THE ROLES OF RISK MANAGEMENT CULTURE AND MANAGEMENT CONTROL SYSTEMS IN THE RELATIONSHIP BETWEEN LEADERSHIP AND ORGANIZATIONAL PERFORMANCE: A STUDY OF THE AUSTRALIAN SCHOOL SECTOR

A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy

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March 2017
Declaration

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis/project is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed. I acknowledge the support I have received for my research through the provision of an Australian Government Research Training Program Scholarship.

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18th March 2017
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<tbody>
<tr>
<td>ABS</td>
<td>Australian Bureau of Statistics</td>
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<tr>
<td>AO</td>
<td>Audit Office of New South Wales</td>
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<tr>
<td>ATAR</td>
<td>Australian Tertiary Admission Rank</td>
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<tr>
<td>AVE</td>
<td>Average Variance Extracted</td>
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<tr>
<td>CIMA</td>
<td>Chartered Institute of Management Accountants</td>
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<tr>
<td>COSO</td>
<td>Committee of Sponsoring Organizations of the Treadway Commission</td>
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<tr>
<td>DEC</td>
<td>Department of Education and Communities, New South Wales</td>
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<td>DEEWR</td>
<td>Department of Education, Employment and Workplace Relations, Western Australia</td>
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<td>DET</td>
<td>Department of Education and Training</td>
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<tr>
<td>EFA</td>
<td>Exploratory Factor Analysis</td>
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<td>ERM</td>
<td>Enterprise Risk Management</td>
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<td>FSC</td>
<td>Forest Stewardship Council</td>
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<td>ICSEA</td>
<td>Index of Community Socio-Educational Advantage</td>
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<td>IFAC</td>
<td>International Federation of Accountants</td>
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<td>ISI</td>
<td>Information System Integration</td>
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<td>ISO</td>
<td>International Organization for Standardization</td>
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<td>MCS</td>
<td>Management Control Systems</td>
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<td>ML</td>
<td>Maximum Likelihood</td>
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<td>NAPLAN</td>
<td>National Assessment Program – Literacy and Numeracy</td>
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<td>NPM</td>
<td>New Public Management</td>
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<td>NSW</td>
<td>New South Wales</td>
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<td></td>
<td>X</td>
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<tr>
<td>Abbreviation</td>
<td>Description</td>
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<tr>
<td>NT</td>
<td>Northern Territory</td>
</tr>
<tr>
<td>OECD</td>
<td>Organization for Economic Co-operation and Development</td>
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<tr>
<td>OLS</td>
<td>Ordinary Least Squares</td>
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<td>PLS</td>
<td>Partial Least Squares</td>
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<td>PMS</td>
<td>Performance Measurement Systems</td>
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<td>RM</td>
<td>Risk Management</td>
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<td>SEM</td>
<td>Structural Equation Modelling</td>
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<td>SES</td>
<td>Social-Economic Status</td>
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<td>TAS</td>
<td>Tasmania</td>
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<td>VIC</td>
<td>Victoria</td>
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<td>VRQA</td>
<td>Victorian Registration and Qualifications Authority</td>
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<td>WA</td>
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Abstract

This study addresses the calls made in organization and accounting literature (Abernethy, Bouwens, & Lent, 2010; Scherr & Jensen, 2007; Yukl, 2005) for further investigation into relationships between leadership styles, organizational control mechanisms and organizational outcomes. Its central objective is to understand the mediating roles played by the risk management (RM) culture and the style of management control system (MCS) use in the relationship between leadership styles and organizational performance. The context for this study is the school sector in Australia, where school principals as leaders are facing unprecedented, multi-faceted management challenges (technological and otherwise) with increasing scrutiny over school performance (Pollitt & Bouckaert, 2011). While educational regulatory policies have strongly advocated a more RM-savvy approaches for improving school performance, there is negligible evidence on how school leaders are able to implement and manage such policies and approaches.

The present study draws from two major bodies of literature: (1) research on leadership, which recognizes the important role of leaders in driving organizational performance and that leadership style may differ across individuals; and (2) the MCS literature, including RM concepts, in which control systems are viewed as mechanisms to “assist the organization in managing its risk and to promote effective governance processes” (Krogstad et al., 1999, p. 33), and that such organizational control features may function as mediating factors in the relationship between leadership style and organizational performance.
This study employs both a quantitative-based approach through a questionnaire survey and a qualitative approach that uses post-survey semi-structured interviews. The survey research, using the partial least squares (PLS) technique, tests various hypotheses based on survey responses from 106 secondary school principals in the Australian state of Victoria. Post-survey interviews with 15 school principals, RM officers and leading teachers provide an in-depth understanding of the influence of external environment, the idiosyncrasies of component parts of a school RM system, and the resultant effects of their dynamic interactions on school performance.

The findings of the questionnaire survey show that a transformational leadership style is significantly and positively related to an RM culture that is performance-oriented, and that the greater the extent of performance-oriented RM culture, the higher the academic and the financial (sustainability) performance of the school in question. On the other hand, transactional leadership style is not significantly related with performance-oriented RM culture, and has a negative impact on the use of MCS in an enabling manner. Notably, an enabling use of MCS is not directly associated with a transformational leadership style, but acts as a significant variable mediating the relationship between performance-oriented RM culture and school performance. These results contribute to the management control literature by providing empirical evidence supporting both performance-oriented RM culture and an enabling approach to MCS use as critical mediating variables in the leadership style-organizational performance link.

The findings of the post-survey semi-structured interviews facilitate an in-depth understanding of how school RM contributes to school improvement from a systemic perspective. The findings highlight that the systemic achievement of school
performance is a function of dynamic interactions of multiple component parts of school RM (i.e. performance-oriented RM culture, approach to MCS use, and leadership), in consideration of the influence from external environmental factors (i.e. government RM policy and the difference between public and private school sector). In particular, effective RM for school improvement is composed of operational level RM at a lower level and strategic level RM at a higher level. Each level involves managing the “double face” of risks, as threats and opportunities, by engaging coercive and enabling controls. In this process, school leaders’ own values of risk and their leadership styles also influence and facilitate how RM is implemented in schools. The findings offer important implications for school management practices to render better support for principal leadership training, school governance, and innovation with respect to the much needed school reforms in Australia.
Chapter 1: Introduction

1.1 Introduction

*Improving School Leadership:* ‘The function of school leadership across OECD countries is now increasingly defined by a demanding set of roles which include financial and human resource management and leadership for learning... [thus] the role of principal as conceived for needs of the past is no longer appropriate’ (Pont, Nusche & Hopkins 2008, p. 2).

School performance is a topic of national interest that has direct societal, economic and generational impacts. According to the Reform of the Federation White Paper cab, there are a number of pressures on current school education arrangements in Australia, including increasing costs, declining school outcomes and difficulties in preparing students for moving to the workforce or further study. It is observed that while the cost of schooling has increased in Australia over the 2002-2012 period,¹ student science, numeracy and literacy rankings have declined both internationally and domestically over that time frame (OECD, 2013). The increasing pressure for greater accountability of public resources along with demands to meet budgetary targets, find revenue sources beyond government funds and have adequate short-term and long-term liquidity (Cobbold, 2007, 2009; Harrington, 2011) has drawn widespread attention to Australian school performance.

