

The effectiveness of Performance Management Systems: Antecedents and impact on work-related attitudes

By

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CERTIFICATE OF ORIGINALITY

I hereby certify that this thesis is the result of my own research and that it has not, nor has any part of it, been submitted for a higher degree to any other university or institution. The sources of information used and the extent to which the work of others has been utilised, are acknowledged in the thesis. The thesis has also received approval of the Ethics Review Committee (Human Research) at Macquarie University.

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ABSTRACT

The thesis examines the effectiveness of Performance Management Systems (PMSs), examining the influence of specific antecedents on PMS effectiveness and the subsequent impact on employee work-related attitudes (job satisfaction and Employee Organisational Commitment). Data was collected through a survey questionnaire a 190 senior level managers from Australian financial and legal service organisations.

The thesis employs the “thesis by publication” format and comprises three academic papers. Paper One examines the effectiveness of PMSs in respect to the achievement of organisational process outcomes (performance-related and staff-related) and the subsequent impact on job satisfaction and Employee Organisational Commitment (EOC). The results indicate a positive association between PMS effectiveness with both job satisfaction and EOC. Specifically, the performance-related outcomes were found to be associated with both job satisfaction and EOC, while the staff-related outcomes were associated with job satisfaction. Further analysis revealed that a PMS which motivates performance and assists in the development of individual’s skills and knowledge (performance-related outcomes) to a greater extent contributes to greater job satisfaction. The results also indicate that job satisfaction can be enhanced when the PMS rewards talented staff and manages poor performing staff to a greater extent, while EOC can be enhanced when the PMS effectively motivates performance, assists in the achievement of goals and provides an accurate assessment of business performance. Thus the study highlights the importance of the effective functioning of PMS processes due to their influence on individual work-related attitudes.

Paper Two examines the influence of the use of multidimensional performance measures on the characteristics of the PMS and the subsequent impact on PMS effectiveness. The findings

indicate that the use of multidimensional performance measures exhibits a negative association with the subjectivity of performance evaluations, and a positive association with the link of performance to non-financial rewards and the focus on short-term targets. Furthermore, the results reveal that three PMS characteristics (the link to financial and non-financial rewards and the short-term focus of targets) and employee empowerment exhibit a significant positive association with PMS effectiveness, whilst subjectivity in performance evaluations exhibited a significant negative association with PMS effectiveness. These findings highlight the importance of objective approaches to performance evaluation, rewards systems which link performance to non-financial rewards and the emphasis on the achievement of short-term targets as mediators of the association between the use of multidimensional performance measures with PMS effectiveness. The findings also demonstrate the important role of the use of multidimensional performance in facilitating PMS characteristics, and subsequently contributing towards PMS effectiveness.

Paper Three examines the influence of information characteristics (scope, timeliness, aggregation, and integration) and on the use of PMSs (diagnostic and interactive) and the subsequent impact on the effectiveness of the PMS. The results indicate that PMS use (both diagnostic and interactive) fully (partially) mediates the relationship between information scope (integration) and PMS effectiveness for both performance-related and staff-related outcomes. In addition the interactive use of PMSs fully mediates the relationship between multidimensional performance measures and PMS effectiveness (both performance-related and staff-related outcomes), while information aggregation exhibits a positive direct association with PMS effectiveness (performance-related outcomes). In conclusion, the study contributes to the performance management literature by highlighting the significant role of information characteristics and the use of the PMSs in enhancing the overall effectiveness of the PMS.

The thesis contributes to the performance management literature by providing a unique insight into PMS effectiveness, examining it from the perspective of the achievement of process outcomes, and subsequently examining the impact of the achievement of such outcomes on two employee work-related attitudes, job satisfaction and EOC. In addition, the findings provide practitioners with an insight into the main contingency factors that they should focus on in order to enhance the effectiveness of PMS processes. Such findings have important implications for practitioners responsible for the design and the ongoing functioning of the PMS.

CHAPTER ONE

INTRODUCTION

1.1 Background

The performance management literature consists of two major research streams, the management accounting and the Human Resource Management (HRM) stream, which have different interpretations of the Performance Management System (PMS) concept and its effectiveness. The management accounting research stream has adopted a more macro focus, emphasising the achievement of the strategic objectives of organisational performance through measuring, controlling, rewarding and managing performance at different organisational levels (Ferreira and Otley, 2009; Malmi and Brown, 2008; Anthony and Govindarajan, 2007; Bisbe et al., 2007; Merchant and Van der Stede, 2007; Broadbent and Laughlin, 2007; Cheng et al., 2007; Chenhall, 2003; Lawler, 2003; Otley, 1999; Simons, 2000; Simons, 1995; Kaplan and Norton, 1992; Anthony, 1965). The HRM research stream has adopted a more micro focus, with emphasis placed on motivating, appraising, managing and developing individual organisational members (Aguinis, 2005; De Cieri et al., 2005; den Hartog et al., 2004; de Waal, 2003; Armstrong, 2001; Roberts, 2001; Armstrong and Baron, 2000; DeNisi, 2000; Bacal, 1999; Lonsdale, 1998; Flapper et al., 1996; Huselid, 1995). Specifically, this approach is centred around aspects of recruitment, performance appraisal, reward systems and individual responses to the PMS (Huselid and Becker, 2011; Wright and Boswell, 2002).

Given the different focus of studies (Decramer et al., 2015; Huselid and Becker, 2011; Wright and Boswell, 2002), it is argued that as a concept, the Performance Management System has been difficult to establish (Ferreira and Otley, 2009). Hence, there have been calls in the

literature to integrate the macro and micro performance management perspectives (Huselid and Becker, 2011; Wright and Boswell, 2002) by viewing the formal PMS aimed at achieving strategic objectives, through the lens of the individual attitudes and behaviour towards the overall PMS (Guest and Conway, 2011). Consequently, the first objective of this study is to contribute to the PMS literature by examining PMSs in respect to both research streams.

The study utilises Ferreira and Otley's (2009) framework to analyse PMSs. However while this framework identifies twelve relevant dimensions of PMSs (vision and mission, key success factors, organisational structure, strategies, key performance measures, target setting, performance evaluation, reward systems, information flows, PMS use, PMS change, strength and coherence), it follows the management accounting macro approach of developing a system for strategy formulation and implementation and hence in order to provide a more balanced approach, only those dimensions requiring active engagement by individuals are focused on in this study. Accordingly, the study focuses on the six PMS aspects which require ongoing engagement by the individual as an active participant in the PMS process: target setting, key performance measures, performance evaluation, reward systems, information characteristics, and PMS use. Specifically, Papers Two and Three examine the impact of these six aspects on PMS effectiveness, with Paper Two focusing on the impact of the PMS characteristics (target setting, performance evaluation, reward systems) and key performance measures (operationalised as the use of multidimensional performance measures), and Paper Three concentrating on the impact of the PMS information system characteristics (key performance measures - the use of multidimensional performance measures, information characteristics, and PMS use).

In respect to the effectiveness of the PMS, the common approach, across both streams of research, has been to assume that an effective PMS should contribute towards improvements

in organisational performance outcomes (Pinening et al., 2013; Jiang et al., 2012; Paauwe, 2009; Paauwe and Boselie, 2008; Becker and Huselid, 2006; Nankervis and Compton, 2006; den Hartoget al., 2004; Snell and Youndt, 1995; Huselid, 1995; Guest and Hoque, 1994). Specifically, it has been argued that an effective PMS contributes to financial performance (profitability, shareholders returns, sales, market position) (Lee and Yang, 2011; Crabtree and DeBusk, 2008; Jeremias and Setiawan, 2008; Abernethy et al., 2007; Sandino, 2007; Maiga and Jacobs, 2005; Braam and Nijssen, 2004; Davis and Albright, 2004; Baines and Langfield-Smith, 2003; Ittner et al., 2003a; Ittner et al., 2003b; Abernethy and Lillis, 2001; Hoque and James, 2000; Abernethy and Brownell, 1999; Chenhall, 1997; Snell and Joundt, 1995; Abernethy and Guthrie, 1994; Merchant, 1981) or non-financial performance (customer service and satisfaction, organisational learning, employee organisational commitment) (Suet al., 2015; Batac and Carassus, 2009; Abernethy et al., 2007; Henri, 2006b; Driver, 2001; Kloot, 1997; Hoque and James, 2000; Simons, 2000, 1995).

However, Hamilton and Chervany (1981) argue that an effective PMS achieves organisational performance indirectly, through the achievement of continuous process improvements which ultimately lead to organisational performance. Few studies have adopted this approach of focusing on the mediating role of process improvements (Tung et al., 2011; Whorter, 2003; Malina and Selto, 2001; Hamilton and Chervany, 1981), with such studies tending to have emphasised the effectiveness of performance measurement systems as one aspect of the PMS, and not the overall PMS. Therefore, given that the empirical evidence assessing PMS effectiveness in respect to organisational processes is scarce (Guest and Conway, 2011), the second objective of this study is to assess PMS effectiveness in respect to the achievement of organisational process outcomes.

The third objective of this study is to contribute to the contingency based literature examining the factors influencing PMS effectiveness. Many studies have focused on the impact of specific PMS aspects on the effectiveness of performance measurement systems or Management Control Systems (MCSs hereafter), assessed in respect to organisational performance (Su et al., 2015, 2013; Lee and Yang, 2011; Grafton et al., 2010). This study contributes to the contingency research by examining the influence of six PMS aspects, identified from Ferreira and Otley's (2009) framework, on the achievement of organisational process outcomes. Specifically, Paper Two examines the relationships between key performance measures, target setting, performance evaluation, and reward systems with the effectiveness of the PMS, while Paper Three examines the relationships between PMS information system characteristics (key performance measures, specific information characteristics and PMS use) with PMS effectiveness.

Finally, given this study focuses on the link between the PMS and individual organisational members, the study also examines PMS effectiveness in respect to individual work-related attitudes. Prior contingency research has examined the direct relationship between various PMS aspects and employee behavioural and attitudinal outcomes. For instance, studies have examined the association between the process of target setting with job satisfaction and with Employee Organisational Commitment (EOC hereafter) (Appelbaum et al., 2013; Leach-Lopez et al., 2008; Fletcher and Williams, 1996; Frucot and Shearon, 1991; Chenhall and Brownell, 1988; Chenhall, 1986; Schnake et al., 1984); the link of performance to financial rewards with increased motivation, job satisfaction and EOC (Seiden and Sowa, 2011; Chong et al., 2005; Lawler, 2003; Mallak and Kurstedt, 1996; Wallace, 1995; Caldwell et al., 1990; Podsakoff et al., 1982; Fossum, 1979); empowerment with increased employee morale and satisfaction (Wong and Laschinger, 2013; Wagner et al., 2010; Patrick and Laschinger, 2006;

Bartram et al., 2004; Laschinger et al., 2004); and the types of controls with EOC (Su et al., 2015). However, as discussed, this study aims to contribute to the contingency based research by examining the influence of PMS aspects on the achievement of organisational process outcomes, rather than their direct impact on work-related attitudes. Hence, Papers Two and Three examine the relationships between six PMS aspects and the effectiveness of the PMS in achieving process outcomes. In addition, to assess the impact of PMS effectiveness on individual behaviour and attitudes, the fourth objective of the study is to examine the relationship between the achievement of organisational process outcomes and individual work-related attitudes. Specifically, Paper One assesses the impact of an effective PMS, assessed in respect to the achievement of organisational process outcomes, on job satisfaction and EOC.

The thesis employs the “thesis by publication” format. This entails the inclusion of three separate, but interrelated papers. Specifically, Paper One examines the association between the effectiveness of the PMS from a process perspective (adopting Lawler’s (2003) approach) with work-related attitudes (job satisfaction and EOC). Paper Two examines the association between the use of multidimensional performance measures and PMS characteristics (target setting, performance evaluations, and reward systems) with PMS effectiveness. Paper Three examines the role of PMS use (diagnostic and interactive) in the association between PMS information characteristics (multidimensional performance measures, and the scope, timeliness, aggregation, and integration of information) with PMS effectiveness.

The remainder of this chapter is organised as follows. Section 1.2 outlines the motivation of the thesis. Section 1.3 provides an overview on each of the three papers, while Section 1.4 discusses the overall structure of the remainder of the thesis.

1.2 Motivation

The motivations for conducting this study include: (1) to contribute to the contingency based PMS literature by examining the effectiveness of the PMS from a process perspective; (2) to examine the influence of the achievement of process outcomes on individual's work-related attitudes (job satisfaction and EOC); (3) to contribute to the contingency based literature examining the factors influencing PMS effectiveness, and (4) to explore these relationships within Australian financial and legal service organisations. The following subsections discuss the specific motivations of the study in greater detail.

1.2.1 To contribute to the contingency literature by examining PMS effectiveness from a process perspective

The study addresses calls from both literature streams to examine the PMS from the perspective of its processes and procedures. For instance, Guest and Conway (2011) argue that aspects concerning the effectiveness of PMS practices and their implementation is under-researched, suggesting that the manner in which the PMS is implemented will be a more important determinant of outcomes than the mere presence of practices. Posthuma and Campion (2008, 50) also state that 'too much attention has been placed on the design of a PMS, and not enough on how it works', while Haines III and St-Onge (2012) assert that effective PMSs are supported by practices, processes and organisational contexts with certain characteristics.

While PMS research has predominantly considered organisational performance as a direct outcome of an effective PMS (Su et al., 2015, 2013; Lee and Yang 2011; Grafton et al., 2010), Hamilton and Chervany (1981) propose that organisational performance is an indirect PMS outcome, influenced by the effectiveness of organisational process outcomes. Specifically, Hamilton and Chervany (1981) suggest that while the common objectives of any PMS relate to its contribution to the achievement of organisational objectives, such as sales revenues,

customer satisfaction and profit, these objectives are not the direct and immediate outcome of the PMS. Rather, such outcomes occur indirectly and are dependent upon the way the PMS is used. In particular, they rely on improvements in organisational processes. In other words, the manner in which the PMS is used (either diagnostically or interactively) and/or the specific characteristics of the PMS that contribute to organisational process improvements have a subsequent impact on the achievement of organisational objectives. Accordingly, this study aims to contribute to the literature by examining the effectiveness of PMSs from an alternative viewpoint, i.e. in respect to the achievement of organisational process outcomes. In particular, the effectiveness of the PMS is assessed in respect to the achievement of sixteen process improvement outcomes adopted from Lawler (2003).

1.2.2 To examine PMS effectiveness in respect to individual's work-related attitudes (job satisfaction and EOC)

The significance of behavioural and attitudinal outcomes in respect to the PMS process has been recognised by Merchant and Van der Stede (2007) and Malmi and Brown (2008) who highlight the purpose of the PMS in controlling, directing, and aligning employee behaviour with the best interests of their organisations. The importance of employees as the most fundamental and crucial factor of organisational effectiveness is further recognised by Simmons (2008, 471) who considers individual organisational members as central to an effective PMS in three ways: "First, they constitute the human capital component that alone can initiate value-enhancing use of other forms of organisation capital. Second, it is employee stakeholders who devise and implement an organisation's performance management system. Third, knowledge intensive and service-based organisations are especially reliant on employee contribution and commitment for their effective operation, and employees can facilitate or negate performance enhancement initiatives". Hence, according to Simmons (2008), the

contribution and commitment of people must be elicited by the organisation rather than assumed.

Work-related attitudes have been recognised as important in the literature “because of their intrinsic desirability to the individual employee (in the case of job satisfaction, for example) and because of their linkage to behavioural consequences desirable at an organisational level” (McKinnon et al., 2003, 26), and as indicators of an individual’s well-being (Decramer et al., 2015; Van Horn et al., 2004). Employees with higher affective commitment have shown to be more willing to assume additional responsibilities (Allen and Meyer, 1990), demonstrate greater loyalty to the organisation (Chow, 1994), are more likely to remain in their workplaces during times of uncertainty and organisational change, and are more willing to adapt to new organisational conditions (Vakola and Nikolaou, 2005; Yousef, 2000; Iverson, 1996; Lau and Woodman, 1995; Guest, 1987). However, despite the importance of work-related attitudes, one of the concerns identified in the performance management literature is that PMSs drive performance improvements at the expense of the employees’ affective well-being (Decramer et al., 2015; Ordoñez et al., 2009; Fletcher and Williams, 1996). Consequently, given the close link between human resource management and the PMS, it is no surprise that studies have considered the association between aspects of the PMS and employee behavioural and attitudinal outcomes (Taylor and Pierce, 1999; Huselid, 1995; Simons, 2000).

While a number of studies have examined the relationship between specific PMS aspects and work-related attitudes (Su et al., 2015; Appelbaum et al., 2013; Leach-López et al., 2008; Lawler, 2003; Fletcher and Williams, 1996; Mallak and Kurstede, 1996; Wallace, 1995; Frucot and Shearon, 1991; Caldwell et al., 1990; Chenhall and Brownell, 1988; Chenhall, 1986; Podsakoff et al., 1982), with the exception of Pop-Vasileva et al. (2011) who examined the association between PMS effectiveness and job satisfaction in the academic/higher education

sector, these studies assume a direct relationship between aspects of the PMS and work-related attitudes and do not consider the impact of organisational process outcomes on work-related attitudes. Therefore, this study is motivated to extend the literature examining the impact of PMS effectiveness on work-related attitudes. In particular, given that the individual is an active and direct participant in organisational processes, Paper One will examine the relationship between PMS effectiveness, assessed in respect to the achievement of organisational process outcomes, with individual's job satisfaction and EOC.

1.2.3 To contribute to the contingency based literature examining the factors influencing PMS effectiveness

As previously mentioned, given that the majority of prior literature has examined PMS effectiveness in respect to organisational performance, this study aims to contribute to the literature by examining PMS effectiveness in respect to the achievement of organisational process outcomes. Consequently, the study aims to examine the impact of specific contingency factors on the achievement of organisational process outcomes. In particular, the study will examine the impact of specific PMS characteristics (target setting, performance evaluations and reward systems), key performance measures (the use of multidimensional performance measures) and the role of PMS use (diagnostic and interactive use of control) on the achievement of organisational process outcomes. The nature of the associations between these two factors with organisational process outcomes is discussed in sections 1.2.3.1 and 1.2.3.2.

1.2.3.1 The use of multidimensional performance measures

Various studies have examined the effectiveness of different PMS characteristics, such as the target setting process (Jeremias and Setiawan, 2008; Reid, 2002; Shields and Young, 1993; Brownell, 1982; Merchant, 1981), the performance measurement system (Lee and Yang, 2011; Crabtree and DeBusk, 2008; Braam and Nijssen, 2004; Davis and Albright, 2004; Ittner et al.,

2003b; Ittner and Larcker, 2003; Hoque and James, 2000), performance measure types and information (Grafton et al., 2010; Maiga and Jacobs, 2005; Abernethy and Lillis, 2003; Baines and Langfield-Smith, 2003; Ittner et al., 2003a; Abernethy and Guthrie, 1994), types of control (Sakka et al., 2013; Su et al., 2013; Abernethy et al., 2007; Chenhall, 1997), PMS use (Su et al., 2015; Widener, 2007; Henri, 2006a; Tuomela, 2005; Abernethy and Brownell, 1999) and the link of performance to rewards (Baird et al., 2012; Lawler, 2003; van Vijfeijken et al., 2002; Huselid, 1995) on the effectiveness of performance measurement systems or MCSs. However there is a dearth of studies examining the impact of the use of multidimensional performance measures on these PMS characteristics and the subsequent influence on the effectiveness of PMS processes. Consequently, the study addresses these associations in Paper Two of the thesis.

Specifically, while multidimensional performance measures have been argued to contribute to enhanced organisational performance (Lee and Yang, 2011; Crabtree and DeBusk, 2008; Braam and Nijssen, 2004; Davis and Albright, 2004; Baines and Langfield-Smith, 2003; Ittner et al., 2003a; Hoque and James, 2000; Chenhall, 1997; Abernethy and Guthrie, 1994), the study aims to contribute to the understanding of the role of the use of multidimensional performance measures in facilitating certain PMS characteristics and their subsequent influence on the effectiveness of the PMS.

1.2.3.2 The role of PMS use

Increasingly, there have been calls in management accounting research to distinguish the manner in which the system operates from the system use. For instance, Abernethy et al. (2010) asserted that what differentiates one control form over another is not the technical characteristic but the way in which management use them. Similarly, Langfield-Smith (1997) argue that it is

not sufficient to investigate the existence of the MCS without examining the manner in which it is used. In addition, Auzair and Langfield-Smith (2005) argue that PMS effectiveness is a result of the simultaneous consideration of multiple contingency variables.

While prior research refers to the benefits of specific PMS information characteristics (the use of multidimensional performance measures, scope, timeliness, aggregation, integration) for PMSs (Abernethy and Lillis, 2003; Baines and Langfield-Smith, 2003; Bouwens and Abernethy, 2000; Langfield-Smith, 1997; Abernethy and Guthrie, 1994; Chenhall and Morris, 1986) in assessing the effectiveness of the PMS, there is a dearth of research examining the role of the manner in which the information is used. Moreover, while prior research has provided evidence of the impact of the diagnostic and interactive use of PMS information on organisational performance (Sakka et al., 2013; Marginson et al., 2010; Widener, 2007; Tuomela, 2005; Henri, 2006a; Abernethy and Brownell, 1999), the impact of PMS use on the effectiveness of the PMS, assessed in respect to process outcomes, has not been examined. Therefore, this study contributes to the contingency research on PMSs with Paper Three examining the mediating role of the type of use of PMS information in the relationship between specific information characteristics and the effectiveness of PMS processes.

1.2.4 To explore the relationships within Australian financial and legal service organisations

Following the recognised dominance of the service sector in most economies (Auzair and Langfield-Smith, 2005) and the lack of studies systematically investigating the design of PMSs in this sector (Auzair and Langfield-Smith, 2005; Chenhall, 2003; Sharma, 2002; Shields, 1997), data was collected from 190 senior managers of Australian financial and legal service organisations. The services sector is a significant part of the Australian economy and represents about 70 per cent of Australia's gross domestic product (GDP) and employs four out of five

Australians (DFAT, 2016). In addition, finance and insurance is the fourth largest sector in Australia's economy, generating 8.1 per cent or A\$81 billion of real gross value added in 2007-08. This contribution is up from 6.5 per cent two decades ago and its expansion has also aided growth in related sectors such as communications, property and business services (Austrade, 2009). Furthermore, the Australian corporate services sector (financial and legal) was chosen given that four of the top ten world banks are Australian, and with the predicted growth of the Asia Pacific region, there will be an increase in the provision of a range of financial and other business services from Australia in support of this growth (Australia-Europe Brief – Australian Trade Commission 2012). Senior Managers¹ were chosen on the premise that they would possess sufficient knowledge of the characteristics of the Performance Management Systems which operate in their respective organisations and would be capable of answering the survey questions with respect to their particular business unit.

1.3 Overview of the three papers

The thesis employs the “Thesis by publication” approach with three separate papers prepared.

The nature of each of these three papers is discussed below.

1.3.1. Paper One: The impact of the effectiveness of the Performance Management System on employee work-related attitudes

This paper examines the effectiveness of PMSs in respect to the achievement of organisational process outcomes (performance-related and staff-related) and the subsequent impact on employee work-related attitudes (job satisfaction and EOC). The empirical evidence on the association between PMSs with job satisfaction and EOC has predominantly focused on various PMS attributes, however there is a dearth of studies examining the impact of the overall effectiveness of the PMS on employee attitudes (Guest and Conway, 2011). As such, the study contributes to the performance management literature by empirically examining the association

¹ Respondents included CEOs, CFOs, General Managers, Managing Directors and HR Managers.

between the overall effectiveness of the PMS, assessed in respect to the achievement of organisational process outcomes, with work related attitudes, thereby providing an insight into the dynamics of the effective functioning of the overall PMS on individuals.

The results indicate an association between PMS effectiveness with both job satisfaction and Employee Organisational Commitment. In particular, the performance-related outcomes were found to be associated with both job satisfaction and EOC, while the staff-related outcomes were associated with EOC. Further analysis revealed that a PMS which succeeds in motivating performance and assists in the development of individual's skills and knowledge (performance-related outcomes) was found to be pertinent to achieving higher job satisfaction, while individuals are likely to be more committed to their organisations when the PMS of their organisation is effective in motivating and assisting in the performance of employees and when it is able to provide an accurate assessment of business unit performance. Furthermore, job satisfaction can be enhanced under a PMS which effectively rewards talented staff and manages poor performing staff appropriately.

The process perspective to assess PMS effectiveness differs from the majority of the previous literature which has traditionally considered the PMS as a means to an end, generally viewed in respect to organisational financial performance. Hence, the paper sheds light on the importance of the effectiveness of organisational processes (through the continuous achievement of performance-related and staff-related outcomes) as a means of facilitating the achievement of work-related attitudes.

1.3.2 Paper Two: Performance management system (PMS) effectiveness: the influence of the use of multidimensional performance measures and PMS characteristics

Empirical research on PMS effectiveness and its antecedents assumes that contingency factors exhibit a direct impact on the achievement of specific organisational performance goals such as profitability, shareholders returns, customer satisfaction and sales revenue (Crabtree and DeBusk, 2008; Ittner et al., 2003a; Hoque and James, 2000). Alternatively, Hamilton and Chervany (1981) posit that the PMS does not directly contribute to organisational performance but rather indirectly influences organisational performance through the establishment and maintenance of organisational process improvements. Specifically, the PMS assists organisations in achieving process improvements (eg. motivating performance, developing individual's skills and knowledge, providing useful feedback to employees, addressing the concerns of staff) which subsequently facilitate the achievement of organisational goals such as financial or customer-related performance (Lawler, 2003). In line with this view, this paper contributes to the limited literature empirically examining PMS effectiveness in respect to the effectiveness of organisational processes, with the effectiveness of the PMS assessed in respect to the achievement of sixteen desired organisational process outcomes.

Additionally, the study aims to contribute to the contingency literature by examining the influence of the use of multidimensional performance measures and the characteristics of the PMS on PMS effectiveness. While previous research has argued that the use of multidimensional performance measures has a positive influence on organisational performance (Crabtree and DeBusk, 2008; Ittner et al., 2003a), this study examines the influence of the use of multidimensional performance measures on PMS characteristics and the subsequent impact on PMS effectiveness. Specifically, the study examines the influence of PMS characteristics including aspects of target setting (participation in target setting, target

difficulty, time focus of targets), performance evaluation (subjectivity/objectivity) and reward systems (the link of performance to financial and non-financial rewards) on PMS effectiveness.

The results indicate that the use of multidimensional performance measures exhibits a negative association with the subjectivity in performance evaluations, and a positive association with the link between performance and non-financial rewards, and the focus on short-term targets. In examining the impact of PMS characteristics on PMS effectiveness, the results indicate that three PMS characteristics (the link to financial and non-financial rewards, the short-term focus of targets) and employee empowerment exhibited a significant positive association with PMS effectiveness while subjectivity in performance evaluations exhibited a significant negative association. In addition, the findings highlight the mediating role of PMS characteristics in the association between the use of multidimensional performance measures and PMS effectiveness. In particular, three PMS characteristics (subjectivity/objectivity, link to non-financial rewards and short-term focus of targets) were found to mediate this association, although the link to non-financial rewards only mediated the achievement of staff-related outcomes. These findings highlight the importance of placing greater emphasis on objective approaches to performance evaluation, linking performance to non-financial rewards and focusing on short-term performance to a greater extent in order to enhance PMS effectiveness.

1.3.3 Paper Three: The role of the use of Performance Management Systems (PMS) in the association between information characteristics and PMS effectiveness

The study examines the mediating role of PMS use (diagnostic and interactive) in the association between information system characteristics (the use of multidimensional performance measures and the scope, timeliness, aggregation, and integration of information) with the effectiveness of Performance Management Systems (PMS), with the latter assessed in respect to the achievement of PMS organisational process based outcomes.

PMS use (diagnostic and interactive) was found to fully (partially) mediate the relationship between information scope (integration) with PMS effectiveness (both performance-related and staff-related outcomes). In addition interactive PMS use fully mediates the relationship between the multidimensional performance measures and PMS effectiveness (both performance-related and staff-related outcomes). Finally, information aggregation exhibits a positive direct association with PMS effectiveness (performance-related outcomes).

The study contributes to the contingency literature on performance management by highlighting the important role of both the characteristics of PMS information and the use of PMSs in enhancing the effectiveness of PMSs. In line with the findings, it is recommended that managers should focus on the inclusion of multidimensional performance measures, and broader scope and integrated information, thereby facilitating the diagnostic and interactive use of the PMS and enhancing the effectiveness of the PMS. From a practical perspective, organisations can invest in information systems capable of producing and using both financial and non-financial information, supplied from external and internal sources, and which incorporates cross unit effects and interdependencies. Further, in order to allow for appropriate information flows across the organisation, it is imperative that clear channels of communication and responsibility are established in order to support the effective use of PMS information for management decisions. Due consideration should also be given to the provision of appropriate training to management accountants aimed towards achieving consistency in reporting across the organisation, and the provision of relevant information commensurate with management level decision making responsibilities.

1.4 Organisation of the thesis

The remainder of this thesis is organised as follows. Chapter two provides a review of the relevant PMS literature. Chapters Three, Four and Five then provide the self-contained papers, with separate references, appendices, tables and figures presented at the end of each paper. Chapter Six summarises the findings of each of the three papers, and provides an overall conclusion. The limitations and suggestions for future research are also provided in Chapter Six. Finally, the survey questionnaire utilised for all three papers is provided in the appendix at the end of the thesis.

CHAPTER TWO

LITERATURE REVIEW

This chapter provides a comprehensive literature review of Performance Management System (PMS) research. Section 2.1 provides a review of the two major streams in the PMS literature, the management accounting and the human resource management streams. Section 2.2 then discusses the theoretical framework utilised in the study. Section 2.3 provides an overview of the different approaches used to assess PMS effectiveness and reviews the contingency research on PMS effectiveness. Finally, Section 2.3 reviews the literature on PMSs and work-related attitudes [job satisfaction and employee organisational commitment (EOC)] and Section 2.4 provides a summary of the chapter and outlines the structure of the remainder of the thesis.

2.1 Performance Management Systems

The existing literature on PMSs has been developed in two major streams of research, the management accounting stream and the human resource management (HRM) stream, approaching the concept with similar implicit understanding, albeit with different aims and purposes. While the management accounting literature has placed emphasis on the PMS and its effect on organisational or unit performance through controlling individual behaviour, the HRM literature stream is primarily centred around the management of the individual, as the most important resource in the organisation, to achieve long term organisational success. The HRM stream is also concerned with examining the effects of aspects of the PMS on the individual employee (Decramer et al., 2012; Molleman and Timmermann, 2003). Hence, the HRM literature stream (den Hartog et al., 2004; Roberts, 2001; DeNisi, 2000; Bacal, 1999; Taylor and Pierce, 1999; Lonsdale, 1998; Flapper et al., 1996) is predominantly centred around

the management and development of the individual within the organisation, while the management accounting stream (Ferreira and Otley, 2009; Malmi and Brown, 2008; Anthony and Govindarajan, 2007; Merchant and Van Der Stede, 2007; Chenhall, 2003; Otley, 1999; Anthony, 1965) focuses on the management of the system to achieve strategic objectives and enhance organisational performance, with the control of individual employees serving as a mechanism used to achieve organisational outcomes.

In respect to the HRM perspective, Lonsdale (1998, 303) defines a PMS as a process that involves “gathering of information about an individual’s performance, and in the light of that information, the making of judgements and decisions concerning future action”. The information produced by the PMS process can be used to assist individual decision making such as career planning and development, or to assist institutional decision making in regards to promotions, rewards, performance issues and/or training and development (Lonsdale, 1998). Similarly, Taylor and Pierce (1999) see the PMS as a cyclical process which includes activities such as supervisor-employee agreement on key result areas, regular tracking of employee progress towards key results in line with set objectives, measurement of performance, and the provision of feedback to employees which is translated into merit-based pay increases and/or bonuses for achieving objectives, or appropriate sanctions for lower-than-expected performance. This process is repeated cyclically with the setting of new performance objectives, with Lawler (2005) referring to a virtuous spiral whereby organisations need to perpetually emphasise setting challenging goals, increase reward levels and recruit and develop increasingly competent employees, thereby transforming the PMS into a competitive advantage for the organisation.

Bacal (1999) defines a PMS as an ongoing communication process, undertaken in partnership between an employee and their immediate supervisor, aimed at establishing clear expectations and understanding about the essential job functions that the employee is required to do, how the employee's job contributes to the goals of the organisation, what is required to complete a job well, and how performance is measured. Furthermore, the PMS contributes to identifying barriers to performance, sustaining the joint work efforts of the employee and supervisor, and improving or building on existing levels of performance. If designed and utilised appropriately, the PMS plays an essential role in increasing productivity, improving staff morale and motivation, and facilitating coordination of each employee's work thus contributing to the goals of the organisation (Bacal, 1999). Similarly, DeNisi (2000) and Mondy et al. (2002) describe performance management as an integrated process which includes managers working with their employees in setting objectives, measuring and reviewing their results, and rewarding performance. Accordingly, the PMS aims to improve employee performance over time, thus enhancing organisational success.

