encouraged public sector agencies to extend their use of PIs into internal management (Office of Auditor General for Western Australia 2005; Queensland Audit Office 2005; Audit Office of New South Wales 2006). It is important to find out whether public sector agencies have responded to calls made by accountability authorities to use their PIs for internal improvements. Second, the presence of PIs has not always been reported to be accompanied by their use for evaluating performance, leading some authors to make a distinction between the availability of performance information and its usefulness (Berman and Wang 2000; Boyne *et al*. 2004a; Melkers and Willoughby 2005; Taylor 2007). The mere presence of PIs does not guarantee improved evaluation. It is likely that the use or non-use of a PI for decision making is shaped by various antecedents, notably the capacity of PIs to meet the information needs of the user.

This article on a small group of Australian public agencies and accountability authorities aims to examine the above issues. Specifically, it addresses two questions: (1) Are agencies

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using PIs largely to meet external reporting requirements and less for internal decision making? (2) What are the main factors that affect the use of PIs for decision making? The external reporting of PIs largely involves two groups of actors in the public sector: public agencies and public accountability authorities. Public accountability authorities are public entities which possess the authority to evaluate the performance of agencies, normally through annual reports and/or budget statements. PIs are claimed to provide useful information to public accountability authorities for holding public agencies to account, and to the agencies themselves for improving their internal management (Day and Klein 1987; Boyne *et al*. 2002; Behn 2003; Rubenstein *et al*. 2003). If the information derived from PIs can improve the management of public sector, then these two parties will have the most to gain from the utilization of such information for decision making.

By addressing the above questions, this article has the capacity to contribute to the literature on performance measurement and its application in the public sector. This paper is responding to a call made by others (for example, Wholey 1999; de Lancer Julnes and Holzer 2001) for more empirical studies to be carried out on analysing performance measurement systems in a variety of contexts. The number of empirical studies on performance measurement, while exhibiting growth in recent years, is small compared to the overall literature on this topic, and has been largely confined to countries such as the US, UK and Europe (de Kool 2004; Melkers and Willoughby 2005; Poister and Streib. 2005; Boyne and Chen 2006). This study will add to the growing international list of empirical studies on performance measurement. In addition, although public agencies and accountability authorities are assumed to use PIs for assisting their decision making, past studies tend to focus on one of them but not both (Ashworth *et al*. 2000; Taylor 2007). This article attempts to obtain the input from both users of PIs – external users (accountability authorities) and internal users (agencies) – for assessing the efficacy of PIs for decision making. The findings make a significant contribution to the understanding and application of PIs for improved public sector performance, particularly on strengthening the link between performance measurement and performance information use for decision making.

BACKGROUND AND HYPOTHESES

External reporting and internal use

Performance measurement systems are established based on the assumption that humans can use the information to make better decisions (Cavalluzo and Ittner 2004; de Kool 2004). However, as indicated above, according to institutional theory, public agencies may establish performance measurement systems to meet external requirements in order to provide an impression of rationality and efficiency but will not use the systems to improve internal performance (Covaleski and Dirsmith 1991; Gupta *et al*. 1994). This is because they rely more on the support of external stakeholders than their actual performance for their legitimacy (Scott 1987). In his study of 27 New Zealand public agencies, Norman (2002) raised an official's concern that 'producing documents has become more important than management and actually achieving results' (p. 623). In their research of five public departments, Gregory and Lonti (2006) stated that the measurement of the quality of policy advice, which is a central component of the New Zealand model of public management, appeared 'to be much more of an exercise in counting for its own sake than they are a means of ensuring and maintaining the quality of policy advice' (p. 21). In the US, Ingraham (2005) noted that performance information 'rarely crosses the aisle in

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policy debates' to become 'the foundation for core policy decisions' (p. 394). Based on the empirical evidence, the first hypothesis is as follows:

H_1: Public agencies use PIs more for external reporting than for internal purposes.

Internal use and the PI system

So where did the assumption that performance information can contribute positively to decision making come from? Decision making is commonly explained by the rational-comprehensive model. This mainstream model portrays the decision-making process as linear; problem identification is accompanied by information collection and analysis so that the best possible (maximizing) decision can be made. The rational model thus presumes information to be problem-centred and goal-directed (Chaffee 1980; Pfeffer 1981; Rich 1991). Simon's (1992) bounded rationality reformulates the rational view to take into account individuals' limits in their capacities to process information and limited resources to devote to search activities. In their study of UK local authorities, Boyne *et al*. (2004b) found that the ease in which these authorities undertook planning varied with organizational resources and expertise. If information is collected to address a problem or goal, then access to this information is likely to directly impact on the decision. If performance information is not used for evaluation or making decisions, then it is arguably due to the lack of fit between the information provided and the information needs of the user (Boyne *et al*. 2004a; Halachmi 2004; Julnes 2006). In her survey of public accountability authorities in three East Asia countries, Taylor (2007) found that their utilization of PIs–which had been reported to them by agencies for making decisions about the performance of these agencies–could best be described as careful and cautious. This was due to the participating authorities' perceptions that the agencies' PIs had failed to meet their performance information needs.