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¹ In the ten years from 2002-2012, the Australian government’s expenditure on school education has increased at an average rate of 7% per year (ABS 2012). School education is now the third largest area of spending by the government (the Age Pension and hospitals being greater), comprising 8% of GDP and 7% of Commonwealth spending.
In response to these concerns, school reform initiatives such as those proposed in the Gonski Report (2011) have attracted much debate over the definition of school performance (Kenway, 2013). While the Gonski Report (2011) links alleged underfunding to poor school performance outcomes and thus calls for extra funding to improve school performance, others argue that increased public expenditure does not in itself produce more effective schools (Gannicott, 2016). In particular, more recent education studies by scholars like Ranson (2008), Clark, Martorell and Rockoff (2009) and Connolly and James (2011) contend that education policies need to emphasise innovative approaches to governance, accountability and managerial practices in schools. This development is seen as a critical shift away from using socio-economic status (SES) factors, which are generally determined by a school’s geographical location, as a major explanatory factor for variations in school performance (Marks, 2005; OECD, 2002).

However, school performance is a complex, multi-faceted construct which comprises not only students’ learning achievements, but also broader academic outcomes such as student retention, student transition pathways and student and teacher well-being, as well as the financial sustainability of a school. These various aspects of school performance reveal the multitude of strategic, policy, market, reputational, operational, financial, technological, health, security, workforce, regulatory and governance risks that require managing (Starr, 2012) and demand astute leadership and appropriate management structures and controls to enable good, responsible governance (Clark et al., 2009). School managers, especially principals, must now meet globally comparable academic outcomes while also demonstrating governance standards that meet global management practices.
(Carter & Sharp, 2006; Lamb, Rumberger, Jesson, & Teese, 2004b; Notman, 2011, 2015). It is thus arguable that the issue of school leadership style, its influence on risk management and its implications for school performance are central to more innovative curriculum reforms and sustainable resource management (MGSE, 2013; Pont, Nusche, & Hopkins, 2008).

However, a review of the empirical studies on the association between school leadership and school performance uncovers only limited evidence. While some earlier studies (e.g., Cheng 1994; Hallinger & Heck 1998; Van de Grift & Houtveen 1999) have attempted to connect school principals’ leadership with school outcomes, a closer examination of the findings shows that such associations are either weak (e.g., Cheng 1994; Hallinger & Heck 1998) or non-existent (e.g., Creemers 1994; Leitner 1994). Drawing on the broader organizational and management literature on the leadership-organizational performance link (e.g. Garcia-Morales, Llorens-Montes, & Verdu-Jover, 2008; Muijs, 2011; Ogbonna & Harris, 2000; Peterson, Smith, Martorana, & Owens, 2003), further investigation into the mediating roles played by various organizational control variables, such as organizational culture (Ogbonna & Harris, 2000; Zehir, Akyuz, & Turhan, 2013) and related internal governance or control mechanisms (Abernethy et al., 2010; Roberts, 2004; Scherr & Jensen, 2007) is critical for understanding the link between leadership and organizational performance. According to organizational leadership theories (Bass, 1990a; Bolton, Brunnermeier, & Veldkamp, 2008; Hunt & Conger, 1999; Waldman, Ramirez, House, & Puranam, 2001; Waldman & Yammarino, 1999; Yukl, 2005), leaders play a critical role in the acculturation of shared values regarding risks, including the identification and prioritization of
risks, and in choosing the approaches to managing risks, including the utilisation of management control systems (MCS) to achieve organizational goals. Taken from a school performance stand-point, a better understanding of the association between school leaders and their approaches to risks and organizational controls has the potential to inform both practice and policy development. Yet, there has been limited research in this area.

1.1.1 The Present Study

This research study addresses this literature gap by assessing the mediating roles of two key organizational control features – risk management (RM) culture (Collier, 2009) and the approach to MCS use (Adler & Borys 1996) in the association between school principals’ leadership style and school performance in the Australian educational sector. A critical justification for focusing on risk and related organizational management functionalities involves the escalating emphasis on newer governance approaches advocated by various government regulatory and professional associations in that sector (e.g. COSO, 2004; ISO, 2009; DET, 2013; DEC, 2015). Both the ministerial education departments at the state level and the Association of Independent Schools in the various Australian states have emphasised the need for higher quality RM, performance management structures and processes as means to achieve school performance improvement. For example, the Department of Education and Training (DET) in Victoria states that ‘risk management maximizes the ability to deliver on school objectives, promotes sound decision making, works to safeguard child, student and employee wellbeing and contributes to meeting community and Government expectations for accountable and responsible use of public resources’ (DET, 2013). The Governance Guideline
regarding ‘Compliance and Risk Management’ on the website of Independent Schools Victoria notes that ‘it is important to be aware that risk itself is not so much the problem it is the way in which it is managed that is important’ (Compliance and Risk Management, Independent School Victoria 2017). Thus, a systematic evaluation of the role of management controls that support school leaders in the RM process in conjunction with their leadership styles is both highly warranted and timely. This study also examines whether the aforementioned associations differ between public and private schools, driven by inherent differences such as formalization and bureaucratization associated with different ownership structures in the two school sectors (Lamb, Long, & Baldwin, 2004a; Lamb et al., 2004b; OECD, 2012).

In the following section, a brief overview of the Australian school sector is provided, including the RM ethos advocated by evolving school RM policies and societal expectations.

1.2 Background

1.2.1 The Australian School Sector

In 2014, there were a total of 9,389 primary, secondary, combined and special schools in Australia. According to the Australian Bureau of Statistics (ABS), the number of students attending school were 3,645,519 and 3,694,101 in 2013 and 2014 respectively (2014). The school sectors in Australia are quite

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distinct and generally classified into two categories: public schools (also referred to as state or government schools), and private schools (including independent and Catholic schools, also known as non-government schools). In 2014, 6,651 schools (71%) were public and 2,738 (29%) were private; public schools were the major provider of school education in Australia, with 65.1% of students attending them, while 34.9% of students attended private schools (ABS, 2014). As public schools are owned and operated by state and territory governments, they receive most of their funds from the respective state or territory government, with the federal government providing supplementary funding. While private schools also receive funding from the federal, state and territory governments, a significant portion (approximately 40%) of their income is generated from private sources, including student fees and charges, private donations and other income.

The education department in each state or territory leads the delivery of education and development services, both directly through public schools and indirectly through the regulation and funding of early childhood services, private schools and training programs (Bush & Gamage, 2001). With all public schools as part of large centralized systems, the DET oversees school governance by implementing government policy on school education and training, managing public schools and driving improvement in primary and secondary government education (Bush & Gamage 2001). Public school principals, as DET employees, are held accountable for school management, school outcomes and improvement. School principals work with local school councils comprised of the principal, teachers, parents and community representatives that serve as the governing body.

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3 The difference in the proportions of students attending public and private schools and the proportions of public and private schools results from differences in school size.
of each school to formulate and implement broader school policies (Bush & Gamage 2001).

Australian legislation requires private schools to meet the criteria for registration and accreditation requirements established by the relevant state or territory government (Education and Training Reform Act 2006; Education and Training Reform Regulations 2007). For example, the Victorian Registration and Qualifications Authority (VRQA) is the statutory body responsible for the registration and regulation of all Victorian schools, including private schools. Private school registration is reviewed on an ongoing basis (at least once every five years or at any time if required) to ensure that they meet minimum standards and other requirements in relation to staffing, facilities, environment, management, curriculum, reporting requirements and financial capability assessments. Unlike public schools, private schools are managed by their own boards of governors or management committees. Private school principals are thus accountable to their boards for educational programs, including how they relate to schools’ strategic directions and ethos (ISCA, 2017). Despite the lack of government ownership, private schools still operate in the public sector of education and therefore remain subject to the influence of national policy in that (Krueathee, 2011; Smith & Bell, 2011).