Roberts (2001) indicates that from a HRM perspective, the Performance Management process includes setting corporate, departmental, team and individual objectives; the use of performance appraisal systems; appropriate rewards strategies and schemes; training and development strategies and plans; feedback, communication and coaching; individual career planning; monitoring the effectiveness of the PMS; and interventions for corrective action and culture management. Based on this perspective, the PMS is highly aligned with and embedded in the HRM practices of the organisation in order to maximise current and future individual performance, with the ultimate aim being to positively affect organisational performance (den Hartog et al., 2004). Accordingly, performance management is considered as a process of continuously identifying, measuring and developing the performance of organisational

members, and aligning individual performance with the strategic objectives of the organisation (Aguinis et al., 2011).

Alternatively, in line with the management accounting approach, Flapper et al. (1996) define the PMS as a system that covers all aspects of performance that are relevant for the existence of an organisation as a whole, and which offer management quick insights into how well the organisation is performing in respect to pre-set objectives. Similarly, Armstrong and Baron (2000) define performance management as a process which is designed to improve organisational, team and individual performance, which is owned and driven by line managers. Further, Armstrong (2001) describes the PMS as a strategic and integrated process that delivers sustained success to organisations by improving the performance of employees and by developing the capabilities of individual contributors and teams. The strategic feature of the PMS relates to the broader focus encompassing the overall effective functioning of a business in its environment and the achievement of long term goals, rather than solely measuring performance. The integrated aspect of the PMS refers to the vertical integration, aligning business, team and individual objectives with core competencies, and horizontal integration, linking different aspects of human resource management, management accounting, organisational development, human resource development and rewards (Armstrong, 2001).

The management accounting PMS research stream has predominantly focused on defining aspects of management control and performance measurement systems, and is inherently concerned with the achievement of organisational performance. This research has approached the concept as being interchangeable with Management Control Systems (MCS hereafter) and has been subject to compartmentalisation (Chenhall, 2003) or narrowly focused on specific aspects of control (Malmi and Brown, 2008). In particular, the available PMS theoretical

frameworks (Adler, 2011; Ferreira and Otley, 2009; Broadbent and Laughlin, 2009) have evolved from earlier MCS research (Otley, 1999; Simons, 1995), thus highlighting the main emphasis in the management accounting stream on organisational effectiveness and performance.

The MCS concept has been subject to various definitions in the literature. One of the earliest and founding definitions was provided by Anthony (1965, 17) who focusing on the formal aspects of the control function defined a MCS as “the process by which managers assure that resources are obtained and used effectively and efficiently in the accomplishment of the organisation’s objectives”. Similarly, Flamholtz et al. (1985) and later Otley and Berry (1994) regard the MCS as consisting of processes and procedures applied in order to attain organisational goals and ensure goal congruence. Otley’s (1999) perspective focused on looking beyond the measurement of performance to the management of performance, thereby considering a well performing organisation as one that is successfully attaining its objectives and effectively implementing an appropriate strategy. Alternatively, Simons’ (1995) focus is on formal informational control – how information is generated, communicated and used by top managers. Simons (1995) recognizes a wider concept of control, assuming different forms including social and cultural aspects, and considering four levers of control: belief systems, boundary systems, diagnostic control systems and interactive control systems.

More recent definitions of MCSs are based on the assumption that supervisors seek to control the behaviour of subordinates (Malmi and Brown, 2008; Anthony and Govindarajan, 2007; Merchant and van der Stede, 2007). For example, Anthony and Govindarajan (2007) define the MCS as a process by which managers influence the other members of the organisation to implement the organisation’s strategies. Similarly, Merchant and van der Stede (2007)

emphasise the importance of people in organisations as they make things happen, consequently highlighting the need to institutionalise management controls to guard against dysfunctional behaviour. Finally, Malmi and Brown (2008, 290) consider MCSs as “those systems, rules, practices, values and other activities management put in place in order to direct employee behaviour”. These recent definitions bear a closer similarity with the HRM stream as they place greater emphasis on employees, although the main purpose of focusing on the individual in these studies is to achieve organisational outcomes.

In acknowledging the two streams of literature, the present study aims to contribute to the PMS literature by incorporating aspects of both approaches, the HRM and the management accounting approach. Specifically, incorporating the HRM emphasis on the management of the individual and the management accounting emphasis on a system which enhances organisational performance, the study focuses on examining the effectiveness of PMSs from the perspective of the individual organisational member. Specifically, the effectiveness of the PMS is examined in respect to those aspects which engage the individual, on an ongoing basis, as an active participant in PMS-related organisational processes.

Consequently, the study utilises Ferreira and Otley’s (2009) definition of a PMS, due to its broad nature, consideration of the different perspectives [the general control of organisational effectiveness (consistent with the management accounting stream) and PMS aspects which relate to the management of individuals within organisations (consistent with the HRM stream)], and acknowledgement of the importance the PMS has beyond merely control. Ferreira and Otley (2009, 264) define the PMS as the “evolving formal and informal mechanisms, processes, systems and networks used by organisations to convey the key management objectives and goals for assisting the strategic progress and ongoing management

through analysis, planning, measurement, control, rewarding and broadly managing performance, for supporting and facilitating organisational learning and change”. This definition includes both formal and informal aspects of performance management (processes, systems and networks) and “views the PMS as performing a supporting role for a broad range of managerial activities, including strategic processes – which involve strategic formulation and strategic implementation, and ongoing management” (Ferreira and Otley, 2009, 264). Hence, this study utilises Ferreira and Otley’s (2009) framework to examine PMSs with the following section describing the framework in greater detail.

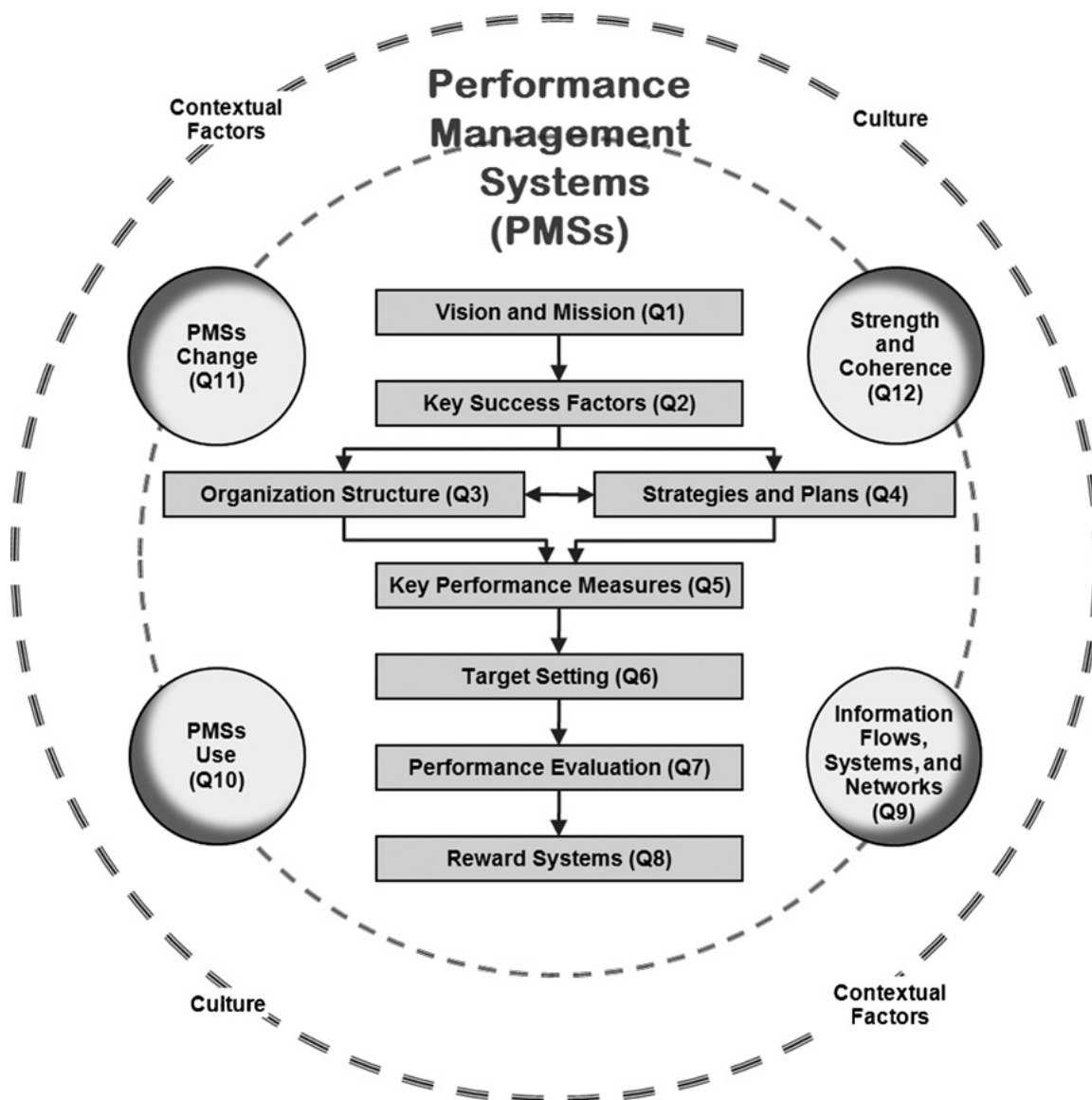
2.2 Theoretical framework – Ferreira and Otley (2009)

Given that the majority of studies have focused on Management Control Systems (Ferreira and Otley, 2009; Malmi and Brown, 2008; Otley, 1999; Anthony, 1965), which reflect a narrower concept than a PMS, theoretical frameworks on PMSs have been scarce and evolving. These frameworks have consistently placed emphasis on the effectiveness of the system in achieving organisational performance, resulting in limited consideration of the human resource perspective.

This study utilises the Ferreira and Otley (2009) framework to analyse performance management systems. Ferreira and Otley (2009) propose a comprehensive and holistic framework for the design, use and analysis of PMSs, including additional aspects such as vision and mission, employee rewards management and the use of accounting and control information for human resource developmental decisions (see Figure 1). Ferreira and Otley’s (2009) conceptual model is an extension of the original Otley (1999) MCS framework which predominantly focused on management control systems (MCSs), and identified five fundamental areas which serve as an analytical tool in assessing the characteristics of MCSs:

the key organisational objectives set; the process of formulating and implementing strategies and plans; the process of setting performance targets; the rewards system used; and the information flows required to provide adequate monitoring and support learning (Otley, 1999).

Figure 1. Ferreira and Otley's (2009) PMS conceptual framework



The advantages of the Otley (1999) framework is that it is easily applied, and integrates and complements other frameworks (Ferreira and Otley, 2009; Tuomela, 2005). However, this particular framework is criticised due to its focus on the control of the PMS, thus omitting key dimensions/characteristics such as the mission, vision, system dynamics and change over time. Hence as an extended framework, Ferreira and Otley's (2009) framework includes these aspects to develop a more holistic approach to the analysis of the PMS. Specifically, the framework consists of twelve dimensions, the first of which consists of the vision and mission that an organisation adopts as an influencing factor in the design of a PMS. The focus here is on the way the vision and mission are established and conveyed/communicated throughout the organisation to managers and employees at different levels in order to facilitate the development of appropriate values and behaviours. The second dimension represents the key success factors of the organisation. These are the specific activities, capabilities and attributes that contribute to organisational success in a particular industry at a given point in time. The key success factors are important for the evaluation of the PMS given that an inappropriate focus on less important success factors would inhibit the provision of adequate information for management decision making. The third dimension of the framework is the organisational structure and its influence on the design of the PMS. The structure emphasises the interdependency between the organisational strategy with the coordination between the two necessary to achieve organisational goals and objectives.

The fourth dimension focuses on organisational strategies and plans. Specifically, this aspect is concerned with the way in which strategies and plans are adopted, generated, and communicated to managers and employees across the organisation. The importance of the strategies and plans is significant considering that they will determine which aspects of performance will be measured in the form of key performance measures (the fifth dimension).

Such performance measures need to be aligned with the goals and objectives of the organisation to serve as an accurate indication of success. In respect to the nature of performance measures, they can take the form of financial or non-financial measures, or multidimensional (both financial and non-financial) depending on their relevance to the particular organisational setting. Closely linked with the determination of specific performance measures is the aspect of target setting which is the sixth dimension of Ferreira and Otley's (2009) framework. Specifically, the framework emphasises the importance of the manner in which targets are set, the extent to which they are difficult and pose a challenge, and the extent to which they are an appropriate representation of the desired individual and organisational performance.

The seventh dimension of the framework is the process of assessing individual, group and organisational performance. The performance evaluation processes in an organisation can range from formal to informal and can be objective, subjective or mixed, depending on the kind of information that is judged to be important in the appropriate context. Given that the typical outcome of performance evaluation is a reward, logically the eighth aspect of the framework is the reward system of the PMS. Rewards can be represented in verbal or symbolic expressions of approval, and include extrinsic to intrinsic, formal or informal, and financial (bonuses and salary increases) and non-financial rewards (long-term progression and promotions).

The ninth dimension of Ferreira and Otley's (2009) framework is the information flow, systems and networks. Emphasis is placed on the distinction between feedback information (used for corrective or adaptive courses of action) and feed-forward information (used for organisational learning, generating new ideas and recreating strategies). Different organisations utilise different information with the manner and purpose of using this information comprising the tenth dimension of the framework. In particular, this dimension focuses on whether the

organisation uses the PMS in a diagnostic and interactive manner (Ferreira and Otley, 2009). The eleventh dimension of the framework focuses on the dynamic character of the PMS over time as it is considered to develop and change with new information and specific organisational environmental conditions in a proactive or reactive manner. Finally, the twelfth dimension of the framework is the focus on the strength and coherence of the different components of the PMS and the extent to which the information provided is consistent and useful for decision making purposes.

This study will not examine the mission, vision, strategy, success factors and organisational objective dimensions of the PMS as these are likely to be formulated at a higher corporate managerial level and therefore do not engage individual organisational members on an ongoing basis. Rather, they are only subsequently translated into lower level unit and individual targets and objectives. Similarly, the organisational structure will not be a focus of the study given that it is an organisation-wide established pre-condition and as such does not require ongoing engagement by individuals once it is understood and assumed. Furthermore, the strength and coherence are also not examined in this study as these PMS aspects relate to the management accounting perspective in evaluating the effectiveness of a system, which is inconsistent with the individual perspective adopted in this study. Finally, as the study is not longitudinal and is focused on analysing characteristics of performance management at one point in time, it will not focus on the PMS change dimension of Ferreira and Otley's (2009) framework.

Instead, the study places emphasis on human resource aspects within the PMS, thereby incorporating the HRM perspective in the assessment of PMS effectiveness. Therefore, the study focuses on the PMS characteristics/aspects (dimensions) which the individual directly engages with on an ongoing basis, and which are expected to subsequently impact on the

individual as an active participant in PMS processes. Accordingly, the present project focuses on six of the twelve Ferreira and Otley (2009) dimensions: the nature of target setting, the type of key performance measures used; performance evaluations; rewards systems; information characteristics; and PMS use.

Key performance measures direct and guide the tasks and behaviour of each organisational member as they are translated into lower hierarchical level measures (business unit, team and individual measures) in order for individual organisational members and groups to contribute to the achievement of organisational objectives. Such performance measures are further expressed as performance targets for further guidance, whether through a consultation process with each organisational member, through active participation, or imposition by higher levels of management. Performance evaluations are undertaken on a regular basis in respect to each individual organisational member and based on these reviews, rewards are distributed. The type of information required to evaluate performance is collected, prepared and distributed using different levels of detail, and in line with the responsibilities of each individual organisational member. The information is subsequently used diagnostically and interactively at different hierarchical levels to evaluate, control or guide the performance of individual members.

The emphasis on these six dimensions of the Ferreira and Otley (2009) framework addresses calls in the PMS literature to consider the finer nuances of the functioning of the PMS, such as the human resource aspect and internal organisational processes (Adler, 2011; Broadbent and Laughlin, 2009; Yeo, 2003). For instance, Broadbent and Laughlin (2009) and Adler (2011) highlight the need to place greater emphasis on societal and organisational aspects in PMS research (Broadbent and Laughlin, 2009) or “non-accounting based performance management

elements, such as organisational culture and human resource systems of selection and training and development” (Adler, 2011, 253). Moreover, Yeo (2003) argues that performance management should not be treated as a separate isolated system, but considered at the individual, process and organisational levels.

Therefore, in conclusion the study focuses on six dimensions of the Ferreira and Otley (2009) framework which impact on the individual employee. These dimensions are considered as contingent factors which are expected to influence PMS effectiveness. Specifically, four dimensions (target setting, performance evaluations, rewards systems, and the key performance measures used i.e the use of multidimensional performance measures) are considered as contingency factors influencing PMS effectiveness in Paper Two, while three dimensions (the use of multidimensional performance measures, specific information characteristics and PMS use) are examined in respect to their influence on PMS effectiveness in Paper Three. A detailed discussion of the measurement and nature of the effectiveness of PMSs is provided in the next section.

2.3 PMS effectiveness

The majority of the studies on the effectiveness of the PMS have focused on the ways that it can be measured or the factors influencing PMS effectiveness. Accordingly, the following sections will provide a review of the studies on PMS effectiveness, with Section 2.3.1 discussing the measurement of PMS effectiveness and Section 2.3.2 reviewing the contingency studies on PMS effectiveness.

2.3.1 The measurement of PMS effectiveness

The assessment of the effectiveness of PMS has been subject to different interpretations and definitions in the management accounting and HRM literature (Bento and Bento, 2006; Nankervis and Compton, 2006; Furnham, 2004; Taylor and Pierce, 1999). For instance, in line with the HRM perspective Taylor and Pierce (1999) describe the effectiveness of the PMS based on the extent to which it achieves specific staff related objectives. These objectives range from providing staff with clear measurable targets, improving supervisor-employee communication, clarifying staff roles, increasing commitment and accountability to work projects and improving customer relations, increasing managers' support for staff, developing mutual understanding and agreement between staff and managers regarding the organisation's direction and providing incentives for performance (Taylor and Pierce, 1999). Similarly, according to Nankervis and Compton (2006) an effective PMS is expected to achieve outcomes such as determining training and development needs, appraising past performance, aligning individual and organisational objectives, developing individual competencies, career planning, achieving salary increases and the assessment of future promotional prospects. Furthermore, Furnham (2004) suggests that an effective PMS should improve work performance, advise employees about work expectations, motivate employees, identify training needs, assist employees in setting career goals and improve working relationships. The extent to which the PMS realises these outcomes will subsequently determine the level of satisfaction of employees subjected to it (Nankervis and Compton, 2006).

The empirical HRM literature examines PMSs under the label of 'HR practices' or 'strategic HRM' and has focused on the effectiveness of these practices and the closely related concept 'High Performance Workplaces' (Biron et al., 2011; Bowen and Ostroff, 2004). According to this part of the HRM literature, the effectiveness of HRM systems and practices affects

individual performance which in turn affects organisational performance (den Hartog et al., 2004; Snell and Youndt, 1995; Huselid, 1995; Guest and Hoque, 1994). Specifically, according to den Hartog et al. (2004, 5) “performance management involves aligning HRM practices so that employee performance and development are enhanced with the aim of maximising organisational performance”. However, they highlight that the impact of individual and group performance on organisational performance is often assumed rather than tested. Similar arguments are echoed across much of the HRM literature (Piening et al., 2013; Jiang et al., 2012; Paauwe, 2009; Paauwe and Boselie, 2007; Becker and Huselid, 2006; Boselie et al., 2005), highlighting the need for more conclusive evidence of the nature of the relationship between performance management and organisational effectiveness.

The HRM literature distinguishes between different types of organisational performance as a basis for determining effectiveness. For instance, Paauwe and Boselie (2005) distinguish between financial outcomes (profit, sales, market share), organisational outcomes (productivity, efficiency, quality) and HR-related outcomes (attitudinal and behavioural employee outcomes such as satisfaction and commitment) and reveal that more than half of the HRM literature adopts the financial outcomes approach to assess PMS effectiveness. Bowen and Ostroff (2004) distinguish between a systems approach (an overall set of HRM practices) and strategic approach (the fit between HRM practices and organisational strategy) to assess the effectiveness of HRM practices (inclusive of the PMS). The systems approach considers the overall design of HRM practices in contributing to organisational performance, while the strategic approach focuses on the alignment of these practices with the strategy of the organisation. According to Bowen and Ostroff (2004) when taken together, these two approaches can lead to desired organisational outcomes, such as financial performance,

productivity, and competitive advantage through processes and policies which signal desirable behaviour to employees.

Similarly, a significant part of the management accounting literature considers that an effective PMS commonly leads to improvements in the performance of the organisation, predominantly financial performance (profitability, sales, shareholders returns, market position) (Lee and Yang, 2011; Crabtree and DeBusk, 2008; Jeremias and Setiawan, 2008; Abernethy et al., 2007; Sandino, 2007; Maiga and Jacobs, 2005; Braam and Nijssen, 2004; Davis and Albright, 2004; Baines and Langfield-Smith, 2003; Ittner et al., 2003a; Abernethy and Lillis, 2001; Hoque and James, 2000; Abernethy and Brownell, 1999; Chenhall, 1997; Snell and Joundt, 1995; Abernethy and Guthrie, 1994; Merchant, 1981) or non-financial performance aspects (customer service and satisfaction, organisational learning) (Batac and Carassus, 2009; Abernethy et al., 2007; Henri, 2006b; Driver, 2001; Kloot, 1997; Hoque and James, 2000; Simons, 2000, 1995).

Alternatively, a relatively underdeveloped part of the literature has examined PMS effectiveness in respect to changes and improvements in processes which subsequently contribute to organisational performance (Tung et al., 2011; Bowen and Ostroff, 2004; Whorter, 2003; Malina and Selto, 2001; Hamilton and Chervany, 1981). Specifically, Hamilton and Chervany (1981) argue that in order to achieve specific organisational performance goals, such as sales, profitability, customer satisfaction and shareholder returns, organisations need to achieve continuous process improvement objectives, which will in turn lead to the ultimate performance goal. Similarly, Malina and Selto (2001), adopting the approach of organisational process improvements, suggest that the performance measurement system (as inherent part of the PMS) contributes to the achievement of process outcomes such as the effective evaluation

of corporate strategy, motivation, strategic alignment and effective management control. Whorter (2003) also found that that an effective performance measurement system provides superior information for decision making purposes, thereby enhancing not only the accurate assessment of employee performance but also providing useful performance feedback to employees.

Given these studies focus more narrowly on performance measurement as one aspect of a PMS, this study aims to extend this process approach to the overall PMS, thereby contributing to the limited empirical evidence assessing PMS effectiveness based on the achievement of organisational process improvements. Specifically, all three papers evaluate PMS effectiveness in respect to the achievement of sixteen process improvement outcomes based on Lawler (2003). These outcomes include motivating performance, helping individuals develop their skills, assisting in the achievement of goals, developing a performance oriented culture, implementing organisational strategy, linking individual and organisational performance and providing an accurate assessment of performance, developing individual competencies, identifying and rewarding talented employees, identifying and managing poor performing staff, ensuring efficient use of staff time and addressing specific staff concerns. According to Lawler (2003) and subsequent studies adopting this approach (Baird et al., 2012; Tung et al., 2011), these outcomes fall into two categories, performance-related and staff-related outcomes.

2.3.2 The factors influencing PMS effectiveness

According to contingency theory, managers aim to establish a fit between specific contextual factors and the effectiveness of an organisation's PMS so as to accomplish superior organisational performance (Chenhall, 2003; Langfield-Smith, 1997; Govindarajan and Gupta, 1985). This section provides an overview of the literature examining the association between

contingency factors and PMSs effectiveness, with PMS effectiveness examined in respect to the achievement of work-related attitudes in Section 2.3.2.1 and in respect to the achievement of organisational performance in Section 2.3.2.2.

2.3.2.1 The factors influencing work-related attitudes

The majority of contingency research on PMS effectiveness and employee work-related attitudes has predominantly examined the association between separate aspects of the PMS and employee work-related attitudes as a consequence/outcome, with such attitudes considered to be indicative of PMS effectiveness (Su et al., 2015). For instance, prior literature has examined the association between participation in target setting with job satisfaction (Appelbaum et al., 2013; Leach-Lopez et al., 2008; Fletcher and Williams, 1996; Frucot and Shearon, 1991; Chenhall and Brownell, 1988; Chenhall, 1986; Schnake et al., 1984); the link of performance to financial rewards with job satisfaction (Lawler, 2003; Podsakoff et al., 1982; Fossum, 1979) and EOC (Mallak and Kurstedt, 1996; Wallace, 1995; Caldwell et al., 1990); empowerment with satisfaction (Wong and Laschinger, 2013; Wagner et al., 2010; Patrick and Laschinger, 2006; Bartram et al., 2004; Laschinger et al., 2004); the types of control with EOC (Su et al., 2015); and performance evaluation with job satisfaction (Seiden and Sowa, 2011). However, few studies have examined the impact of the overall PMS effectiveness on work-related attitudes, with Pop-Vasileva et al. (2011) reporting a positive association between PMS effectiveness and job satisfaction in the academic sector, and Taylor and Pierce (1999) finding an association between the introduction of a PMS and work-related attitudes. Hence, there is a gap in the literature examining the influence of the effectiveness of the overall PMS on individuals' work-related attitudes and accordingly this study aims to contribute to the contingency literature by examining the impact of the overall effectiveness of the PMS on both job satisfaction and Employee Organisational Commitment (EOC). Specifically, Paper One

emphasises the effectiveness of PMSs based on the achievement of the sixteen organisational process outcomes, and then examines the subsequent influence of such outcomes on two work-related attitudes, job satisfaction and EOC. The following discussion outlines the nature of each of these work-related attitudes and reviews the relevant contingency literature in respect to the factors influencing them.

Job satisfaction

The majority of definitions of job satisfaction relate to the type of attitude, feeling or emotional reaction towards one's job (Schermerhorn et al., 2008; Spector, 1985; Kalleberg, 1977; Locke, 1976). However, they differ in the extent of detail used to describe the concept. For instance, Locke's (1976) and Schermerhorn et al.'s (2008) definitions both focus on the job overall, referring to it as an instigator of emotional reaction. Alternatively, Kalleberg (1977) and Spector (1985) focus on various aspects of the job which contribute to one's overall emotional reaction towards the job. Job satisfaction is seen by Kalleberg (1977) as a 'unitary concept' or an attitude towards one's total job situation which balances the different satisfactions and dissatisfactions from the aspects of the job and thus arrives at a general attitude for the job as a whole (Kalleberg, 1977). Similarly, Spector (1997) considers job satisfaction as a global feeling about the job or a related constellation of attitudes about various aspect or facets of the job. Furthermore, Spector (1985) considers job satisfaction as an affective or attitudinal reaction to a job or as a cluster of evaluative feelings about the job. Specifically, Spector (1985) considers the concept of Job Satisfaction to systematically cover nine clusters or dimensions of the job which have been considered as the most important aspects influencing the job satisfaction of the employee. These job dimensions relate to the level of employee's satisfaction with the pay, promotion, supervision, fringe benefits, contingent rewards, operating conditions, co-workers, the nature of the work and communication.

Prior contingency research on PMS effectiveness has examined the relationships between various PMS aspects and job satisfaction. For example, several studies have reported a significant positive association between budgetary participation and job satisfaction (Leach-Lopez et al., 2008; Chong et al., 2005; Fletcher and Williams, 1996; Frucot and Shearon, 1991; Chenhall and Brownell, 1988; Chenhall, 1986), while Schnakeet al.(1984) reported a positive association between participation in goal setting and job satisfaction. Similarly, Appelbaum et al. (2013) reported a positive relationship between participation in decision making and job satisfaction in a case study in a manufacturing company, while Chonget al. (2005) reported that a combination of high budgetary participation and high market competition contributes to improved performance and job satisfaction. In respect to the nature of the organisational targets, the emphasis on short term goals was found to be negatively associated with job satisfaction, while no relationship was found with goal difficulty (Fletcher and Williams, 1996).

In regards to the relationship between performance measures and job satisfaction, Seiden and Sowa (2011) found an association between employees' perceptions of the quality of the performance appraisal and the link to reward with positive employee attitudinal outcomes such as turnover and job satisfaction in non-profit organisations. Burney and Swanson (2010) also found an association between characteristics of the Balanced Scorecard with managers' job satisfaction, while Lau and Martin-Sardesai (2012) found a link between multidimensional performance measures and job satisfaction.

Closely related to performance measures, the influence of linking performance to rewards on job satisfaction has also been the focus of prior research, with Fletcher and Williams (1996)

identifying a positive association between the perception of the link between performance and rewards with employees' job satisfaction. Similarly, Lawler (2003) identified a relationship between the provision of financial rewards for performance with employees' job satisfaction, while Burney and Swanson (2010) identified a significant relationships between the extent to which the firm links performance measures to organisational strategy and the extent of use of non-financial performance measures with managers' job satisfaction. Additionally, in an experimental study, Fossum (1979) reported an association between the reward magnitude and job satisfaction, while Podsakoff et al.(1982) indicate a positive relationship between contingent rewards (link of performance to reward) and employee satisfaction.

Finally, several studies examined the association between employee empowerment and job satisfaction, with Laschinger et al. (2004) and Bartram et al. (2004) finding that changes in perceived structural empowerment had a direct effect on changes in psychological empowerment and job satisfaction. Furthermore, while Patrick and Laschinger (2006) found a positive relationship between the structural empowerment and job satisfaction of nursing staff, Wong and Laschinger (2013) found that authentic leadership significantly and positively influenced staff nurses' structural empowerment, which in turn increased job satisfaction and self-rated performance.

Employee Organisational Commitment (EOC)

While there are several definitions of EOC in the literature, they broadly adopt either an attitudinal perspective (Elizur and Meni, 2001; O'Reilly, 1989; Mowday et al., 1982), or a behavioural perspective (Ingersoll et al., 2000; Meyer and Allen, 1997). From the attitudinal perspective, Mowday et al. (1982) define EOC as an attitude that represents the nature and the quality of the relationship between the employee and the organisation. O'Reilly (1989) defined EOC as the psychological attachment of the employee to their organisation, demonstrated by

their loyalty and congruence of values with the organisation. Further, Elizur and Meni (2001) consider EOC as an emotional and functional bond that the employee develops towards the organisation. From the behavioural perspective, Meyer and Allen (1997) define EOC as the employee's willingness to continue working for the organisation, while Ingersoll et al. (2000) regard EOC as a representation of an employee's intention to make substantial efforts on behalf of the organisation and to pursue the values and goals of the organisation. Alternatively, Morris et al. (1993) argue that EOC incorporates both attitudinal and behavioural perspectives and as such is a multidimensional concept.

Accordingly, the definition adopted in this study (and specifically in Paper One) was developed by Porter et al. (1974) and encapsulates both the attitudinal and behavioural approaches. This definition has been widely utilised as a preferred definition in the literature (Su et al., 2012; Su et al., 2009; Foote and Seipel, 2005; Metcalfe and Dick, 2002; Chow, 1994; Bateman and Strasser, 1984; Steers, 1977), defining EOC as a strong belief in and acceptance of the goals and values of the organisation; a willingness to exert a considerable effort on behalf of the organisation; and a definite desire to continue organisational membership.

Meyer and Allen (1987) distinguished three components (later types) of EOC, affective, continuance and normative. Affective commitment refers to the emotional identification and attachment of the individual with the organisation. Continuance commitment is considered as the employee's perception of the costs associated with leaving their organisation. Finally, normative commitment refers to the employee's feeling of moral obligation to stay within their organisation (Meyer and Allen, 1987). In respect to organisational studies, continuance is considered to be beyond the influence of the manager given that the costs and personal sacrifice related to leaving the organisation are based on individual-specific conditions, and the

employee will develop their perspective based on factors outside of the organisation. Similarly, normative commitment has been argued to result from employee's internalisation of norms and values before they enter employment with the organisation (Wiener, 1982). Alternatively, affective commitment is dependent on the employee's attitude towards their organisation and as such can be influenced within the organisational environment. As a result of these arguments, this study refers to affective commitment given that it is considered to be within the manager's influence.

