

Literature Review and Synthesis of Management Control Systems: in the Context of the Public Sector

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Abstract

The push for corporatisation and privatisation to make government enterprises more efficient and effective falls under the ideology of new public management (NPM) (Hood, 1995). However, government entities also need to focus on measuring the impacts of their activities on society. Their activities may come at a high cost financially, but if not provided could in the long run be more costly to society in terms of standard and quality of life. This paper explores the literature and synthesises use of Management Control Systems in the context of corporatised government owned entities.

Keywords: privatisation, public sector, new public management, community service obligations

1. Introduction

The push for corporatisation and privatisation to make government enterprises more efficient and effective falls under the ideology of new public management (NPM) (Hood, 1995). NPM has resulted in a shift in focus for government organisations. In summary, the shift has been from policy making to management skills, from a process focus to outputs focus and more recently from outputs to outcomes focus. This shift in focus resulted in government organisations reporting efficiency in much the same way as the private sector (Hood, 1995). A focus on efficiency is critical to the long-term survival of any organisation, and to ensure taxpayers' money is not wasted. However, government entities also need to focus on measuring the impacts of their activities on society. Their activities may come at a high cost financially, but if not provided could in the long run be more costly to society in terms of standard and quality of life. These activities, if provided on a non-commercial basis, are commonly referred to as Community Service Obligations (CSOs). This paper explores the literature and synthesises use of Management Control Systems in the context of corporatised government owned entities.

2. Management Control Systems–Style of Use

'It is time... we put the management back into management accounting' (Otley, 2001, p. 243). Otley (2001) argues that perhaps there has been too much emphasis on accounting when researching in the management accounting area and too little emphasis on management. His argument lends supports to the approach this study takes where the influence of stakeholders demands and management strategic actions are considered in light of the management control systems (MCS) in use.

One view is that rational managers are unlikely to adopt MCS that do not assist in enhancing performance. An alternate view is that managers may adopt MCS for institutional or political reasons that may be inconsistent with rational economic reasons (Chenhall, 2003).

Scholars have shown considerable research interest in management control systems design and use (Abernethy, Bouwens and van Lent 2010; Bisbe & Otley, 2004; Chenhall, 2006; Davila, 2000; Ferreira & Otley, 2006; Ferreira & Otley, 2009; Henri, 2006; Otley, 1994, 1999, 2001; Sundin, Granlund and Brown 2010; Widener 2007). MCS are set up to help achieve organisational objectives in an efficient and effective manner; this includes an attempt to influence employees' behaviour (Otley, 1980).

The MCS can be used to influence innovation and to manage tensions between innovation and organisational predictable goal achievements (Simons, 2000). The literature presents two potential uses of control systems. These are diagnostic and interactive and were first described by Simons (1990; 1995). In the literature they are often

referred to as 'styles of use' and also 'levers of control'. These control systems can be used independently or can be combined.

MCS consist of mechanisms employed by an organisation in an attempt to influence the behaviour of organisational members, such that organisational objectives are achieved in the most efficient and effective manner (Otley, 1980). While MCS are designed within the organisation, these systems are set up for compliance reasons as well as to enhance organisational performance. External stakeholders apply these pressures to comply, for with example accounting standards, and to make the organisation transparent.

3. Diagnostic Control System

A diagnostic control system is a formal feedback information system. It is used to monitor control variables identified by management as critical to the success of the business. Effectiveness (probability of successfully meeting goals) and efficiency (largest potential for marginal gain over time) are the prime criteria for the selection of measures used in diagnostic control systems (Simons, 1995). Simons (1994, p. 170) defines the diagnostic control system use as:

'Formal feedback systems used to monitor organisational outcomes and correct deviations from preset standards. Diagnostic control systems exemplified by business plans and budgets are the prototypical feedback systems used to track variances from preset goals and manage by exception. Analysis of critical performance variables influences the design of diagnostic systems.'