This emphasis on satisfying the information needs of the user suggests that the PI system should meet certain criteria such as validity and reliability (Poister and Streib 1999; Taylor 2001a). The characteristics can apply to the PIs themselves, such as the following:

- the establishment of a reasonable level of agreement between the PIs and the goals and objectives of the agency's programmes that are being measured;
- the establishment of targets for the PIs which serve as a clear guide and impetus for government officials to work towards the achievement of goals;
- the capacity of the PIs to measure the qualitative aspects of performance (Bouckaert 1993; Poister and Streib 1999; Heinrich 2002).

They can also apply to organizational factors that support the PI system, such as resources and expertise. For example, agency officials should provide PIs in a timely manner, possess the necessary skills to analyse or interpret the information derived from PIs, and measure activities which are important to the agency rather than measure them because data are available (Moynihan and Ingraham 2001; Cavalluzzo and Ittner 2004).

Several authors have provided alternative perspectives on the use and non-use of PIs for decision making (Osborne *et al*. 1995; de Kool 2004; Kim *et al*. 2006). The model of organizational process recognizes that a government consists of multiple organizations, each with a fixed set of standard operating procedures and programmes (Allison 1969). The implication is that public agencies would engage in less extensive information search

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and analysis activities, but rely heavily on rules, precedents and standard operating procedures (Pfeffer 1981). In his study of Canadian firms, Henri (2006) found a relationship between organizational culture and the use of PIs, and concluded that 'management should be aware of the values on which their organization relies before trying to use PMS [performance measurement systems] in a specific way or adapting organizational processes to foster specific use' (p. 97). On the other hand, 'bureaucratic analysts are members of organizations and are obliged to promote and protect the interests their organizations represent' (Feldman 1989, p. 118). This points to the bureaucratic political model of decision making, which illustrates the utilization of performance information as being subjective and value-laden, and dependent upon the motivations and capacity of the actors to support their political goals (Allison 1969; Pfeffer 1992; de Kool 2004). Compared to the private sector, in the public sector, public scrutiny can be intense as well as politics more pervasive (Nutt 2005; Tillema 2006). If officials believe that PIs can be politicized or attract negative media coverage, they are less likely to view PIs positively (Ho 2005). Information that does not serve their needs tends to be ignored or manipulated (Pfeffer 1992). Rather than give equal balance to all performance information, agencies can selectively present and use information to favour their position (Pfeffer 1992; de Kool 2004; Moynihan 2005).

In conclusion, apart from the dominant rational view, there are other theoretical explanations for the utilization and non-utilization of performance information for decision making. However, the bulk of empirical studies on PIs tend to support the rational view in that technical faults within the PI system (for example, the PIs' inability to capture quality) are largely blamed for undesirable outcomes, such as the non-use of PIs for decision making, goal displacement and cheating (Bohte and Meier 2000; Taylor 2001, 2007). For example, Boyne *et al*. (2004b) reported that the planning problems encountered by a group of UK local authorities were largely technical rather than political. This explains the interest in and efforts devoted to improving the development and implementation of PIs and the PI system (Rubenstein *et al*. 2003; Cavalluzzo and Ittner 2004; Martin and Smith 2005). Based on the disproportionate empirical support, it is hypothesized that the use of PIs for decision making will only occur if the users are convinced of the value of the information. In other words,

> H_2: The use of PIs for decision making is significantly affected by the capacity of the characteristics of the PIs to meet the information needs of the user.

From the agencies' point of view, this means having an appropriate PI system, such as those discussed above, in place. Similarly, it is likely that the accountability authorities' satisfaction with the agencies' PIs will significantly affect their use of these PIs in decision making.

METHOD

Unit of analysis

The study sample is made up of two groups from the eight states and territories in Australia: 24 public agencies, and 16 public accountability authorities, specifically the department of treasury and finance and the government audit office. As far as the government PI system is concerned, these two groups or, more accurately, their officials, are the primary users of agencies' PIs; they are required to deal with PIs as part of their work, particularly during the performance measurement and reporting process. They would therefore be the most suitable people to approach for this study on PIs. Together

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with the department of the premier and cabinet (for the six states) and the chief ministers' department (for the two territories), the department of treasury and finance and the audit office play a key role in the establishment and management of PI system in the states. In addition to producing guidelines and documents to guide agencies in the design, implementation and reporting of PIs, the department of treasury and finance and the audit office are responsible for reviewing agencies' PIs in annual reports and/or budget statements. Citizens are not included in the sample because, despite their importance, compared to members of public agencies and accountability authorities, they generally play a minor role as far as agencies' PIs are concerned. Citizens have been reported to be either relatively less interested in agencies' PIs (Pollitt 2005) or less able to get access to agencies' PIs (Poister and Streib 2005; de Lancer Julnes 2006).