In respect to contingency studies examining the association between PMS aspects and EOC, Fletcher and Williams (1996) found that the link to financial rewards was positively associated with EOC, while an emphasis on short term goals was negatively associated with EOC. Similarly, a positive association between the link to rewards and the level of EOC was found by Seiden and Sowa (2011), Caldwell et al. (1990), Wallace (1995), and Mallak and Kurstede (1996). Appelbaum et al. (2013) reported a positive relationship between participation in decision making and employee commitment in a case study in a manufacturing company. Russell (1996) identified that the level of information sharing amongst employees can contribute to higher EOC, and similarly Rodwell et al. (1998) identified a positive relationship between employee communication and EOC. Furthermore, Rosete (2006) identified that individuals will report higher levels of organisational commitment when organisational values are congruent with performance management objectives, while Su et al. (2009) identified a positive relationship between perceived organisational support and EOC amongst manufacturing managers. Finally Su et al. (2015) found a significant positive association between input controls and the level of EOC in both the birth and revival stages of manufacturing organisations.

2.3.2.2 Factors influencing organisational performance

The studies examining the association between PMS effectiveness and organisational outcomes have predominantly focused on organisational performance as an outcome of PMS effectiveness and the impact of specific PMS aspects (Walker et al., 2011; Lee and Yang, 2011; Jeremias and Setiawan, 2008; Sandino, 2007; Abernethy et al., 2007; Maiga and Jacobs, 2005; Baines and Langfield-Smith, 2003; Reid, 2002; Abernethy and Lillis, 2001; Hoque and James, 2000; Abernethy and Brownell, 1999; Chenhall, 1997; Snell and Youndt, 1995; Abernethy and Guthrie, 1994; Shields and Young, 1993; Brownell, 1982; Merchant, 1981). For instance, in respect to studies examining participation in target setting, Merchant (1981) and Shields and Young (1993) provided evidence of the association between participative budgeting and organisational performance, Brownell (1982) found that budgetary participation acted as a mediator in the relationship between supervisory evaluative style and performance, while Jeremias and Setiawan (2008) revealed that a relationship between budgetary participation and organisational performance is exclusive to organisations with a higher number of hierarchical levels. Shields and Young (1993) found that participative budgeting contributed to firm-wide performance when tied to budget-based incentives, while Reid (2002) examined the effect of participation in budget target setting on employee motivation and the subsequent effect on the achievement of organisational goals, concluding that the effect is situation specific and that there is no “perfect” budgeting system. Chong and Chong (2002) suggest that budget participation exerts a budget goal commitment effect on subordinates which then triggers an informational effect on highly committed subordinates who in turn exert greater effort to gather, exchange, and disseminate job-relevant information to enhance their job performance.

Few studies examine the relationship between the use of a fair budgeting process (following the theory on organisational and procedural justice) and subordinate performance (Libby, 1999;

Shields and Shields, 1998; Magner et al., 1995). The results from these studies indicate significant performance improvements when the subordinate is involved in the budgeting process and there is an explanation for the subordinate's lack of influence over the final budget target. Similar findings are provided by Lau and Lim (2002) whereby participation in target setting mediates the relationship between the perceptions of procedural justice on performance. Alternatively, Lindquist (1995) found no such relationship.

A significant part of contingency research has focused on performance measurement systems, with an emphasis on the influence of the characteristics of the performance measurement information and/or the adoption of multidimensional performance measurement systems on organisational performance (Lee and Yang, 2011; Crabtree and DeBusk, 2008; Braam and Nijssen, 2004; Davis and Albright, 2004; Baines and Langfield-Smith, 2003; Ittner et al. 2003a; Hoque and James, 2000; Chenhall, 1997; Abernethy and Guthrie, 1994). For instance, studies have reported that the adoption of the Balanced Scorecard was positively associated with organisational financial performance measures such as return on investment (Braam and Nijssen, 2004; Davis and Albright, 2004; Hoque and James, 2000) or shareholder/stock market returns (Crabtree and DeBusk, 2008; Ittner et al., 2003a). These findings resonate with Abernethy and Guthrie (1994) and Baines and Langfield-Smith (2003) who conclude that the reliance on broad and non-financial management accounting information results in enhanced organisational performance (financial and non-financial), while Abernethy and Lillis (2003) reported that non-financial performance measures impact qualitative aspects of organisational performance and financial performance measures impact quantitative performance aspects. Furthermore, Chenhall (1997) reported a joint effect of the interaction between non-financial performance measures and the adoption of Total Quality Management on performance, while

Lee and Yang (2011) concluded that the impact of integrated measures was stronger in organisations with mechanistic structures than in those with organic structures.

Ittner et al. (2003) found evidence that firms making more extensive use of a broad set of financial and non-financial measures have higher measurement system satisfaction and stock market returns. In a similar vein, Grafton et al.(2010) examined the processes through which the availability of broad-based strategically relevant performance measurement information impacts on the performance outcomes of organisations and found that the use of multiple financial and non-financial performance indicators for feedback and feed-forward control contributed to exploit the existing capabilities of the organisation and identifying new capabilities which ultimately impacted on organisational performance. Additionally, Ittner and Larcker (2003) found that the subjectivity in the Balanced Scorecard allowed superiors to reduce the balance in bonus awards by placing most of the weight on financial measures, incorporating factors other than the Balanced Scorecard measures in performance evaluations, changing evaluation criteria from quarter to quarter, ignoring measures that were predictive of future financial performance, and weighting measures that were not predictive of desired results. Finally, Tung et al. (2011) examined the effectiveness of performance measurement systems and reported that the use of multidimensional performance measures, top management support, and training contributed to greater effectiveness of performance measurement systems.

In respect to the use of PMS information, Abernethy and Brownell (1999) reported that the diagnostic use of budgets can improve organisational performance in conditions of low strategic change, while the interactive use of budgets can improve performance in high strategic change conditions. In a similar vein, in a longitudinal field study on the introduction and use

of a new performance measurement system in a case company, Tuomela (2005) found that the interactive use of performance measures was apt to improve the quality of strategic management and to increase commitment to strategic targets. However, the interactive discussion of specific performance metrics was found to increase the visibility of actions and thus initiate resistance. In addition Marginson et al. (2010) suggested that the diagnostic use of non-financial performance measures led managers to make inter-temporal trade-off choices that prioritise the short term to the detriment of the long term, while the interactive use is negatively associated with short-termism.

Henri (2006a) examined the relationship between PMS use and organisational capabilities (market orientation, entrepreneurship, innovativeness, and organisational learning) suggesting that the interactive use of PMS fosters these four capabilities by focusing organisational attention on strategic priorities and stimulating dialogue, while the diagnostic use of PMS exerts negative pressure on these capabilities. Moreover, Henri (2006a) finds evidence that together these two levers of control result in dynamic tension that is positively associated with performance. Similarly, Widener (2007) found that the use of the performance measurement system has a positive effect on performance (overall profitability, market share, and delivery system), arguing that in order for an organisation to realise the full benefits of the performance measurement system they must use them both diagnostically and interactively. In contrast, Sakka et al. (2013) examined PMS use in a project management setting indicating that the interactive use of MCS enhanced performance (project efficiency and effectiveness) when task uncertainty was high, but worsened it when task uncertainty was low, while the diagnostic use of MCSs increased project performance when task uncertainty was low, but did not reduce it when task uncertainty was high.

Contingency research has also focused on the types of control and the subsequent impact on organisational performance (Abernethy et al., 2007; Maiga and Jacobs, 2005; Abernethy and Brownell, 1999; Snell and Youndt, 1995). Maiga and Jacobs (2005) reported that control mechanisms relating to quality goals, quality feedback and quality incentives influenced quality performance, and subsequently led to improved organisational performance in terms of sales and/or profits. In addition, Snell and Youndt (1995) found that the use of input controls enhanced performance, while Abernethy et al. (2007) found that the combined use of input and output controls was associated with increased profits.

Studies have also examined the influence of linking performance evaluations to rewards on organisational performance (Baird et al., 2012; Lawler, 2003; van Vijfeijken et al., 2002; Huselid, 1995). For example, Huselid (1995) found that human resource performance management practices, which include access to company incentive plans and profit sharing plans, and training, have an impact on employee productivity and improved corporate performance, while van Vijfeijken et al. (2002) indicated that the effects of goal interdependence, goal difficulty and reward interdependence on group performance contributed to the effectiveness of the PMS. Moreover, Lawler (2003) reported that performance appraisal systems are more effective when there is a connection between the results of the performance management system and the reward system of the organisation. Finally, Baird et al. (2012) found a significant relationship between the use of multidimensional performance measures, the link of performance to rewards, training and two organisational culture factors (team work/respect for people and outcome orientation) with the effectiveness of public sector PMSs.

Given that the majority of previous studies have examined the impact of various contingency factors in respect to the achievement of organisational performance and the gap in the literature examining PMS effectiveness from a process perspective, this study will focus on the achievement of organisational process outcomes. While acknowledging Hopper and Powell's (1985) criticisms of management accounting contingency research, in line with Baxter and Chua's (2003) recommendation for management accounting research to adopt new theoretical approaches, the approach of focussing on process outcomes will extend the existing PMS contingency-based literature. Therefore, Paper Two examines the associations between three PMS characteristics (target setting, performance evaluation, and link to rewards) and employee empowerment with PMS effectiveness, assessed in respect to the achievement of organisational process outcomes. Paper Two also examines the role of the use of multidimensional performance measures as an antecedent of PMS characteristics and PMS effectiveness. In addition, Paper Three examines the association between PMS information system characteristics and PMS effectiveness in the achievement of organisational process outcomes. Specifically, Paper Three examines the mediating role of PMS use (diagnostic and interactive) in the association between the use of multidimensional performance measures and specific information characteristics with PMS effectiveness.

2.4 Summary

This chapter has provided a comprehensive review of the literature concerning the effectiveness of PMSs, including a discussion of the nature of PMSs in respect to the two streams of research, namely the HRM and the management accounting literature stream. The chapter also provided an overview of the various approaches to PMS effectiveness adopted in the extant literature, making reference to the lack of studies examining PMS effectiveness in respect to the achievement of organisational process improvements. Consequently, this study

assesses in respect to the achievement of sixteen organisational process outcomes referred to by Lawler (2003).

The chapter identified and discussed the theoretical framework utilised in the study (Ferreira and Otley, 2009) and provided the rationale for emphasising six of the twelve dimensions in the framework. Specifically, these dimensions were chosen due to the study's focus on the individual. The chapter also provided an overview of the contingency based literature on PMSs, including studies focusing on the factors influencing work-related attitudes and the factors influencing organisational performance.

Finally, the chapter discussed the way in which this study aims to contribute to the literature. First, Paper One examines the association between PMS effectiveness, assessed in respect to the achievement of organisational process outcomes with work-related attitudes (job satisfaction and EOC). Paper Two then examines the associations between PMS characteristics with PMS effectiveness, and the role of the use of multidimensional performance measures as an antecedent of PMS characteristics. Finally, Paper Three examines the associations between the PMS information system characteristics with PMS effectiveness. All three papers utilise the survey methodology with details regarding the procedures and techniques undertaken described in each of the three papers.

The remaining chapters are structured as follows. Chapters Three, Four and Five provide the three self-contained papers. Each paper is completed in an academic journal format and includes the relevant tables, figures, appendices and references. Finally, Chapter Six summarises the findings from each of the three papers, discusses the contributions to the

relevant literature and to practice, identifies the limitations and provides directions for future research.

CHAPTER THREE

PAPER ONE

**The impact of the effectiveness of the Performance Management System on employee
work-related attitudes**

Abstract

This study examines the effectiveness of Performance Management Systems in respect to the achievement of organisational process outcomes (performance-related and staff related) and the subsequent impact on employee work-related attitudes [job satisfaction and Employee Organisational Commitment (EOC)]. Data was collected from Senior Managers from 190 Australian corporate professional service organisations (financial and legal) and demonstrated the association of PMS effectiveness with both job satisfaction and Employee Organisational Commitment. In particular, the performance-related outcomes were found to be related to both job satisfaction and EOC, while the staff-related outcomes were related with EOC. Furthermore, the results also revealed an association between staff-related outcomes and performance-related outcomes, and provided a further insight into the specific performance-related and staff-related outcomes that were associated with job satisfaction and EOC. The study highlights the importance of the effective functioning of PMS processes and their influence on individual work-related attitudes.

Keywords: Performance Management System, effectiveness, job satisfaction, Employee Organisational Commitment

1. Introduction

The extant Human Resource Management (HRM) literature has provided the discourse and evidence of the significant role that HRM practices play on the performance of individuals as well as the organisation (Piening et al., 2013; Van De Voorde et al., 2012; Stanton and Nankervis, 2011). Constituting an inherent part of HRM (Decramer et al., 2012), the Performance Management System (PMS hereafter) encompasses a variety of activities through which organisations seek to assess employees and develop their competencies, enhance performance and distribute rewards (Fletcher, 2001). The PMS constitutes a cyclical process with different stages of planning, appraisal and reward (Neely et al., 1995) and relates to different organisational levels such as organisational, business unit, group, and individual employee (Molleman and Timmermann, 2012). While the literature has discussed the importance of an effective PMS (Decramer et al., 2012; Stanton and Nankervis, 2011; Ahmed, 1999; Hamilton and Chervany, 1981), empirical evidence relating to the effectiveness of the PMS and its impact is less prevalent.

The constitution of an effective PMS has been subject to different interpretations in the literature, and has assumed the successful accomplishment of an array of organisational and unit goals such as strategic, financial performance, human resources and system goals (Ahmed, 1999). Prior empirical focus has been placed on the achievement of profitability, customer satisfaction and sales revenue (Crabtree and DeBusk, 2008; Davis and Albright, 2004; Ittner et al., 2003a; Hoque and James, 2000), or strategic flexibility and adaptation (Sakka et al., 2013; Bisbe and Otley, 2004). This study aims to adopt an alternative approach to assess PMS effectiveness. Specifically, in line with Hamilton and Chervany's (1981) suggestion that organisational performance is influenced by the effectiveness of management processes, this study evaluates the effectiveness of PMSs in respect to the achievement of organisational

process outcomes. In operationalizing PMS effectiveness, the study adopts Lawler's (2003) outcomes of an effective PMS which include desired outcomes such as motivating performance, helping individuals develop their skills, building a performance culture, managing individuals who are poor performers, rewarding talent, and helping implement business strategies. Prior research adopting this approach has distinguished two dimensions of PMS outcomes (Tung et al., 2011; Baird et al., 2012), performance-related and staff-related, which is consistent with Ahmed's (1999) view of strategic performance goals and employee support goals. Accordingly, the first objective of the study is to evaluate the effectiveness of PMSs in the service industry in relation to performance-related and staff-related outcomes.

In addition to assessing the effectiveness of the PMS the study also examines the association between PMS effectiveness and work-related attitudes. The HRM literature considers the PMS as a type of or an integral part of the HRM system of an organisation (Decramer et al., 2012; Fletcher, 2001), which, if effective, leads to HRM outcomes such as employee satisfaction, motivation and commitment (Boselie et al., 2005). Specifically, the performance management processes play an important role in establishing a foundation for a psychological contract between the employee and the employer (Stiles et al., 1997) such that it allows the understanding of the job role and tasks, the fair, timely evaluation of performance, the fair distribution of rewards (financial and non-financial), and the provision of feedback to employees (Rousseau and Greller, 1994). As such, the psychological contract can have an impact on the dynamic of the relationship between the individual and the organisation, especially from the perspective of work-related attitudes.

The focus on the impact of PMS effectiveness on work-related attitudes is considered pertinent for a number of reasons. First, the work environment and, specifically performance

management aspects are deemed to have a profound effect on workers' attitudes toward their managers, co-workers, and organisations, which in turn is reflected in changes in the level and quality of performance, absenteeism and employee turnover rates (Hynes, 2012; Schermerhorn et al., 2008). Indeed, there is empirical evidence of the association between job satisfaction and employee commitment with employee motivation, absenteeism and turnover (Ko et al., 2013; Pool and Pool, 2007; Stallworth, 2004; Meyer et al., 2004; Gellatly, 1995; Hackett et al., 1994; Mathieu and Zajac, 1990; Porter et al., 1974). Secondly, given the two dimensions of PMS effectiveness are highly centered around the individual worker there is motivation to examine the effect of the PMS on the individual employee. Thirdly, since attracting and retaining quality staff has risen in importance in the literature (Guest et al., 2003) there is an increased importance placed on the individual employee and their attitude towards performance management processes (Fletcher and Williams, 1996). Finally, prior studies have suggested an interdependency between PMS aspects and employee motivational and attitudinal outcomes (Pop-Vasileva et al., 2011; Furnham, 2004; Lawler, 2003; Bacal, 1999; Fletcher and Williams, 1996). Accordingly, given the inextricable link between the performance management process and the individual employee (Furnham, 2004; Armstrong, 2001; Simons, 2000; Bacal, 1999; Taylor and Pierce, 1999; Huselid, 1995), the second objective of this study is to examine the relationship between PMS effectiveness and two employee work-related attitudes, job satisfaction and employee organisational commitment (EOC).

Job Satisfaction refers to the employee's affective or attitudinal reaction to their job upon evaluation of different aspects of the job (Spector, 1985; Kalleberg, 1977), while Employee Organisational Commitment (EOC hereafter) encompasses employee's identification with the organisation's goals and values; employee's willingness to exert greater effort on behalf of the organisation; and their intention to stay with the organisation (Porter et al., 1974). Prior

research has argued that Job Satisfaction and EOC play an essential role in creating an organisational environment which promotes motivation in the workplace (Pool and Pool, 2007; Meyer et al., 2004), and significantly reduces employee absenteeism (Gellatly, 1995) and employee's intention to search for job alternatives and to leave one's job (Smeenk et al., 2004; Stallworth, 2004). Considering the costs of recruiting, training and developing new staff, as well as the associated costs of staff absenteeism and turnover, work-related attitudes have become an ongoing subject of research interest and fundamental knowledge requirement for management practice (Burney and Swanson, 2010; Lok and Crawford, 2001; Mathieu and Zajac, 1990). EOC and job satisfaction are considered particularly relevant in the management literature due to their "intrinsic desirability to the individual employee (in the case of job satisfaction, for example) and because of their linkage to behavioural consequences desirable at an organisational level" (McKinnon et al., 2003, 26). Failure to effectively manage work-related attitudes has been shown to result in rising organisational costs related to absenteeism, turnover and lower productivity and overall motivation (Lok and Crawford, 2001; Huselid, 1995).

The empirical evidence on the association between PMSs with job satisfaction and EOC has predominantly focused on various PMS attributes such as budget participation (Frucot and Shearon, 1991; Chenhall and Brownell, 1988; Chenhall, 1986), link to rewards (Fletcher and Williams, 1996), perceived organisational support (Ko et al., 2013; Rhoades et al., 2001; Eisenberger et al., 1990), performance evaluation objectivity (Pop-Vasileva et al., 2011), and training (Lambooi et al., 2007; McGunnigle and Jameson, 2000). Similarly, Decramer et al. (2015) examined the impact of performance management practices such as planning, performance evaluation and vertical alignment of goals policies on employee job satisfaction and commitment in the healthcare industry. However, there is a dearth of studies examining

the impact of the overall effectiveness of the PMS on employee attitudes (Guest and Conway, 2011). As such, the study contributes to the performance management literature by empirically examining the association between the overall effectiveness of the PMS, assessed in respect to the achievement of process outcomes, and work related attitudes. Therefore, this study provides an insight into the dynamics of the effective functioning of the overall PMS system on individuals.

2. Literature review and hypothesis development

2.1 PMS effectiveness

The PMS includes formal and informal mechanisms and processes within the organisation directed towards communication, management and the achievement of organisational objectives through ongoing planning, measuring, control and rewarding processes (Ferreira and Otley, 2009; Bento and Bento, 2006). The PMS also focuses on motivating and managing individual performance (Rao, 2007; Lawler, 2003; Armstrong, 2001; Lonsdale, 1998; Flapper et al., 1996; Grote, 1996). From the perspective of the individual within the organisation, performance management is a continuous process of identifying, measuring and developing the performance of organisational members and aligning individual performance with the strategic goals of the organisation (Aguinis et al., 2011). While the management accounting literature has placed emphasis on PMS design and its effect on organisational or unit performance (Ferreira and Otley, 2009; Malmi and Brown, 2008; Anthony and Govindarajan, 2007; Bisbe et al., 2007; Merchant and Van der Stede, 2007; Cheng et al., 2007; Chenhall, 2003), the HRM literature primarily focuses on the effects of PMS aspects on the individual employee (Decramer et al., 2012; Molleman and Timmermann, 2003). As such, the management accounting literature stream has predominantly focused on strategy implementation and the achievement of organisational objectives (Selden and Sowa 2011; Ferreira and Otley, 2009; Malmi and Brown, 2008; Anthony and Govindarajan, 2007; Bisbe et

al., 2007; Merchant and Van der Stede, 2007; Cheng et al., 2007; Bisbe and Otley, 2004; Furnham, 2004; Chenhall, 2003; Fletcher 2001; Stiles et al. 1997). The HRM literature on the other hand, has examined separate PMS aspects including the provision of training, rewards, participation, and the nature of performance evaluation policies and their impact on individual performance and attitudes (Gavino et al., 2012; Van De Voorde et al., 2012; Smeenk et al., 2006; Harper and Vilkinas, 2005; den Hartog et al., 2004; Whitener, 2001; Fletcher and Williams, 1996). However, the influence of the effectiveness of PMS processes on employee work-related attitudes has not been empirically examined. Consequently, this study examines the interplay between the effectiveness of the PMS, assessed in respect to the achievement of organisational process outcomes, and the subsequent changes in the level of job satisfaction and employee organisational commitment (EOC).

An effective PMS is commonly considered to lead to improvements in the bottom line (profitability, sales) or non-financial aspects of organisational performance (customer service and satisfaction) (Crabtree and DeBusk 2008; Davis and Albright, 2004; Ittner et al., 2003a; Hoque and James, 2000). Alternatively, the internal process approach focuses on the effectiveness of the internal operations of the organisation and considers the PMS to be effective when there are smooth and efficient processes (Ahmed, 1999). Similarly, Hamilton and Chervany (1981) argue that through the achievement of continuous process improvements, the PMS indirectly contributes to organisational effectiveness in respect to strategy implementation and financial performance. Using this process approach, this study evaluates PMS effectiveness in respect to the achievement of sixteen (process improvements) outcomes based on Lawler (2003). These outcomes include motivating performance, helping individuals develop their skills, building a performance culture, determining who should be promoted, eliminating individuals who are poor performers, and helping implement business strategies.

According to Lawler (2003) and subsequent studies adopting this approach (Baird et al., 2012; Tung et al., 2011), these outcomes fall into two categories, performance-related and staff-related outcomes.

2.2 The association between PMS effectiveness and work-related attitudes

An effective PMS can make a significant positive contribution to organisational effectiveness and ensure long-term sustainability through staff development and support (Cheng et al., 2007; Furnham, 2004; Ahmed, 1999). As such, an effective PMS is expected to serve the main purposes of determining training and development needs, appraising past performance, aligning individual and organisational objectives, developing individual competencies, career planning, achieving salary increases, and the assessment of future promotional prospects (Nankervis and Compton, 2006). Similarly, Furnham (2004) suggests that an effective PMS should improve work performance, advise employees about work expectations, motivate employees, identify training needs, assist employees in setting career goals and improve working relationships. The extent to which the PMS system realises such objectives will determine the level of job satisfaction of the employees subjected to it (Nankervis and Compton, 2006; Fletcher and Williams, 1996).

The impact of the PMS on the level of employee well-being and work-related attitudes has been discussed more broadly in the Human Resource Management (HRM) literature as an aspect of HRM practices. Specifically, performance management practices impact employees' perceptions of the extent to which they are valued and appreciated in the organisation, which in turn influences their organisational commitment and motivation (Lam et al., 2015; Appelbaum et al., 2013; Gavino et al., 2012; den Hartog et al., 2004; Guest, 1997; Becker et al., 1996; Fletcher and Williams, 1996). However, these studies, have focused on

characteristics of the PMS such as participation in target setting/decision making (Lam et al., 2015; Appelbaum et al., 2013; Gavino et al., 2012; Smeenk et al., 2004; Fletcher and Williams, 1996), link to rewards (Su et al., 2013; Su et al. 2009; Densten, 2006; Phoenix, 2006; Boyne, 2002; Liou and Nyhan, 1994), performance evaluation (Gavino, 2012; Smeenk et al., 2004) or management control approaches (Su et al., 2015; Su et al., 2009), rather than on the overall effectiveness of the PMS processes. Hence, the objective of this study is to analyse the dynamics between the effectiveness of the PMS in the achievement of performance-related and staff-related process outcomes and the subsequent effect on two work-related attitudes (job satisfaction and Employee Organisational Commitment).

The theoretical background regarding employee work-related attitudes and organisational practices (HRM or PMS) has been extensively developed within the HRM literature (Van De Voorde et al., 2012). This study follows the optimistic, or the 'mutual gains' view which argues that both individuals and the organisation benefit from HRM policies (with PMS as an integral part) through the simultaneous achievement of employee well-being and organisational performance effectiveness (Van De Voorde et al., 2012). The mutual gains view proposes that HRM activities are interpreted by employees as organisational support and care, and are reciprocated in positive work-related attitudes. The mutual gains view was adopted as a more appropriate and contemporary approach to management based on prior research inferences of the positive impact of performance management and a strong and consistent HRM system on work-related attitudes (Van De Voorde et al., 2012; Pop-Vasileva et al., 2011; Bowen and Ostroff, 2004; Fletcher and Williams, 1996). This study examines the impact of PMS effectiveness on two work-related attitudes, job satisfaction and employee organisational commitment.

2.2.1 Job satisfaction

The concept of job satisfaction has been discussed across various disciplines, including the organisational psychology (Locke and Latham, 1990; Spector, 1985; Locke et al., 1981; Kalleberg, 1977; Locke, 1976), HRM, and Organisational Behaviour (Schemerhorn et al., 2008; House and Widgor, 1967; Herzberg, 1968, Vroom, 1964) literature. As a result of this, there have been a range of definitions, with job satisfaction constituting an overall affective orientation (Kalleberg, 1977), a global feeling about the job (Locke, 1976) or a constellation of attitudes about various aspects and facets of the job (Spector, 1997). The development of an individual's job satisfaction is a result of an evaluation of feelings of satisfaction and dissatisfaction with various job aspects arriving at a positive or a negative balance (Spector, 1997; Kalleberg, 1977).

Given the prominent role of the PMS within the organisation, it impacts each individual through gathering information about an individual's performance to be used for the formation of judgements and decisions concerning future actions of promotion, reward, training and development, and general career planning (Lonsdale, 1998). Accordingly, it is expected to impact, through its processes, on an individual employee's job satisfaction. Prior literature has examined the direct association between specific organisational PMS elements and job satisfaction. For instance, studies have reported positive associations between higher participation in target setting (Frucot and Shearon, 1991; Chenhall and Brownell, 1988; Chenhall 1986); performance evaluation objectivity (Pop-Vasileva et al., 2011); the link of performance to financial rewards (Fletcher and Williams, 1996), and empowerment with increased job satisfaction (Wong and Laschinger, 2013; Wagner et al., 2010; Patrick and Laschinger, 2006; Bartram et al., 2004; Laschinger et al., 2004). While these studies provide a valuable insight into specific organisational aspects that influence job satisfaction, as separate

PMS characteristics, they may impact on the level of (dis)satisfaction in different ways. Therefore, assuming that the overall job satisfaction will be a balance of feelings associated with the various aspects of the job, this study focuses on the relationship between the overall effectiveness of the PMS with job satisfaction.

According to the PMS literature, a PMS which is effective in the achievement of a range of organisational outcomes should improve work performance, advise employees regarding work expectations, motivate employees, identify training needs, assist employees with career goals and improve working relationships (Furnham, 2004). Fletcher and Williams (1996) indicated that when employees find that the performance management is designed well, it helps to enhance job satisfaction. Similarly, Pop-Vasileva et al. (2011) found that an effective PMS was linked to greater job satisfaction given that an effective PMS addresses the concerns of staff, motivates performance and provides rewards for performance. Thus, if implemented effectively, the PMS is likely to cause employees to view themselves as part of a social exchange relationship demonstrated through mutual trust and support (Piening et al., 2013), rather than a short-term purely economic relationship with their employer (Allen et al., 2013). As a result of the provision of favourable treatment from the organisation, employees establish affective bonds with the organisation and in return develop and demonstrate positive attitudes such as job satisfaction (Piening et al., 2013; Allen et al., 2013).

H1 PMS effectiveness is positively associated with job satisfaction.

2.2.2 Employee Organisational Commitment (EOC)

Prior literature has distinguished between three components of employee commitment (Meyer and Allen, 1991, 1987): affective, continuance and normative. Affective commitment refers to the emotional attachment of the employee to a particular organisation which drives their will

to assist in the achievement of organisational goals. Continuance commitment refers to an employee's awareness of the costs related to leaving their organisation, while normative commitment is related to the feeling of moral obligation to continue employment in the organisation (Meyer and Allen, 1987). Hence, continuance and normative commitment arise internally from the individual and are influenced by factors outside the organisation (Meyer and Allen, 1987; Wiener, 1982). Alternatively, as an emotional and attitudinal response towards the organisation, affective commitment is influenced by the organisation (Lok and Crawford, 2001; Meyer and Allen, 1987), and therefore is considered to be the most relevant for this study.

Given that the degree of organisational commitment can be influenced by organisational processes and managerial decisions, and can be a predictor of employee motivation, performance, absenteeism and turnover, the concept of EOC has been examined extensively in the literature. The HRM literature has argued that HRM practices, such as performance management can have significant impact on staff attitudes such as commitment (Guest and Conway, 2011; Tsai et al., 2010; Guest et al., 2003; Guest, 1997; Paauwe and Richardson, 1997; Huselid, 1995). Similarly, the literature streams on organisational justice and stakeholder theory propose that stakeholder commitment (employees and management) is dependent on the perceived effectiveness and equity of systems of governance, such as the PMS (Simmons, 2008; Fraser and Zarkada-Fraser, 2003).

Prior research on EOC has examined various organisational aspects of the PMS and their subsequent effect on commitment. Specifically, EOC has been found to be positively related to the provision of staff training (Lambooy et al., 2007; McGunnigle and Jameson, 2000; Taormina, 1999), participation (Gavino et al., 2012), link of performance to rewards (Densten, 2006; Phoenix, 2006), supervisory support (Kang et al., 2014), and perceived organisational

support (Ko et al., 2013; Rhoades et al., 2001; Rhoades et al., 2000; Eisenberger et al., 1990). While these different aspects and characteristics of the PMS are important predictors of the degree of staff commitment, having an effective overall PMS which communicates to staff how the organisation is performing and demonstrates how one's goals and objectives align with the organisation is, according to Fletcher and Williams (1996) just as important for maintaining EOC. Similarly Guest and Conway (2011) argue that the effectiveness of HRM practices, including aspects of the PMS such as training and development, compensation, and communication, is often more important than the mere presence of those practices, particularly in respect to employee commitment.

The HRM literature (Gavino et al., 2012; Guest, 1999; Rousseau and Greller, 1994) highlights the importance of the performance management process in demonstrating to employees the value placed on them by the organisation, which is then reciprocated with organisational commitment by employees. Furthermore, based on the norm of reciprocity (Blau, 1964), social exchange theory argues that staff are likely to be more committed to their organisation when there is a perception that the organisation is committed to them (Whitener, 2001; Guest, 1997; Blau, 1964). This commitment from the organisation is demonstrated through the existence of a 'strong' HRM system (Bowen and Ostroff, 2004) characterised by consistency, consensus and the overall effectiveness of practices (Guest and Conway, 2011). Similarly, through providing perceived organisational support and investing in HRM practices such as training, performance appraisal, and inviting participation, the organisation communicates their commitment towards the individual which is subsequently reciprocated by staff (Allen et al., 2013; Piening et al., 2013; Aube et al., 2007). Given that both the performance-related and staff-related process outcomes of an effective PMS are highly centred and dependent on human resources such as supporting, training and developing staff, and informing, motivating and

rewarding individual and organisational performance (Lawler, 2003; Whitener, 2001; Roberts, 2001), the commitment to their effective functioning can be interpreted as organisational signals of investment and commitment towards staff and towards a stable future organisational performance (Biron et al., 2011). Relying on these theories, an effective PMS is expected to lead to higher levels of EOC.

H2 PMS effectiveness is positively associated with EOC.

3. Method

The study relied on the survey methodology, distributing 595 questionnaires to senior managers² from Australian corporate professional service organisations (financial and legal), identified in the OneSource online database. The choice of managers was based on the expectation that these managers possessed adequate knowledge regarding the performance management system operating in their organisations. Given the worldwide economic instabilities and associated consequences, the service sector was chosen as it has been impacted with greater volatility (Furmueller et al., 2011) rendering vulnerable the career ladders and development which are commonly embedded within established PMS models (Tams and Arthur, 2010), thereby creating uncertainty in respect to how PMSs are perceived. The Australian services industry also has a high representation in the overall Australian economy (70% from national GDP) and its consistent growth expectation aligns with the growth of the Asia Pacific region (Australian Trade Commission, 2012).