An analogy Simons (1995, p. 60) uses to describe the diagnostic system is that of a thermostat: *'The thermostat regulates air temperature by turning a furnace on and off, based on continual comparisons of actual air temperature with a preset standard'*. As with the thermostat the diagnostic control system allows employees to compare actual outputs with preset standards and allows for diagnosis of variation from the standards. It is also noted in the literature that diagnostic control systems can constrain employee behaviour (Simons, 1995). Some typical diagnostic control systems are budgets and profit plans. Diagnostic control systems are essential levers for implementing intended strategies (Simons, 1995). This statement from Simons was recently supported through empirical evidence from Henri (2006). His findings support the view of control systems as tools contributing to the implementation of intended strategies, but also as tools stimulating the emergence of new strategies. The system guides employees and provides targets to be met, introducing employees to the strategy of the organisation. As the organisational strategy changes so must the control variables and so managers must constantly communicate with staff that different strategies call for different control variables. The diagnostic system is a mechanism by which employees learn of new strategy and consequently, the new goals and objectives with which to align behaviour (Widener, 2007). The intended strategy is analysed to determine specific organisational goals and to determine the control variables to be measured. *'Diagnostic control systems are designed to trigger the adjustment of the targets embedded in the plans and programs required for the implementation of intended strategies, referred to as single loop learning by Argyis and Schon (cited in Simons, 1995, p. 68)*. The diagnostic control system allows the organisation to achieve goals through management-by-exception (Simons, 1995). Empirical evidence by Widener (2007, p. 781) supports this statement from Simons, finding *'the diagnostic system...facilitates the efficient use of management attention.'*

The measures should be objective, complete and responsive (Simons, 1995, p. 76). He defines these terms as follows: **objective** when it is independently verifiable, **complete** when it captures all relevant actions and behaviours and **responsive** when it reflects the actions or efforts of the individual being measured. Simons (1995, p. 81) also emphasises the importance of reporting data that is accurate and complete, only then will diagnostic control systems operate effectively. He emphasises this further *'If critical performance variables and measures are correctly specified the organisation will march unerringly toward the achievement of organisational goals. If measures and targets are incorrectly specified, the organisation may march off a cliff.'*

However, the focus on meeting preset standards can drive out creativity and the potential for innovation (Simons 1995). Henri (2006) lends support to Simons' theory concluding that the results suggest that performance management systems used in a diagnostic fashion contribute negatively to the deployment of capabilities of market orientation, entrepreneurship, innovativeness, and organisational learning.

Abernethy and Stoelwinder (1995) study the use of diagnostic control systems in public sector organisations, a highly institutionalised environment, and find that salaried professionals engage in behaviour directed toward increasing their own autonomy and that managers with a high professional orientation find it offensive when superiors impose targets to be achieved. This finding relates to one hospital setting. Further empirical evidence (Widener 2007) suggests that it is the formal process of the diagnostic control system that brings the interactive control system to life.

Further, 'Diagnostic control systems are the formal information systems that managers use to monitor organisational outcomes and correct deviations from preset standards of performance (Simons, 1995, p. 59). He outlines three features of a diagnostic system: the ability to measure outputs, the ability to compare actual against preset standards and the ability to correct any deviations from those standards. To this end, the diagnostic system can be used as a guide for employees and motivate them to perform and align their behaviour with organisational objectives (Widener, 2007). The interactive control system is discussed next.

4. Interactive Control System

Conventionally, MCS are perceived as passive tools providing information to assist managers. However, approaches following a sociological orientation see MCS as more active, furnishing individuals with power to achieve their own ends (Chenhall, 2003). This type of system is more interactive and can guide the strategy of the organisation. MCS which stimulate search and learning in the organisation, and thus promote innovation and opportunity seeking are referred to as interactive control systems. These systems are defined by Simons (1994, p. 171) as:

'Formal systems used by top managers to regularly and personally involve themselves in the decision activities of subordinates. Any diagnostic control systems can be made interactive by continuing and frequent top management attention and interest. The purpose of making a control system interactive is to focus attention and force dialogue and learning throughout the organisation. Analysis of strategic uncertainties influences the design of interactive systems.'

By choosing to use a control system interactively, top managers signal their preferences (Simons, 1995). In today's technologically advanced environment, where individuals and employees are bombarded with so much information, it is important to use the data gathered intelligently, screening for critical information and filtering out information which does not add value. Interactive control systems help focus attention and force dialogue throughout the organization (Simons, 1995). This dialogue and discussion allows the emergence of the organisation's new strategy. An analogy Simons (1995, p. 92) uses to describe the interactive control system is that of the national weather service:

'Ground stations all over the country monitor temperature, barometric pressure, relative humidity, cloud cover, wind direction and velocity, and precipitation. Balloons and satellites provide additional data. These data are monitored continuously and fed to a central location where they can be used to search for patterns of change. Based on these intelligence data, forecasts of impending conditions can be made or revised in light of changing circumstances.'