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5 The Independent School Council of Australia (ISCA) represents the interests of the independent schools on a nationwide basis, as in relation to Commonwealth funding and representation on national policy-making bodies.
Since the mid-1980s, public sector reforms (known as New Public Management (NPM)) have provided significant impetus for schools to change their attitudes and approaches towards accountability and transparency. NPM reforms were aimed at enhancing public sector organizations’ productivity through the opening of competition, greater privatisation and the enforcement of accountability standards (Barzelay, 2001; Lane, 2000; McLaughlin, Osborne, & Ferlie, 2002), leading to changes in organizational structures, processes, and managerial behaviour (Kapucu, 2006). For example, NPM reforms inspired strong advocacy to change the outlook of schools from their traditional, risk-averse approach to management generally into emphasising that a key benefit of RM is the optimisation of opportunities that must be managed proactively rather than reactively (DET, 2013). This inevitably influenced the shared perceptions of risk and RM practices in schools. In addition, recent years’ rising demands for higher-quality governance, globally comparable academic standards and technological and digital advancements have also spawned new risks and placed further pressures on school RM (Moyle, 2010; OECD, 2013).

1.2.2 RM Ethos in Schools

The recent adoption of the NPM philosophy has continued to drive changes in governance approaches across many government sectors. In education, the push for more contemporary approaches to RM policies remains strong, based on the assumption that improvement in governance and accountability will enhance school performance outcomes (AO, 2002; DEC, 2015; DET, 2013; Pollitt &
Bouckaert, 2011). Many of the RM policies initiated and adopted in the school sector are informed by the enterprise risk management (ERM) framework.\textsuperscript{6}

In Victoria, the RM process outlined by DET typically includes five stages: 1) establish the context (internal and external factors, objectives and appetite for risk), 2) risk identification (describe the risk, find its source and potential consequences), 3) risk analysis (understand the risk and determine its level), 4) risk evaluation (consider risk appetite and determine acceptability) and 5) risk treatment (treat, share, retain or avoid a given risk) (DET, 2013). The five stages are fundamentally based on the ERM framework and adopt an important whole-organization approach to risk, aiming to align RM with other organizational controls and performance (DET, 2013). In Western Australia, the Department of Education, Employment and Workplace Relations (DEEWR) initiated a risk register, RiskActive, based on its ERM framework in 2010. The department uses RiskActive to facilitate the integration of risk plans and organizational business plans and to share knowledge of RM among members of the department. More than 1,500 RM plans were developed for departmental activities within the first three years after the introduction of RiskActive.

A review of the school RM policy of each state and territory highlights an important change in the understanding of risk and RM. Unlike the traditional approach in which risks are seen as threats from which schools should protect

\textsuperscript{6} ERM was originally proposed by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in 2004. ERM includes the methods and processes used by organizations to manage threats and seize opportunities related to the achievement of their objectives. ERM provides a framework for risk management, which typically involves identifying particular events or circumstances relevant to the organization's objectives (threats and opportunities), assessing them in terms of likelihood and magnitude of impact, determining a response strategy, and monitoring progress. By identifying and proactively addressing threats and opportunities, organizations protect and create value for their stakeholders (COSO, 2004).
themselves, this new approach involves viewing risks as opportunities and develop an RM culture that is more risk-seeking (DET, 2013). For example, the ERM framework adopted by the DET in Victoria states that ‘a strong risk culture does not mean a culture of risk aversion. RM maximizes the ability to deliver on school objectives, promotes sound decision making, works to safeguard child, student and employee wellbeing and contributes to meeting community and Government expectations for accountable and responsible use of public resources’, which requires ‘proactive management of risk and opportunities, to improve decisions and outcomes’ (DET, 2013). Similarly, the Department of Education and Communities (DEC) in New South Wales requires all schools to ‘work within an ERM framework to minimize threats and enhance opportunities to help achieve organizational objectives’, recognizing that ‘being risk averse can deprive them (Schools) of opportunities to improve efficiency and effectiveness’ (AO, 2002, p.3). Overall, these RM policies are triggering a new RM culture distinct from the traditional mindset towards risk, a culture that accepts the existence of a relationship between risk and return and looks beyond mere protection from the negative outcomes of risks by emphasizing value creation through identifying and managing opportunities for the improvement of school performance (Masters, 2012).

The focus on establishing a school RM culture emphasizing value creation through managing opportunities is fundamentally consistent with Australian school improvement programs in a number of states, including Victoria, New South Wales, Northern Territory and Tasmania. For example, the Tasmanian Catholic Education Commission (2011) suggests that school improvement processes are expected to respond to the following questions – ‘What are we doing well? What
do we need to improve? How can we bring about improved learning opportunities for our students?’ Similarly, the Northern Territory DET (2011) states that ‘school improvement requires a professional commitment to problem solving, innovation, critical reflection and continuous professional learning. School improvement is reliant on school leadership that engages people at all levels of the organization in the learning process by creating a culture of inquiry which develops new capabilities and revolutionises teaching and learning’. These statements demonstrate that ongoing school improvement is inseparable from establishing a school culture that commits to value-adding beliefs and practices.

It is noteworthy that the contemporary approaches to RM policies specifically emphasize the important role of school leaders – school principals – in taking responsibility of RM for school improvement. In Victoria, school principals are responsible for:

- identifying and managing risks which affect or may impact their responsibilities;
- ensuring that risk strategies and processes are in place;
- promoting the application of RM including providing appropriate RM training;
- aligning resource allocation, decision making and corporate governance with RM;
- monitoring and reviewing identified risks in a systematic and timely manner; and
- ensuring appropriate records of assessed risks are maintained. (DET, 2013)

Victorian school RM policies, meanwhile, suggest that effective RM should be applied to the following areas:

- occupational health and safety RM for staff and students;

- emergency management planning and incident reporting;

- financial management planning, including school council financial audits;

- the School Accountability and Improvement Framework;

- the Department’s Fraud Control Framework and school council governance processes;

- the Education Outdoors planning process; and

- reputation management. (DET, 2013)

These risk areas reflect the increasing importance of RM in fulfilling the school objectives of providing higher-quality education and meeting the accountability standards of the community and government regarding the efficient use of public resources (DET, 2013). They are related to strategic, policy, market, student learning, reputational, operational, financial, asset, technological, health, security, workforce, regulatory and governance uncertainties identified in prior literature (Starr, 2012). The management of these uncertainties surrounding school performance makes RM ‘big business’ in schools today (Starr, 2012, p. 464).
The increasing importance of RM in schools and the RM culture being advocated challenge the role of school leaders in nurturing RM culture and making associated management control choices for improved performance. An OECD report (Pont et al., 2008) asserts that school leadership ‘plays a key role in improving school outcomes by influencing the motivations and capabilities of teachers, as well as the school climate and environment’ (p. 2). However, the various associations among leadership, RM culture, MCS and organizational performance remain unclear in practice and modestly studied in the literature, particularly within the school setting.