The 24 agencies are derived from a random selection of three agencies from each state which provide human services. The 16 accountability authorities consist of the government audit office and the government treasury and finance department from every state. A total of 12 agencies and 7 accountability authorities responded. Although the names of states are not disclosed to maintain anonymity, most of the responses come from four states and territories, two of which are large states. Since the study focused on the overall organization's approach to or experience with performance measurement, and less on individual members' experience across the organization, each organization was expected to provide only one response. Most of the participants occupied senior positions in their organizations. The participants from the agencies were mainly heads of their agencies (42 per cent), and had worked in their agencies for more than five years (50 per cent). The participants from the accountability authorities were largely directors (43 per cent) and senior managers (43 per cent) who had served some 15 years of service in their organization (33 per cent).

Data collection and measures

Data were collected using questionnaires and semi-structured interviews. The questionnaires for the agencies were designed to examine the relationships between (1) the use of PIs for external reporting and their use for internal purposes; and (2) the characteristics of their PI system and their use of PIs. Data collected from the agencies relied on the following three main variables. The first is the PI system variable which contains 11 items measuring the characteristics of the PI system. Based on the literature review conducted earlier, discussions about problems with the PI system largely fall into two areas: the characteristics of the PIs and other supporting factors such as employees' expertise. Accordingly, the PI system variable is further differentiated into two sub-factors: PI characteristics (containing the characteristics of the PIs) and supporting PI system (containing factors that support the PI system). The second measure is the external use of PIs variable. This is a single-item global measure for gauging the use of PIs for external accountability purposes. The third measure is the internal use of PIs variable which consists of 12 items measuring the use of PIs for internal decision making. Although discussions of PIs for decision making tend to be for the most part general, several authors have examined the use of PIs for specific purposes, such as budgeting (Melkers and Willoughby 2005; Moynihan 2005). Thus this measure covers eight items on general decision making matters (general internal use) and four items on more specific decision making matters (specific internal use). The latter two measures, external use of PIs and internal use of PIs, form the dependent variables for the agencies. A five-point Likert response scale was provided: 'never' (1), 'rarely' (2), 'sometimes' (3), 'most of the time' (4), and 'always' (5). In all cases, the scores for each variable were summed and averaged to produce a single index that

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provided an indication of the strength of the agency's view on the measures. Further details of the measures, including the Cronbach alpha values, are found in Appendix 1.

The questionnaires for the accountability authorities were mainly designed to examine the relationship between their performance information needs and their use of PIs for decision making. In addition to measuring their use of PIs, this involves measuring their expectations and views of PIs, the latter including satisfaction with PIs. Accordingly, five measures were used:

1. Expectations of agencies: seven items measure the accountability authorities' expectations of agencies in terms of the latter's use of PIs for internal purposes;
2. Expectations of PIs: 13 items measure what performance information the accountability authorities would have liked to receive from agencies;
3. Views of PIs received: 13 items determine what performance information the authorities have actually received from agencies;
4. Satisfaction with PIs: seven items measure their satisfaction with the PIs received;
5. Use of PIs: three items measure their use of PIs for decision making.

The last measure forms the dependent variable for the accountability authorities. Again, the scores for each variable were summed and averaged to produce a single index. Further details of the measures, including the Cronbach alpha values, can be found in Appendix 2. Descriptive data analysis and intercorrelations were conducted on the study variables. Given the small sample size for both groups, cross tabulation statistics and the exact method (suitable for testing asymptotic results) from the SPSS 16.0 program were used to test the hypotheses.

The questionnaires also consisted of the following two open-ended questions:

1. What are your common frustrations associated with using PIs in your organization?
2. What factors have constrained you from using PIs more for making decisions?

The non-specific nature of the open-ended question meant that the participants were not provided with any prompts to specify particular factors in their responses.

A sub-set of the group–two agencies and two accountability authorities, from one state–was interviewed. The questions asked in the one-to-one semi-structured interview were identical to those of the survey but the interviews permit probing of the responses, particularly on constraints to decision making.

FINDINGS

This section starts off with a comparison of the extent to which the agencies are using PIs for external accountability purposes and the extent to which they are using PIs for internal purposes. This is to determine whether the agencies are applying PIs more to meet external reporting demands than for internal improvements. The relationship between the characteristics of the agencies' PI system and their use of PIs is then examined. This is followed by a discussion of the accountability authorities' satisfaction with the agencies' PIs and their associated use of these PIs for decision making. Lastly, the responses to the open-ended question on their common frustrations with PIs are presented in order to determine the main constraints to the use of PIs for decision making.