The study adopted Dillman's (2007) Tailored Design Method in the construction of the survey questionnaire and its distribution. Dillman's (2007) approach involves a series of outlined

² Specific managerial positions included Chief Executive Officer, Chief Operative Officer, Chief Financial Officer, Chief Human Resources Manager, Practice Manager, Principal, Managing Director, and General Manager.

procedures that are aimed at maximising the response rate by encouraging respondents to complete the survey.

First, a pilot survey with academics was conducted prior to the initial mailout in order to identify potential issues and misconceptions with the wording and content of the questions and to test the face validity of the survey items. As no major issues were raised from the pilot survey, and the constructive feedback was incorporated in the questionnaire, it was considered that the questionnaire was at the appropriate standard for the initial mailout. The content validity of the survey items was ensured through the use of established measures from the literature.

In addition, as a part of the survey distribution, the questionnaires were accompanied by a cover letter and a self-addressed reply paid postcard and envelope. Furthermore, following Dillman's (2007) suggestion that an increased response rate is dependent on a personalised and formally supported communication, the cover letter was printed on the official university letterhead and was hand signed by the researcher. The cover letter (see Appendix B) outlined the topic and purpose of the study, the contact details of the researcher, the estimated length of completion time, instructions regarding the postcard, and a statement of ethics approval for the study. The letter also provided a guarantee of the confidentiality of the data for the respondents and highlighted the voluntary nature of participation. The reply paid postcard asked respondents to indicate whether they would like to receive feedback on the results from the study. Following Dillman's (2007) approach, this creates the perception of a reward for the respondent, which enhances the response rate. The postcards served an additional purpose of maintaining anonymity of respondents. Specifically, each postcard was numbered and respondents were instructed to mail it back separately from the questionnaire to alert the researcher of a

completed survey. Consequently, those respondents who returned the postcard were omitted from the follow up list.

The survey questionnaires were distributed to 595 managers in total, identified using the OneSource database. The initial mail out resulted in 65 returned questionnaires comprising a response rate of (10.9%). The follow up mail out was administered three weeks after the initial distribution and contained the questionnaire, a cover letter and a reply paid envelope. The follow up mail out resulted in an additional 125 returned questionnaires (21.0% response rate), meaning that the overall response rate was (31.9%) (190 completed questionnaires). The respondents comprised 60% males and 40% females, with 31.6% from insurance and superannuation, 28.4% from financial services, 20.5% from legal and accounting, 15.2% from other finance-related services, and 3.7% from auxiliary finance and insurance. In line with Roberts (1999), non-response bias was tested using an ANOVA comparison of the independent and dependent variable values across early and late respondents with no significant differences identified.

3.1 Measurement of variables

3.1.1 The effectiveness of the PMS

The measure utilised for PMS effectiveness was adopted from Lawler (2003) and consists of 16 desired outcomes of an effective PMS (see Appendix). This instrument has been utilised in prior studies measuring PMS effectiveness (Munir et al., 2012; Baird et al., 2012; Tung et al., 2011) and has demonstrated reliability. Respondents were required to indicate the extent to which they agreed that their business unit's PMS achieved the outcomes on a Five-point Likert scale ranging from (1) "Not at all" to (5) "To a great extent".

Factor analysis (principle components with varimax rotation) using the 0.45 loading criterion suggested by Tabachnick and Fidell (2001, 625) revealed that the 16 outcomes loaded onto two dimensions (see Table 1), which was in accordance with prior studies (Munir et al., 2012; Baird et al., 2012; Tung et al., 2011; Lawler, 2003). The first dimension included nine items referring to the effectiveness of the system in influencing performance and encouraging the right performance behaviour, and was therefore labelled “Performance-related outcomes”. The second dimension included seven items which are linked with the ability of the PMS to differentiate between good and poor performing staff and was labelled “Staff-related outcomes”. These two dimensions were subsequently scored as the average of the items loading on to each dimension with higher (lower) scores representing higher (lower) PMS effectiveness. This distinction in the two dimensions of the PMS effectiveness outcomes is consistent with Ahmed (1999) who differentiated between the ‘strategy support’ and ‘employee organisational support’ outcomes of an effective PMS.

Table 1. Factor analysis of the PMS effectiveness measure

Items	Performance-related outcomes	Staff-related outcomes
Motivating performance	0.74	0.30
Developing individual’s skill and knowledge	0.63	0.42
Assisting in the achievement of goals	0.74	0.41
Developing a performance oriented culture	0.73	0.37
Supporting change efforts	0.76	0.33
Providing useful performance feedback to employees	0.59	0.57*
Implementing the organisational strategy	0.79	0.11
Providing an accurate assessment of business unit performance	0.76	0.22
Ensuring staff commitment to organisational objectives	0.75	0.28
Addressing the concerns of staff	0.43	0.49
Ensuring staff time is used efficiently	0.53	0.42
Linking individual performance to business unit performance	0.51	0.55
Identifying talented employees	0.26	0.86
Rewarding talented employees	0.33	0.80
Identifying poor performing staff	0.20	0.82
Managing poor performing staff	0.28	0.80

*While this item has a higher loading on the performance-related dimension, given it relates to employees it was included in the staff-related dimension.

3.1.2 Work-related attitudes

An adapted version of Spector's (1985) Job Satisfaction Survey was utilised incorporating one item to represent each of its nine dimensions (pay, promotion, supervision, fringe benefits, contingent rewards, operating conditions, co-workers, the nature of the work, and communication). Respondents were required to indicate the extent to which they agreed with statements describing the nine dimensions (see Appendix) on a Five-point Likert scale with anchors of "Strongly Disagree" and "Strongly Agree". Reverse scoring was applied for the four negatively stated items with higher (lower) scores indicating higher (lower) levels of job satisfaction. Given that one item ("I have too much to do at work") failed to load with the other items on the scale, the nature of the work dimension was removed and job satisfaction was scored as the average of the remaining eight items.

The study adopted Cook and Wall's (1980) instrument to measure the level of EOC. The scale consists of nine statements reflecting three aspects of commitment: organisation identification, organisational involvement and organisational loyalty (see Appendix). A five point Likert scale was used with anchors of "Strongly Disagree" and "Strongly Agree". Reverse scoring was applied for the three negatively stated items with the combined average score for the nine items representing EOC, and higher (lower) scores indicating higher (lower) levels of EOC. This measure has been considered reliable in prior studies (Su et al., 2009; Jaramillo et al., 2005; Karami et al., 2005).

4. Results

4.1 Descriptive statistics

Table 2 provides descriptive statistics for the variables including the mean, standard deviation, and the minimum and maximum values of each item reported as well as the theoretical minimum and maximum values, while Table 3 provides the correlations between variables.

The Cronbach (1951) alpha coefficients exceed the 0.70 threshold (Nunnally, 1978, 245), thereby indicating that the measurement of each variable is reliable. The sample of 190 observations was sufficiently large to permit a robust estimation of the Structural Equation Models (Smith and Langfield-Smith, 2004; Anderson and Gerbing, 1988).

The mean score of the effectiveness of the PMS in achieving performance-related outcomes is above the mid-point of the range (3.36), indicating that on average the respondents believe that the PMS was moderately effective in achieving performance-related outcomes. Further analysis of the individual items of PMS effectiveness reveals that the aspects where the PMS was perceived to be most effective were in respect to assisting in the achievement of goals (3.58), developing a performance oriented culture (3.56) and providing an accurate assessment of business unit performance (3.38).

The mean score of the effectiveness of the PMS in achieving staff-related outcomes is also above the mid-point of the range (3.41) and higher than the performance-related aspect, indicating that on average the respondents believe that the PMS was moderately effective in achieving staff-related outcomes. The PMS was perceived to be most effective in providing useful performance feedback to employees (3.69), identifying poor performing staff (3.57), and identifying talented employees (3.54), while it was less effective in addressing the concerns of staff (2.88). Finally, the results indicate that the respondents demonstrated moderately high job satisfaction (3.51) and higher EOC (4.02). The findings in respect to EOC are in contrast to previous studies which infer a lower employee commitment in the finance industry (Meyer et al., 2006; Van Dyne and Ang, 1998).

Table 2. Descriptive statistics

Variable	N*	Min Actual (Theoretical)	Max Actual (Theoretical)	Mean	Std. Dev.	Cronbach α
Performance-related outcomes	188	1 (1)	5 (5)	3.36	0.81	0.921
Motivating performance	188	1 (1)	5 (5)	3.25	1.02	
Developing individual's skill and knowledge	188	1 (1)	5 (5)	3.32	0.96	
Assisting in the achievement of goals	188	1 (1)	5 (5)	3.58	0.91	
Developing a performance oriented culture	188	1 (1)	5 (5)	3.56	0.99	
Supporting change efforts	188	1 (1)	5 (5)	3.21	0.99	
Implementing the organisational strategy	188	1 (1)	5 (5)	3.25	1.05	
Providing an accurate assessment of business unit performance	188	1 (1)	5 (5)	3.38	1.08	
Ensuring staff commitment to organisational objectives	188	1 (1)	5 (5)	3.29	0.97	
Ensuring staff time is used efficiently	188	1 (1)	5 (5)	3.02	0.96	
Staff-related outcomes	188	1 (1)	5 (5)	3.41	0.85	0.903
Providing useful performance feedback to employees	188	1 (1)	5 (5)	3.69	0.96	
Addressing the concerns of staff	188	1 (1)	5 (5)	2.88	1.06	
Linking individual performance to business unit performance	188	1 (1)	5 (5)	3.38	1.11	
Identifying talented employees	188	1 (1)	5 (5)	3.54	1.08	
Rewarding talented employees	188	1 (1)	5 (5)	3.48	1.10	
Identifying poor performing staff	188	1 (1)	5 (5)	3.57	1.03	
Managing poor performing staff	188	1 (1)	5 (5)	3.29	1.10	
Job Satisfaction	185	1.63 (1)	5 (5)	3.51	0.64	0.727
EOC	184	2.11 (1)	5 (5)	4.02	0.62	0.826

* Some questions were not completed by all respondents

Table 3. Correlations between variables

	Performance – related outcomes	Staff –related outcomes	Job Satisfaction	EOC
Performance –related outcomes	1.000			
Staff –related outcomes	0.764**	1.000		
Job Satisfaction	0.494**	0.555**	1.000	
EOC	0.469**	0.482**	0.671**	1.000

**Significant at the 0.01 level

4.2 The association between PMS effectiveness and work-related attitudes

Given the factor analysis revealed two dimensions of PMS effectiveness (performance-related outcomes and staff-related outcomes), PMS effectiveness was treated as two separate variables in the base model. Based on a variation of Anderson and Gerbing's (1988) two-step approach adopted previously in the accounting literature (Grafton et al., 2010; Abernethy and Lillis, 2001), Structural Equation Modelling (SEM) was used with alternative nested models tested against the base theoretical model by constraining the least significant path coefficients in each subsequent model and adding some significant paths that were not earlier hypothesised but theoretically feasible (Abernethy and Lillis, 2001). Specifically, the added path from staff-related outcomes to performance-related outcomes was deemed theoretically intuitive based on the HRM literature arguing the human impact of preference-related organisational outcomes (den Hartog et al., 2004; Mondy et al., 2002; DeNisi, 2000). In addition, while the literature is unclear regarding the direction of causality between job satisfaction and EOC, exploratory analysis was undertaken, whereby both directions were tested, with the significant path (direction) reported.

Three measures were used to assess the goodness-of-fit of each model: (1) the minimum sample discrepancy divided by the degrees of freedom (CMIN/DF); (2) the Root Mean Square Error of Approximation (RMSEA); and (3) the Comparative Fit Index (CFI). Figure 1 shows the model with the best goodness-of fit (CMIN/DF = 0.462, the RMSEA = 0.000; CFI = 1.000) with the standardized regression coefficients and corresponding p-values for the associations of interest (or paths) shown in Table 4. The model shows that PMS effectiveness (performance-related outcomes) was directly associated with both job satisfaction ($\beta = 0.187$; $p = 0.044$) and EOC ($\beta = 0.197$; $p = 0.002$), while PMS effectiveness (staff-related outcomes) was directly associated with job satisfaction ($\beta = 0.422$; $p = 0.000$), thereby providing support for H1 and H2. In addition, Figure 1 and Table 4 reveal two additional significant associations. Specifically, staff-related attitudes were positively associated with performance-related outcomes ($\beta = 0.763$; $p = 0.000$), while job satisfaction was positively associated with EOC ($\beta = 0.561$; $p = 0.000$).

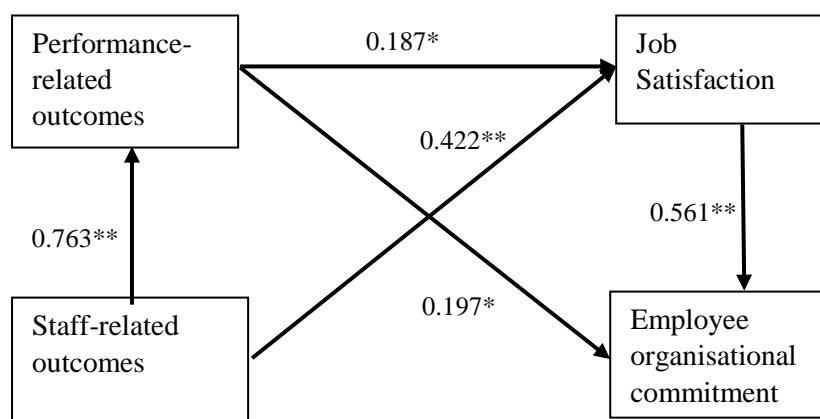
Given the association between staff-related and performance related outcomes, and the association between performance-related outcomes and EOC, PMS effectiveness (performance-related outcomes) partially mediates the association between PMS effectiveness (staff-related outcomes) and EOC. This finding is consistent with the HRM literature (Biron et al., 2011; Aguinis et al., 2011) whereby in order for the PMS to achieve its strategic goals (performance-related outcomes), the PMS needs to be successful and consistent in reinforcing behaviour consistent with the attainment of those goals, i.e. the achievement of staff-related outcomes such as adequate identification of talent and poor performing staff and the merit based distribution of rewards. Similarly, based on the association found between job satisfaction and EOC, and the association between staff-related outcomes and job satisfaction, it was concluded that job satisfaction also partially mediates the association between PMS

effectiveness (staff-related outcomes) and EOC. The significant association found between job satisfaction and EOC supports prior research (Koh and Boo, 2004; Lok and Crawford, 2001; MacKenzie et al., 1998; Johnston et al., 1990) maintaining the role of job satisfaction as a determinant of EOC.

Table 4. The association between PMS effectiveness and work-related attitudes

Model		
Relationship path	Coef.	Sig.
Staff-related outcomes → Performance-related outcomes	0.763	0.000
Performance-related outcomes → Job Satisfaction	0.187	0.044
Staff-related outcomes → Job Satisfaction	0.422	0.000
Performance-related outcomes → EOC	0.197	0.002
Job Satisfaction → EOC	0.561	0.000
Goodness of fit measures		
CMIN/DF	0.462	
CFI	1.000	
RMSEA	0.000	

Figure 1 The SEM model regarding the association between PMS effectiveness and work-related attitudes



* Significant at the 0.05 point
 **Significant at the 0.01 point

CMIN/DF = 0.462
 RMSEA = 0.000
 CFI = 1

Given the direct associations found between PMS effectiveness (performance-related and staff-related outcomes) and work-related attitudes, further analysis was undertaken to examine the association between specific PMS effectiveness outcomes with job satisfaction and EOC. Specifically, in line with the findings shown in Figure 1, an exploratory stepwise regression analysis of the associations between performance-related outcomes with both job satisfaction and EOC, and between staff-related outcomes with job satisfaction was undertaken.

The results are presented in Tables 5 and 6 and reveal that two performance-related outcomes, motivating performance ($\beta = 0.358$; $p = 0.000$) and developing individual's skills and knowledge ($\beta = 0.229$; $p = 0.003$) and two staff-related outcomes, rewarding talented staff ($\beta = 0.403$; $p = 0.000$) and managing poor performing employees ($\beta = 0.282$; $p = 0.000$) were significantly associated with job satisfaction.

Table 5. Stepwise analysis of the association between performance-related outcomes with job satisfaction and EOC

Variables	Job satisfaction		EOC	
	Coef.	T-stat (Sign.)	Coef.	T-stat (Sign.)
Performance-related outcomes				
Motivating performance	0.358	4.738 (0.000)	0.203	2.133 (0.034)
Developing individual's skills and knowledge	0.229	3.034 (0.003)		
Assisting in the achievement of goals			0.203	2.160 (0.000)
Providing an accurate assessment of business unit performance			0.177	2.129 (0.000)
F-value	33.38		20.38	
P-value	0.00		0.000	
R ²	0.232		0.255	
Adjusted R ²	0.228		0.242	
N	188		188	

Table 6. Stepwise analysis of the association between staff-related outcomes with job satisfaction

Variables	Job satisfaction	
	Coef.	T-stat (Sign.)
Staff-related outcomes		
Rewarding talented employees	0.403	5.553 (0.000)
Managing poor performing staff	0.282	3.886 (0.000)
F-value	54.19	
P-value	0.00	
R ²	0.375	
Adjusted R ²	0.368	
N	188	

In respect to the level of EOC, the stepwise regression revealed that three performance-related outcomes, motivating performance ($\beta = 0.203$; $p = 0.034$) assisting in the achievement of goals ($\beta = 0.203$; $p = 0.000$), and providing accurate assessment of business unit performance ($\beta = 0.177$; $p = 0.000$) were significantly associated with EOC.

5. Discussion and conclusion

The aim of the study was to examine the interplay between the effectiveness of PMSs assessed in respect to the achievement of process outcomes, and the subsequent impact on employee work-related attitudes in corporate financial and legal firms. Specifically, in line with Hamilton and Chervany's (1986) inference that organisational performance is influenced by the effectiveness of management processes, Lawler's (2003) sixteen PMS outcomes were used to operationalize PMS effectiveness. As with prior studies (Munir et al. 2012; Tung et al. 2011; Baird et al., 2011; Lawler, 2003) and consistent with Ahmed (1999), the results distinguished between performance-related and staff-related outcomes. The PMSs were perceived as moderately effective in achieving performance related outcomes with the PMS perceived to be more effective in respect to assisting in the achievement of goals, developing a performance oriented culture, and providing an accurate assessment of business unit performance. The PMSs were also perceived as moderately effective in the achievement of staff-related

outcomes. The aspects where the PMS was perceived to be most effective were in regards to assisting in providing useful performance feedback to employees, identifying poor performing staff, and identifying talented employees, while it was less effective in addressing the concerns of staff.

Notably, the SEM model revealed that the achievement of performance-related outcomes was directly associated with the achievement of the staff-related outcomes. Consequently, management should consider accurate and equitable management of staff in respect to assessing performance and the subsequent distribution of merit and rewards, with this aspect of an effective PMS impacting on the subsequent achievement of performance-related objectives. Support for these findings is provided in the HRM literature in respect to organisational justice which suggests that by ensuring the effective management of staff-related objectives, the organisation/PMS signals to staff its commitment to fair and consistent policies, thereby reinforcing the desired attitudes and behaviours consistent with the attainment of organisational performance-related outcomes (Biron et al., 2011; Aguinis et al., 2011; Erdogan et al., 2001; Cleveland et al., 1989). The importance of effective staff-related performance management is further emphasised from a stakeholder theory perspective, through the proposition that sustainable organisational success is dependent on systematic consideration of the needs and goals of relevant stakeholder groups such as employees, specifically managers, on whose skills and knowledge the organisation depends (Simmons, 2008; Fraser and Zarkada-Fraser, 2003; Wright et al., 2001).

In respect to the examination of the relationship between PMS effectiveness and employee work-related attitudes, the effective achievement of both performance-related and staff-related PMS outcomes was found to directly impact on the level of job satisfaction. Such results

indicate that managers are more likely to experience greater job satisfaction when working under a PMS which is effective in achieving both performance-related and staff-related outcomes. The findings are consistent with prior research on the impact of PMS effectiveness on job satisfaction (Pop-Vasileva et al., 2011; Nankervis and Compton, 2006; Fletcher and Williams, 1996), however highlight the importance of the functioning of effective PMS processes rather than just distinct PMS features. Further analysis revealed that a PMS which succeeds in motivating performance and assists in the development of individual's skills and knowledge (performance-related outcomes) was found to be pertinent to achieving higher job satisfaction. Furthermore, job satisfaction can be enhanced under a PMS which effectively rewards talented staff and manages poor performing staff appropriately. Achieving such PMS outcomes are important for the necessary management of staff attitudes, which serve as determinants of morale, productivity, absenteeism, and turnover.

In respect to EOC, managers demonstrated higher commitment to their organisations when the PMS was effective in the achievement of performance-related outcomes. Further examination of the individual performance-related PMS outcomes revealed that managers are likely to be more committed to their organisations when the PMS of their organisation is effective in motivating and assisting in the performance of employees and when it is able to provide an accurate assessment of business unit performance. Such outcomes and their association with EOC further supports Fletcher and Williams' (1996, 176) proposition that "organisational commitment is more concerned with knowing how the organisation is performing", especially given the argued interplay between EOC and motivation. However, since staff-related outcomes were associated with performance-related outcomes, the staff-related outcomes exhibited an indirect association with EOC. Hence, an effective PMS which successfully assists management in the achievement of organisational objectives through focusing on performance

as well as staff management can be considered a reliable tool for management in ensuring and enhancing ongoing organisational success through the commitment of its staff (Lawler, 2003; Ahmed, 1999; Fletcher and Williams, 1996).

The study highlights the importance of the effective functioning of PMS processes and their influence on work-related attitudes, in particular the level of job satisfaction and EOC. While the existing literature on the contingent influence of specific aspects of the PMS (Appelbaum et al., 2013; Wong and Laschinger, 2013; Wagner et al., 2010; Leach-Lopez et al., 2008; Lawler, 2003; Fletcher and Williams, 1996; Podsakoff et al., 1982), these findings contribute to the PMS contingency based literature by demonstrating that the overall effectiveness of the PMS impacts on work-related attitudes. The process perspective also differs from the literature which has considered the PMS as a means to an end, often the financial bottom line. Whilst not denying the nature and motivation of the existence of businesses in general, the study sheds light on the importance of the manner in which the final results are achieved, specifically the functioning and maintenance of organisational processes through the continuous achievement of performance-related and staff-related outcomes. While the effectiveness of the PMS has been tied to ensuring communication, coordination and control of performance results, the management and development of staff and addressing the concerns of staff (Nankervis and Compton, 2006; Lawler, 2003; Bacal, 1999) are shown here to be equally important.

5.1 Limitations and suggestions for future research

The study focuses on senior managers from the financial and legal services industry, and as such, the results cannot be generalized to all service industry managers. Future research could examine the relationships found between the variables in this study in other industries. Further, the study is subject to the usual limitations of the survey methodology, such as restrictions in

determining causal relationships between variables and common method bias. While we rely on Harman's (1967) single factor test which suggests that common method bias is not a problem given the total variance explained by a single factor (26.3%) is less than the 50% threshold (Podsakoff et al., 2003), future research could utilise alternative research methods to overcome these issues.

Given the fact that this study analysed only PMS effectiveness, future studies could analyse the impact of other factors on job satisfaction and EOC such as the characteristics of the PMS and the way in which the PMS information is used. Future research could also extend this study by performing a comparison across multiple disciplines and hierarchical levels by using a larger sample. Finally, since the study has highlighted how specific PMS process improvement outcomes can enhance job satisfaction and EOC, future studies could also explore alternative work-related attitudes and determinants of employee well-being and motivation.

Appendix A

Performance Management System effectiveness

Below is a list of perceived outcomes of performance management systems (PMS). Please indicate the extent to which your business unit's PMS assists in achieving each of these outcomes (1 = not at all, 5 = to a great extent)

Performance-related outcomes

Motivating performance
Developing individual's skill and knowledge
Assisting in the achievement of goals
Developing a performance oriented culture
Supporting change efforts
Implementing the organisational strategy
Providing an accurate assessment of business unit performance
Ensuring staff commitment to organisational objectives
Ensuring staff time is used efficiently

Staff-related outcomes

Providing useful performance feedback to employees
Addressing concerns of staff
Linking individual performance to business performance
Identifying talented employees
Rewarding talented employees
Identifying poor performing staff
Managing poor performing staff

Job Satisfaction

Please indicate the extent to which you agree or disagree with the following statements (1 = strongly disagree, 5 = strongly agree)

I feel I am being paid a fair amount for the work I do.
I am satisfied with my chances for promotion.
My supervisor shows too little interest in the feelings of subordinates.*
The benefits we receive are as good as those offered by most organisations.
I find I have to work harder at my job because of the incompetence of people I work with. (R)
I sometimes feel my job is meaningless.*
Communication seems good within this organisation.
When I do a good job, I receive the recognition for it that I should receive.
I have too much to do at work.*

**Reverse scored item*

Employee Organisational Commitment

Please indicate the extent to which you agree or disagree with the following statements (1 = strongly disagree, 5 = strongly agree)

I am quite proud to be able to tell people who it is I work for.
I sometimes feel like leaving this employment for good.*
I am not willing to put myself out just to help the organisation.*
Even if my organisation was not doing well financially, I would be reluctant to change to another employer.

I feel that I am a part of the organisation.

In my work I like to feel I am applying some effort not just for myself but for the organisation as well.

The offer of a small increase in remuneration by another employer would not seriously make me think of changing my job.

I would not advise a close friend to join my organisation.*

I am determined to make a contribution for the good of my organisation.

**Reverse scored item*

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CHAPTER FOUR

PAPER TWO

Performance Management System effectiveness: the influence of the use of multidimensional performance measures and PMS characteristics

Abstract

This study examines the influence of the use of multidimensional performance measures on the characteristics of the PMS (participation in target setting, target difficulty, time focus of targets, employee empowerment, performance evaluation subjectivity/objectivity, and reward systems - the link of performance to financial and non-financial rewards) and the subsequent impact on PMS effectiveness. Data was collected from Senior Managers from 190 of Australian corporate professional service organisations (financial and legal). The results indicate that the use of multidimensional performance measures exhibits a negative association with the subjectivity of performance evaluations, and a positive association with the link between performance and non-financial rewards and the focus on short-term targets. In addition, the results reveal that four PMS characteristics exhibit a significant association with PMS effectiveness (the link to financial and non-financial rewards, employee empowerment, the short-term focus of targets) while subjectivity in performance evaluations exhibited a negative association. These findings highlight the importance of three PMS characteristics (more objective approaches to performance evaluation, linking performance to non-financial rewards and focusing on short-term performance) as mediators of the association between the use of multidimensional performance measures with PMS effectiveness. Consequently, the findings demonstrate the important role of the use of multidimensional performance in facilitating these characteristics, and subsequently contributing towards PMS effectiveness.

Keywords: Performance Management System, effectiveness, participation, empowerment, link to reward, multidimensional performance measures, performance evaluation

1. Introduction

While numerous studies have focused on what constitutes an effective Performance Management System (PMS) (Nankervis and Compton, 2006; Furnham, 2004; Fletcher and Williams, 1996), there is a dearth of empirical studies examining PMS effectiveness, with empirical research in this area predominantly focusing more narrowly on the effectiveness of performance measurement systems³ (Lebas, 1995). Research examining the association between contingency factors and the effectiveness of the PMS is sparse and has often been case study based (Padovani et al., 2010).

The limited empirical evidence on PMS effectiveness and its antecedents assume that contingency factors exhibit a direct impact on the achievement of specific organisational performance goals such as profitability, shareholders returns, customer satisfaction and sales revenue (Crabtree and DeBusk, 2008; Ittner et al., 2003a; Hoque and James, 2000). However, Hamilton and Chervany (1981) argue that the PMS indirectly influences organisational performance through the establishment and maintenance of organisational process improvements. Specifically, the PMS assists organisations in achieving process improvements (eg. motivating performance, developing individual's skills and knowledge, providing useful feedback to employees, addressing the concerns of staff) (Lawler, 2003) which subsequently facilitate the achievement of organisational goals such as financial or customer-related performance (Hamilton and Chervany, 1981). Accordingly, this study aims to contribute to the limited literature empirically examining PMS effectiveness in respect to the effectiveness of

³While the concepts of performance measurement and performance management have often been used interchangeably, performance measurement only constitutes one aspect of the overall PMS which 'precedes and follows performance measurement' (Lebas, 1995, 34).

organisational processes (Burney et al., 2009), with the effectiveness of the PMS assessed in respect to the achievement of sixteen desired organisational process outcomes (see Table 1).

The study also aims to contribute to the contingency literature by examining the influence of the use of multidimensional performance measures on the characteristics of the PMS and the subsequent influence on PMS effectiveness. While previous research has argued that the use of multidimensional performance measures (eg. Balanced Scorecard) has a positive influence on organisational performance (Crabtree and DeBusk, 2008; Ittner et al., 2003a), the present study examines the influence of the use of multidimensional performance measures on PMS characteristics and the subsequent impact on PMS effectiveness. Hence, it is expected that given that the use of multidimensional PMS information contributes towards the PMS characteristics, it will indirectly contribute towards the effectiveness of the PMS.

In addition, the study examines the influence of PMS characteristics including aspects of target setting (participation in target setting, target difficulty, time focus of targets), performance evaluation (subjectivity/objectivity) and reward systems (the link of performance to financial and non-financial rewards) on PMS effectiveness. These PMS characteristics were considered pertinent due to the following reasons. First, given the effectiveness of a PMS is inherently reliant on the employees within organisations and how they engage with PMS characteristics on an ongoing basis (Ittner et al., 2003b), it is important to incorporate factors that contribute to employee's perception of the PMS. Secondly, these PMS characteristics represent three of the fundamental dimensions of PMS analysis in Ferreira and Otley's (2009) PMS framework. Thirdly, the focus on these characteristics is consistent with Adler's (2011) view that Ferreira and Otley's (2009) framework should place greater emphasis on human resource related dimensions. In line with this recommendation and Ittner et al. (2003), the study also examines

the influence of an additional human resource related factor, employee structural empowerment, as an additional factor expected to influence PMS effectiveness.

2. Literature review and hypotheses

An extensive body of academic discourse has been aimed at capturing and defining the performance management concept and identifying its significance in the organisational setting (Ferreira and Otley, 2009; Broadbent and Laughlin, 2009; Cheng et al., 2007; Chenhall, 2005; Lawler, 2003). While the concept of Performance Management Systems (PMSs) has been subject to a multitude of definitions, an overarching understanding across the literature is that the PMS consists of the “evolving formal and informal mechanisms, processes, systems and networks used by organisations for conveying the key management objectives and goals in order to assist the ongoing management through planning, measurement, control, rewarding” (Ferreira and Otley, 2009, 264).

The theoretical background on PMSs has been consistently evolving and has been linked to theoretical frameworks on Management Control Systems (MCS hereafter) (Ferreira and Otley, 2009; Otley, 1999). For example, Ferreira and Otley (2009) provided a PMS conceptual model as an extension of the original Otley (1999) MCS framework and proposed a comprehensive and holistic framework for the design, use and analysis of PMSs. While successfully utilised for analytical purposes (Yap and Ferreira, 2011), the framework (which consists of twelve dimensions) has been subject to criticism due to its failure to incorporate human resource system dimensions such as aspects of staff training and development, and culture (Adler, 2011). This study aims to address this “inattention paid to non-accounting based performance management elements” (Adler, 2011, 253) by incorporating a non-accounting measure of performance. Specifically, the study focuses on measuring performance in respect to organisational process improvements including items such as developing individuals’ skills

and knowledge, developing a performance oriented culture, motivating performance, aligning organisational and individual performance, managing poor performers and rewarding talent (Lawler, 2003). Furthermore, since the study focuses on the individual employee and how PMS characteristics impact the effectiveness of the PMS in the achievement of process improvements, the study focuses on examining the three Ferreira and Otley (2009) dimensions identified as being directly related with individual employees (target setting, performance evaluations and reward systems). In addition, the influence of employee empowerment is also examined as another organisational characteristic which may impact employees' engagement with the PMS.

2.1 The association between the use of multidimensional performance measures and PMS characteristics

While prior research argues the benefits of using multidimensional performance measures in respect to the achievement of various performance results (profitability, customer performance, organisational flexibility, shareholder returns) (Crabtree and DeBusk, 2008; Ittner et al., 2003a; Hoque and James, 2000), this study examines whether the use of multidimensional performance measures (operationalised in respect to the use of a range of financial and non-financial performance measures reflecting the dimensions of the Balanced Scorecard), facilitates the subsequent processes and behaviour of organisational members and thus defines the nature of the PMS characteristics (Franco-Santos et al., 2012). For instance, it has been argued that the use of multidimensional performance measures creates the conditions for further action and engagement (Busko and Quattrone, 2015) due to the need to clarify, understand and subsequently translate financial and non-financial objectives into specific goals and target outcomes at lower organisational levels (Papalexandris et al., 2004; Sandstrom and Toivanen, 2002), and to dynamically update and modify these over time (Kolehmainen, 2010). Therefore, it is expected that the use of multidimensional performance measures in turn

promotes greater need for employee participation in the process of target setting and greater employee empowerment in the process of goal attainment.