1.3 Research Questions

This study aims to address several research questions concerning the role of school leadership in making organizational control choices in adopting RM for improved organizational performance. **First**, the study aims to examine the impact of leadership styles on RM culture, specifically performance-oriented RM culture, as an aspect of organizational culture. Performance-oriented RM culture originates from the work of Beck (1998) and Giddens (1998a), who propose the ‘double face’ of risk: downside risk (risk as threat) and upside risk (risk as opportunity). Both are argued to influence the achievement of the organization’s objectives. Drawing from this extended view of risk, Collier (2009) defines RM culture as the shared values and norms pertaining to risk and RM in the achievement of organizational objectives, which can range from a simple compliance mind-set to a more proactive performance-oriented imperative. Distinct from the compliance mind-set
which sees risk as a threat and relies strongly on codes, standards and rules to manage risks, the performance-oriented imperative perceives risk as an opportunity, focusing organizational risk governance on value creation through making strategic decisions and understanding key drivers of performance and resource utilization through developing a range of best practice tools and techniques (Collier, 2009). While the performance-oriented RM culture is embedded in the RM policy in schools as an important driver of school improvement (AO, 2002; DET, 2013; Pollitt & Bouckaert, 2011), the extant literature provides little insight into how leadership styles can vary systematically with a performance-oriented RM culture, despite the contention in prior organization and management literature that managerial leadership style has an important role to play in the creation of the cultural context (Van De Ven, 1986). Hence, by focusing on two types of leadership styles – transformational and transactional leadership styles – due to their full account of the cognitive, behavioural and interactional explanations for leader-follower relations and outcomes (Leithwood & Jantzi, 1999; Leithwood & Riehl, 2003; Silins, Mulford, & Zarins, 2002), this study examines the role of principals’ leadership styles in influencing the development of a performance-oriented RM culture.

In the school setting, performance-oriented RM culture may also be influenced by the specific school sector (public vs. private) due to the differences in government and non-government ownership of schools (Krueathep, 2011; Ouchi, 2004; Ouchi et al., 2003). Different ownership results in distinctive goals, such as equity and accountability, between public and private schools (Boyne, 2002). In addition, government and non-government ownership indicates different
degrees of formalization and bureaucratization or red tape; the different compliance burdens between public and private schools may influence the risk-related values of public and private school managers (Krueatthep, 2011). Thus, school ownership is also examined in the study to assess its impact on the development of a performance-oriented RM culture in schools.

**Q1. Do leadership styles (transactional versus transformational) and the type of school sector (public versus private) influence a school’s performance-oriented RM culture? If so, to what extent?**

Second, the study aims to examine whether leadership style may influence approaches to MCS use. It is widely agreed in the organization and management literature that leaders’ attributes are key to understanding organizational functioning (Bolton et al., 2008; Diggins, 1997; Ross & Gray, 2006; Silins & Mulford, 2004; Wasserman, Nohria, & Anand, 2001). In the accounting literature, however, there has been limited research examining the impact of leadership styles on the approach to MCS use, although a recent study by Abernethy et al. (2010) examines the relationship between leadership style and interactive use of planning and control systems in the private sector; this lack is especially pronounced in the public sector. While public sector organizations have been challenged to modify their attitudes regarding leadership and management control to cope with new forms of competition, market demands, technological innovations and global economic shifts (OECD, 2001b), there are only a limited number of studies that explore deeply the role of leadership in implementing change in the public sector (e.g. Budiarso & Mir, 2012; Doig & Hargrove, 1990; Fernandez, 2005; Horton, Farnham, & Hondeghem, 2002; Van Wart, 2003). Debate persists as to what and
how specific leadership styles better facilitate the management control processes that contribute to the achievement of organizational performance outcomes in terms of public value (Budiarso & Mir, 2012; Nutt & Backoff, 1993; Oakland & Tanner, 2008). Hence, based on organization literature that argues for the importance of employee autonomy and flexibility in dealing with risks to enhance organizational performance (Roberts, 2004), this study explores Adler and Borys’ (1996) concept of an enabling form of MCS use. The enabling use of MCS is characterized by the four design characteristics of repair, internal transparency, global transparency and flexibility (Adler & Borys, 1996). Prior studies have found that these characteristics do not exist in coercive modes of control that demand compliance with clear rules and regulations; rather, they only appear in enabling a form of control that allows employees to take much greater ownership of their work and gives them the autonomy to determine the best courses of action in uncertain environments (Ahrens & Chapman, 2004). This study thus examines how the behavioural tendencies and personal traits associated with a school leader – in short, a leadership style – are likely to affect the enabling approach to MCS use in driving employee autonomy and flexibility for RM purposes.

Q2. Do leadership styles (transactional versus transformational) and the school sector influence the enabling approach to MCS use? If so, to what extent?

Third, theoretical arguments about and empirical evidence regarding the relation between organizational culture and control in literature (e.g. Henri, 2006b; Sunder, 1997, 2002) provide a basis for investigating the relationship between RM culture and the approach to MCS use. Organizational culture, as a form of informal control (Collier, 2005), may shape formal control structures and procedures
(Collier, 2005; Henri, 2006b; Scott, 1995). For example, Henri (2006b) examines flexibility-dominant versus control-dominant organizational cultures, finding that these cultural types are associated with the use of performance measures in different ways. In line with this thought, as an aspect of organizational culture, RM culture reflects the shared attitudes, values and perceptions of risk in an organization, which may shape the use of control systems to manage risk in that organization’s day-to-day activities.

**Q3. Does a performance-oriented RM culture influence the enabling approach to MCS use? If so, to what extent?**

**Fourth,** the study aims to examine the performance implications of RM culture and approaches to MCS use. While there has been significant attention in the literature around the financial and technical aspects of RM (Crouhy & Galai, 2006; Langfield-Smith, 2008) and its effect in driving organizational performance in the private sector (Dennis, 2005; Rasid, Isa, & Ismail, 2014; Wanjohi & Ombui, 2013), there is scant empirical evidence for the effects of RM on organizational performance in the public sector. McPhee (2005) notes that RM in public sector organizations helps achieve organizational goals and optimise performance, because ‘a key benefit of risk management is the optimisation of opportunities and must be managed proactively rather than reactively’ (p. 3). Yet, whether the proactive management of risks as opportunities does indeed create value for public services stakeholders and result in enhanced organizational performance both remain unclear in empirical studies (Drennan & McConnell, 2007). This study thus examines performance implications at the organizational level through the
adoption of a performance-oriented RM culture and the enabling approach to MCS use in schools.

**Q4. What is the performance implication at the school level (if any) of a performance-oriented RM culture and the enabling approach to MCS use?**

**Conceptual Framework**

The proposed conceptual framework assumes a functionalist approach, which holds that ‘the social world is composed of relatively concrete empirical artefacts and relationships which can be identified, studied and measured through approaches derived from the natural sciences’ (Burrell & Morgan, 1979, p.26). The review of research on leadership in education proposes that the merits of a functionalist approach centre on delivering organizational outcomes through the ‘evaluative’ and ‘instrumental’ ways of knowledge production (Gunter & Ribbins 2003, p. 262). The evaluative method is concerned with ‘measuring the impact of leadership and its effectiveness at micro (individual), meso (network) and macro (systems) levels of interaction’ (Gunter & Ribbins 2003, p. 262). The instrumental way ‘seeks to provide leaders and others with effective strategies and tactics designed to deliver organizational and system level goals’ (Gunter & Ribbins, 2003, p.262). Serving the purpose of ‘delivering change’ in knowledge production (Hartley 2010, p. 275), both the evaluative and instrumental methods serve the functionalist approach adopted in the current study to examine how school leadership and the approach to MCS use contribute to school performance in the RM process.
The research questions are investigated by adopting transactional and transformational leadership theories (Burns, 1978). More specifically, conceptual guidance is derived from the transformational, information processing and traits leadership perspectives (Bass, 1990b; Hanges, Lord, & Dickson, 2000; Leonard, 2003; Stewart, 2006) in the development of several hypotheses linking school principals’ leadership styles, their effects on the two key MCS variables of performance-oriented RM culture and the enabling approach to MCS use, and overall school performance. The conceptual framework of the study is presented in Figure 1.1.