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TABLE 1 *Agencies' PI system and use of PIs*

Variables	Mean	S.D.	1	2	3	4	5	6
1. PI system	3.74	0.38						
2. PI characteristics	4.03	0.44	0.73**					
3. Supporting PI system	3.40	0.58	0.79**	0.16				
4. External use of PIs	4.21	0.79	0.34	0.52	−0.02			
5. Internal use of PIs	3.61	0.63	0.64*	0.46	0.51	0.45		
6. General internal use	3.78	0.74	0.69*	0.59*	0.46	0.52	0.95***	
7. Specific internal use	3.27	0.67	0.29	−0.00	0.42	0.14	0.71*	0.45

Note: Level of significance, p: * =< 0.05; ** =< 0.01; *** =< 0.001; S.D. = standard deviation; N = 12.

Agencies' use of PIs

Table 1 shows the views of the agencies on their PI system and their use of PIs for external accountability and internal purposes. No significant relationship was found between the use of PIs for external accountability purposes (external use of PIs) and their use for internal purposes. The latter applies to all three variables–internal use, general internal use, and specific internal use. In addition, a comparison of the mean values suggests that the participating agencies were using PIs more for external accountability purposes than for internal purposes. On average, the agencies were using PIs for external accountability 'most of the time', compared to their 'sometimes' use of PIs for internal purposes. It appears that most agencies tend to use PIs more for meeting external accountability demands than for internal decision making and management.

The survey findings are supported by the agencies' comments, as shown below.

> At the end of the day, we report on KPIs [key performance indicators] only because we have to. We don't do it because it's the only way to manage your business. We don't do it because we live and die by these things on a daily basis. We report because we have to. It's a compliance requirement.
>
> We don't do that [use PIs] internally. Other than in the budget process and annual reporting, we don't look at our PIs ever.
>
> We do not have a good corporate performance culture in our organization. From top to bottom all agree that it is important but this is not demonstrated by the actions of staff. As long as legislated reporting objectives are met–that is mainly what we are worried about.

The accountability authorities were aware of the agencies' preoccupation with external compliance.

> When we started, we told people that you had to immediately shift program management to output based management, and, there was a huge upheaval. We eventually got a 100% compliance. Everyone filled in all the boxes. But that's where, I think, it stopped; it was just all about compliance, and not wanting to have a qualified audit report.
>
> A broader frustration is that while PIs are routinely collected, it is rare that this data is analysed and/or used in decision-making by the department itself.

Based on the findings, the first hypothesis of PIs being used more for external reporting than for internal improvements is supported.

Table 1 also shows that the PI system of the participating agencies was fairly good; the agencies perceived that the PI system had the characteristics measured 'most of the time'.

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TABLE 2 *Accountability authorities' views of agencies' PIs and use of PIs*

Variables	Mean	S.D.	1	2	3	4
1. Expectations of PIs	6.07	0.52				
2. Views of PIs received	3.53	1.90	0.45			
3. Satisfaction with PIs	3.08	2.25	0.31	0.88**		
4. Expectations of agencies	5.79	0.51	0.82*	−0.07	−0.26	
5. Use of PIs	2.95	1.93	0.28	0.66	0.82*	−0.27

Note: Level of significance, p: * =< 0.05; ** =< 0.01; *** =< 0.001; S.D. = standard deviation; N = 7.

More importantly, although the PI system variable was not significantly associated with the external use of PIs variable, it was found to be significantly related to the internal use of PIs and general internal use variables. Similarly, the PI characteristics variable was found to be significantly related to the general internal use variable. In other words, the characteristics of the PI system, particularly the characteristics of the PIs appeared to have a strong influence on the use of PIs within the agencies–notably for general decision making purposes–but not for external reporting. The interviews supported the importance of an effective PI system for internal decision making:

> Currently, PIs are not widely used for internal decision making purposes. This is due to the lack of effective data collection, analysis and reporting (to management) processes. Data collection and analysis tools have not been widely developed and used. Reporting processes to senior management for decision making purposes are often inefficient or nonexistent. Indicators will be used more widely when these processes are fully developed.

Accountability authorities' views on agencies' PIs

The accountability authorities' views of agencies' PIs and their use of these PIs for making judgements and decisions are shown in table 2 and show four prominent features. First, the large difference in the mean values between the expectations of PIs and the view of PIs received variables suggests a large gap between what the authorities would have liked to receive and what they actually received. Although they believed that the items listed in the expectations of PIs variable were 'important', they admitted that the extent to which the agencies' PIs actually possess these qualities fall between 'less than moderate' and 'moderate'. Second, there is a significant relationship between two variables: views of PIs received and satisfaction with PIs. This implies that the less the accountability authorities are convinced that the agencies' PIs contain the qualities listed in the former variable, the more dissatisfied they are with the agencies' PIs. The low mean value under the satisfaction with PIs variable would suggest that they were 'slightly dissatisfied' with the PIs received.