Furthermore, the use of multidimensional performance measures has been linked to an array of consequences in respect to the behaviour of individuals in organisations (Franco-Santos et al., 2012) which shape the characteristics of the PMS itself. For instance, the use of multidimensional performance measures/indicators has been linked with increased subjectivity in performance evaluations and rewards distribution (Ittner et al., 2003b) due to the managerial judgement required in determining the weight placed on multiple financial and non-financial performance measures in performance evaluations. The inclusion of subjective judgements in the performance evaluation process is considered as a favourable outcome of enhancing organisational flexibility (Kolehmainen, 2010), and has also been argued to support organisational learning and entrepreneurship, motivate organisational members towards desirable behaviours (Manzoni, 2010, 2008, 2002; Simons, 1995). As such, the extent to which multidimensional performance measures are adopted also shapes the process of linking financial or non-financial performance to rewards systems, either through specific weighted formulas or through managers' subjective judgement (Ittner et al., 2003b).

In addition to the focus on financial measures, the use of multidimensional performance measures incorporates non-financial information relating to business processes, customers, continuous improvements and employee knowledge (Chenhall, 2005; Bourne et al., 2002). Hence, as organisations utilise a more diverse range of performance measures, and implement programs and initiatives aimed at achieving non-financial based performance targets (Kaplan and Norton, 1992, 1996), it is anticipated that there will be a greater propensity for organisations to link the achievement of such targets with non-financial based rewards such as

recognition, responsibility and/or promotion. Finally, whilst multidimensional performance measurement systems such as the BSC tend to have a long-term strategic direction, the achievement of the long-term organisational goals is ensured through their translation into short-term focused targets, programmes and initiatives (Kaplan and Norton, 1996). Consequently, it is expected that as organisations focus on the use of multidimensional performance measures to a greater extent, they will place even greater emphasis on the achievement of short-term goals.

- H1(a) The use of multidimensional performance measures will be positively associated with greater participation in target setting.*
- H1(b) The use of multidimensional performance measures will be positively associated with employee empowerment.*
- H1(c) The use of multidimensional performance measures will be positively associated with subjectivity in performance evaluations.*
- H1(d) The use of multidimensional performance measures will be positively associated with the link to financial rewards.*
- H1(e) The use of multidimensional performance measures will be positively associated with the link to non-financial rewards.*
- H1(f) The use of multidimensional performance measures will be positively associated with the short-term focus of targets.*

2.2 The association between PMS characteristics and PMS effectiveness

The following subsections will review the literature and develop hypotheses in respect to PMS characteristics and PMS effectiveness with 2.2.1 focusing on the aspects of target setting, 2.2.2. focusing on performance evaluation, 2.2.3 focusing on link of performance to reward, and 2.2.4 focusing on employee empowerment.

2.2.1. Target setting (participation, difficulty and short-term focus)

Performance target setting plays an instrumental part in the design and effectiveness of the PMS (Ferreira and Otley, 2009) with the set targets providing an objective basis to evaluate performance which serves as a guide for the distribution of rewards. Prior research provides evidence of the motivational and practical benefits of a participative approach to target setting

with evidence of the association between participation in target setting and the success in meeting targets (Libby, 1999). Specifically, the process of participation allows managers to clarify their basis of performance evaluation, provides better guidance towards goal achievement (Chenhall and Brownell, 1988), and allows an ongoing dialogue between organisational members, thereby facilitating organisational learning and change (Abernethy and Brownell, 1999; Simons, 1991). There is further evidence of the positive outcomes due to involvement in target setting (Leach-Lopez et al., 2008) and the negative effect of autocratic target imposition in respect to disengagement with achievability (Ordoñez et al., 2009).

H2 Individual participation in target setting will be positively associated with PMS effectiveness.

Merchant and Manzoni (1989) argue that in practice it is desirable that targets are highly achievable (80 to 90 per cent achievability), reporting that aside from desired performance outcomes, more achievable goals are likely to lead to improved resource planning, control and ultimately improved employee motivation. Alternatively, Stajkovic et al. (2006) suggest that difficult goals are more likely to lead to higher performance than general and easy goals. Ordoñez et al. (2009) advocate moderately challenging but achievable goals, arguing that highly challenging goals cause serious side effects such as shifting risk attitudes, unethical behaviour, pressure and psychological costs of goal failure. Given the mixed findings regarding the effect of the level of difficulty of targets, the following hypothesis is stated in the null:

H3 The level of target difficulty will not be associated with PMS effectiveness.

The effect of the time focus of targets on performance and employee attitudes has been subject to mixed arguments in the literature. Stemming from the literature on multidimensional performance measures and the strategic alignment of objectives across time, there are arguments to support the systematic and equal importance of achieving short-term objectives

(monthly, quarterly) with the expectation of achieving long-term strategic goals (yearly and longer) (Chenhall, 2005; Kaplan and Norton, 1996; Nanni et al., 1992). As such, short-term targets are developed in accordance with long-term strategic goals for the benefit of operationalizing future organisational objectives, and therefore serve as guidance for employees in ensuring their goal congruent behaviour (Ordoñez et al., 2009; Kaplan and Norton, 1996). However, the increased emphasis on short-term targets can cause managerial myopia (sacrificing long-term growth for short-term outcomes) (Cheng et al., 2007; Fletcher and Williams, 1996), increased competition amongst colleagues to the detriment of teamwork (Fletcher and Williams, 1996), and have a negative impact on performance. Such behaviour is inconsistent with the desired outcomes of an effective PMS which include motivating performance and developing a performance oriented culture (Lawler, 2003).

Hence, given the mixed evidence, the hypothesis is stated as follows:

H4 The focus on short-term targets will not be associated with PMS effectiveness.

2.2.2 Performance evaluation

Prior research stipulates that the inclusion of managerial subjectivity in the process of performance evaluation can be favourable in enhancing organisational flexibility (Kolehmainen, 2010), support organisational learning and entrepreneurship, motivate organisational members towards desirable behaviour (Manzoni, 2010, 2002; Simons, 1995) and enhance the strategic role of management accounting overall (Ferreira and Otley, 2010; Otley, 1999). Furthermore, several studies indicate the benefits of subjectivity in performance evaluation (Yun et al., 2005; Gibbs et al., 2004). For example, Gibbs et al. (2004) found that subjective awards (bonuses) serve to complement perceived weaknesses in quantitative performance measures and provide assurance for employees in respect to their changes in pay, while Schraeder et al. (2007) suggest that formal objective performance appraisals can

potentially be detrimental to organisations in achieving the desired organisational outcomes, if not utilised appropriately.

However, there has been substantial research emphasising the potential disadvantages and risks due to bias associated with the subjectivity in performance evaluation decisions (Jonnergard et al., 2010; Schraeder et al., 2007; Moers, 2005; Ittner et al., 2003b). For example, studies have identified several potential risks of bias due to subjective discretion in performance evaluations, such as gender bias (Jonnergard et al., 2010), perceived favouritism and loss of employee trust in respect to the fairness of rewards (Ittner et al., 2003b), as well as problems in differentiating between poor and high performing employees (Moers, 2005). Moreover, Moers (2005) refer to the risks of additional costs resulting from bias in performance evaluations, including higher compensation costs due to lenient appraisals and decreases in employee motivation and exerted effort if the subordinate is aware of bias. Hence, Ittner et al. (2003b), based on the psychology literature, emphasise the importance of objective, quantitative measures in ensuring reliability and accuracy in performance assessments. Given this evidence, it is expected that subjectivity (objectivity) will exhibit a negative (positive) association with PMS effectiveness:

H5 The extent to which performance is evaluated in a subjective(objective) manner will be negatively (positively)associated with PMS effectiveness.

2.2.3 Link of performance to reward

The literature on performance management and human resource management highlights the motivational effect of providing performance contingent rewards. The type of reward provided has ranged in the literature from extrinsic to intrinsic and non-financial(such as formal or informal approval, recognition, long term progression and promotion) to financial, including bonuses and salary increases (Ferreira and Otley, 2009). Typically, financial rewards (also known as pay for performance or merit pay) have received the greatest attention in the literature (Lawler, 2003; Rynes et al., 2005). For instance, Bonner et al. (2000) indicates a positive

relationship between financial rewards and employee performance. Similarly, van Vijeijken et al. (2002) propose that group performance and goal attainment are significantly dependent on contingent rewards. Lawler (2003) revealed a strong association between performance-related financial rewards and the effectiveness of the PMS. Specifically, Lawler (2003) found that when salary increases, and bonuses and stock options were tied to employee performance, it resulted in a more effective PMS. Moreover, the existence of a link between a positive performance progress and a non-financial reward, such as informal managerial praise or criticism, can significantly influence subordinate's behaviour and the working of the PMS as a result (Ferreira and Otley, 2009). The above discussion leads to the following two hypotheses:

- H6a The link of performance to financial rewards will be positively associated with PMS effectiveness.*
- H6b The link of performance to non-financial rewards will be positively associated with PMS effectiveness.*

2.2.4 Employee empowerment

The concept of empowerment is defined in the literature as a process of delegation of power of decision making from higher levels of hierarchy to lower level employees (Schermerhorn et al., 2008). Studies have provided evidence that empowerment is associated with a sense of ownership of goals and outcomes ultimately leading to higher employee motivation to achieve set objectives (Price et al., 2004). Performance may also be enhanced due to the fact that employees are given greater direct control over how to perform their job (Biron and Bamberger, 2010). Accordingly, the process of empowerment has been found to be positively associated with team goal accomplishment and team effectiveness (Mathieu et al., 2006), and individual performance (Chen et al., 2007) and well-being (e.g. Laschinger et al., 2004). Similarly, empowering work conditions have an impact on employees' feelings of support and sense of accomplishment at work, and as a result their positive attitudinal and motivational responses (Price et al., 2004), thereby enhancing overall performance (Biron and Bamberger, 2010).

H7 Employee empowerment will be positively associated with PMS effectiveness.

3. Method

A survey questionnaire was distributed to the Senior Managers of 595 Australian service organisations (financial and legal services⁴) randomly chosen from the OneSource online database, with a specific focus placed on professional services (financial and legal). Senior Managers⁵ were chosen on the premise that they would possess sufficient knowledge of the characteristics of the Performance Management System within their respective organisations, and thus be capable of answering the survey questions with respect to their particular business unit. The study followed Dillman's (2007) Tailored Design Method in the construction of the survey questionnaire and its distribution. Dillman's (2007) approach involves a series of specifically outlined procedures that are aimed at maximising the response rate by encouraging respondents to complete the survey (see Section 3, Chapter 3 for more details). In line with Roberts (1999), non-response bias was tested using an ANOVA comparison of the independent and dependent variable values across early and late respondents. No significant differences were identified.

3.1 Measurement of variables

3.1.1 PMS effectiveness

PMS effectiveness was measured using Lawler's (2003) desired PMS outcomes. Respondents were required to indicate the extent to which they agreed that their business unit's PMS achieved 16 outcomes on a Five-point Likert scale ranging from (1) "Not at all" to (5) "To a great extent". Factor analysis (principle components with varimax rotation) using the 0.45 loading criterion suggested by Tabachnick and Fidell (2001, 625) revealed that the 16 outcomes loaded onto two dimensions (see Table 1). The first dimension included nine items which are

⁴ Questionnaires were distributed to four broad categories of financial and legal services: finance, legal and accounting, insurance and superannuation, and auxiliary finance and insurance services.

⁵ Respondents included CEOs, CFOs, General Managers, Managing Directors and HR Managers.

all concerned with the effectiveness of the system in influencing performance and encouraging the right performance behaviour and was therefore labelled “Performance-related outcomes”. The second dimension included seven items which are more concerned with the ability of the PMS to differentiate between good and poor performing staff and was labelled “Staff-related outcomes”. These two dimensions were subsequently scored as the total of the items loading on to each dimension with higher (lower) scores representing higher (lower) PMS effectiveness.

Table 1. Factor analysis of the PMS effectiveness measure

Items	Performance-related outcomes	Staff-related outcomes
Motivating performance	0.74	0.30
Developing individual's skill and knowledge	0.63	0.42
Assisting in the achievement of goals	0.74	0.41
Developing a performance oriented culture	0.73	0.37
Supporting change efforts	0.76	0.33
Providing useful performance feedback to employees	0.59	0.57*
Implementing the organisational strategy	0.79	0.11
Providing an accurate assessment of business unit performance	0.76	0.22
Ensuring staff commitment to organisational objectives	0.75	0.28
Addressing the concerns of staff	0.43	0.49
Ensuring staff time is used efficiently	0.53	0.42
Linking individual performance to business unit performance	0.51	0.55
Identifying talented employees	0.26	0.86
Rewarding talented employees	0.33	0.80
Identifying poor performing staff	0.20	0.82
Managing poor performing staff	0.28	0.80

*While this item has a higher loading on the performance-related dimension, given it relates to employees it was included in the staff-related dimension.

3.1.2 Use of multidimensional performance measures

A modified version of Henri's (2006b) instrument, which focuses on the dimensions of the Balanced Scorecard, was utilised to measure the use of multidimensional performance measures. Specifically, in order to reflect each of the four dimensions of the Balanced Scorecard (financial, customer, internal business processes, and learning and growth), respondents were provided with three performance measures for each dimension (Kaplan and

Norton, 1996) and were required to indicate the extent to which each of the performance measures were used on a 5-Point Likert scale with anchors of (1) “Not at all” and (5) “To a great extent”. Each dimension was measured as the average of the three respective items, ranging from 1 to 5, with higher (lower) scores indicating higher (lower) use of the respective measures. The overall use of multidimensional performance measures was calculated as the overall average value of these dimension scores ranging between 1 and 5, with higher (lower) scores indicating a higher (lower) degree of use of multidimensional performance measures.

3.1.3 PMS characteristics

Participation in target setting was measured using three statements developed based on Emmanuel et al. (1990). Specifically, respondents were required to indicate the extent to which they agreed that their business unit’s targets were imposed by senior management, that employees actively contributed to the determination of targets and that lower level managers were consulted in the target setting process. A five-point Likert scale was used with anchors of (1) “Not at all” and (5) “To a great extent”. Given that factor analysis revealed that only the first two of the three items loaded together, participation in target setting was measured as the average of these two items ranging between 1 and 5, with higher (lower) scores indicating higher (lower) levels of participation.

Task difficulty was measured using a single item requiring respondents to indicate the level of difficulty of targets in their business unit. Respondents were required to assess the difficulty of their business unit targets using the following five descriptions: (1) “easy to achieve”, (2) “moderately challenging”, (3) “challenging but achievable”, (4) “challenging but unlikely to be achieved” and (5) “unachievable”.

The time focus of targets was measured using four questions with respondents required to identify the extent to which their business unit emphasised the achievement of monthly, quarterly, yearly and three-to-five-year targets. A five-point Likert scale was utilised with anchors of (1) “Not at all” and (5) “To a great extent”. Given that two of the items failed to load on the scale (yearly and three-to-five-year targets), the time focus of targets was measured as the sum of two items with higher scores indicating greater emphasis on short term targets.

The subjectivity of performance evaluation was measured utilising a three item measure developed based on a review of the relevant literature (Ferreira and Otley, 2009; Gibbs et al., 2004; Ittner et al., 2003b). Respondents were required to indicate the extent to which they believed that their performance targets, and performance evaluations and rewards were determined objectively (based on standardised procedures) or subjectively. A Five-point Likert scale was utilised with anchors of (1) “objectively” and (5) “subjectively” with higher (lower) scores indicating greater subjectivity (objectivity).

Prior literature on performance and rewards (Rynes et al., 2005; Lawler, 2003) was used to develop two questions to examine whether the performance management system provided a link between performance evaluation and rewards. Specifically, respondents were required to indicate the extent to which they believed that performance evaluations were linked to financial rewards (eg. pay or bonuses) and non-financial rewards (eg. recognition or awards for teaching or research), with anchors of (1) “Not at all” and (5) “To a great extent”. These two items didn’t load together and hence were analysed separately.

Employee empowerment was measured using an adapted version of the Pardo del Val and Lloyd (2003) instrument with one statement formulated in respect to each of the four

dimensions of empowerment – collaboration, formalisation, directness and degree of influence (See Appendix). Respondents were required to identify the extent of empowerment that front line workers had in their business units in respect to the four dimensions on a five-point Likert scale with anchors of (1) “Not at all” to (5) “To a great extent”. Employee empowerment was measured as the average of the four items, ranging from 1 to 5, with higher (lower) scores indicating higher (lower) employee empowerment.

4. Results

4.1 Descriptive statistics

Table 2 provides descriptive statistics for the variables in the study, while Table 3 provides the correlation coefficients for the variables. The Cronbach (1951) alpha coefficients exceed the 0.70 threshold (Nunnally, 1978, 245), thereby indicating that the measurement of each variable is reliable. The sample of 190 observations was sufficiently large to permit a robust estimation of the Structural Equation Models (Anderson and Gerbing, 1988).

Table 2. Descriptive statistics

Variable	N	Min Actual (Theoretical)	Max Actual (Theoretical)	Mean	Std. Dev.	Cronbach α
Performance-related outcomes	190	1 (1)	5 (5)	3.312	0.780	0.921
Staff-related outcomes	190	1 (1)	5 (5)	3.403	0.845	0.903
Use of multidimensional performance measures	190	1 (1)	5 (5)	3.029	0.676	n/a
Participation in target setting	190	1 (1)	5 (5)	3.190	1.091	0.742
Task difficulty	190	1 (1)	5 (5)	3.106	0.546	
Short term focus of targets	190	1 (1)	5 (5)	3.295	1.125	0.723
Subjectivity in performance evaluations	190	1 (1)	5 (5)	3.056	0.880	0.728
Link to financial rewards	190	1 (1)	5 (5)	3.814	1.187	n/a
Link to non-financial rewards	190	1 (1)	5 (5)	3.398	1.096	n/a
Employee empowerment	190	1 (1)	5 (5)	2.648	0.918	0.883

Table. 3 Correlations between variables

	Performance – related outcomes	Staff –related outcomes	Participation	Short-term focus	Difficulty	Subjectivity	Link to financial rewards	Link to non- financial rewards	Multidimensiona l performance measures	Employee empowerment
Performance – related outcomes	1									
Staff –related outcomes	0.764**	1								
Participation	0.193**	0.272**	1							
Short-term focus	0.269**	0.158*	-0.043	1						
Difficulty	-0.010	0.011	0.134	0.134	1					
Subjectivity	-0.354**	-0.279**		-0.184*	0.050	1				
Link to financial rewards	0.366**	0.463**	0.113	0.113	0.156*	-0.266**	1			
Link to non- financial rewards	0.351**	0.417**	0.071	0.071	0.032	-0.250**	0.423**	1		
Multidimension al performance measures	0.262**	0.186*	0.255**	0.255**	0.090	-0.153*	0.109	- 0.291* *	1	
Employee empowerment	0.240**	0.246**	0.036	0.036	0.052	-0.217**	0.079	0.078	-0.028	1

* Significant at the 0.05 level

** Significant at the 0.01 level

4.2 Analysis of the associations between the use of multidimensional performance measures, PMS characteristics, and PMS effectiveness

Given the factor analysis revealed two dimensions of PMS effectiveness (performance-related outcomes and staff-related outcomes), two separate SEM models were developed. The final models are arrived at using path analysis, applying the Anderson and Gerbing (1988) approach. Specifically, in the first stage, initial models were estimated containing all parameters. A series of nested models were then estimated, by sequentially constraining the least significant path coefficient until all remaining paths in the nested model were significant and the overall model

fitted the empirical data satisfactorily. Three measures were used to assess the goodness-of-fit of each model: (1) the minimum sample discrepancy divided by the degrees of freedom (CMIN/DF); (2) the Root Mean Square Error of Approximation (RMSEA); and (3) the Comparative Fit Index (CFI).

4.2.1 Performance-related outcomes

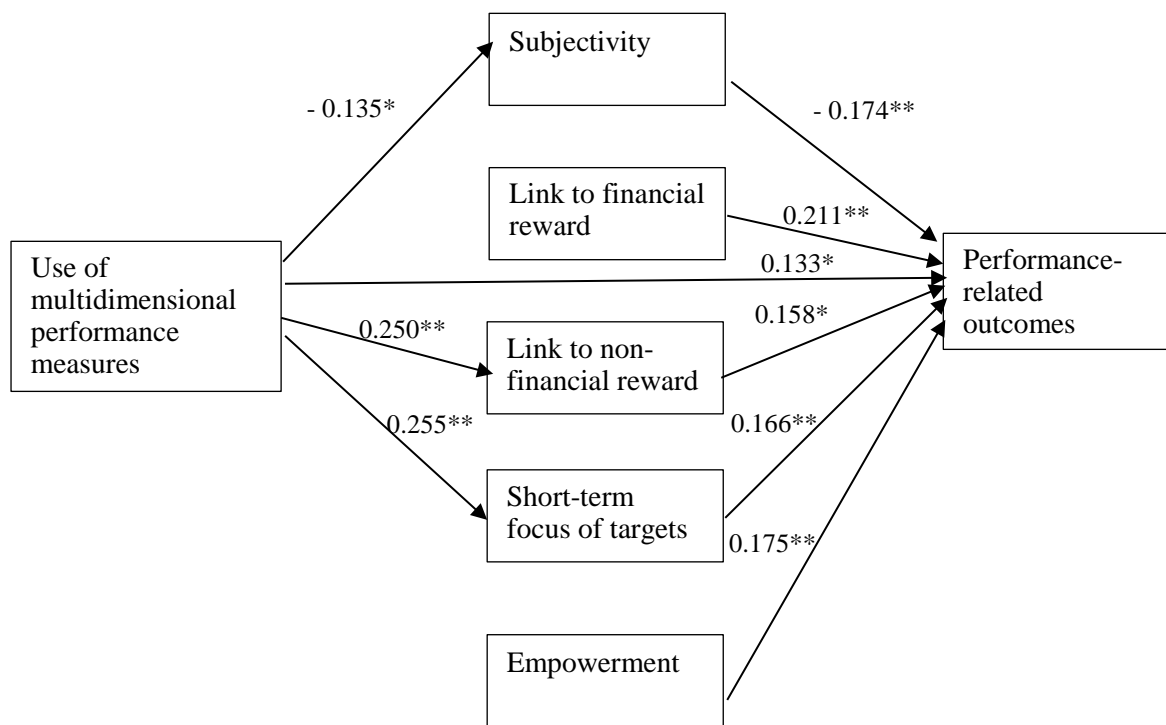
The results in respect to the association between the use of multidimensional performance measures, PMS characteristics and PMS effectiveness (performance-related outcomes) are shown in Figure 1, with the standardized regression coefficients and corresponding p-values for the associations of interest (or paths) presented in Table 4. The goodness of fit measures indicate an excellent fit (CMIN/DF = 0.39; RMSEA = 0.000; CFI = 1.000).

The use of multidimensional performance measures was associated with three PMS characteristics and directly associated with PMS effectiveness (performance-related outcomes) ($\beta = 0.133$; $p = 0.046$). Specifically, the use of multidimensional performance measures was positively associated with the link of performance to non-financial rewards ($\beta = 0.250$; $p = 0.000$) and the short term focus of performance targets ($\beta = 0.255$; $p = 0.000$), and negatively associated with the subjectivity in performance evaluations ($\beta = -0.135$; $p = 0.049$).

Five PMS characteristics were found to be associated with PMS effectiveness (performance-related outcomes). Specifically, the short term focus of targets ($\beta = 0.166$; $p = 0.010$), link of performance to rewards (both, financial and non-financial with $\beta = 0.211$; $p = 0.002$ and $\beta = 0.158$; $p = 0.025$ respectively) and employee empowerment ($\beta = 0.175$; $p = 0.005$) were all

positively associated with performance-related outcomes, while subjectivity in performance evaluations ($\beta = -0.174$; $p = 0.009$) was negatively associated.

Figure 1 The SEM model regarding the associations between the use of multidimensional performance measures, PMS characteristics and PMS effectiveness (performance-related outcomes)



* Significant at the 0.05 point

**Significant at the 0.01 point

CMIN/DF = 0.390

RMSEA = 0.000

CFI = 1.000

Therefore, the impact of the use of multidimensional performance measures on PMS effectiveness (performance-related outcomes) was direct and also indirect through more objectivity in performance evaluations, the processes of linking performance to non-financial rewards, and the focus on short term performance targets.

Table 4. The associations between the use of multidimensional performance measures, PMS characteristics and PMS effectiveness

Panel A – Performance-related outcomes			Panel B – Staff-related outcomes		
Relationship path	Coef.	Sig.	Relationship path	Coef.	Sig.
Multidimensional PM use → Non-financial rewards	0.250	0.000	Multidimensional PM use → Non-financial rewards	0.250	0.000
Multidimensional PM use → Subjectivity	-0.135	0.049	Multidimensional PM use → Subjectivity	-0.135	0.049
Multidimensional PM use → Short-term focus	0.255	0.000	Multidimensional PM use → Short-term focus	0.255	0.000
Multidimensional PM use → Performance-related outcomes	0.133	0.046	Financial reward → Staff -related outcomes	0.343	0.000
Financial reward → Performance-related outcomes	0.211	0.002	Non-financial reward → Staff -related outcomes	0.259	0.000
Non-financial reward → Performance-related outcomes	0.158	0.025	Employee Empowerment → Staff -related outcomes	0.201	0.001
Employee empowerment → Performance-related outcomes	0.175	0.005			
Short-term focus → Performance-related outcomes	0.166	0.010			
Subjectivity → Performance-related outcomes	-0.174	0.009			
Goodness of fit values					
CMIN/DF	0.935		CMIN/DF	1.144	
RMSEA	0.000		RMSEA	0.028	
CFI	1.000		CFI	0.991	

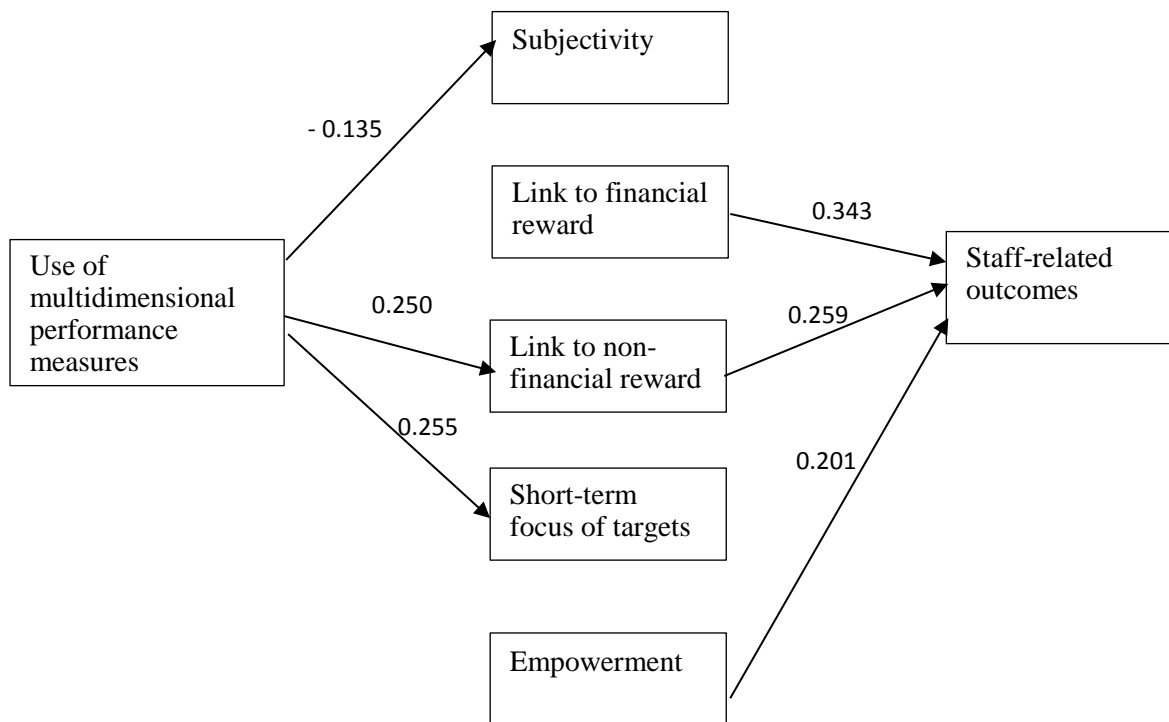
Given that the use of multidimensional performance measures exhibited a direct impact on PMS effectiveness, we conclude that subjectivity, link to non-financial rewards and short-term focus of targets partially mediate the association between the use of multidimensional performance measures and PMS effectiveness (performance-related outcomes). The findings from both models provide support for H1(c), H1(e), H1(f), H2, H3, H5, H6a, H6b, and H7, and allow the null hypothesis in H4 to be rejected.

4.2.2 Staff-related outcomes

The results in respect to the association of the use of multidimensional performance measures, PMS characteristics, and PMS effectiveness (staff-related outcomes) are shown in Figure 2, with the standardized regression coefficients and corresponding p-values for the associations of interest (or paths) presented in Table 3. The goodness of fit measures indicate an excellent fit (CMIN/DF = 1.144; RMSEA = 0.028; CFI = 0.991).

The use of multidimensional performance measures was associated with the same three PMS characteristics as the performance-related outcomes, however was not directly associated with PMS effectiveness (staff-related outcomes). Specifically, the use of multidimensional performance measures was positively associated with the link of performance to non-financial rewards ($\beta = 0.250$; $p = 0.000$) and the short term focus of performance targets ($\beta = 0.255$; $p = 0.000$), and negatively associated with the subjectivity in performance evaluations ($\beta = -0.135$; $p = 0.049$).

Figure 2. The SEM model regarding the associations between the use of multidimensional performance measures, PMS characteristics and PMS effectiveness (staff-related outcomes)



* Significant at the 0.05 point
 **Significant at the 0.01 point

CMIN/DF = 1.144
 RMSEA = 0.028
 CFI = 0.991

In addition, the link of performance to rewards (both, financial and non-financial with $\beta = 0.343$; $p = 0.000$ and $\beta = 0.259$; $p = 0.000$ respectively) and employee empowerment ($\beta = 0.201$; $p = 0.001$) were all positively associated with staff-related outcomes. As a result of the identified relationships in the model we conclude that the impact of the use of multidimensional performance measures on PMS effectiveness in achieving staff-related outcomes is fully mediated by the process of linking performance to non-financial rewards. The findings provide support for H1(c), H1(e), H1(f), H2, H3, H5, H6a, H6b, and H7, and allow the null hypothesis in H4 to be rejected.

5. Discussion and conclusion

This study empirically examined the relationships between the use of multidimensional performance measures, PMS characteristics, and PMS effectiveness, with the latter assessed in respect to the achievement of process improvements. Specifically, the study examined the role of the use of multidimensional performance measures in facilitating specific PMS characteristics, the subsequent influence of PMS characteristics on the effectiveness of the PMS, and the mediating role of PMS characteristics in the association between the use of multidimensional performance measures and PMS effectiveness.

In respect to the association between the use of multidimensional performance measures and PMS characteristics, the results indicate that the use of multidimensional performance measures exhibited a positive association with the objectivity of performance evaluations, the link between performance and non-financial rewards, and the focus on short-term targets. The results suggest that the use of multidimensional performance measures facilitates a more objective approach to target setting, performance evaluation and compensation. Hence, it is implied that the existence of multiple financial and non-financial measures enables managers to implement a more systematic and objective approach to monitor and reward performance. This may be due to the use of more measures demanding stronger accountability for the diverse performance areas, thereby resulting in greater transparency in regard to performance expectations, and managers establishing clear weightings for each performance measure.

The use of multidimensional performance measures was also associated with the extent to which performance evaluations were linked to non-financial rewards such as recognition, responsibility and promotion. Such findings imply that the use of a more diverse set of measures including customer, internal business process, and learning and growth measures

provides an opportunity for managers to incorporate a broader approach to recognise employee performance than solely relying on aggregated financial measures. Finally, the use of multidimensional performance measures was found to place greater emphasis on the achievement of short-term (monthly and quarterly) goals. While the use of a more diverse set of measures may have been expected to have resulted in greater emphasis on achieving long-term objectives, especially given many of these measures are aimed towards strategic outcomes, the findings suggest that the achievement of short-term objectives are even more imperative due to the guidance they provide to organisational members toward the achievement of long-term objectives. Hence, it is implied that the use of a more diverse set of performance measures warrants a greater focus on short-term targets, programmes, and initiatives.