![Conceptual Framework](image)

**Figure 1.1: Conceptual Framework**

In consideration of the RM and MCS literature (e.g., Adler and Borys 1996; Collier 2009; Abernethy et al. 2010), the conceptual framework depicts the mediating effects of performance-oriented RM culture and the enabling approach to MCS use in the overarching relationship between leadership style and organizational performance in the school setting. It is proposed that a principal’s leadership style and the school’s sector each have direct effects on the following two organizational control features: RM culture and the approach to MCS use. The
study further argues that both RM culture and the approach to MCS use in turn have important implications for school performance.

While data are collected using questionnaire surveys to examine the above research questions, to gain an in-depth understanding of the idiosyncrasies and interactions of school leadership, RM culture and approaches to MCS use in schools, post-survey interviews are conducted with school principals and other ‘uncertainty experts’ (Arena, Arnaboldi, & Azzone, 2010, p.662), such as leading teachers and RM officers. A systems perspective, as outlined by Schein’s (2006) organizational model of change dynamics is employed to guide the conceptual analysis. Schein’s model highlights the need, when studying an organizational entity, to recognise multiple component parts of a system, the objectives of a system as a whole and most importantly the interactive nature of these various components in relation to a wider environment. The systems perspective provides a more holistic view and in-depth insights into the dynamics involved in the sense-making of risks in schools, considering the interaction between organizations and external environmental factors (e.g., government RM policy and school sector), its effects on RM processes and the ultimate implications for school performance.

### 1.4 Brief Overview of the Research Design

The study employs a mixed method for data collection, including a questionnaire survey and semi-structured interviews (Bergman, 2008). Prior literature suggests that mixed method designs can overcome biases resulting from using one method only and, when the results of the methods converge or
corroborate one another, can enhance the validity of an enquiry’s findings (Axinn & Pearce, 2006; Caracelli & Green, 1993; Green, Caracelli, & Graham, 1989).

Hypothesis testing is based on a quantitative analysis of data derived from a questionnaire survey, which was developed based on prior literature and distributed to principals of all public and private schools offering secondary education in the state of Victoria, Australia. The survey data are analysed by adopting the partial least squares (PLS) method to test 11 hypotheses based on the conceptual framework outlined above. Following the hypothesis testing for the entire sample, an additional analysis was performed to provide a closer examination of the relationship between latent variables in the public and private school subsamples. Details of the survey design and administration and the methods of statistical analysis are presented in Chapter 4.

In addressing the dynamics surrounding the nature and communication of RM culture by school leaders and their impact on MCS and school performance, a qualitative approach is undertaken based on 15 in-depth interviews with school principals and other uncertainty experts (Arena et al. 2010, p. 662), such as leading teachers, corporate service managers and risk and compliance officers in schools. Guided by Schein’s (2006) organizational model of change dynamics, the interview findings serve the objectives of understanding, specifically, the external factors that may influence the development of RM culture in schools, how risks as threats and opportunities are managed by employing different approaches to management control and leadership styles, and their performance implications for schools. In doing so, the study presents complementary evidence to the survey-based study, which tests the associations between leadership style and school
performance, mediated by performance-oriented RM culture and enabling approach to control. Additional details of the post-survey interview methodology and the interview findings are presented in Chapter 6.

1.5 Expected Contributions

The proposed study is expected to make several potential contributions to theory and practice.

First, the study answers recent calls made by organizational management and accounting researchers (Abernethy et al., 2010; Scherr & Jensen, 2007; Yukl, 2005) for further investigation into the association between leadership style and organizational control choices and their subsequent effects on organizational outcomes. While prior studies have argued for the importance of leadership style to the process of facilitating individual and collective efforts to accomplish shared objectives (e.g., Bolton et al., 2008; Roberts, 2004; Scherr & Jensen, 2007; Yukl, 2005) and examined how leadership style influences the design and use of MCS (e.g. Abernethy et al., 2010; Abernethy & Brownell, 1999; Simons, 1991), few empirically test the indirect relationship between leadership style and organizational performance through the mediating effect of MCS. Therefore, in examining the two key organizational control features, namely RM culture and the approach to MCS use, in mediating the relationship between leadership style and organizational performance, the current study extends prior literature by including the performance implications of leadership control choices. In so doing, it provides additional evidence for the ongoing debate in management accounting literature of
how, when and why leadership matters (Abernethy et al., 2010; Abernethy & Brownell, 1999; Otley & Pierce, 1995; Roberts, 2004; Simons, 1991).

Second, the study contributes to the accounting literature by examining the link between RM culture and the approach to MCS. It addresses calls in a study conducted by Berry et al. (2009) that points out how comparatively few studies examine organizational culture and control, despite the argument that they are closely associated (Dent, 1991; Flamholtz, Das, & Tsui, 1985; Gordon & Miller, 1976). Among the few studies concerning the relations between organizational culture and MCS (Bhimani, 2003; Chia & Koh, 2007; Dent, 1991; Henri, 2006b; O'Connor, 1995), RM culture, as an important dimension of organizational culture, has not been used to explain the approach to control for the achievement of organizational objectives (Soin & Collier, 2013).

Furthermore, this research is one of the few studies to explore Adler and Borys’ (1996) dichotomy of enabling vs. coercive control for dealing with uncertainty (e.g., Ahrens & Chapman, 2004; Chapman, 1998; Free, 2007). Through an exploration of the use of enabling and coercive control in RM for school improvement through a questionnaire survey and semi-structured interviews, the study responds to calls made in Strauss and Tessier’s (2016) editorial paper for further investigation of the links between enabling and coercive bureaucracy to objectives other than financial performance in the private sector. The findings of this study, as mentioned by Srauss and Tessier (2016), allow for an expansion of the conceptual understanding of Adler and Borys’ (1996) enabling and coercive controls in light of contemporary issues; therefore, this study also contributes to the limited number of studies (e.g. Dwyer, Stokes, Tyler, &
Holdsworth, 1998; Perry, 2007; Starr, 2012) in the education literature that examine risk and RM in achieving school objectives.

The third expected contribution of the study is to inform both the RM and accounting literature by taking an extended view of risks as threats and opportunities, which has been called for a long time both in academia (Beck, 1998; Collier, 2009; Giddens, 1998; Collier et al., 2007) and in RM practices (CIMA, 2003; IFAC, 1999). The extended view is important not only because it influences an organization’s RM culture (Collier, 2009), but also because it shapes the ways in which organizations engage in dealing with risks (Collier, Berry, & Burke, 2007; March & Shapira, 1987). However, studies to date in the RM and accounting literature often focus on the downside of risk (e.g. Liu & Meyer, 2012; Miller & Reuer, 1996; Reuer & Leiblein, 2000), where risk is understood as ‘performance below expectations’ (Miller & Reuer, 1996, p. 674). Reuer and Leiblein (2000) further point out that ‘empirical research in the management field documents that decision makers tend to consider risk in terms of negative outcomes or hazards rather than as variance in outcomes’ (p. 203). The lack of research in the area is surprising, given the proposed shift over roughly the last decade from understanding risk as a negative concept or threat to a positive interpretation of managing risk as an integral part of identifying opportunities and generating sustainable shareholder value (IFAC, 1999). By exploring the nature of risk within the school context, this study provides a better understanding of Beck’s (1998) ‘double face of risk’ and Collier et al.’s (2007) performance-oriented RM culture. In this regard, the findings add to prior studies on RM that have largely taken a one-sided approach focusing on risks only (e.g., Liu & Meyer, 2012; Miller &
Reuer, 1996; Reuer & Leiblein, 2000) and explicate what the double face of risk means in the specific organizational setting of schools.