On the one hand, they recognized the difficulties that agencies faced in developing relevant PIs. On the other hand, they indicated their frustrations with the incompleteness of the information received or 'lack of a clear, comprehensive picture of an agency's performance in delivering on government outcomes'.

> We haven't really got in place the quality of the information as we would desire. . . . It is a challenge to come up with these quantitative measures or indicators. We don't want to oversimplify the complexity of things.

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> Agencies are reluctant to sign up to an outcome or a KPI where they don't have 100% control over all the influences. And I think that is where we need to educate them a bit more. It's all about demonstrating the influence that you have on the outcome. It's a government desired outcome. If you have an influence on it, tell us how you have performed and in your report acknowledge any external forces that have any effect on it. You measure your contribution.

This leads to the third feature of a low mean value for the use of PIs variable. The accountability authorities indicated that, on average, their extent of use of the agencies' PIs to make judgements and decisions was 'less than sometimes'. The fourth feature of table 2 shows a significant relationship between the use of PIs and the satisfaction with PIs variables. It appears that the higher the authorities' satisfaction with the agencies' PIs, the more likely they are to use these PIs for making decisions.

In summary, the findings suggest that the use of PIs for decision making is significantly influenced by the characteristics of the PIs. The more the agencies and accountability authorities believe that the PIs contain certain characteristics, the more likely they are to use the PIs for making decisions. The second hypothesis is thus supported.

Constraints on the use of PIs for decision making

Apart from the capacity of PIs to meet the information needs of the user, are there any other factors that affect the use of PIs for making decisions? The open-ended question and the interviews were aimed, in addition to technical issues. at uncovering constraints. Some agencies and accountability authorities indicated more than one type of problem. Out of the 12 agencies, eight agencies identified PI-related problems, four mentioned organizational processes and four pointed to political constraints. Five of the seven participating accountability authorities raised issues relating to the characteristics of the PI system, and three raised political issues. The findings suggest that although PI-related problems constitute a major concern amongst the participating agencies, their use of PIs for decision making appeared to be also affected by organizational processes and political forces.

PI system

The frustrations voiced by the agencies with respect to PIs mainly focused on the difficulties with measuring performance, difficulties such as separating external influences from their performance.

> It's not always easy to measure the things that are the most important.
>
> Difficulty in disentangling the result of the organization's performance versus other levels of government and other factors.

Organizational processes

Organizational constraints which were identified included an organizational culture which was resistant to performance measurement, organizational priorities which conflicted with the PI system (for example, an emphasis on the budget process), and limited resources. The comments are shown below.

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> The culture – most people still say that they can manage their work just as well without a formal process. They see our framework as an imposition thrust upon them rather than a tool to help.
>
> Despite all of the words about managing by performance, we still manage by budget. We're still driven by budgets... We've had various managing fads run through the public sector over time – management by objectives, let the manager manage, key performance indicators – they're the kind of things that sweep through the public sector. I don't know that they've made a lot of change. The public sector is very resilient. The culture in the public sector is still very much driven by 'whoever controls the dollars controls what you are doing'.
>
> We produce the best that we could. But if you ask 'Is that the best of KPIs that could be produced?', I would say 'No way'. But then, one has to be pragmatic about it. It's probably as good as this agency can do given the resources we've got to put into it. It's always a balancing act. How much time do you spend gathering information to report a KPI versus doing whatever you're there to do? We try to put into place systems to gather information as part of the process of delivering a service wherever we can. What you don't want to do is have a whole lot of resources that are doing nothing but trying to do measurement.
>
> We only have a patchy understanding of basic mathematical and statistical methods. We do not have the required skills nor the financial capabilities to hire those skills to ensure the PIs are leading edge and yield proper and rigorous results.

Political forces

Political constraints here apply to the politicians' relative disinterest in performance measurement and agencies' preoccupation with avoiding 'risks' and conversely presenting themselves in a favourable light.

Several accountability authorities mentioned that politicians were not as committed to performance measurement as they would have liked.

> I don't know that the politicians take them [PIs] seriously. I can see how they are a good mechanism for accountability, but I am not convinced that politicians see it that way... we try to inform politicians and all the rest of it, but I think they've got other agendas, unfortunately .... Their agenda is to get re-elected and to stay in office and all that.
>
> It is fair to say that judgements and decisions made by politicians, by their very nature are politically focused, and it would take an exceptional piece of performance information to turn them around.

They were also frustrated by agencies' use of PIs to present themselves in the best possible light.