In assessing the influence of PMS characteristics on PMS effectiveness, the results indicate that five PMS characteristics exhibited a significant association with PMS effectiveness (the link to financial and non-financial rewards, employee empowerment, the short-term focus of targets, and subjectivity in performance evaluations). The first three of these PMS characteristics (the link to financial and non-financial rewards, employee empowerment) were found to enhance the achievement of both performance-related and staff-related outcomes, thus contributing positively towards motivating, supporting, and controlling the processes enabling the achievement of performance goals, while simultaneously assisting the process of managing talented and poor-performing staff. The implications derived from such results imply that an effective PMS design should incorporate appropriate links between performance targets and appropriate rewards to ensure the achievement of organisational objectives, thus rewarding desired behaviour through the provision of financial bonuses and opportunities for promotion, greater recognition and responsibility, and other non-monetary privileges. Such inferences are consistent with Lawler (2003) and Bonner et al. (2000) regarding the benefits of linking

performance to incentives. At the same time, employees should be empowered to participate in decision-making in their areas of responsibility through greater decentralisation and delegation of authority towards lower levels of the organisational hierarchy. Furthermore, the increase in the level of employee structural empowerment and involvement in the organisational planning process is consistent with the need for increased decentralisation and delegating decision-making authority to lower level management. These findings support previous literature advocating the benefits of employee empowerment (Biron and Bamberger, 2010; Mathieu et al., 2006).

The two remaining PMS characteristics (short-term focus of targets and subjectivity in performance evaluations) were found to impact the achievement of performance-related outcomes only. Consequently, the PMS needs to emphasise shorter-term performance targets (monthly and quarterly) to allow appropriate guidance for employees and ensure consistent progress towards long-term strategic goals. In addition, ensuring performance evaluations are conducted in a subjective manner was found to be negatively associated with the achievement of performance-related outcomes, suggesting that management should ensure transparency and clarity in regards to the performance evaluation process and prevent favouritism, ambiguity and bias.

Overall, the findings highlight the mediating role of PMS characteristics in the association between the use of multidimensional performance measures and PMS effectiveness. Three PMS characteristics (subjectivity/objectivity, link to non-financial rewards and short-term focus of targets) were found to mediate this association, although the link to non-financial rewards only mediated the achievement of staff-related outcomes. In particular, the findings contribute to the management accounting and human resource management literature by

highlighting the influence of specific PMS characteristics on individuals. Specifically, these findings highlight the importance of placing greater emphasis on using more objective approaches to performance evaluation, linking performance to non-financial rewards and focusing on short-term performance to a greater extent in enhancing PMS effectiveness. Furthermore, the findings indicate the role of the use of multidimensional performance in facilitating these characteristics, and consequently contributing towards the effectiveness of PMS processes. The significant direct impact of the use of multidimensional performance measures on the achievement of performance-related outcomes further reinforces the need for managers to incorporate a more diverse set of performance measures as they increase the understandability and the alignment of individual contributions with the overall strategy (Armstrong, 2001), and enable monitoring of progress in respect to key strategic success factors (Tuomela, 2005).

5.1 Limitations and suggestions for future research

The study focuses on senior managers from the financial and legal services industry, and as such, the results cannot be generalized to all service industry managers. Further, the study is subject to the usual limitations of the survey methodology, such as restrictions in determining causal relationships between variables and common method bias. While we rely on Harman's (1967) single factor test which suggests that common method bias is not a problem given the total variance explained by a single factor (34.5%) is less than the 50% threshold (Podsakoff et al., 2003), future research could utilise alternative research methods to overcome this issue.

Given the fact that this study analysed only PMS characteristics, future studies could analyse the impact of other factors on the effectiveness of the PMS such as organisational size, culture,

and the type of industry. Future research could also extend this study by performing a comparison across different service industries, and private and public service organisations.

Appendix A

Performance Management System effectiveness

Below is a list of perceived outcomes of performance management systems (PMS). Please indicate the extent to which your business unit's PMS assists in achieving each of these outcomes (1 = not at all, 5 = to a great extent)

Performance-related outcomes

Motivating performance
Developing individual's skill and knowledge
Assisting in the achievement of goals
Developing a performance oriented culture
Supporting change efforts
Implementing the organisational strategy
Providing an accurate assessment of business unit performance
Ensuring staff commitment to organisational objectives
Ensuring staff time is used efficiently

Staff-related outcomes

Providing useful performance feedback to employees
Addressing concerns of staff
Linking individual performance to business performance
Identifying talented employees
Rewarding talented employees
Identifying poor performing staff
Managing poor performing staff

Participation in target setting

Please indicate to what extent you agree with the following (1 = not at all, 5 = to a great extent)

Business unit targets are imposed by the Board of Directors and/or senior management with no input from lower levels.

Human resource, finance and/or control and planning managers are consulted prior to the determination of business unit/team targets.*

Individual employees actively contribute to the determination of targets within the business unit.

**Item that did not load on the scale*

Target difficulty

Please indicate which one of the following best describes the performance targets set for your business unit/team? Please circle one of the following responses.

Easy to achieve
Moderately challenging
Challenging but achievable
Challenging but unlikely to be achieved
Unachievable

Employee empowerment

Front line workers are defined as employees working at the lowest level of the organisational hierarchy. Please indicate the extent to which you believe that the

following applies to front line workers in your business unit. (1 = not at all, 5 = to a great extent)

Front line workers have a high level of collaboration/involvement in decision making
There are official channels or certain norms or rules to guarantee front line workers' participation in the decision making process.

Front line workers contribute directly to the decision making process rather than through intermediaries (eg. Supervisors)

Front line workers have authority/power/influence to make and implement decisions about tasks.

Multidimensional performance measures

Please indicate the extent to which each of the following performance measures is used to assess your business unit's performance (1 = not at all, 5 = to a great extent)

Sales revenue

Return on investment

Improvement in net assets/liabilities

Customer satisfaction

On-time service

Number of new customers/clients

Hours of training provided

Improvements made to employee facilities

Usage of resources

Productivity

Quality of service

Number of new services introduced

Subjectivity

To what extent do you believe that each of the following is determined objectively (based on standardised procedures) or subjectively (based on managers' judgement) (1 = objectively, 5 = subjectively)

Performance targets are determined objectively/subjectively

Performance evaluations are determined objectively/subjectively

Rewards are determined objectively/subjectively

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CHAPTER FIVE

PAPER THREE

**The role of the use of Performance Management Systems (PMS) in the association
between information characteristics and PMS effectiveness**

Abstract

This study examines the association between information characteristics (the use of multidimensional performance measures, and the scope, timeliness, aggregation, and integration of information) and with the effectiveness of Performance Management Systems (PMS), with the latter assessed in respect to the achievement of PMS process based outcomes. In addition, the study examines the mediating role of the use of PMSs, specifically the diagnostic and interactive use of PMSs in this association. Data was collected from 190 Senior Managers of Australian financial and legal service organisations using a survey questionnaire. PMS use (diagnostic and interactive) is found to fully (partially) mediate the relationship between information scope (integration) with PMS effectiveness (both performance-related and staff-related outcomes). In addition, interactive PMS use fully mediates the relationship between the use of multidimensional performance measures with PMS effectiveness (both performance-related and staff-related outcomes). Finally, information aggregation exhibits a positive direct association with PMS effectiveness (performance-related outcomes). The study contributes to the performance management literature by highlighting the important role of specific information characteristics and the use of PMSs in enhancing the effectiveness of PMSs.

Keywords: Performance management systems, diagnostic use, interactive use, scope, information integration, effectiveness

1. Introduction

A Performance Management Systems (PMS hereafter) encompasses the ‘formal and informal mechanisms, processes, systems and networks used by organisations for conveying the key management objectives and goals in order to assist the ongoing management through planning, measurement, control and rewarding’ (Ferreira and Otley, 2009, 264). As such, the PMS adopts a process perspective with a focus on evaluating the effectiveness of internal processes using a set of measures (Neely et al., 1995). It acts as a control mechanism that produces information to be used by internal stakeholders (managers) which serves as a basis for determining merit, rewards, training and development needs and motivating employee performance (Ferreira and Otley, 2009; Lawler, 2003; Taylor and Pierce, 1999; Flapper et al., 1996). The development of the extant literature on PMSs has been closely aligned to Management Control Systems (Ferreira and Otley, 2005; Otley, 1999; Anthony, 1965). However, PMSs have been considered as a broader concept in the literature (Ferreira and Otley, 2009) capturing broader aspects of performance in addition to management control.

While the majority of studies have considered the effectiveness of the PMS directly in respect to the achievement of organisational performance (eg. shareholders returns, profitability, customer satisfaction, sales revenue) (Crabtree and DeBusk, 2008; Davis and Albright, 2004; Ittner et al., 2003a; Hoque and James, 2000), Hamilton and Chervany (1981) suggest an alternative approach to determine management information system effectiveness. Specifically, Hamilton and Chervany (1981) argue that through the use of systems, the organisation achieves continuous improvement in organisational processes which indirectly contribute to organisational performance. In a similar vein, the extant literature on PMSs discusses effectiveness in respect to how well the organisation is performing in respect to pre-set objectives in relation to processes (Ferreira and Otley, 2009; Lawler, 2003; Armstrong, 2001;

Bacal, 1999; Taylor and Pierce, 1999; Flapper et al., 1996). Accordingly, the research underpinning this study operationalizes PMS effectiveness based on Lawler's (2003, 396) achievement of PMS outcomes including motivating performance, helping individuals develop their skills, building a performance culture, determining who should be promoted, eliminating individuals who are poor performers, and helping implement business strategies. A PMS which succeeds in achieving these objectives is deemed to be effective and can make a significant positive contribution to organisational performance and ensure the long-term sustainability and development of an organisation.

Previous studies on PMS effectiveness have been predominantly discursive or prescriptive (Ferreira and Otley, 2009; Nankervis and Compton, 2006; Furnham, 2004; Armstrong, 2001; Fletcher and Williams, 1996), with the limited empirical evidence examining the influence of organisational characteristics on PMS effectiveness. Previous studies on PMS effectiveness have also tended to be case study based (Biron et al., 2011; Padovani et al., 2010), with the limited empirical research (Lebas, 1995) predominantly focusing on performance measurement and its associations with factors such as top management support (Tung et al., 2011; Hoque and Adams, 2008; Cheng et al., 2007; Johanson et al., 2006; Bourne et al., 2002; Kennerley and Neely, 2002; Kaplan, 2001), employee participation (Hoque and Adams, 2008; Cheng et al., 2007; Kleingeld et al., 2004), the link of performance to rewards (Burney et al., 2009; Chan, 2004), and training (Chan, 2004; Emerson, 2002).

Previous literature has also emphasised the fundamental role of different types of information and its use for management decisions such as effective planning and allocation of resources to tasks (Gorry and Morton, 1971), appropriate strategy development (Bhimani and Langfield-Smith, 2007; Bouwens and Abernethy, 2000), strategy implementation (Bhimani and

Langfield-Smith, 2007; Tuomela, 2005; Bouwens and Abernethy, 2000), and preventing information disparity and environmental uncertainty (Bhimani and Langfield-Smith, 2007; Gerdin, 2007; Widener, 2007; Tuomela, 2005; Sharfman and Dean, 1997; Gordon and Miller, 1976). The information from the PMS process can be used to assist individual and sub-unit decision making such as career planning and development, or to assist institutional decision making in regards to promotion, rewards, performance issues or training and development (Lonsdale, 1998), and as such is expected to contribute to enhancing PMS effectiveness. However, while studies have highlighted the important role that the type of information plays in the effective management process (Gerdin, 2007; Bouwens and Abernethy, 2000; Chenhall and Morris, 1986), empirical research on the association between information characteristics and PMS effectiveness has been scant. Accordingly, the first objective of this study is to analyse the impact of information characteristics (the use of multidimensional performance measures, and the scope, timeliness, aggregation and integration of information) on the effectiveness of PMSs.

In addition, in order to provide a more detailed insight into the association between information characteristics PMS effectiveness, the second objective of the study is to explore the role of PMS use as a mediator of the association between information characteristics and PMS effectiveness. In their extended PMS framework, Ferreira and Otley (2009) emphasise the importance of the manner in which the PMS uses information as a crucial factor for the success of a PMS. Relying on Simons' (1995) levers of control, prior studies on the use of PMSs have often focused on the diagnostic and interactive use of control. Diagnostic use relates to the process of monitoring organisational outcomes in comparison with predetermined performance standards and correcting potential deviations from expectations (Henri, 2006a; Abernethy and Brownell, 1999; Langfield-Smith, 1997; Simons 1995, 1994). The diagnostic use, as formal

feedback, is intended to motivate employee performance and align individual behaviour with organisational objectives (Widener 2007; Simons, 2000) and thus assists in managing results on an exception basis, benchmarking against targets. Alternatively, the interactive use implies an ongoing flow of information throughout the organisation, in a formal or informal manner, directed towards facilitating dialogue and broader communication among decision makers at various levels of authority (Widener, 2007; Bisbe and Otley, 2004; Langfield-Smith, 1997; Simons, 1994). As such the interactive use of information is aimed at activating organisational learning, strategic adaptation, emergence of new strategies and managing environmental uncertainty (Langfield-Smith, 1997; Simons, 1995).

Prior empirical studies on the diagnostic and interactive use of PMS information have often overlooked the impact on overall PMS effectiveness (Henri, 2006a), instead focusing on the importance of the diagnostic use of information for the achievement of performance targets, correcting discrepancies and motivating actions towards goals (Fauzi and Rahman, 2008; Widener, 2007; Henri, 2006a; Abernethy and Brownell, 1999; Langfield-Smith, 1997). Alternatively, studies have examined the relationship between the interactive use with successful strategic management (Naranjo-Gil and Hartmann, 2007; Tuomela, 2005), active and frequent dialogue between top managers (Langfield-Smith, 1997), and enhancing the organisational capabilities of market orientation, entrepreneurship, innovativeness and organisational learning (Henri, 2006a; Malina and Selto, 2001; Epstein and Manzoni, 1998).

This study aims to contribute to the literature by examining the association between the diagnostic and interactive use of PMSs with PMS effectiveness. In addition, in examining the mediating role of PMS use, the study also examines the association between information characteristics and PMS use. Prior research has discussed the importance of the use of

multidimensional performance measures (Widener, 2007; Bhimani and Langfield-Smith, 1997), and broader scope, timely, aggregated and integrated information (Bouwens and Abernethy, 2000; Chenhall and Morris, 1986) in assisting management decision making. Specifically, multidimensional performance measures and broader scope information facilitate managers' knowledge of cause and effect relationships between actions and performance (Bhimani and Langfield-Smith, 1997; Chenhall and Morris, 1986) thus enhancing the monitoring role of the diagnostic use of PMS. Furthermore, timely information allows a faster organisational response to changing conditions while aggregated and integrated information stimulates dialogue between managers of different subunits and functional areas which allows for coordination between managers' decisions (Bouwens and Abernethy, 2000; Chenhall and Morris, 1986), thereby supporting the interactive use of PMSs.

The remainder of the paper is structured as follows. Section 2 reviews the relevant literature and develops hypotheses about the relationships between information characteristics, PMS use and PMS effectiveness. Section 3 then discusses the methodology, Section 4 presents the empirical results and finally Section 5 discusses the results and draws conclusions from the study.

2. Literature review and hypotheses

2.1 Performance Management Systems (PMS)

The PMS plays a fundamental role in the management of organisational performance success (Bento and Bento, 2006; Nankervis and Compton, 2006; Furnham, 2004; Taylor and Pierce, 1999) through an ongoing process of identifying, measuring and developing human performance in organisations (Rao, 2007; Armstrong, 2001; Grote, 1996). As an outcome of this process, the PMS provides feedback information aimed towards improving future performance, measuring progress, pinpointing training needs, validating rewards and

identifying employees for promotion (Grote, 1996). Prior literature considers the PMS as a system that covers all aspects of performance that are relevant for the existence of an organisation as a whole, and which informs management on the progress of organisational performance in respect to pre-set objectives (Ferreira and Otley, 2009; Bento and Bento, 2006; Lawler, 2003; Flapper et al., 1996).

While empirical research has regarded the effectiveness of the PMS as the achievement of organisational performance (eg. profitability, sales revenue and customer satisfaction) (Crabtree and DeBusk, 2008; Davis and Albright, 2004; Ittner et al., 2003a; Hoque and James, 2000), theoretical discussions have adopted a broader perspective. For instance, Bento and Bento (2006, 24) argue that the effectiveness of a PMS is ‘the degree to which the system delivers its intended results, i.e. helping organisations to plan, measure and control their performance’, while Taylor and Pierce (1999) and Lawler (2003) describe the effectiveness of the PMS based on the extent to which it achieves specific objectives. These objectives range from providing staff with clear measurable targets, improving supervisor-employee communication, clarifying staff roles, increasing commitment and accountability to work projects and improving customer relations, increasing managers’ support for staff, developing mutual understanding and agreement between staff and managers regarding organisational direction, and providing incentives for performance (Lawler, 2003; Taylor and Pierce, 1999).

Hamilton and Chervany (1981) argue that an effective PMS indirectly achieves organisational performance (profitability, sales revenue and customer satisfaction) through a series of ongoing process improvements which serve as PMS outcomes. Specifically, through the achievement of process improvements such as linking individual to business performance, motivating performance, providing an accurate assessment and feedback on performance, and supporting

change efforts, an effective PMS indirectly contributes to the accomplishment of business performance objectives. Following Hamilton and Chervany's (1981) approach and based on Lawler (2003), this study assesses PMS effectiveness in respect to the achievement of 16 process improvement objectives (see Appendix).

2.2 The associations between information characteristics, PMS use and PMS effectiveness

Given that there is limited empirical evidence in relation to the associations between information characteristics and PMS effectiveness, the study aims to contribute to the contingency literature examining the factors influencing the achievement of organisational objectives. Accordingly, Section 2.2.1 will develop hypotheses in respect to the associations between the use of multidimensional performance measures, and the scope, timeliness, aggregation and integration of information, with PMS effectiveness. Section 2.2.2 then develops hypotheses in respect to the associations between information characteristics and PMS use, while Section 2.2.3 develops hypotheses in respect to the associations between PMS use and PMS effectiveness. Finally Section 2.2.4 develops a hypothesis in regards to the mediating role of PMS use in the association between information characteristics and PMS effectiveness.

2.2.1 The association between information characteristics and PMS effectiveness

In describing PMS information the study refers to a range of characteristics including the use of multidimensional performance measures, scope, timeliness, aggregation and integration (Chenhall and Morris, 1986), with the extent to which the PMS incorporates information possessing these characteristics expected to influence the effectiveness of the PMS.

The nature of the information processed in a PMS has been the subject of discussion in the literature, with emphasis placed on whether organisations rely solely on financial information or include non-financial information in addition to the financial information (Langfield-Smith et al., 2009; Flapper et al., 1996; Kaplan and Norton, 1996). There has been significant criticism in the literature directed towards the isolated use of only financial performance indicators (eg. return on investment, profit, market share, and economic value added) in evaluating organisational performance (Langfield-Smith et al., 2009; Guthrie and English, 1997; Flapper et al., 1996) due to the disconnect with individual performance and accountability, unidimensionality, the lack of focus on the future, and the potential short-sightedness regarding stakeholder's interests (Langfield-Smith et al., 2009; Harper and Vilkinas, 2005).

More holistic approaches to performance management have emerged with the development of performance management systems combining financial and non-financial information, including the Management by Objectives (Greenwood, 1981), Total Quality Management (Ittner and Larcker, 1998), and the Balanced Scorecard (Kaplan and Norton, 1992). These new and contemporary multidimensional approaches to performance management emphasise that no single measure can provide a clear performance target or focus attention on the critical areas of a business (Armstrong, 2001). Instead, these approaches combine quantitative and qualitative data and include short-term and long-term objectives, thus addressing the shortcomings of financial performance measures (Malmi and Brown, 2008; Armstrong, 2001), and emphasising the importance of including both financial and non-financial performance measures in the process of effective strategy development and implementation (Bhimani and Langfield-Smith, 2007). The inclusion of non-financial performance measures in the PMS allows greater understandability for individual employees in respect to the alignment of individual contributions with the overall strategy (Armstrong, 2001), enables monitoring of

progress in respect to key strategic success factors (Tuomela, 2005), and allows users to engage in activities such as setting goals, linking rewards to performance measures, and clarifying cause/effect relationships between actions and performance (Kaplan and Norton, 1996). These outcomes are closely aligned to those of an effective PMS such as developing individual's skill and knowledge, providing useful performance feedback to employees, and rewarding talented and managing poor performing staff (Lawler, 2003).

H1 The use of multidimensional performance measures will be positively associated with PMS effectiveness.

Information scope refers to the aspects of focus (internal/external), quantification (financial/non-financial), and the time horizon (short-term/long-term focus and past/future orientation) of information. Specifically, a narrow scope refers to internally sourced financial data with a short-term horizon, while broader scope information would also include information from external sources regarding various stakeholders, include non-financial measures, have a long-term focus, and provide a forecast analysis of different courses of action (Bouwens and Abernethy, 2000; Chenhall and Morris, 1986).

Prior literature outlines the impact that information scope can have on organisational performance with the sole reliance on narrow scope information shown to affect organisational success adversely (Kaplan and Norton, 1996). Alternatively, with the rise of multidimensional performance measurement systems and the increased inclusion of non-financial information in the management decision making process (Naranjo-Gil and Hartmann, 2007), broader scope information has gained greater significance as a determinant of the achievement of sustainable performance and the long term success of organisations. Specifically, broad scope information has been positively linked with effective strategic change and flexibility (Naranjo-Gil and Hartmann, 2007; Larcker, 1981; Vandenbosch and Huff, 1977), and improved organisational

dialogue, coordination and actionability (Henri, 2006b; Bouwens and Abernethy, 2000; Amason, 1996). Hence, broader scope information assists in the achievement of organisational goals, supporting change efforts and the implementation of the organisational strategy, all outcomes of an effective PMS (Lawler, 2003).

H2 Broader (narrower) scope information is positively (negatively) associated with PMS effectiveness.

Timeliness refers to the speed of provision of information on request and the frequency of reporting systematically collected information (Bouwens and Abernethy, 2000; Chenhall and Morris, 1986). Information is considered more timely if the time lag between the manager's request and its availability is shorter and if the frequency of the provision of PMS information is greater (Bouwens and Abernethy, 2000). Timely information reduces uncertainty and facilitates quicker decision making and adjustment to environmental changes, enhancing organisational flexibility (Bouwens and Abernethy, 2000; Chenhall and Morris, 1986). Furthermore, timely information enhances the ability of the PMS to 'report on the recent events and to provide rapid feedback on decisions' (Chenhall and Morris, 1986, 21), thereby contributing to the achievement of the desired performance outcomes for organisations.

H3 The timeliness of PMS information is positively associated with PMS effectiveness.

The level of aggregation of the information relates to its level of summation and can range from basic raw, unprocessed data to a variety of aggregations around time periods or areas of interest such as responsibility centers or functional areas (Bouwens and Abernethy, 2000; Chenhall and Morris, 1986). Aggregated information is useful in circumstances where organisations have multiple interdependent subunits (Bouwens and Abernethy, 2000) and when decision models such as discounted cash flow, incremental or what-if analyses can assist managers' decisions. Aggregated information facilitates the efficient use of managers' time by

avoiding information overload (Gerdin, 2007) and informs the decision making process by providing an assessment of results over time periods, and highlighting the effect of decisions made in different departments (Bouwens and Abernethy, 2000). Accordingly, aggregated information contributes towards the achievement of the desired outcomes of an effective PMS including linking individual and business unit performance and providing useful performance feedback (Lawler, 2003).

H4 The level of aggregation of PMS information is positively associated with PMS effectiveness.

Information integration relates to the extent to which the information flow takes account of the effects of the interacting segments and considers the impact that decisions in one area have on operations throughout the sub-unit (Bouwens and Abernethy, 2000; Chenhall and Morris, 1986). PMSs which use integrated information facilitate strategic and operating decision making not only at the department level but across the organisation by creating awareness with managers at different levels of the impact of their decisions on other subunits and the business overall (Gerdin, 2007; Bouwens and Abernethy, 2000). Specifically, the provision of integrated information provides management with a wide range of alternatives to consider, depicts input/output relations between subunits, and enhances managers' understanding of the existence and trade-offs required between different and potentially conflicting objectives, and their likely impact on the achievement of business objectives (Gerdin, 2007). As such, integrated information enhances the generation of feasible and viable decisions within and amongst subunits and thus assists in the shift of focus from the individual department to a combined optimal solution for the organisation overall (Gerdin, 2007; Bouwens and Abernethy, 2000; Machintosh, 1995).

H5 The level of integration of PMS information is positively associated with PMS effectiveness.

2.2.2 The association between information characteristics and PMS use

Given that the diagnostic use of information primarily involves monitoring and reporting on the critical success drivers of an organisational strategy (Widener, 2007; Simons, 2000), timely information assists managers in undertaking frequent and ongoing control/surveillance of performance. In particular, timely information facilitates the monitoring of performance in line with objectives, and enables management to implement corrective action promptly. Similarly, broad scope information and the inclusion of multidimensional performance measures allows greater understanding of the cause and effect relationships between actions and the achievement of performance objectives, and informs management of the required corrective actions (Bhimani and Langfield-Smith, 2007; Kaplan and Norton, 1996). Furthermore, aggregated information facilitates the monitoring of performance of different responsibility centres and / or functional areas and their performance over time (Bouwens and Abernethy, 2000), while integrated information enables organisations to evaluate the effects of the decisions made in one subunit on another subunit, thus improving the coordination of performance across the organisation (Chenhall and Morris, 1986).

H6 The use of multidimensional performance measures, and the scope, timeliness, aggregation and integration of information will be positively associated with diagnostic PMS use.

In respect to interactive use, broader and timely information encourages debates and communication amongst managers (Bisbe and Otley, 2004; Abernethy and Brownell, 1999), thereby facilitating organisational dialogue (Abernethy and Brownell, 1999) and encouraging ongoing organisational learning and strategic change (Naranjo-Gil and Hartmann, 2007; Langfield-Smith, 1997; Chenhall and Morris, 1986). In addition, aggregated information based on decision models and incorporating multidimensional performance measures, enhances managers' understanding of input/output relationships between subunits (Bouwens and Abernethy, 2000; Abernethy and Guthrie, 1994), and thus facilitates the development of a

range of solutions to organisational challenges. Finally, aggregated and integrated information informs managers of the outcomes from interdependent decisions across organisational subunits, thereby assisting the organisational learning process and strategic change through interaction across the organisation (Bouwens and Abernethy, 2000).

H7 The use of multidimensional performance measures, and the scope, timeliness, aggregation and integration of information will be positively associated with interactive PMS use.

2.2.3 The association between PMS use and PMS effectiveness

Previous studies have provided arguments for the relationships between PMS use and the achievement of organisational performance outcomes (Sakka et al., 2013; Bisbe and Otley, 2004; Abernethy and Brownell, 1999). Diagnostic use serves as a ‘tool to assess if outcomes are in accordance with intended plans and reward behaviour accordingly’ (Abernethy and Brownell, 1999, 192). Accordingly, diagnostic use, such as using information for the purpose of control and efficiency, monitoring the achievement of goals, measuring outcomes, remedying variances, and assigning rewards (Simons, 1995), serves as an essential and necessary tool for gaining an insight into the extent that plans and strategies are achieved and consequently as a basis for determining merit. Through the provision of feedback information regarding the processes used to achieve strategic and operational goals, the diagnostic use of PMSs contributes to enhanced staff motivation and provides guidance for future action. These outcomes are closely aligned with facilitating the link between individual and organisational performance (Langfield-Smith, 1997) and increasing the knowledge of staff (Lawler, 2003), outcomes of an effective PMS.

H8 The diagnostic use of the PMS is positively associated with PMS effectiveness.

Interactive PMS use was found to enhance performance through improved learning, adaptation and innovation (Sakka et al., 2013; Bisbe and Otley, 2004). Similarly, interactive use has a positive influence on learning, debate and dialogue towards new emerging strategies (Tuomela, 2005; Langfield-Smith, 1997), and hence achieving outcomes which are consistent with those of an effective PMS, such as supporting change efforts and developing individual's skills and knowledge (Lawler, 2003). Furthermore, given that the interactive use of PMS information goes beyond the control of performance by emphasising individual and organisational learning and innovation, it thus allows for strategic adaptation and flexibility, generating ongoing interaction amongst decision makers at various management levels and maintaining an ongoing knowledge base (Naranjo-Gil and Hartmann, 2007; Henri, 2006a; Tuomela, 2005; Langfield-Smith, 1997; Simons, 1995, 1994,). As outlined by Lawler (2003), these outcomes are closely related to the developmental aspect of an effective PMS and supporting change efforts.

H9 The interactive use of the PMS is positively associated with PMS effectiveness

2.2.4 The mediating role of PMS use

Following the above literature review and the previously hypothesised relationships between information characteristics with PMS use, and PMS use with PMS effectiveness, the study also examines if PMS use (diagnostic and interactive) plays a mediating role in the relationship between information characteristics and PMS effectiveness. Specifically, it is hypothesised that the information characteristics facilitate the interactive and diagnostic use of controls, which in turn facilitate PMS effectiveness.

H10 PMS use mediates the relationship between information characteristics and PMS effectiveness.

3. Method

The study utilised a survey questionnaire to collect data from 595 Senior Managers⁶ from Australian financial and legal service organisations, selected from the OneSource online database. The managers were identified as appropriate for the study due to their knowledge concerning the Performance Management System in their organisations. The choice of the Australian services industry was based on its high representation in the overall Australian economy (70% from national GDP) and its consistent growth expectation aligned with the growth of the Asia Pacific region (Australian Trade Commission, 2012). The study adopted Dillman's (2007) Tailored Design Method in the construction of the survey questionnaire and its distribution (see Section 3, Chapter 3 for additional details).

In line with Roberts (1999), non-response bias was tested using an ANOVA comparison of the independent and dependent variable values across early and late respondents. No significant differences were identified.

3.1 Measurement of variables

3.1.1 PMS effectiveness

The measure utilised for PMS effectiveness was adopted from Lawler (2003) and consists of 16 desired outcomes of an effective PMS (see Appendix). This instrument has been utilised in prior studies measuring PMS effectiveness (Baird et al., 2012; Munir et al., 2012; Tung et al., 2011) and has demonstrated reliability. Respondents were required to indicate the extent to which they agreed that their business unit's PMS achieved the outcomes on a five-point Likert scale ranging from (1) "Not at all" to (5) "To a great extent".

⁶ Specific managerial positions included the Chief Executive Officer, Chief Operative Officer, Chief Financial Officer, Chief Human Resources Manager, Practice Manager, Principal, Managing Director, and General Manager.

Factor analysis (principle components with varimax rotation) using the 0.45 loading criterion suggested by Tabachnick and Fidell (2001, 625) revealed that the 16 outcomes loaded onto two dimensions (see Table 1). The first dimension included nine items referring to the effectiveness of the system in influencing performance and encouraging the right performance behaviour and was therefore labelled “Performance-related outcomes”. The second dimension included seven items which are linked with the ability of the PMS to differentiate between good and poor performing staff and was labelled “Staff-related outcomes”. These two dimensions were subsequently scored as the total of the items loading on to each dimension with higher (lower) scores representing higher (lower) PMS effectiveness.

3.1.2 PMS information characteristics

A modified version of Chenhall and Morris’ (1986) instrument was utilised to measure information characteristics (scope, timeliness, aggregation, integration). Information scope was measured using three items with respondents required to indicate the extent to which their business unit’s information system provided future-oriented, external, and non-financial information on a five-point Likert scale with anchors of (1) “Not at all” and (5) “To a great extent”. Information scope was measured as the sum of the three items, ranging from 3 to 15, with higher (lower) scores indicating broader (narrower) scope.

Timeliness of information was measured using three items with respondents required to indicate the extent to which information was delivered immediately upon request; information was provided to decision makers automatically upon its input into the information system or as soon as processing was completed; and reports were delivered frequently on a systematic, regular basis. A five-point Likert scale was applied with anchors of (1) “Not at all” and (5) “To

a great extent”. The timeliness of the information was measured as the sum of the three items, ranging from 3 to 15, with higher (lower) scores indicating more (less) timely information.

Table 1 Factor analysis of the measure of PMS effectiveness

Items	Performance-related outcomes	Staff-related outcomes
Motivating performance	0.74	0.30
Developing individual’s skill and knowledge	0.63	0.41
Assisting in the achievement of goals	0.74	0.41
Developing a performance oriented culture	0.74	0.37
Supporting change efforts	0.76	0.33
Providing useful performance feedback to employees	0.59	0.57*
Implementing the organisational strategy	0.79	0.11
Providing an accurate assessment of business unit performance	0.75	0.22
Ensuring staff commitment to organisational objectives	0.75	0.28
Addressing the concerns of staff	0.42	0.49
Ensuring staff time is used efficiently	0.52	0.43
Linking individual performance to business unit performance	0.52	0.54
Identifying talented employees	0.26	0.86
Rewarding talented employees	0.34	0.79
Identifying poor performing staff	0.19	0.82
Managing poor performing staff	0.28	0.80

*While this item has a higher loading on the performance-related dimension, given it relates to employees it was included in the staff-related dimension.