The fourth and final contribution of the study is the implications it offers for public sector management practices by examining RM as drivers of school performance. Recent government RM initiatives for enhanced school performance have emphasized the importance of developing a ‘strong’ RM culture that is more risk-seeking and engaging in controls systems more proactively to manage opportunities (i.e. upside risk) to improve decisions and outcomes (DEC, 2015; DET, 2013). This warrants studies into the role of leadership in influencing schools’ RM culture and use of control and whether schools with a more performance-oriented RM culture and proactive RM and control practices achieve higher performance than those that hold fast to the ‘box-checking’ approach (Power, 2009). The answer to this question will make a clear and valuable contribution towards school management practices specifically, and more broadly to the public sector by examining the performance implications of emerging RM agendas.

1.6 Overview of Thesis

The remainder of this thesis is organized as follows.

Chapter 2 begins by reviewing the two leadership theories pertaining to this study, transactional theory and transformational theory, the two types of leadership styles originating from the theories and the impact of leadership style on organizational performance. This is followed by a review of the literature on
organizational culture – specifically RM culture as a type of organizational culture – and the mainstream MCS literature, for the purposes of introducing the four characteristics of enabling control.

Chapter 3 develops a conceptual framework that integrates the leadership and MCS literature. Drawing from transformational, information processing and traits leadership perspectives and from the empirical findings of previous studies, specific research hypotheses based on the framework are developed.

Chapter 4 outlines the methodology adopted in carrying out the quantitative part of the research. It provides an explanation of the selection criteria, the use of a survey questionnaire and the definition and measurement of the individual constructs. This is followed by a description of the procedures and methods of data analysis.

Chapter 5 reports and discusses key findings from the survey study. The results of the formal hypotheses using the entire sample are presented, followed by an additional analysis to explore the relations of latent variables in the public and private school subsamples in greater depth.

Chapter 6 focuses on the analysis of the data collected from semi-structured interviews. The interviews are expected to obtain evidence to gain an in-depth understanding of the latent variables and the dynamic interactions of their relationships following a systems perspective. The interviews present complementary evidence to the survey-based study.

Chapter 7 concludes the thesis by drawing on the survey results and insights from the semi-structured interviews to summarise the overall findings and
contributions of the study to both literature and practice. This is followed by a summary of the limitations of the study and suggested directions for future research.
Chapter 2: Literature Review

2.1 Introduction

This chapter encompasses a literature review of the two major bodies of literature pertaining to this thesis. The first relates to the leadership style-organizational performance linkage and addresses the taxonomy of leadership theories, associated leadership styles or traits, and their connection with organizational performance. The second pertains to two selected organizational control features that serve as focal variables in this study: RM culture and the approach to MCS use, in consideration of their relations with organizational performance.

Section 2.2 provides an overview of leadership theories prior to the late 1980s and a more detailed discussion of transactional and transformational leadership theories and styles. A further review of how leadership styles are related to organizational performance, especially school performance, is also provided. Section 2.3 introduces the concept of RM culture as a specific dimension of organizational culture and outlines the limited prior empirical research in the area. Section 2.4 provides a review of the mainstream MCS literature as an introduction to Adler and Borys’ (1996) dichotomy of coercive and enabling controls as two approaches to using MCS. Section 2.5 concludes the chapter with a summary.
2.2 Leadership Theory

2.2.1 Transactional Theory and Transformational Theory

Leadership is clearly manifested in all human endeavours, but there was limited academic interest in studying leadership until the early 20th century. One of the earliest definitions of leadership was provided by Barnard (1938), who defined it as ‘the ability of a superior to influence the behaviour of subordinates and persuade them to follow a particular course of action’ (p. 38). Since then, many definitions have appeared in the literature, reflecting researchers’ widely different conceptualisations of leadership. For instance, Stogdill (1948) held that leadership is the process of influencing the activities of an organized group towards goal setting and goal achievement. Etzioni (1961) saw leadership as power that is based predominantly on personal characteristics, usually normative in nature. Fiedler (1967) believed that a leader is the individual in a group who is given the task of directing and coordinating the group’s affairs.

Overall, these definitions indicate that leadership involves 1) taking initiatives to achieve group organizational goals, 2) directing and coordinating the activities of others towards goal achievement, 3) the use of personal attributes or power, and 4) the exercise of influence by the leader on the behaviour of others. More recently, drawing on these dimensions of leadership, Bass (1990a, p.19-20) summarises leadership as ‘an interaction between two or more members of a group, that often involves a structuring or restructuring of the situation and the perceptions and expectations of the members… Leadership occurs when one group member modifies the motivation and competencies of others in the group’.
Given the sheer number of leadership theories that have evolved, some scholars have suggested that leadership style should be based on the needs of a given situation (Kamisan & King, 2013). The main leadership theories include the great man theory, trait theory, behavioural theory, participative leadership theory, situational leadership theory, contingency theory, transactional theory and transformational theory (Bass, 1990a). The great man theory and trait theory operate on the assumption that people are ‘born to lead’; great leaders innately have the necessary characteristics, such as confidence, intelligence, charisma, and courage, which suit them for leadership. Behavioural theory, however, operates on the assumption that great leaders are made rather than born, and that people can learn to become leaders through training and observation. As its name suggests, participative theory regards the ideal leadership style as one in which leaders encourage participation and contributions from group members in decision-making processes, although leaders retain the right to limit others’ input. Contingency theory and situational theory both focus on specific variables that dictate the best leadership style for a particular situation. Prior to the 1980s, most empirical studies employed one of these six theories (Bird, 1940; Davis & Luthans, 1979; Fiedler, 1967, 1978; Jennings, 1960; Stogdill, 1975).

Since the late 1980s, the study of leadership has evolved from the above theories, which address leadership from a single dimension, to more complex, hybrid explanations. Bass (1990a) argues that cognitive, behavioural, and interactional (i.e. leader-follower interaction) explanations are all likely to be required to account fully for leader-follower relations and outcomes. Burns (1978) presents a more comprehensive paradigm that combines transactional theory and
transformational theory, which has become widely influential in the study of leadership.

Also known as the managerial leadership theory, transactional theory bases leadership on a system of rewards and punishments that permits a leader to manipulate followers in exchange for something of value (Bass, 1990b; Tracey & Hinkin, 1998; Yukl, 1989). Based on bureaucratic authority and legitimacy within an organization, transactional leadership focuses on contingent rewards for accomplishing objectives or threats of punishment for poor performance (Bass, 1990b; Tracey & Hinkin, 1994). Further investigation into transactional leadership suggests that in many cases this construct divides the gap between leaders and employees, limiting a leader’s freedom to interact and communicate with employees due to its bureaucratic nature (Bass, 1990b).

By contrast, transformational theory, which is also known as relationship theory, draws on the connections between leaders and followers (Avolio & Bass, 2004; Bass, 1990b; Burns, 1978; Tracey & Hinkin, 1994). Paying less attention to contingent rewards and punishments, transformational leadership focuses more on collaborative efforts between leaders and followers to achieve a common aim. Avolio and Bass (2004) assign four distinct characteristics to transformational leadership: 1) leaders’ ability to use influence and charisma to guide followers to see the importance and higher good of a task; 2) inspirational motivation, or the ability of a leader to inspire followers to buy into the direction and vision set by the leader; 3) intellectual simulation, whereby the leader encourages innovation and creativity among followers and expresses appreciation for new ideas or solutions
that benefit the organization; and 4) individualised consideration, which involves examining each employee’s needs and providing tailored assistance to meet them.

Transactional and transformational theories, unsurprisingly, lead to the identification of two different leadership styles: transactional and transformational leadership (Avolio & Bass, 2004; Bass, 1990b; Moore & Rudd, 2006), which are examined in detail in the next subsection.