> Often departments will 'cherry pick' and tend to include KPIs that reflect favourably, rather than present trend analysis that would include some negative performance.
>
> A common frustration is the difficulty in persuading agencies to commit to performance measures which they may show less than optimal performance.
>
> I think a big problem is comprehensiveness, not just pointing indicators that show them in a good light. And not covering all of the components of their outcomes. Sometimes, outcomes have one, two or three components and they'll report on some but not all.

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On the other hand, the agencies explained that this strategic practice is primarily attributed to their fear of adversarial stakeholders, particularly negative media coverage. They accordingly engaged in strategic and defensive activities to avoid these 'risks'.

> I've worked for about the same length of time, maybe a little bit less in the private sector than in the public sector. If I wanted to do something because that produced the best outcome for our shareholders, then we did that. If it wasn't illegal, then we did that. In the public sector you have to think how this is going to play out in the newspaper. Is this going to appear as a parliamentary question that would embarrass the Minister?
>
> 'Real' measures, for example, Minister is happy, and no bad press are still the overriding factors. Adversarial political stakeholders do not help.
>
> [when asked about their frustrations with PIs] An adversarial Senate and the fact that performance comes second to politics . . . . Governance, audit and accountability are too much of the focus which causes a lowest common denominator effect and performance improvement comes a poor second.
>
> We're the agency that provides support to the Premier and Cabinet. Our key client is the Premier. So what we're delivering is what the Premier needs. Now, some of that is highly political. . . Our policy division is purely there to develop policy that is required by the government of the day. Another part of this Department is all the Ministerial offices and they're just there to deliver a service to a Minister. Another group within this agency is electorate offices, and again highly political. And if you're working to support those groups, then you'd better have an eye for the political system.

This preoccupation with political risk avoidance implies that the quality of PIs provided may sometimes come second to politics, as admitted by an agency below.

> The only meaningful KPIs that I can think of are not ones that would be politically reportable. In other words, if our policy aim is to give effect to government policies, then the most useful indicator would be on the number of government election policies implemented. How many are implemented? Now, that's not a place where we would want to go because it just sets you up for a free kick. So we measure the number of hours of policy. Now the number of hours of policy is not an outcome; it's not even an output, it's only an input. I think that's a pretty meaningless indicator. But it's the best we could get.

DISCUSSION

The article presents five key findings. First, it supports the empirical studies conducted elsewhere that agencies are more likely to use PIs for external reporting than for internal improvements (Norman 2002; Gregory and Lonti 2006). This finding has also been noted in the audit reviews in three Australian states. The participants of a focus group consisting of representatives from seven New South Wales agencies admitted that it was the demand by external bodies for performance data in exchange for funding (at the state and federal levels) that prompted their interest in collecting 'good performance information' (Audit Office of New South Wales 2006, p. 20). A 2006 audit of the PIs produced by 129 agencies in the state of Western Australia (WA) found that 30 per cent were not using PIs as part of their decision-making process and as a regular management tool (Office of Auditor General for Western Australia 2006). In its review of 11 state departments, the Queensland

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Audit Office (2005) concluded that the departments mainly focused on complying with the external reporting of output PIs. If most participating agencies engaged in 'token compliance' (Heald 2003, p. 747), then one should ask whether the establishment of a performance measurement and reporting system have contributed to genuine improved performance amongst the agencies, particularly when the subsequent points are taken into account.

Second, the agencies' use of PIs for external accountability purposes was not found to be significantly related to their use of PIs for internal purposes. Meyer and Rowan (1977) earlier discussed the benefits of decoupling, in which institutionalized organizations can minimize scrutiny based on their technical performance: 'decoupling enables organizations to maintain standardized, legitimating structures while their activities vary in response to practical considerations' (p. 357). Power (1997) too highlighted the shallow rituals of verification in auditing and questioned 'whether audit provides deluded visions of control and transparency which satisfy the self-image of managers, regulators and politicians but which are neither as effective nor as neutral as commonly imagined' (p. 143). It appears that the establishment of a PI system has contributed to some negative side effects in the form of decoupling in the agencies.

Third, the characteristics of the agencies' PI system were found to be significantly affected by the use of PIs for internal purposes, notably for general decision making, but not for external reporting. External reporting demands did not appear to provide the main impetus for the agencies to improve the state of their PI system. Rather, the key seems to lie closer to home; it appears that one way to improve the integrity of the agencies' PI system is to encourage the agencies to use the PIs for internal improvements. The accountability authorities' interest in motivating agencies to increase their internal use of PIs is a step in the right direction.

Fourth, the agencies and accountability authorities were found to use their PIs for making decisions when they perceived that the PIs met their information needs. The findings support research conducted elsewhere that the availability of PIs does not guarantee their use for decision making (Vakkuri and Meklin 2006; Taylor 2007). In the study reported here, the accountability authorities were more likely to use the agencies' PIs for making decisions when they were satisfied with the Pis. The agencies too were likely to use their PIs for making internal decisions when the PI system possessed specific essential characteristics. This finding again highlights the importance of a PI system which contains essential features such as validity, reliability and legitimacy (Poister and Streib 1999; Berman and Wang 2000; Rubenstein *et al*. 2003) in order to encourage the internal use of PIs in agencies.