As with the weather service continuous monitoring and gathering of information of the organisation's environment must be carried out. Senior management needs to encourage employees to search for changes and to feed this information to a central location (Simons, 1995). According to Simons (1995, p. 97) all interactive control systems have four defining characteristics:

- *Information generated by the system is an important and recurring agenda addressed by the highest levels of management.*
- *The interactive control system demands frequent and regular attention from operating managers at all levels of the organisation.*
- *Data generated by the system are interpreted and discussed in face-to-face meetings of superiors, subordinates, and peers.*
- *The system is a catalyst for the continual challenge and debate of underlying data, assumptions, and action plans.*

Findings from an empirical study by Widener (2007) concur with Simons' (1995) theory, finding that the interactive control system is used to scan the external environment. For interactive control systems to be effective a formal structure is necessary according to a study conducted by Chenhall and Morris (1995).

This finding was confirmed in a recent study by Widener (2007) who found that the diagnostic system provides the structure that enables the interactive system to be effective. The interactive use of systems can have the exact opposite effect of diagnostic systems on deployment of capabilities as reported by Henri (2006) where he suggests performance measurement systems used in an interactive fashion contribute positively to the deployment of capabilities of market orientation, entrepreneurship, innovativeness, and organisational learning. While the interactive control system can lead to the emergence of new strategies, if the direction management takes becomes too political, the manager's decision can be overruled. This finding emerged from empirical research conducted by

Klout (1997). She points out if the decision made is considered too political, the manager's decision can be overridden.

A criticism of the Simons (1995) framework is that he leaves the question of why organisations combine diagnostic and interactive control systems unanswered. Henri (2006, p. 548) addresses this unanswered question by examining the notion of dynamic tension as a result of the combined use of the systems. He argues '*that dynamic tension is used to ensure that positive effects of interactive use on capabilities will be achieved and to expand those positive effects of interactive use.*' Widener (2007) also finds that for organisations to realise the full benefits of performance management systems they must use them both diagnostically and interactively.

The findings from Henri (2006) are very significant as data was collected from 383 firms. Also, these firms were a significant size with sales of at least \$20 million Canadian with at least 150 employees. Further empirical evidence to support Henri's (2006) findings was provided by Widener (2007, p. 782). Her data relied on surveys from 122 respondents and is therefore also significant and found '*dynamic tension results from the use of performance measures dual roles.*'

An interactive system is forward-looking and characterised by active and frequent dialogue among top managers. The interactive system is intended to help the firm search for new ways to strategically position itself in a dynamic market place (Widener, 2007). Simons (1995) suggests that managers who operate in regulated or semi-regulated industries, such as public sector organisations, must pay special attention to community sentiment, political pressures and emerging regulations. For these organisations, interactive controls use is essential for gathering data in order to understand and influence the complex, social, political, and technical environment in which they operate (Simons, 1995; 2000).

A summary comparison of the diagnostic, interactive and dynamic control systems is presented in Table 1.

Table 1. A comparison of diagnostic, interactive and dynamic control systems

	Diagnostic Systems	Control	Interactive Systems	Control	Dynamic Control systems
Purpose	Provide motivation and direction to achieve goals	and	Stimulate dialogue and organisational learning	and	Promotes capabilities of market orientation, organisational learning, innovativeness and entrepreneurship
Goal	No surprises		Creative search		Creative search
Analytical reasoning	Deductive (flying by instrument)	(flying by	Inductive, sensory (flying by feel)	(flying by	Inductive
System complexity	Complex		Simple		
Time frame	Past and present		Present and future		Present and future
Targets	Fixed		Constantly reestimated		Constantly reestimated
Feedback	Negative feedback		Positive feedback		Positive feedback
Adjustment to	Inputs or process		Double loop learning		
Communication	Eliminate need for talk		Provide common language		Provide common language
Staff role	Key gatekeepers		Facilitators		Facilitators

Source: adapted from (Henri 2006; Simons 1995; Widener 2007).

4. Summary and Future Research Directions

The purpose of this paper was to review and synthesise the research literature on the importance of MCS. The research literature reveals that a variety of 'styles of use' are associated with the control systems of an organisation. It was observed there is a dearth of research on the use of control systems but a lack of empirical evidence for the successful use in the context of the public sector. Based on the review of the literature, we find a number of opportunities for future research. Future research could investigate whether the importance placed on 'types of MCS' differs by sector in order to determine the most appropriate MCS for use in the Public Sector.

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