2.2.2 Transactional and Transformational Leadership Styles

Leaders can often exercise different leadership styles depending on their decision-making authority, resources and personality (Abernethy et al., 2010; Jansen, 2011; McKenna, 1980; Rothenberg, 2011). The typology of leadership developed by Stogdill (1950) consists of initiating structure and consideration; it dominated leadership research until the late 1970s (Judge, Piccolo, & Ilies, 2004). Subsequently, the alternative typology of transactional and transformational leadership became more prevalent and was used to classify leadership behaviour by organizational researchers (Bass, 1990a, 1990b; Canella & Monroe, 1997; Feinberg, Ostroff, & Burke, 2005; Ross & Gray, 2006; Turner & Muller, 2005), due to their full account of the cognitive, behavioural and interactional explanations for leader-follower relations and outcomes (Leithwood & Jantzi, 1999; Leithwood & Riehl, 2003; Silins, Mulford, & Zarins, 2002). Bass (1990b) argues that these leadership styles are related to employees’ different work-related

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7 Consideration is the extent to which a leader involves others in decision making, considers the opinions of subordinates, and shows concern for subordinates’ well-being. Initiating structure is the extent to which top management structures the work environment by implementing uniform procedures and by defining roles and responsibilities (Stogdill, 1950; Stogdill & Coons, 1957).
needs, with transactional leadership addressing physical needs (e.g., economic needs) and transformational leadership addressing the socio-emotional sphere.

The typology of transactional and transformational leadership is conceptually similar to Stogdill’s typology (1950) of initiating structure and consideration (Abernethy et al., 2010). Transactional leadership maps into the initiating structure style, while the transformational and consideration styles both capture the interpersonal relations between superiors and subordinates. Transactional leadership is based on bureaucracy and organizational standards (Tracey & Hinkin, 1998) and depends on planning and policy (King, 1994; Mink, 1992). It provides subordinates with rewards that meet their physical needs, and there is usually a clear link between performance and rewards (Bass, 1990b). Transactional leadership constrains the choices and actions of subordinates (Barnard, 1938). Hence, except for defining expected performance, providing rewards, and setting constraints, leaders who adopt a transactional leadership style are largely inactive unless severe failures to achieve the expected performance occur (Vera & Crossan, 2004).

In contrast, transformational leadership is more concerned with the socio-emotional needs of subordinates. Through communicating the values, beliefs, and mission of an organization, transformational leadership inspires subordinates’ loyalty to that organization by setting goals interactively so as to motivate and stimulate employees (Bass, 1990b; Turner & Muller, 2005). A strong tendency to develop collegial and trusting relationships with subordinates allows leaders who adopt a transformational leadership style to communicate their preferences informally, seek input from subordinates, and, by offering new ways of looking as
the performance of the organization, stimulate their followers to revise ideas of their own that they may not have previously questioned (Abernethy et al., 2010; Jansen, 2011). Hence, compared with leaders adopting a transactional leadership style who often work within existing structures, leaders with a transformational leadership style often institute innovations (King, 1994) and are risk takers who are ‘consistent rather than arbitrary’ (Bass, 1998, p.6).

It is clear from both the theoretical and empirical literature that an individual can adopt both transactional and transformational leadership styles, though usually at different intensities (Avolio, Bass, & Jung, 1999; Bass, 1990a, 1998; Vera & Crossan, 2004). Recent studies thus treat transactional and transformational leadership styles as two dimensions of leadership behaviour rather than two mutually exclusive approaches (e.g. Jansen, 2011). Bass and Avolio (1990) contend that although leaders with a transformational leadership style can be transactional when appropriate, the converse is less likely to occur. Transformational behaviour is therefore often understood as reflecting higher-order behaviour in a developmental sense (Jansen, 2011).

2.2.3 Leadership Styles and Organizational Performance

Leadership has long been seen as an important factor for the success or failure of an organization (Fiedler, 1996). A direct leadership-organizational performance link can be found in many earlier studies, which feature anecdotal accounts of organizational performance improvement being attributed to changes in leadership (e.g. Hennessey, 1998; Nicholls, 1988; Quick, 1992; Saari, Johnson, McLaughlin, & Zimmerly, 1988). However, a close examination of these studies suggests that most leadership variables are only modestly to weakly related to
organizational performance (e.g. D’Agostino, 2000; Hallinger & Heck, 1998; Van de Grift & Houtveen, 1999); in some studies, no relationships at all were found (e.g. Creemers, 1994; Leitner, 1994).

As a result, in recent years, studies have undertaken a more critical review of assumptions of a direct link between leadership and organizational performance, proposing the influence of mediating factors in the relationship (e.g. Garcia-Morales et al., 2008; Muijs, 2011; Ogbonna & Harris, 2000; Peterson et al., 2003). Ogbonna and Harris (2000), for example, reviewed the nature of the relationship between leadership style and organizational performance and found evidence to suggest that it is mediated by the form of organizational culture, such as competitive, innovative, bureaucratic or communitarian. Peterson et al. (2003) examined how leadership styles affect organizational performance through their impact on top management team dynamics. They found that chief executive officers’ leadership styles significantly influence top management teams’ cohesion, intellectual flexibility and risk taking, which in turn relates to organizational financial performance. Garcia-Morales et al. (2008) studied the effects of transformational leadership on organizational performance, specifically fostering organizational learning and innovation. They found that transformational leadership is positively associated with knowledge slack, absorptive capacity, tacitness, organizational learning and innovation, leading to enhanced organizational performance. The results of these studies indicate that leadership style is not directly linked to performance but is indirectly associated through other mediating variables.
2.2.3.1 School Leadership

In the education literature, school leadership has become a concern for many researchers in recent decades (Larson & Murtadha, 2002; Leithwood, 2001; Leithwood & Jantzi, 1999; Leithwood, Louis, Anderson, & Wahlsttom, 2004; Leithwood & Jantzi, 1990, June; Leithwood & Richl, 2003). While school leadership often involves the collective efforts of the school principal, key teachers and governance support from the board\(^8\) (e.g. Spillance, Halverson, & Diamond, 2001), it is generally agreed that a school’s principal holds the main position in deciding the way a school works (Gkolia & Belias, 2014).

Education studies have seen increasing interest in the school principal’s leadership role in driving school performance. This is due to a number of factors, such as the growth of school-based management, which delegates more powers and responsibilities from the local or national levels to school-level management, including principals. This has consequently elevated the importance of the principal’s leadership role as a key factor for school effectiveness and improvement (Muijs, 2011; Teddlie & Reynolds, 2000). Another critical factor relates to the pressure for transforming the public sector by learning from the private sector in terms of organizational efficiency; broadly speaking, principal leadership is seen as a key element in better organizational performance and competitive advantage within the private sector (Murphy, Elliott, Goldring, & Porter, 2006). These factors have all contributed to the growth in research on school principal leadership.