Fifth, although the agencies and accountability authorities had identified mainly technical issues as constraining their use of PIs for decision making, some had also acknowledged organizational and political constraints. In doing so, this finding supports other studies that organizational processes and contexts matter (Murphy and Cleveland 1995; Heinrich 2002; Vakkuri and Meklin 2006). Pollitt (2005), in his study of performance management practices in the UK, The Netherlands, Sweden and Finland, found that despite the common implementation of the balanced scorecard, the bottom line for many agencies is still usually getting and sticking within the budget. It is also likely that public agencies face 'political constraints, conflicts, and power struggles, and thus can feel the need to justify past actions and decisions' (Henri 2006, p. 85). If they believe that their performance is more likely to be judged by their failures than successes, then they are going to devote a bulk of their time 'managing risks to ensure Ministers got ''no surprises''' (Norman 2002, p. 623).

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STUDY LIMITATIONS

This article is subject to a few caveats. First, it involves a study on small group of public agencies and accountability authorities. It is not possible to confirm that the findings are mirrored across the Australian public sector. This study should be replicated on a larger sample to firmly establish its generalizability. Second, the findings are based on perceptions of preferences, use and satisfaction. It is unknown how accurately they reflect reality; it is possible these participants over-stated their responses. On the other hand, PI is not a neutral technical tool. Its application or utilization is heavily dependent on the attitudes of the actors involved (Bouckaert 1993), so any attempt to determine its efficacy as a decision-making tool should incorporate the attitudes of the key users. Third, the types of organizations being sampled are complex, and only one person from each organization was included into the sample. Although most of the participants occupied senior positions in their organization, there were nevertheless some differences in their levels. Fourth, the measurement of the agencies' use of PIs for external accountability relied on a single-item global measure. As a general rule, constructs formulated from multiple items are preferred, particularly in terms of meeting validity and reliability standards. Fifth, and finally, the survey on the agencies utilized scales that are different from those used on the accountability authorities. The former used a five-point Likert scale and the latter utilized a seven-point scale. There was thus no attempt to directly compare the survey responses of the agencies with those of the accountability authorities. Based on the limitations, it is important not to draw strong general conclusions from this initial analysis. Nevertheless, the evidence implies that PIs have been used more to meet external accountability demands than for internal improvements. The constraints to the use of PIs for internal purposes were mainly technical issues, but also extended to political and organizational factors.

FURTHER RESEARCH

The comments provided by the participants suggest that despite their minor role compared to technical issues, organizational and political factors can affect the use of PIs for decision making. A number of directions for further research emerge from this study. Further surveys should examine the relative salience of the three factors – system, organization and politics – on decision making. Taking quality of PIs as an example, a possible research question is: how significant does the quality of performance information have to be for agencies to use it for making decisions, particularly in relation to organizational and political influences? Further studies could investigate the association between the quality of PIs and their use for decision making, as well as the main moderating factors that affect this relationship. Further research could also investigate the relationships between these three factors to learn the interactions between them when affecting performance information use for decision making. In their survey of executive branch government officials in 50 US states, Moynihan and Ingraham (2001) found that the quality of KPIs did not significantly affect utilization. However, when combined with other conditions that are conducive to information use, such as active support from senior management, the quality of information became important. Moreover, the political influence on decision making would suggest that further research on information use in decision making should differentiate between the use of performance information for justifying a decision and its use for revising a decision.

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CONCLUSION

PIs were introduced into the public sector based on the Australian government's conviction that they would improve the accountability and performance of the public sector. For this to occur, PIs, at the very least, should be used by both public agencies and accountability authorities to assist in their decision-making process. In particular, PIs should have more merit than simply being regarded as a suitable accountability tool. Earlier, Wholey and Hatry (1992) had commented that 'if the performance data are used only for external accountability purposes and not also used to help managers improve their programs, the results may not be worth the costs' (p. 69). This study shows that the use of PIs for external accountability was not found to be a significant driver for the agencies to improve the state of their PI system. Rather, a better way to improve an agency's PI system is through encouraging the agency to use its PIs for internal decision making. Moreover, although technical matters are critically important, investment in time and resources for developing an effective PI system should not overlook the organizational and political contexts under which PIs are formulated.

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APPENDIX 1

Measurement instruments of agencies

PI system (Cronbach alpha = 0.74)

PI characteristics (Cronbach alpha = 0.73)

- Most of our performance measures are derived from the mission, goals, objectives, and service standards established for our programs and/or organization.
- We use most of our measures to track performance over time.
- We establish standards and targets for most of our performance measures.
- We involve our managers in the development of most performance measures.
- We involve our lower level employees in the development of most performance measures.
- We carry out performance audits.