Information aggregation was measured using three items with respondents required to indicate the extent to which their business unit’s information system provided information: for multiple time periods (daily, weekly, monthly, etc.); on the effect of different departments’ activities on the performance of their own business unit; and in formats suitable for input into decision models (eg. Discounted cash flow analyses, incremental/marginal analyses, “what-if analyses”). Information aggregation was measured as the sum of the three items, ranging from 3 to 15, on a five-point Likert scale with anchors of (1) “Not at all” and (5) “To a great extent”, with higher (lower) scores indicating higher/greater (less) aggregation.

The integration of information was measured using three items with respondents required to indicate the extent to which their business unit's information system provided: precise targets for each activity performed in all departments within the business unit; information on the impact of the business unit's decisions on the performance of all departments within it; and information on the influence of other business unit managers' decisions on their own business unit. Information integration was measured as the sum of the three items, ranging from 3 to 15, on a five-point Likert scale with anchors of (1) "Not at all" and (5) "To a great extent", with higher (lower) scores indicating higher (lower) aggregation.

In respect to the use of multidimensional performance measures, a modified version of Henri's (2006b) instrument was utilised. Respondents were provided with three performance measures reflecting each of the four dimensions of the Balanced Scorecard (financial, customer, internal business processes, and learning and growth) (Kaplan and Norton, 1996) and were required to indicate the extent to which each of the performance measures were used on a five-point Likert scale with anchors of (1) "Not at all" and (5) "To a great extent". Each dimension was measured as the sum of the three respective items, ranging from 3 to 15, with higher (lower) scores indicating higher (lower) use of the respective measures. The overall multidimensional measures was measured as the sum of the average scores for each of the four dimensions, ranging between 4 and 20, with higher (lower) scores indicating a higher (lower) use of multidimensional performance measures.

3.1.3 The use of PMS information

An adapted version of Simons' (1995) instrument was utilised to measure the diagnostic and interactive approaches to PMS use. Respondents were required to indicate the extent to which

they agreed that each item applied to their organisation's PMS, using a five-point Likert scale with anchors of (1) "Not at all" and (5) "To a great extent".

For the diagnostic approach, a four-item measure was applied to assess the extent to which the PMS was used to: track progress towards goals and monitor results; plan how operations are to be conducted in accordance with the strategic plan; review performance; and identify exceptions from expectations and take appropriate actions. The extent of use of the diagnostic use was measured as the sum of these four items, ranging from 4 to 20, with higher (lower) scores representing a higher (lower) extent of diagnostic use.

For the interactive approach, a six-item measure was utilised to assess the extent to which: the PMS is used as a means of identifying strategic uncertainties; the PMS is used as a means of developing ongoing action plans; the PMS is used regularly in scheduled face-to-face meetings between operational and senior managers; there is an on-going interaction between operational management and senior managers; the PMS generates information that forms an important and recurring agenda in discussions between operational and senior managers; and the PMS is used by operational and senior managers to discuss changes that are occurring within the business unit. The extent of interactive use was measured as the sum of these six items, ranging from 6 to 30, with higher (lower) scores representing a higher (lower) extent of interactive use.

4. Results

4.1 Descriptive statistics

Table 2 provides the descriptive statistics for the variables in the study, while table 3 provides the correlation coefficients between the variables. Based on the Cronbach (1951) alpha coefficients exceeding the 0.70 threshold (Nunnally, 1978, 245), the measurement of each variable is deemed reliable. Further Confirmatory Factor Analysis (CFA) was performed,

confirming the reliability of the measures with all item coefficients above 0.60, exceeding the minimum 0.45 threshold (Tabachnick and Fidell, 2001, 625). The sample of 190⁷ observations was sufficiently large to permit a robust estimation of the Structural Equation Models (Smith and Langfield-Smith, 2004; Anderson and Gerbing, 1988).

Table 2. Descriptive statistics

Variable	N*	Min Actual (Theoretical)	Max Actual (Theoretical)	Mean	Std. Dev.	Cronbach α
Performance-related outcomes	188	1 (1)	5 (5)	3.31	0.78	0.92
Staff-related outcomes	188	1 (1)	5 (5)	3.40	0.85	0.90
Information scope	186	1 (1)	5 (5)	2.96	0.87	0.80
Information aggregation	184	1 (1)	5 (5)	3.16	0.88	0.72
Information timeliness	186	1 (1)	5 (5)	3.29	0.84	0.78
Information integration	186	1 (1)	5 (5)	2.78	0.93	0.83
Multidimensional measures	181	1 (1)	4.83 (5)	3.03	0.68	n/a
Diagnostic PMS use	181	1 (1)	5 (5)	3.46	0.99	0.88
Interactive PMS use	190	1 (1)	5 (5)	3.28	0.82	0.87

* Some questions were not completed by all respondents

4.2 Analysis of the associations between information characteristics, PMS use and PMS effectiveness

Given that the factor analysis identified two dimensions of PMS effectiveness (performance-related and staff-related outcomes), two separate models were developed and analysed. Path analysis was undertaken to arrive at the final models, adopting the Anderson and Gerbing (1988) approach. Specifically, all parameters were included in the initial models with a series of nested models then estimated by sequentially constraining the least significant path coefficient. Ultimately all remaining paths in the nested models were significant and the overall models fitted the empirical data satisfactorily.

8 While some scholars suggest sample size requirements for SEM to be between 250 and 500 (Kline, 2005; Schumacker and Lomax, 1996; Boomsma, 1983), others suggest that a sample size of between 100 and 200 observations is considered adequate to ensure that the inferences drawn from the SEM analysis are accurate (Anderson and Gerbing, 1988, Smith and Langfield-Smith, 2004).

Table 3. Correlations between variables

	Performance – related outcomes	Staff –related outcomes	Multidimensio nal performance	Scope	Timeliness	Aggregation	Integration	Diagnostic use	Interactive use
Performance – related outcomes	1								
Staff –related outcomes	0.764**	1							
Multidimensional performance measures	0.262**	0.186*	1						
Scope	0.387**	0.311**	0.186*	1					
Timeliness	0.350**	0.294**	0.044	0.355**	1				
Aggregation	0.425**	0.334**	0.135	0.453**	0.679**	1			
Integration	0.468**	0.427**	0.210**	0.342**	0.485**	0.578**	1		
Diagnostic use	0.586**	0.485**	0.194**	0.289**	0.187*	0.315**	0.362**	1	
Interactive use	0.341**	0.287**	0.048	0.355**	0.996**	0.682**	0.487**	0.193**	1

* Significant at the 0.05 level

** Significant at the 0.01 level

Three measures were utilised to assess the goodness-of-fit of each model: (1) the minimum sample discrepancy divided by the degrees of freedom (CMIN/DF)⁸; (2) the Root Mean Square Error of Approximation (RMSEA)⁹; and (3) the Comparative Fit Index (CFI)¹⁰.

⁸ In respect to the CMIN/DF measure, the best models have values close to 1, although some researchers have accepted models with values up to 5. The more conservative views suggest the maximum acceptable values of CMIN/DF to be between 2 and 3 (Ullman, 2001; Kline, 1998).

⁹ In respect to the RMSEA measure, values less than 0.05 and 0.08 are considered ‘good’ and ‘acceptable’ fit, respectively, values greater than 0.08 indicate that the model can be improved, while values greater than 0.10 indicate ‘poor’ fit (Schermelele-Engel et al., 2003; Browne and Cudeck, 1993; Steiger, 1990)

¹⁰ In respect to the CFI measure, values of at least 0.95 indicate a ‘good’ fit, while values of at least 0.93 indicate ‘acceptable’ fit (Byrne, 1994).

The results in respect to the associations between information characteristics, PMS use and PMS effectiveness (performance-related and staff-related outcomes) are shown in Figures 1 and 2, with the standardized regression coefficients and corresponding p-values for the associations of interest (or paths) presented in Table 4. The goodness of fit measures indicate an excellent fit (CMIN/DF = 1.41 & 1.16, the RMSEA = 0.05 & 0.03; CFI = 0.99 & 1.00 respectively). Both models show that three PMS information characteristics were found to be associated with PMS use. Specifically, information scope and integration were directly positively associated with both diagnostic use ($\beta = 0.211$; $p = 0.009$ and $\beta = 0.318$; $p = 0.000$ respectively) and interactive use ($\beta = 0.269$; $p = 0.000$ and $\beta = 0.294$; $p = 0.000$), while the use of multidimensional performance measures was directly positively associated with interactive use ($\beta = 0.192$; $p = 0.003$). Hence, these results provide partial support for H6 and H7.

The two models also revealed significant associations between diagnostic and interactive PMS use with PMS effectiveness (both performance-related and staff-related outcomes) providing full support for H8 and H9. Specifically, diagnostic use was positively associated with performance-related outcomes ($\beta = 0.228$; $p = 0.000$) and staff-related outcomes ($\beta = 0.218$; $p = 0.001$), while interactive use was also positively associated with performance-related outcomes ($\beta = 0.276$; $p = 0.000$) and staff-related outcomes ($\beta = 0.213$; $p = 0.009$). Hence, given the observed associations, PMS use (diagnostic and interactive) is found to fully mediate the relationship between information scope with PMS effectiveness (both performance-related and staff-related outcomes), providing support for H2 and H10. Furthermore, interactive use fully mediates the relationship between multidimensional performance measures and PMS effectiveness (both performance-related and staff-related outcomes), providing support for H1 and H10.

In addition, the first model (Figure 1) indicates a positive direct association between information aggregation with PMS effectiveness (performance-related outcomes) ($\beta = 0.113$; $p = 0.049$), while there is a direct positive association between information integration and PMS effectiveness in respect to both performance-related and staff-related outcomes ($\beta = 0.131$; $p = 0.023$ and $\beta = 0.218$; $p = 0.000$), thus providing support for H4 and H5. Hence, PMS use (both diagnostic and interactive) partially mediates the relationship between information integration and PMS effectiveness (both performance-related and staff-related outcomes), providing further support for H10.

Figure 1 The SEM model regarding the associations between information characteristics, PMS use and PMS effectiveness (performance-related outcomes)

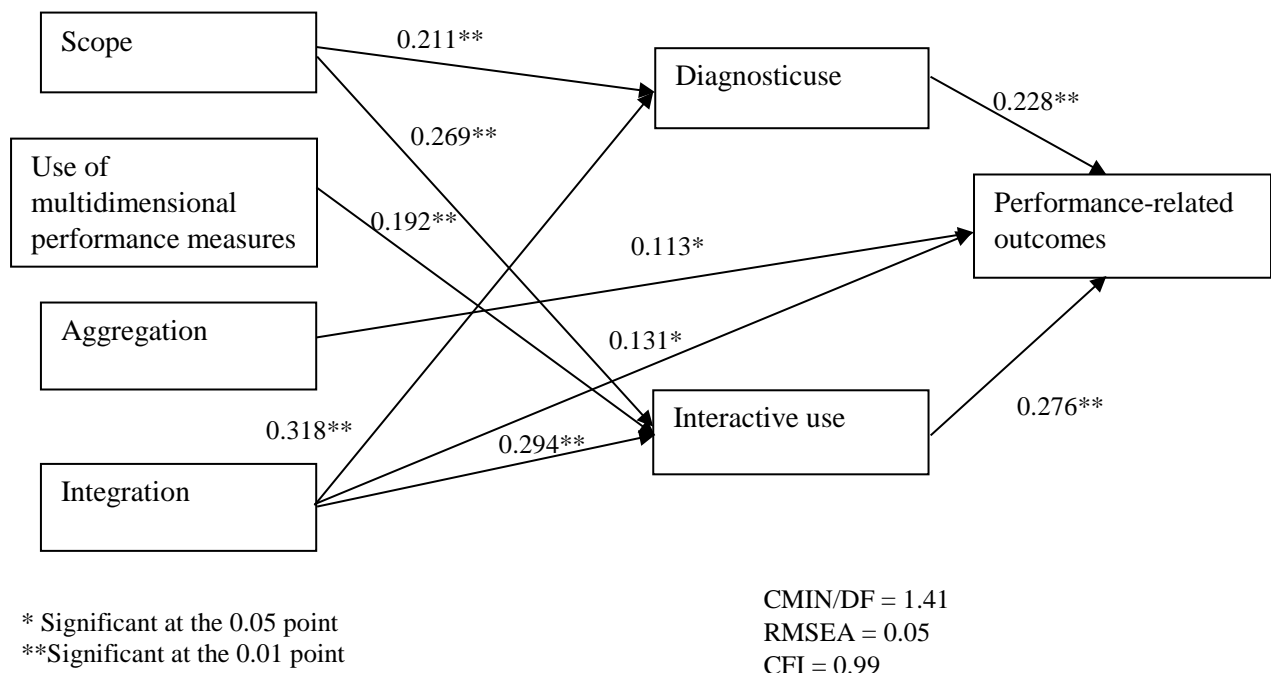
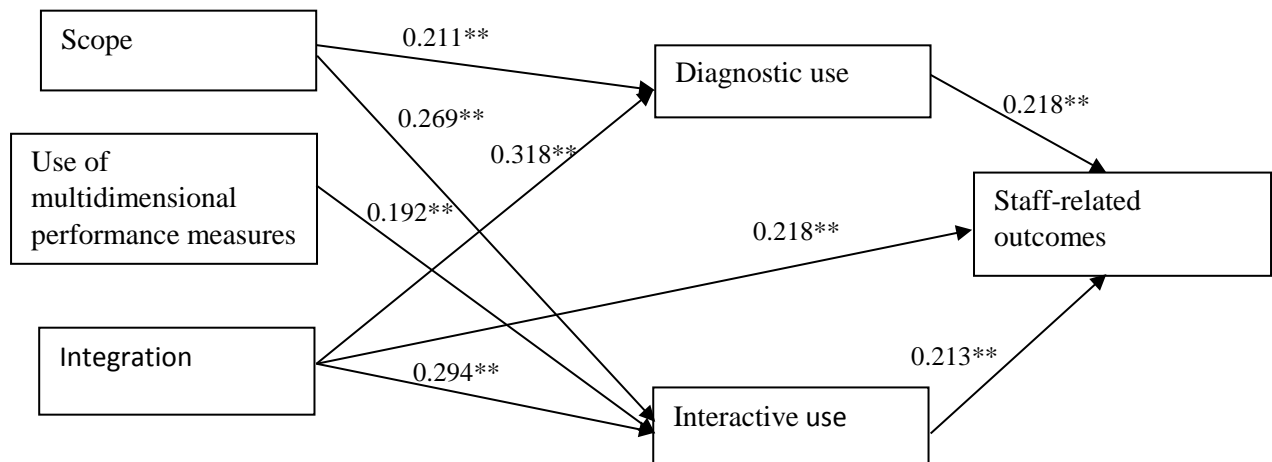


Figure 2 The SEM model regarding the associations between information characteristics, PMS use and PMS effectiveness (staff-related outcomes)



* Significant at the 0.05 point
 **Significant at the 0.01 point

CMIN/DF = 1.16
 RMSEA = 0.03
 CFI = 1.00

Table 4. The associations between PMS information characteristics, PMS use and PMS effectiveness

Panel A – Performance-related outcomes			Panel B – Staff-related outcomes		
Relationship path	Coef.	Sig.	Relationship path	Coef.	Sig.
Scope → PMS use (diagnostic)	0.211	0.009	Scope → PMS use (diagnostic)	0.211	0.009
Scope → PMS use (interactive)	0.269	0.000	Scope → PMS use (interactive)	0.269	0.000
Integration → PMS use (diagnostic)	0.318	0.000	Integration → PMS use (diagnostic)	0.318	0.000
Integration → PMS use (interactive)	0.294	0.000	Integration → PMS use (interactive)	0.294	0.000
Use of multidimensional performance measures→ PMS use (interactive)	0.192	0.003	Use of multidimensional performance measures→ PMS use (interactive)	0.192	0.003
Aggregation →Performance-related outcomes	0.113	0.049	Integration → Staff-related outcomes	0.218	0.000
Integration → Performance-related outcomes	0.131	0.023	PMS use (diagnostic)→ Staff-related outcomes	0.218	0.001
PMS use (diagnostic)→ Performance-related outcomes	0.228	0.000	PMS use (interactive)→ Staff-related outcomes	0.213	0.009
PMS use (interactive)→ Performance-related outcomes	0.276	0.000			
Goodness of fit values					
CMIN/DF	1.41		CMIN/DF	1.16	
RMSEA	0.05		RMSEA	0.03	
CFI	0.99		CFI	1.00	

5. Discussion and conclusion

The aim of this paper was to examine the associations between information characteristics, PMS use and PMS effectiveness. The first objective of the study was to examine the association between information characteristics (the use of multidimensional performance measures, scope, timeliness, aggregation and integration) and the effectiveness of the PMS. It was found that the inclusion of integrated information was directly positively associated with the effectiveness of the PMS overall (both performance-related and staff-related outcomes). The findings suggest that the provision of more integrated information increases the commitment of managers to organisational objectives, increases their knowledge, connects individual performance to organisational performance and assists in the achievement of organisational goals – all outcomes of an effective PMS. The findings are consistent with the literature which maintains that the provision of integrated information prevents a myopic view of subunits as isolated components of the organisation (Chenhall and Morris, 1986), and facilitates goal congruence by providing managers with enhanced knowledge of the interdependencies and impact of decisions made at different functional or hierarchical levels (Bouwens and Abernethy, 2000).

In addition, the provision of aggregated information was found to contribute to greater PMS effectiveness in achieving performance-related outcomes. As such, the information supplied to management at various organisational levels should be aggregated in accordance with the appropriate levels of authority in order to facilitate for appropriate time management and attention commensurate with the different levels of decision making. According to prior research, aggregated information, based on functional areas, provides managers with information regarding the outcomes from decisions made in or relating to other functional departments, while time based aggregated information informs managers of decision outcomes

over time periods (Gerdin, 2007; Bouwens and Abernethy, 2000; Chenhall and Morris, 1986), hence providing further support for the findings. The findings suggest that aggregated information enhances the process of PMS through improvements in performance-related outcomes, such as the provision of useful performance feedback and assistance in the achievement of goals. These findings support claims in the literature whereby aggregated information based on decision models such as what-if or incremental analysis contribute towards superior management decisions, as it facilitates knowledge of outcomes from alternative courses of action or performance trends over time, whilst ensuring efficient use of managers' time and avoiding information overload (Gerdin, 2007; Bouwens and Abernethy, 2000).

In respect to the second objective of the study, in examining the role of PMS use in the relationship between information characteristics and PMS effectiveness, the findings indicate that interactive PMS use fully mediates the relationship between the use of multidimensional performance measures and scope with PMS effectiveness, diagnostic PMS use fully mediates the relationship between scope and PMS effectiveness, while both the diagnostic and interactive PMS use partially mediate the relationship between integration with the effectiveness of the PMS.

The use of multidimensional performance measures contributes to the achievement of performance-related and staff-related outcomes by facilitating greater interactive use of PMS information. In particular, multidimensional performance measures improve clarity regarding how to implement the organisational strategy, with greater organisational learning and change thereby improving PMS effectiveness. Consistent with Bhimani and Langfield-Smith (2007), the inclusion of financial and non-financial performance indicators contributes to greater

managerial awareness of organisational processes, facilitates more effective monitoring of ongoing tasks (in contrast to the sole focus on final financial results), and allows greater opportunities for correcting deviations in organisational activities and tasks. Consequently, to enhance the effectiveness of PMSs, the information produced and used at the senior management level should incorporate multidimensional measures and indicators, internal and external sourced data, and forecast analysis of potential courses of action, thereby facilitating the achievement of performance and staff related organisational objectives.

Similarly, the greater presence and emphasis on broader scope information contributes to greater interaction and debate amongst managers, superior knowledge regarding the impact of management decisions internally, across subunits, and externally to the organisation, thus contributing to a more effective PMS through better coordination across the organisation. The effective interactive use of PMS information further facilitates the processes of developing individual's skills and knowledge, assisting in the achievement of goals, implementing the organisational strategy, and supporting change efforts, thereby enhancing the overall effectiveness of the PMS. At the same time, the inclusion of broader scope information contributes to the effectiveness of the PMS by facilitating the diagnostic use of the PMS.

Interestingly, although increased control and monitoring as a result of greater diagnostic PMS use would be expected to serve as an imposition to organisational flexibility, at the same time it provides employees with increased guidance, performance clarity, benchmarks, accurate performance reviews, and enhances accountability, which in turn reduces workplace uncertainty (Bouwens and Abernethy, 2000; Langfield-Smith, 1997). Consequently, this ability to perform the diagnostic control aspect of the PMS allows management to enhance organisational processes such as providing useful performance feedback to employees,

managing talented and poor performing staff, and linking individual to organisational performance, thereby contributing to the effectiveness of the overall PMS in achieving organisational performance objectives (consistent with Hamilton and Chervany, 1981). The provision of broader scope information improves control and the understanding of performance results, and given its future orientation, provides a performance benchmark for the organisation through the inclusion of external data, thereby facilitating corrective action towards the achievement of strategic goals. These findings are in line with earlier evidence regarding the significant role broader scope information plays in respect to operational decision making (Chong, 1996; Abernethy and Guthrie, 1994; Mia and Chenhall, 1994).

Integrated information was found to contribute to greater PMS effectiveness both directly and indirectly through the diagnostic and interactive use of the PMS. Hence, PMS use only partially mediates the relationship between integration and PMS effectiveness. The provision of information regarding the interrelated effects between business units facilitates communication and coordination of managers across business units and prevents a narrow view of business units irrespective of their broader internal environment. Thus by facilitating the interactive use of the PMS, integrated information contributes to an effective PMS through achievement of outcomes such as promoting a performance oriented culture, linking individual to organisational goals, and ensuring staff commitment to organisational goals. Moreover, integrated information facilitates the diagnostic use of the PMS through control and guidance across business units towards strategic goals and as such contributes to the achievement of PMS outcomes such as providing an accurate assessment of business unit performance, motivating performance, and assisting in the achievement of strategic goals.

The results confirm the positive contribution of diagnostic and interactive PMS use towards improved organisational processes through the achievement of performance objectives. The findings are consistent with the previous theoretical arguments of Henri (2006a), Simons (1994), Tuomela (2005) and Widener (2007) who refer to the complementarity between the diagnostic and interactive use of PMS. Specifically, they refer to the positive impact of using the two approaches in combination, with the dynamic tension between two seemingly opposing forces (Henri, 2006a) having a positive effect on the strategic capabilities of the organisation. Accordingly, as suggested by Ferreira and Otley (2009), the diagnostic and interactive use of the PMS are an essential component of the PMS.

In conclusion, the study contributes to the performance management literature by highlighting the important role of information characteristics and the use of PMSs in the overall effectiveness of the PMS. The findings also contribute to the human resource management literature given individuals must engage with information on an ongoing basis. In particular, it is recommended that managers should focus on the inclusion of multidimensional performance measures, broader scope and integrated information, thereby facilitating the diagnostic and interactive use of the PMS and enhancing the effectiveness of the PMS. From a practical perspective, organisations should invest in information systems that enable them to produce and use information that is financial and non-financial, supplied from external and internal sources, and that incorporates cross unit effects and dependencies. The information systems should be designed in a way that promotes the exchange of information within and across business units. Further, in order to allow the appropriate information flow across the organisation, clear channels of communication and responsibility need to be established to support the effective use of PMS information for management decisions. Consideration should also be given to providing appropriate training to management accountants regarding the

consistency of reporting across the organisation and the treatment of relevant information commensurate with management levels of decision making responsibility.

5.1 Limitations and suggestions for future research

The study focuses on senior managers from the financial and legal services industry, and as such, the results cannot be generalized to all service industry employees. Future research could examine the identified relationships in other industries. Further, the study is subject to the usual limitations of the survey methodology, such as restrictions in determining causal relationships between variables and common method bias. While we rely on Harman's (1967) single factor test which suggests that common method bias is not a problem given the total variance explained by a single factor (32.9%) is less than the 50% threshold (Podsakoff et al., 2003), future research could utilise alternative research methods to overcome these issues.

Given that we only assessed the independent association of the diagnostic and interactive PMS use with the effectiveness of the PMS, future research could also consider potential interdependencies between the diagnostic and interactive use and their potential complementary and balancing roles as implied by Henri (2006a), Simons (1994), Tuomela (2005) and Widener (2007). Future research could also focus on examining all four levers of control (including the boundary and beliefs levers), as suggested by Simons (2000). Finally, given that the findings from this study focus on the mediating role of PMS use in the associations between information characteristics and PMS effectiveness, future research could examine the role of PMS use in the relationships between other PMS characteristics and PMS effectiveness.

Appendix A

Performance Management System effectiveness

Below is a list of perceived outcomes of performance management systems (PMS). Please indicate the extent to which your business unit's PMS assists in achieving each of these outcomes (1 = not at all, 5 = to a great extent)

Performance-related outcomes

Motivating performance
Developing individual's skill and knowledge
Assisting in the achievement of goals
Developing a performance oriented culture
Supporting change efforts
Implementing the organisational strategy
Providing an accurate assessment of business unit performance
Ensuring staff commitment to organisational objectives
Ensuring staff time is used efficiently

Staff-related outcomes

Providing useful performance feedback to employees
Addressing concerns of staff
Linking individual performance to business performance
Identifying talented employees
Rewarding talented employees
Identifying poor performing staff
Managing poor performing staff

Diagnostic use

Please indicate the extent to which you agree or disagree with the following statements regarding the Performance Management System (PMS) of your organisation (1 = not at all, 5 = to a great extent)

PMSs are used to track progress towards goals and monitor results
PMSs are used to plan how operations are to be conducted in accordance with the strategic plan
PMSs are used to review performance
PMSs are used to identify significant exceptions from expectations and take appropriate actions

Interactive use

Please indicate the extent to which you agree or disagree with the following statements regarding the Performance Management System (PMS) of your organisation (1 = not at all, 5 = to a great extent)

PMSs are often used as means of identifying strategic uncertainties
PMSs are often used as means of developing ongoing action plans
PMSs are used regularly in scheduled face-to-face meetings between operational and senior managers
There is a lot of ongoing interaction between operational and senior managers
PMSs generate information that forms an important and recurring agenda in discussions between operational and senior managers

PMSs are used by operational and senior managers to discuss changes that are occurring within the business unit

Use of multidimensional performance measures

Please indicate the extent to which each of the following performance measures is used to assess your business unit's performance (1 = not at all, 5 = to a great extent)

Sales revenue
Return on investment
Improvement in net assets/liabilities
Customer satisfaction
On-time service
Number of new customers/clients
Hours of training provided
Improvements made to employee facilities
Usage of resources
Productivity
Quality of service
Number of new services introduced

Information characteristics

Please indicate the extent to which your business unit's information system (IS) has the following characteristics (1 = not at all, 5 = to a great extent)

Scope

Future-orientated information is provided
External information is provided
Non-financial information is provided

Timeliness

Information is delivered immediately upon request.
Information is supplied to decision makers automatically upon its input into the Information System or as soon as processing is completed
Reports are provided frequently on a systematic, regular basis

Aggregation

Information is provided on the effect of the activities of departments within business units on the performance of the business unit overall
Information is provided in format suitable for input into decision models (e.g. discounted cash flow analyses, incremental/marginal analyses, "what-if analyses")
Information is provided for multiple time periods (daily, weekly, monthly, etc.)

Integration

There are precise targets for each activity performed in all departments within the business unit
Information is provided on the impact that business unit decisions have on the performance of all departments within the business unit
Information is provided on the influence of other business unit managers' decisions on the business unit

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CHAPTER SIX

CONCLUSION

The first objective of this study was to contribute to the Performance Management System (PMS) literature by examining the PMS in respect to the two major research streams, the Human Resource Management (HRM) and management accounting streams. For this purpose, the study examined the effectiveness of the PMS from an individual perspective and utilised Ferreira and Otley's (2009) framework, focusing on the impact of the six dimensions (target setting, key performance measures, performance evaluation, reward systems, information characteristics and PMS use) which require ongoing and immediate individual involvement.

In addition, in order to provide a unique insight into PMS effectiveness, the second objective of the study was to assess the effectiveness of PMSs in respect to the achievement of organisational process outcomes. In particular, consistent with prior studies which have followed this approach (Baird et al., 2012; Tung et al., 2011), the study assessed PMS effectiveness in respect to the achievement of Lawler's (2003) sixteen process outcomes which were subsequently categorised into two dimensions, performance-related and staff-related outcomes. The performance-related outcomes (motivating performance, developing individual's skill and knowledge, assisting in the achievement of goals, developing a performance oriented culture, supporting change efforts, implementing the organisational strategy, providing an accurate assessment of business unit performance, ensuring staff commitment to organisational objectives, and ensuring staff time is used efficiently) are those concerned with the effectiveness of the system in influencing performance and driving the right kind of performance behaviour. The staff-related outcomes (providing useful performance feedback to employees, addressing concerns of staff, linking individual performance to

business performance, identifying talented employees, rewarding talented employees, identifying poor performing staff, and managing poor performing staff) involve the ability of the system to differentiate between top talent and performance and poor talent and performance (Lawler, 2003).

Hence, the study contributes to the PMS literature by providing a unique insight into PMSs, capturing both the HRM and management accounting research streams whilst also assessing PMS effectiveness from an alternative perspective, the achievement of process outcomes. Moreover, in employing this approach to assess PMS effectiveness, the study also provided the opportunity to enhance the contingency based literature examining the factors influencing PMS effectiveness. Specifically, the third objective of the study was to examine the impact of the six identified dimensions from Ferreira and Otley's (2009) framework, categorised as PMS characteristics (target setting, performance evaluation, and reward systems) and information system characteristics (key performance measures, specific information characteristics and PMS use), and on the achievement of organisational process outcomes.

The findings indicate that three of the PMS characteristics were found to impact the effectiveness of the PMS in achieving performance-related outcomes, while one PMS characteristic was found to impact the effectiveness of the PMS in achieving staff-related outcomes. Specifically, target setting (short-term focus of targets) and performance evaluation (subjectivity) were associated with the achievement of performance-related outcomes, while reward systems (link to financial rewards and link to non-financial rewards) were associated with the achievement of both performance-related and staff-related outcomes. In addition, specific information characteristics (scope, aggregation, and integration of information), key performance measures (the use of multidimensional performance measures) and PMS use were

found to impact the effectiveness of the PMS in achieving performance-related outcomes, while the integration of information and PMS use were also found to impact the effectiveness of the PMS in achieving staff-related outcomes. Finally, an additional individual related factor, employee empowerment was also associated with the achievement of both performance-related and staff-related outcomes.

The PMS characteristics were also found to play a mediating role in the relationship between the use of multidimensional performance measures and PMS effectiveness, whereby the use of multidimensional performance measures was found to facilitate specific PMS characteristics, which subsequently exhibited an impact on the achievement of process outcomes. In addition, PMS use was found to mediate the relationship between information characteristics and PMS effectiveness, with specific information characteristics facilitating both the diagnostic and interactive use of PMSs, which in turn exhibited a significant positive association with PMS effectiveness. A discussion regarding the nature of these relationships is provided in Section 6.1 with the findings and their implications further discussed in Section 6.2.

Finally, the fourth objective of the study was to contribute to the contingency based literature examining the association between PMS effectiveness with individual work-related attitudes. Specifically, the study was motivated to contribute to the PMS literature by examining the impact of the achievement of process outcomes on job satisfaction and Employee Organisational Commitment (EOC). The results indicate that PMS effectiveness was associated with both work-related attitudes, whereby both performance-related and staff-related outcomes were directly associated with job satisfaction, and performance-related outcomes were directly associated with EOC. While prior PMS literature has examined the influence of specific PMS aspects and characteristics on these work-related attitudes, these findings contribute to the

limited research (Pop-Vasileva et al., 2011) examining the association between PMS process outcomes and work-related attitudes.

The remainder of the chapter is organised as follows. Section 6.1 presents the findings of the thesis. Section 6.2 then discusses the contributions and implications of the thesis, while Section 6.3 outlines the limitations of the thesis and provides suggestions for future research.

6.1 Findings

Utilising the survey method, data was collected from a random sample of 190 senior managers in Australian service organisations (financial and legal). The results indicate that on average the PMSs were moderately effective in achieving both performance-related and staff-related outcomes. The importance of achieving these outcomes is highlighted in Paper One which revealed a significant association between the achievement of organisational process outcomes (i.e. PMS effectiveness) and work-related attitudes. Specifically, the achievement of both performance-related and staff-related outcomes were both found to be directly positively associated with the level of job satisfaction. In addition, the achievement of performance-related outcomes was directly positively associated with the level of EOC, while the achievement of staff-related outcomes was indirectly positively associated with EOC. These findings are in line with prior research highlighting the influence of PMS effectiveness on work-related attitudes (Pop-Vasileva et al. 2011; Nankervis and Compton, 2006; Fletcher and Williams, 1996), and highlight the importance of the functioning of effective processes rather than the mere presence of specific PMS features. Additionally, albeit not hypothesised, the analysis revealed a positive association between the staff-related and the performance-related outcomes, which is a unique finding of the study and highlights the significant role that human

resources play in enhancing organisational effectiveness, whereby the appropriate management of staff assists organisations in creating and enhancing value (Simmons, 2008).