Supporting PI system (Cronbach alpha = 0.79)

- When developing performance measures, we tend to focus on what is important to measure rather than the availability of data.
- In many instances, we have trouble compiling and distributing the data from our performance measurement system in a timely manner. (R)
- We have trouble measuring the quality of most of our programs and services. (R)
- We have trouble keeping most of our performance measures current and up to date. (R)

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- Our staff lacks the analytical skills needed to effectively analyse most of the performance measurement data we collect. (R)

Internal use of PIs (Cronbach alpha = 0.63)
General internal use (Cronbach alpha = 0.74)
We use the information obtained from our performance measures to:

- Improve the quality of our decisions or decision-making capacity.
- Improve the timeliness of our decisions.
- Establish performance targets for our programs/services.
- Improve our performance measures.
- Set or improve our programs' priorities.
- Improve our organization's performance.
- Improve information flow between our departments/units.
- Increase our employees' awareness of our organization's or programs' goals and objectives.

Specific internal use (Cronbach alpha = 0.67)
We use the information obtained from our performance measures to:

- Allocate resources to departments or programs.
- Determine our long-term budget needs.
- Reduce our costs of operations.
- Reduce duplicative services.

External use of PIs
We use the information obtained from our performance measures to improve our organization's accountability to external stakeholders.

Measurement scale for all items: 1 = Never; 2 = Rarely; 3 = Sometimes; 4 = Most of the time; 5 = Always.

APPENDIX 2

Measurement instruments of accountability authorities
Expectations of PIs (Cronbach alpha = 0.91)
How important is it to you that the government departments and agencies provide the following information with their reporting of KPIs?

- Compare the achievements of the agency against its budget.
- Compare the achievements of the agency against the identified government desired outcome(s).
- Compare the achievements of the agency against its targets.
- Compare the achievements of the agency against appropriate benchmarks.
- Compare the achievements of the agency over time, that is, provide trend information.
- Review trends in financial performance.
- Review trends in non-financial performance.
- Report on the efficiency of the agency.

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- Report on the effectiveness of the agency.
- Report on areas where performance had not met targets or expectations.
- Explain why performance had deviated from the normal trends or expectations.
- Analyse the information in the tables and charts provided and help explain why performance had deviated from the normal trends or expectations.
- Analyse the performance of the agency rather than just list its activities.

Measurement scale: 1 = Extremely unimportant; 2 = Unimportant; 3 = Slightly unimportant; 4 = Neither unimportant nor important; 5 = Slightly important; 6 = Important; 7 = Extremely important.

Views of PIs received (Cronbach alpha = 0.98)
In your opinion, to what extent have the KPIs in the recent annual reports and budget papers of government departments and agencies achieved the following?
[same list as above]

Measurement scale: 1 = None whatsoever; 2 = Close to negligible; 3 = Less than moderate; 4 = A moderate extent; 5 = More than moderate; 6 = Great extent; 7 = A very great extent.

Satisfaction with PIs (Cronbach alpha = 0.98)
Which parts of the recent annual reports on KPIs are you satisfied with?

- Efficiency PIs.
- Effectiveness PIs.
- Financial PIs. These can include the above cost-efficiency and cost-effectiveness KPIs.
- Non-financial PIs. These can include the above efficiency and effectiveness KPIs.
- Pictorial presentation (e.g., charts and diagrams) of financial and/or non-financial KPIs.
- Tables.
- Narrative coverage.

Measurement scale: 1 = Extremely dissatisfied; 2 = Dissatisfied; 3 = Slightly dissatisfied; 4 = Neither dissatisfied nor satisfied; 5 = Slightly satisfied; 6 = Satisfied; 7 = Extremely satisfied.

Expectations of agencies (Cronbach alpha = 0.75)
How important is it for the government departments and agencies that report to you organization to also use their KPIs for the following purposes?

- For internal decision making.
- To allocate and distribute internal resources.
- For internal planning.
- To carry out further investigations when their actual targets deviate from planned targets.
- To remove internal waste and duplication.
- To improve their performance.

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- To improve their communication with the public about their goals, objectives and performance.

Measurement scale: 1 = Extremely unimportant; 2 = Unimportant; 3 = Slightly unimportant; 4 = Neither unimportant nor important; 5 = Slightly important; 6 = Important; 7 = Extremely important.

Use of PIs (Cronbach alpha = 0.97)
I have used the KPIs in recent annual reports and budget papers to help me:

- Make decisions and judgements.
- Confirm past judgements.
- Correct past judgements.

Measurement scale: 1 = Never; 2 = Rarely; 3 = Less than sometimes; 4 = Sometimes; 5 = More than sometimes; 6 = Frequently; 7 = Always.

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