Given the significant influence of the achievement of performance-related and staff-related outcomes on individual work-related attitudes, the study aimed to contribute to the contingency based literature by examining the antecedents of PMS effectiveness. Specifically, Paper Two examined the influence of PMS characteristics and the role of the use of multidimensional performance measures on PMS effectiveness, while Paper Three examined the influence of specific information characteristics (including the use of multidimensional performance measures) and the role of PMS use on PMS effectiveness.

6.1.1 The factors influencing performance-related outcomes

In respect to the achievement of performance-related outcomes, the findings reveal that three PMS characteristics and two information characteristics were directly associated with the achievement of performance-related outcomes. In respect to the PMS characteristics, Paper Two revealed that reward systems (the link of performance to financial and non-financial rewards) and target setting (the focus on short-term targets) were positively associated with the achievement of performance-related outcomes, while performance evaluation (the subjectivity in performance evaluations) was negatively associated with performance-related outcomes. In respect to the information system characteristics, the findings from Paper Three reveal that specific information characteristics (aggregation and integration of information) and PMS use (both diagnostic and interactive) were directly positively associated with the achievement of performance-related outcomes. In addition, employee empowerment was also found to be positively associated with the achievement of performance outcomes. The significant impact of linking performance to rewards is consistent with Lawler (2003) and Bonner et al. (2000)

who emphasised similar benefits of linking performance to incentives, while the findings in respect to employee empowerment support prior literature advocating the benefits of employee empowerment on individual performance-related effects (Biron and Bamberger, 2010; Mathieu et al., 2006).

The Paper Two findings suggest that the use of multidimensional performance measures plays an important role in the achievement of performance-related outcomes. In particular, the use of multidimensional performance measures was found to be associated with the achievement of performance-related process outcomes both directly and indirectly, through the mediating role of three PMS characteristics: target setting (short term focus of targets), performance evaluation (subjectivity) and reward systems (link to non-financial rewards). Such findings align with Tuomela (2005) and Armstrong (2001) who refer to the benefits of multidimensional performance measures in enhancing the understandability of individual contributions and facilitating the monitoring of progress in respect to key strategic success factors. In respect to the indirect influence, the use of multidimensional performance measures exhibited a negative association with the subjectivity in performance evaluations, and positive associations with the link of performance to non-financial rewards and the focus on short-term targets. Hence, while the use of multidimensional performance measures inhibits subjectivity, it facilitates linking performance with financial rewards and the focus on short term targets, thereby facilitating the enhancement of performance-related outcomes.

In addition, Paper Three revealed the mediating role of PMS use (diagnostic and interactive) in enhancing the achievement of performance-related outcomes. In particular, the findings reveal that both diagnostic and interactive PMS use fully mediate the relationship between information scope with the achievement of performance-related outcomes. Furthermore, the

interactive use of PMSs fully mediates the association between the use of multidimensional performance measures with the achievement of performance-related outcomes, while both the diagnostic and interactive PMS use partially mediate the relationship between information integration with the achievement of performance-related outcomes. Such findings align with Grafton et al. (2010) who discussed the merits of multidimensional performance measures and broad information, and provide further empirical insight regarding the role of using broad based information, thereby informing organisations as to how to exploit their capabilities more effectively. The findings also align with Tuomela (2005) regarding the impact of the interactive use on improvements in an organisation's strategic management.

6.1.2 The factors influencing staff-related outcomes

One PMS characteristic (reward systems) and two information system characteristic (specific information characteristics and PMS use) were found to be directly associated with the achievement of staff-related outcomes. In respect to the PMS characteristics, the link of performance to financial rewards and the link of performance to non-financial rewards were directly positively associated with the achievement of staff-related outcomes. In respect to information system characteristics, the findings reveal that information integration and both diagnostic and interactive PMS use had a direct positive association with staff-related outcomes. Additionally, employee empowerment was also found to be positively associated with the achievement of staff-related outcomes.

In addition, while Paper Two revealed that there was no direct association between the use of multidimensional performance measures and the achievement of staff-related outcomes, the findings indicate that the link of performance to non-financial rewards mediated the relationship between the use of multidimensional performance measures and the achievement

of staff-related outcomes. Similarly, the findings from Paper Three reveal that the interactive use of PMSs was found to mediate the relationship between the use of multidimensional performance measures and the achievement of staff-related outcomes. Hence, the use of multidimensional performance measures indirectly influences the achievement of staff-related outcomes through facilitating a greater link of performance to non-financial rewards and the interactive use of PMSs. Additionally, the use of PMSs, both interactively and diagnostically, was found to mediate the relationship between information scope and information integration with the achievement of staff-related outcomes.

6.2 Contributions and implications

While the majority of the PMS literature has assumed that PMS effectiveness directly translates into organisational performance, this study followed Hamilton and Chervany's (1981) approach whereby the PMS is assumed to achieve organisational performance indirectly, through the achievement of organisational process outcomes. Hence, the study provides a more detailed understanding of the finer nuances of the functioning of PMSs, highlighting the need to focus on the achievement of appropriate process outcomes and their antecedents as indirect contributors to organisational performance.

The importance of the achievement of organisational process outcomes is reinforced by the observed empirical findings concerning the impact of the performance-related and staff-related outcomes on individual's job satisfaction and EOC. In particular, the findings revealed that a PMS which succeeds in the process of motivating performance and assists in the development of an individual's skills and knowledge (performance-related outcomes) can support the enhancement of job satisfaction. Accordingly, in order to achieve and maintain high levels of job satisfaction amongst staff, organisations should endeavour to establish programmes and

developmental initiatives for staff which ensure ongoing learning and enhancement of individual skills and knowledge. Furthermore, job satisfaction can be enhanced under a PMS which effectively rewards talented staff and manages poor performing staff appropriately. As such, organisations would benefit from more objective and equitable distribution of merit and the provision of meaningful rewards to staff. In respect to the enhancement of EOC, the findings suggest that organisations should endeavour to ensure that the PMS is effective in motivating and assisting the performance of employees and is able to provide an accurate assessment of business unit performance. Accordingly, in order to achieve and maintain committed staff, managers require a thorough understanding of the alternative approaches that can be used to motivate staff, and should provide appropriate working conditions, information and resources which assist staff in achieving performance targets, and employ objective and transparent mechanisms to determine individual performance.

Such work-related attitudes are integral due to their profound impact on job performance, motivation, staff turnover rates and resistance to change (Hynes, 2012; Schermerhorn et al., 2008; Pool and Pool, 2007; Stallworth, 2004; Meyer et al., 2004). Therefore, whilst acknowledging the common motivation of organisations regarding profitability and success, the study sheds light on the importance of organisational processes in effectively managing the behavioural and attitudinal implications of the PMS regarding the most important capital of the organisation – human capital. Consequently, it is essential that organisations dedicate appropriate levels of investment to improving such processes. In particular, organisations need to understand and manage the contingency factors likely to enhance the functioning and maintenance of organisational processes (i.e. the achievement of performance-related and staff-related outcomes) due to the significant impact they have on the job satisfaction and EOC of organisational members.

Therefore, given the importance of PMS effectiveness in successfully managing individual work-related attitudes, the study further investigated the antecedents of effective organisational process outcomes. The findings indicate that all three PMS characteristics were directly associated with the effectiveness of the PMS in achieving performance-related or staff-related process outcomes. In particular, reward systems (linking performance to financial and non-financial rewards) were found to contribute to the achievement of both performance-related and staff-related outcomes. Hence, in order to contribute to the effectiveness of the PMS in achieving organisational process outcomes, organisations are advised to link financial rewards to individual performance, such as providing financial bonuses, pay increases, share options. Moreover, organisations should also link individual performance to non-financial rewards such as praise, recognition, responsibility, privileges and promotions in order to enhance the effectiveness of PMS process outcomes. The provision of such non-financial rewards may demonstrate a more meaningful and immediate connection between individual contributions and rewards, with employees not solely reliant on financial results for recognition of their efforts.

Moreover, the findings indicate that target setting (short-term focus of targets) and performance evaluation (subjectivity in performance evaluations) were associated with the achievement of performance-related outcomes, although subjectivity exhibited a negative association. Therefore, in order to enhance the effectiveness of the PMS in achieving performance-related outcomes, organisations are advised to emphasise the achievement of short-term objectives as they can serve as guidance for organisational members to understand their individual contributions to long-term objectives. Consequently, the PMS needs to emphasise shorter-term performance targets (monthly and quarterly), programmes, and initiatives to provide appropriate guidance for employees and ensure consistent progress towards the achievement

of long-term strategic goals. Additionally, despite the literature arguing for application of subjective discretion during performance evaluations (Kolehmainen, 2010; Yun et al., 2005; Gibbs et al., 2004), in order to facilitate the achievement of performance-related outcomes, organisations are advised to ensure greater objectivity in the performance evaluation process. The implication here is that management should ensure transparency and clarity in regards to the performance evaluation process and prevent favouritism, ambiguity and bias. Consequently, to ensure greater objectivity in the performance evaluation, organisations should be forthcoming in respect to the performance measures utilised in evaluations, objective and fair regarding the distribution of rewards, and transparent and committed to the equality of the performance evaluation and monitoring process applied to each organisational member.

In addition, employee empowerment was also found to be directly associated with the achievement of both performance-related and staff-related outcomes. Consequently, organisations need to ensure that employees are empowered to participate in decision-making in their areas of responsibility through greater decentralisation and delegation of authority towards lower levels of the organisational hierarchy. Furthermore, the increase in the level of employee structural empowerment and involvement in the organisational planning process is consistent with the need for increased decentralisation and the delegation of decision-making authority to lower levels of management.

In respect to the information system characteristics, three specific information characteristics (scope, aggregation, integration), key performance measures (the use of multidimensional performance measures) and both types of PMS use (diagnostic and interactive) were found to be associated either directly and/or indirectly with the achievement of performance-related or staff-related outcomes. In respect to PMS use, the findings suggest that both the diagnostic and

interactive use of PMSs are pertinent to the achievement of performance-related and staff-related outcomes. Consequently, in line with prior literature (Abernethy and Brownell, 1999; Langfield-Smith, 1999), effective monitoring and control of staff is conducive to the provision of guidance to staff, motivating performance behaviour, and facilitating the management of talented and poor performing staff. Moreover, such outcomes can further be enhanced through facilitating ongoing communication and discussion, and learning and innovation i.e. the interactive use of PMS information. Such findings imply that organisations should commit to investing in systems which not only place emphasis on immediate monitoring and performance, but enable opportunities for staff development and facilitate communication and sharing of knowledge throughout the organisation.

In respect to the specific information characteristics, three factors were found associated with PMS effectiveness either directly or indirectly. The first of these, integrated information was found to be positively associated with the achievement of performance-related and staff-related outcomes, both directly and indirectly, through the mediating role of diagnostic and interactive use. Consequently, organisations should consider the use of more integrated information as it increases PMS effectiveness, specifically performance-related outcomes through influencing performance and driving positive performance behaviour, and the staff-related outcomes through the ability of the system to differentiate between top talent and performance and poor talent and performance. The use of integrated information prevents a myopic view of subunits as isolated components of the organisation and provides managers with enhanced knowledge of the interdependencies and impact of decisions made at different functional or hierarchical levels. The use of integrated information can enhance the diagnostic and interactive PMS use, thus impacting the subsequent effectiveness in achievement of performance-related and staff-related process outcomes.

Secondly, information scope was also found to indirectly impact the achievement of both performance-related and staff-related outcomes through the mediating role of diagnostic and interactive PMS use. Consequently, in order to enhance the effectiveness of PMSs in the achievement of both performance-related and staff-related outcomes, organisations are recommended to use broader scope information to facilitate interactive PMS use, thereby facilitating communication, coordination and debate amongst managers, and superior knowledge regarding the impact of management decisions both internally and across subunits, and externally to the organisation. At the same time, the provision of broader scope information can facilitate the diagnostic use of PMSs, by improving the understanding of performance results, providing a clearer portrayal of future prospects and facilitating corrective action towards the achievement of strategic goals. Therefore, managers should consider using broader scope information to enhance both the diagnostic and interactive use of PMSs, which in turn can facilitate the achievement of performance-related and staff-related outcomes.

Thirdly, the findings suggest that aggregated information directly enhances the process of PMS through improvements in the performance-related outcomes such as the provision of useful performance feedback and assistance in the achievement of goals. Accordingly, the information supplied to management at various organisational levels should be aggregated in accordance with the appropriate levels of authority in order to allow for appropriate time management and attention commensurate with different levels of decision making. Furthermore, the information should be aggregated based on decision models such as what-if or incremental analysis that contribute towards superior management decisions so as to facilitate knowledge of outcomes from alternative courses of action or performance trends over time whilst ensuring the efficient use of managers' time and avoiding information overload.

The findings in respect to these three information characteristics suggest that from a practical perspective, organisations should invest in information systems that enable them to produce and use information that is financial and non-financial, supplied from external and internal sources and that incorporates cross unit effects and dependencies. The information systems should be designed in a way that promotes the exchange of information within and across business units. Further, in order to allow the appropriate information flow across the organisation, clear channels of communication and responsibility need to be established to support the effective use of PMS information for management decisions. Consideration should also be given to providing appropriate training to management accountants regarding the consistency of reporting across the organisation and the treatment of relevant information commensurate with management levels of decision making responsibility.

The use of multidimensional performance measures was also found to be directly associated with performance-related outcomes and indirectly associated with both performance-related and staff-related outcomes, through specific PMS characteristics and PMS use. Hence, the study highlights the role of the use of multidimensional performance measures in shaping and facilitating PMS characteristics, and consequently contributing towards PMS effectiveness. In particular, the findings suggest that the use of multidimensional performance measures facilitates a more objective approach to the performance evaluation process, which in turn contributes to the achievement of performance-related outcomes. Therefore, organisations need to consider using multidimensional performance measures to a greater extent in order to enhance the objectivity in the process of performance evaluation, with such an approach providing staff with greater opportunities for clearer assessment of individual performance in respect to non-financial aspects. Moreover, while the use of a more diverse set of measures may initially be expected to result in greater emphasis on achieving long-term objectives,

especially given many of these measures are aimed towards strategic outcomes, the use of multidimensional performance measures was found to facilitate greater emphasis on the achievement of short-term (monthly and quarterly) goals, which also contributes to the achievement of performance-related outcomes.

The inclusion of multidimensional performance measures also facilitates the process of linking individual performance to non-financial rewards, which subsequently was found to influence the achievement of both performance-related and staff-related outcomes. Hence, it is implied that the existence of multiple financial and non-financial measures enables managers to implement a more systematic, comprehensive and objective approach to monitor performance and distribute non-financial rewards. Consequently, the use of multidimensional performance measures provides greater opportunities for accountability in diverse performance areas, superior understanding of performance expectations and greater opportunities for managing and rewarding individual performance.

Finally the use of multidimensional performance measures is also recommended as it contributes to the interactive use of PMS information through facilitating ongoing communication and dialogue within the organisation, which in turn contributes to the achievement of performance-related and staff-related process outcomes. In particular, multidimensional performance measures can improve clarity in respect to the implementation of the organisational strategy and facilitate organisational learning and change through their impact on the interactive PMS use, thereby enhancing PMS effectiveness.

In conclusion, it is recommended that managers need to incorporate a more diverse set of performance measures, in particular through the inclusion of performance measures relating to

customers, internal business processes, and learning and growth, in addition to financial performance. The existence of multiple financial and non-financial measures is expected to enable managers to implement a more systematic, comprehensive and transparent approach to monitor and reward performance, increase the understandability and the alignment of individual contributions with the overall strategy and facilitate the development of staff, which in turn can contribute to the enhancement of the effectiveness of PMS processes.

6.3 Limitations and suggestions for future research

This study is subject to a number of limitations. First, it is subject to criticisms associated with the use of the survey method, such as limited opportunities for probing questions and control over completion of the questionnaire instrument (Frankfort-Nachmias and Nachmias, 1996). Furthermore, a common limitation of the survey methodology is its restriction in determining causal relationships between variables. Therefore, the results from the current study are considered solely as associations between variables. This study is also potentially subject to common method bias, given that the self-report data obtained on all variables were from the same individuals, senior managers. While the study relies on Harman's (1967) single factor test which suggests that common method bias is not a problem given the total variance explained by a single factor in each study is less than the 50% threshold (Podsakoff et al., 2003), future research could utilise alternative research methods including face-to-face interviews and/or a case study approach to overcome these issues.

Secondly, by adopting Hamilton and Chervany's (1981) approach to assess PMS effectiveness in respect to organisational process outcomes, the study did not incorporate any measures of organisational performance. Accordingly, future studies could examine the association between the achievement of process outcomes with organisational performance (financial or

non-financial). Furthermore, the study only examined the influence of six dimensions from Ferreira and Otley's (2009) framework on the effectiveness of the PMS, and hence future studies could employ interviews and/or the case study approach to examine all twelve dimensions and/or additional factors.

Thirdly, given that only the independent association of the diagnostic and interactive PMS use with the effectiveness of the PMS was assessed, in line with recommendations by previous scholars (Widener, 2007; Henri, 2006a; Tuomela, 2005; Simons, 1994), future research could consider the dynamic tension between the diagnostic and interactive PMS use, and the impact of the potential synergy between these two approaches on PMS effectiveness. Future research could also focus on examining the influence of all four of Simons' (2000) levers of control (including the boundary and beliefs levers) on PMS effectiveness.

Finally, the study focused on senior managers from the financial and legal services industry, and as such the results cannot be generalised to all service industry employees. Accordingly, future research could examine the identified relationships in other service industries, such as hospitality, tourism or medical services. Such analysis would be pertinent given the significant contribution of these industries to the Australian economy. Moreover, future research could consider the influence of control variables (eg. specific demographics, including organisational size) and other spurious variables, which were beyond the scope of this study.

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Performance Management Systems Survey Questionnaire

Any information obtained from this survey will be kept strictly confidential and aggregated information only will be used in results. Individual details will not be identified in any kind of research output.

- 1 What is your gender? ☐ Male ☐ Female
- 2 Please indicate what age bracket you fall in.
☐ Under 25 ☐ 26-35 ☐ 36-45 ☐ 46-55 ☐ Over 55
- 3 What is your specific position within your business unit/team? _____
- 4 How many years have you worked for your organisation? _____
- 5 What is the approximate number of employees in *your business unit/team*? _____
- 6 Which one of the following broad service industry types does your organisation belong to?
☐ Finance ☐ Insurance and superannuation funds
☐ Legal and accounting ☐ Auxiliary finance and insurance services
☐ Other (Please specify:) _____
- 7 What is the approximate number of employees in *your organisation*?
☐ Less than 50 ☐ 50-99 ☐ 100-199 ☐ 200-299 ☐ Over 300
- 8 Please indicate to what extent you agree with the following:

	Strongly Agree				Strongly Disagree
(a) Business unit/team targets are imposed by the Board of Directors and/or senior management level with no input from lower levels	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(b) Human resource, finance and/or control and planning managers are consulted prior to the determination of business unit/team targets.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(c) Individual employees/team members actively contribute to the determination of targets within the business unit/team.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

9

Please indicate the extent to which each of the following performance measures is used to assess your business unit's performance:

Not at all				To a great extent
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- | | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| (a) Sales revenue | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (b) Return on investment | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (c) Improvement in net assets/liabilities | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (d) Customer satisfaction | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (e) On-time service | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (f) Number of new customers/clients | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (g) Hours of training provided | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (h) Improvements made to employee facilities | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (i) Usage of resources | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (j) Productivity | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (k) Quality of service | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (l) Number of new services introduced | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

10

Please indicate which one of the following best describes the performance targets set for your business unit/team? Please circle one of the following responses.

1	2	3	4	5
Easy to achieve	Moderately challenging	Challenging but achievable	Challenging but unlikely to be achieved	Unachievable

11

Please indicate the extent to which your business unit/team emphasises the achievement of:

Not at All				To a great extent
------------	--	--	--	-------------------

- | | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
|--------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| (a) Monthly targets | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (b) Quarterly targets | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (c) Yearly targets | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (d) Three to five year targets | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

12

In your organisation, to what extent is *performance evaluation* linked to:

Objectively

Subjectively

(a) Financial rewards (eg. pay, bonuses)

☐1 ☐2 ☐3 ☐4 ☐5

(b) Non-financial rewards (eg. recognition, promotion more responsibility)

☐1 ☐2 ☐3 ☐4 ☐5

13

To what extent do you believe that each of the following is determined objectively (based on standardized procedures) or subjectively (based on managers' judgement):

Strongly
DisagreeStrongly
Agree

a) Performance targets

☐1 ☐2 ☐3 ☐4 ☐5

(b) Performance evaluations

☐1 ☐2 ☐3 ☐4 ☐5

(c) Rewards

☐1 ☐2 ☐3 ☐4 ☐5

14

Please indicate the extent to which you agree or disagree with the following statements regarding the Performance Management System (PMS) of your organisation:

Not at
AllTo a great
extent

(a) PMSs are used to track progress towards goals and monitor results.

☐1 ☐2 ☐3 ☐4 ☐5

(b) PMSs are used to plan how operations are to be conducted in accordance with the strategic plan.

☐1 ☐2 ☐3 ☐4 ☐5

(c) PMSs are used to review performance.

☐1 ☐2 ☐3 ☐4 ☐5

(d) PMSs are used to identify significant exceptions from expectations and take appropriate actions.

☐1 ☐2 ☐3 ☐4 ☐5

15

Front line workers are defined as employees working at the lowest level of the organisational hierarchy. Please indicate the extent to which you believe that the following applies to front line workers in your business unit.

Not at
allTo a great
extent

(a) They have a high level of collaboration/involvement in decision making.

☐1 ☐2 ☐3 ☐4 ☐5

(b) There are official channels or certain norms or rules to guarantee their participation in the decision making process.

☐1 ☐2 ☐3 ☐4 ☐5

(c) They contribute directly to the decision making process, rather than through intermediaries (eg. superiors).

☐1 ☐2 ☐3 ☐4 ☐5

(d) They have authority/power/ influence to make and implement decisions about tasks.

☐1 ☐2 ☐3 ☐4 ☐5

16

Please indicate the extent to which you agree or disagree with the following statements regarding the tasks in your business unit:

Strongly
Disagree

Strongly
Agree

- | | | | | | |
|---|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| (a) The tasks performed by the majority of employees in my business unit/team are repetitious. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (b) The nature of the work undertaken in my business unit/team is routine. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (c) Employees in our business unit/team have the opportunity to perform a variety of tasks in their jobs. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (d) There is an understandable sequence of steps that can be followed in doing the work of my unit/team. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (e) To do the work of my unit/team, I can rely on established procedures and practices. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (f) The targets set for my business unit/team are clear to me. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

17

Please indicate the extent to which you agree or disagree with the following statements regarding the Performance Management System of your organisation:

Strongly
Disagree

Strongly
Agree

- | | | | | | |
|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| (a) PMSs are often used as a means of identifying strategic uncertainties. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (b) PMSs are often used as a means of developing ongoing action plans. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (c) PMSs are used regularly in scheduled face-to-face meetings between operational and senior managers. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (d) There is a lot of ongoing interaction between operational and senior managers. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (e) PMSs generate information that forms an important and recurring agenda in discussions between operational and senior managers. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| (f) PMSs are used by operational and senior managers to discuss changes that are occurring within the business unit. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

18

Please indicate the extent to which you agree or disagree with the following statements.

Strongly
Disagree

Strongly
Agree

I feel I am being paid a fair amount for the work I do.

☐1 ☐2 ☐3 ☐4 ☐5

I am satisfied with my chances for promotion.

☐1 ☐2 ☐3 ☐4 ☐5

My supervisor/manager shows too little interest in the feelings of subordinates.

☐1 ☐2 ☐3 ☐4 ☐5

The benefits we receive are as good as those offered by most organisations.

☐1 ☐2 ☐3 ☐4 ☐5

I find I have to work harder at my job because of the incompetence of people I work with.

☐1 ☐2 ☐3 ☐4 ☐5

I sometimes feel my job is meaningless.

☐1 ☐2 ☐3 ☐4 ☐5

Communication seems good within this organisation.

☐1 ☐2 ☐3 ☐4 ☐5

When I do a good job, I receive the recognition for it that I should receive.

☐1 ☐2 ☐3 ☐4 ☐5

I have too much to do at work.

☐1 ☐2 ☐3 ☐4 ☐5

19

Please indicate the extent to which you agree or disagree with the following statements:

Strongly
Disagree

Strongly
Agree

(a) I am quite proud to be able to tell people who it is I work for.

☐1 ☐2 ☐3 ☐4 ☐5

(b) I sometimes feel like leaving this employment for good.

☐1 ☐2 ☐3 ☐4 ☐5

(c) I am not willing to put myself out just to help the organisation.

☐1 ☐2 ☐3 ☐4 ☐5

(d) Even if my organisation was not doing well financially, I would be reluctant to change to another employer.

☐1 ☐2 ☐3 ☐4 ☐5

(e) I feel that I am a part of the organisation.

☐1 ☐2 ☐3 ☐4 ☐5

(f) In my work I like to feel I am applying some effort not just for myself but for the organisation as well.

☐1 ☐2 ☐3 ☐4 ☐5

(g) The offer of a small increase in remuneration by another employer would not seriously make me think of changing my job.

☐1 ☐2 ☐3 ☐4 ☐5

(h) I would not advise a close friend to join my organisation.

☐1 ☐2 ☐3 ☐4 ☐5

(i) I am determined to make a contribution for the good of my organisation.

☐1 ☐2 ☐3 ☐4 ☐5

Please indicate the extent to which your business unit's information system (IS) has the following characteristics:

	Not at All				To a great extent
(a) Future-oriented information is provided.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(b) External information is provided.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(c) Non-financial information is provided.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(d) Information is delivered immediately upon request.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(e) Information is supplied to decision makers automatically upon its input into the IS or as soon as processing is completed.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(f) Reports are provided frequently on a systematic, regular basis.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(g) Information is provided for multiple time periods (daily, weekly, monthly, etc).	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(h) Information is provided on the effect of the activities of departments within business units on the performance of the business unit overall.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(i) Information is provided in formats suitable for input into decision models (e.g. discounted cash flow analyses, incremental/marginal analyses, "what-if analyses").	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(j) There are precise targets for each activity performed in all departments within the business unit.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(k) Information is provided on the impact that business unit decisions have on the performance of all departments within the business unit.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(l) Information is provided on the influence of other business unit managers' decisions on the business unit.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

21

Below is a list of perceived outcomes of performance management systems (PMS). Please indicate the extent to which your business unit's PMS assists in achieving each of these outcomes:

	Not at all				To a great extent
(a) Motivating performance	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(b) Developing individual's skill and knowledge	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(c) Assisting in the achievement of goals	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(d) Developing a performance oriented culture	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(e) Supporting change efforts	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(f) Providing useful performance feedback to employees	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(g) Implementing the organizational strategy	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(h) Providing an accurate assessment of business unit performance	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(i) Ensuring staff commitment to organizational objectives.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(j) Addressing the concerns of staff.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(k) Ensuring staff time is used efficiently.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(l) Linking individual performance to business unit performance.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(m) Identifying talented employees.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(n) Rewarding talented employees.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(o) Identifying poor performing staff.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(p) Managing poor performing staff.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Thank you very much for your participation!

Please return your completed survey in the enclosed envelope to:

Aleksandra Pop-Vasileva, Department of Accounting and Corporate Governance, Macquarie University, NSW 2109

Please also return the enclosed postcard separately in the mail. The receipt of the postcard will alert us not to send you a follow up questionnaire.

If you wish to enquire about the survey or if you need any assistance in completing the survey, please contact Aleksandra Pop-Vasileva on 02 9850 4854 or email aleks.pop-vasileva@mq.edu.au

The ethical aspects of this study have been approved by the Macquarie University Human Research Ethics Committee. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Committee through the Director, Research Ethics (telephone 02 9850 7854; email ethics@vc.mq.edu.au). Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

Appendix B – Survey Cover Letter

DEPARTMENT OF ACCOUNTING AND
CORPORATE GOVERNANCE
Faculty of Business and Economics



MACQUARIE
University

Information Form

Name of Project: 'An analysis of the factors influencing the effectiveness of Performance Management Systems and the impact on employee work-related attitudes'.

You are invited to participate in a study of Performance Management Systems (PMSs). The purpose of the study is provide an insight into the effect of different characteristics of the Performance Management System related to individual and organizational performance outcomes on its effectiveness. Furthermore, the study also aims to examine the association between an effective PMS and employee work-related attitudes.

The research is being conducted to meet the requirements for a doctoral degree at Macquarie University under the supervision of Dr. Kevin Baird (Ph. 02 9850 8532, email: kevin.baird@mq.edu.au) and Mr. Bill Blair (Ph. 02 9850 6873, email: bill.blair@mq.edu.au).

If you decide to participate, you will be asked complete the attached survey. You will be assured of complete confidentiality. Please return the enclosed postcard **separately** to the survey. The purpose of the postcard is to alert me that you have returned the survey, thereby avoiding any follow ups. Return of the questionnaire will be regarded as consent to use the information for research purposes. You will not need to access any records to complete the survey, and it should take you no more than 15-20 minutes to complete. Please return the completed survey in the stamped, self-addressed envelope provided.

Any information or personal details gathered in the course of the study are confidential. No individual will be identified in any publication of the results. The researchers directly involved in this research project (as listed above) only will have access to the collected data. A summary of the results of the data can be made available to you on request. If you would like to receive a copy of result of this study, please indicate this on the postcard.

Participation in this study is entirely voluntary: you are not obliged to participate and if you decide to participate, you are free to withdraw at any time without having to give a reason and without consequence.

The ethical aspects of this study have been approved by the Macquarie University Human Research Ethics Committee. If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Committee through the Director, Research Ethics (telephone (02) 9850 7854; email ethics@mq.edu.au). Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.

Thank you in advance for your assistance.

Yours sincerely,

Aleksandra Pop-Vasileva

Appendix C – Final ethics approval



Faculty of Business & Economics
Human Research Ethics Sub Committee
Building E4A, Room 707
MACQUARIE UNIVERSITY NSW 2109

Phone +61 (0)2 9850 4826
Fax +61 (0)2 9850 6140
Email yanru.ouyang@mq.edu.au

23 December 2011

Dr. Kevin Baird
Faculty of Business and Economics
Macquarie University, NSW 2109

Reference: 5201100946(D)

Dear Dr. Kevin Baird

FINAL APPROVAL

Title of project: An analysis of the factors influencing the effectiveness of Performance Management Systems and the impact on employee work-related attitudes.

Thank you for your recent correspondence. Your response has addressed the issues raised by the Faculty of Business & Economics Human Research Ethics Sub Committee, and you may now commence your research. The following personnel are authorised to conduct this research:

Kevin Baird - Chief Investigator/Supervisor
Aleks Pop-Vasileva - Co-Investigator

Please note the following standard requirements of approval:

1. The approval of this project is **conditional** upon your continuing compliance with the *National Statement on Ethical Conduct in Human Research (2007)*.
2. Approval will be for a period of five (5) years subject to the provision of annual reports. **Your first progress report is due on 23 December 2012.**

If you complete the work earlier than you had planned you must submit a Final Report as soon as the work is completed. If the project has been discontinued or not commenced for any reason, you are also required to submit a Final Report on the project.

Progress Reports and Final Reports are available at the following website:
http://www.research.mq.edu.au/researchers/ethics/human_ethics/forms

3. If the project has run for more than five (5) years you cannot renew approval for the project. You will need to complete and submit a Final Report and submit a new application for the project. (The five year limit on renewal of approvals allows the Committee to fully re-review research in an environment where legislation, guidelines and requirements are continually changing, for example, new child protection and privacy laws).
4. Please notify the Committee of any amendment to the project.
5. Please notify the Committee immediately in the event of any adverse effects on participants or of any unforeseen events that might affect continued ethical acceptability of the project.
6. At all times you are responsible for the ethical conduct of your research in accordance with the guidelines established by the University. This information is available at: <http://www.research.mq.edu.au/policy>

Faculty of Business & Economics Human Research Ethics Sub Committee
MACQUARIE UNIVERSITY

http://www.research.mq.edu.au/researchers/ethics/human_ethics

If you will be applying for or have applied for internal or external funding for the above project it is your responsibility to provide Macquarie University's Research Grants Officer with a copy of this letter as soon as possible. The Research Grants Officer will not inform external funding agencies that you have final approval for your project and funds will not be released until the Research Grants Officer has received a copy of this final approval letter.

Yours sincerely

Alan Kilgore
Chair, Faculty of Business and Economics Ethics Sub-Committee

Faculty of Business & Economics Human Research Ethics Sub Committee
MACQUARIE UNIVERSITY

http://www.research.mq.edu.au/researchers/ethics/human_ethics