\(^8\) The view that leadership involves multiple individuals in both formal and informal positions in leading an organization is called the distributed form of leadership (Spillance, 2005)
The findings of studies examining the effects of principal leadership on school performance can be classified into two categories. Earlier studies that sought to examine the direct effects of leadership on school performance often found weak associations (e.g. Cheng, 1994; Hallinger & Heck, 1998; Van de Grift & Houtveen, 1999) or no associations (e.g. Creemers, 1994; Leitner, 1994), whereas other, generally more recent studies that included mediating variables in their data analysis tended to report significant effects, suggesting that leadership impacts on organizational performance depend on other intervening factors to be effective (Creemers & Kyriakides, 2007; Hallinger & Heck, 1996; Leithwood & Jantzi, 1999; Muijs, 2011). Leithwood and Jantzi (1999) point out that ‘because the largest proportion of school leadership effects on students are mediated by school conditions, a significant challenge for leadership research is to identify those intervening conditions and their direct effect on students, and to inquire about the nature and strength of the relationship between them and leadership’ (pp. 454–455). A number of studies have provided supporting evidence to this effect. For example, both D’Agostino (2000) and Teddlie and Stringfield (1993) reported that a principal’s leadership is a key factor in helping create a strong sense of shared mission and vision in a school, which is in turn related to better school performance. Likewise, Leithwood and Jantzi (1999) find transformational leadership impacts on school performance through its effect on school conditions, such as shared goals and purposes, school structure and social networks. Later, Leithwood and Riehl (2003), in a review of quantitative research studies published in refereed academic journals, summarised their findings by noting that ‘leadership

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9 These conditions may include purposes and goals, school structure and social networks, people, and organizational culture (Leithwood & Jantzi 1999).
effects are primarily indirect, and they appear primarily to work through the organizational variable of school mission or goals... While quantitative estimates of effects are not always available, leadership variables seem to explain an important proportion of the school-related variance in student achievement’ (p. 13).

Much of the interest in principal leadership concerns leadership styles that may lead to different performance outcomes (Lumby, 1999). In this regard, the typology of transformational and transactional leadership styles has received substantial attention in the education literature. The transformational leadership style, by appealing to values and long-term goals and thus tapping into employees’ intrinsic motivation (Bass, 1985), is argued to have positive organizational impact through its influence on school conditions, such as purposes and goals, organizational culture and structure (Leithwood and Jantzi 1999). Transactional leadership, which is concerned mainly with financial rewards for extra employee effort (Bass, 1985), is likely to have a stronger economic or material impact. However, transactional leadership is less popular when there is a tendency for a strong moral purpose and commitment among a school’s staff members. In this case, transformational leadership is favoured over transactional leadership in enhancing school performance (Lumby, 1999). In the mind of educators and those who train school leaders, transformational leadership is habitually seen as ‘good’ and transactional leadership as ‘bad’ for performance (Muijs, Harris, Lumby, Morrison, & Sood, 2006). On the other hand, Harris and Chapman (2002) argue that this may not represent the full picture; they believe that all leaders will make
use of transactional leadership to a certain extent, although the converse is not necessarily true.

Determining how different leadership styles may affect organizational performance within a school setting is an important step in organizational leadership research. There is limited research on the many processes that may mediate the relationship between leaders and organizational performance (Peterson et al. 2003). Organizational culture and control, for instance, have been identified as factors that are likely to have an impact on organizational performance and are subject to a leader’s influence (Abernethy et al. 2010; Ogbonna & Harris 2000). The management literature emphasises that the values and norms shared throughout organizations are often learned or absorbed from leaders and role models, who are seen as ‘creating’ and ‘maintaining’ particular types of organizational culture (Bass & Avolio, 1993a; Schein, 1992; Siehl, 1985). Further, organizational culture, as a form of clan control with a pervasive impact on organizational interactions and activities, is supported by and reflected in the manner in which MCS are used to empower employees (Bhimani, 2003; Chatterjee, Lubatkin, Schweiger, & Weber, 1992; Henri, 2006b). However, there is limited research on the characteristics of these factors as mediating variables.

2.3 Organizational Culture

2.3.1 Organizational Culture

Schein offers a commonly cited definition of organizational culture as ‘the basic tacit assumptions about how the world is and ought to be that a group of
people share and that determines their perceptions, thoughts, feelings, and their overt behaviours’ (Schein, 1996, p.11). Due to the multiple phenomena that make up organizational culture (e.g., beliefs, values, attitudes, work styles and relationships), there have been different operationalisations of the concept in research studies (Glick, 1985; Lee & Yu, 2004). For example, Rousseau (1990) proposes that organizational culture encompasses five elements: material artefacts, patterns of behaviour, behavioural norms, values and fundamental assumptions, layered along a continuum of subjectivity and accessibility. Material artefacts and patterns of behaviour refer to physical manifestations and patterns of activity that determine how things are done; behavioural norms comprise common beliefs regarding acceptable and unacceptable behaviour; values are the priorities assigned to certain states or outcomes; and fundamental assumptions are the unconscious elements that are not even directly knowable to members (Trefry, 2006). The last three components form underlying value. Using a similar line of thinking, Paulin et al. (1999) categorise the two levels of organizational culture as visible and invisible, with the former including behaviour patterns, the physical and social environment and the written and spoken language used by a group, and the latter relating to the group’s values or basic assumptions. Besides two broad categories, most researchers define organizational culture at the level of underlying values as the set of common norms and values shared by people in an organization (e.g. Asree, Zain, & Razalli, 2009; Davis, Dibrell, & Janz, 2002; Deshpande & Webster, 1989; Hofstede, 1997; Schein, 1985).

Organizational culture is one of the most important concepts in the fields of management and organizational literature (Davis et al., 2002; Deshpande &
Webster, 1989; Hofstede, 1997; Lee & Yu, 2004; Roh, Hong, & Park, 2008; Rousseau, 1990; Schein, 1985, 1996; Trefry, 2006). Many studies have examined the relationship of organizational culture with strategy (Gallivan & Srite, 2005; Leisen, Lilly, & Winsor, 2002; Roh et al., 2008), with innovation (Cabello-Medina, A., & Valle-Cabrera, 2005; Laursen & Foss, 2003; Valencia, Valle, & Jimenez, 2010), and with organizational effectiveness (Denison & Mishra, 1989; Gregory, Harris, Armenakis, & Shook, 2009; Ji-Young, Young-Hee, & Ruggiero, 2011). These studies suggest that many outcomes can be associated either directly or indirectly with organizational culture. A healthy and robust organizational culture may provide benefits such as improved innovation performance (Valencia et al. 2010), efficient employee performance (Sheridan, 1992), team cohesiveness (Odom, Boxx, & Dunn, 1990; Sanchez & Yurrebaso, 2009), high employee morale (Joshi & Rani, 2013) and strong organizational alignment towards goal achievement (Denison, 1990; Hartnell, Ou, & Kinicki, 2011).

Numerous organizational culture studies focus on the effect of organizational culture on organizational performance, arguing that certain organizational cultures lead to superior organizational performance (Asree et al., 2009; Gordon & Di Tomaso, 1992; Kotter & Heskett, 1992; Lee & Yu, 2004). Many academics and practitioners perceive that organizational culture plays a key role in generating competitive advantage by defining the boundaries of the organization in a way that facilitates individual interaction and/or by holding the scope of information processing to appropriate levels (Krefting & Frost, 1985; Scholz, 1987). In addition, widely shared and strongly held values enable management to minimise the scope of undesired consequences, as they allow management to predict
employee reactions to certain strategic options (Ogbonna, 1993). To retain culture’s link with superior performance, it has also been noted that culture must not only be strong, but must also have unique qualities that are hard to imitate (Collins & Porras, 1997; De Geus, 1997; Denison & Mishra, 1995; Kotter & Heskett, 1992). For example, Kotter and Heskett (1992) find that firms with ‘adaptive values’ achieve superior performance over an extended period of time, not merely a transitory benefit. Collins and Porras (1997) and De Geus (1997) examined long-lived, financially successful companies and supported Kotter and Heskett’s findings (1992). Saffold’s (1988) discussion of cultural traits that are associated with higher performance, which highlights the value of a strong sense of mission in the form of a long-term vision and being adaptable in the sense of being capable of internal change, also resembles Kotter and Heskett’s (1992) views on adaptable culture. The unique qualities of a given organizational culture can make it a powerful source of generating advantage over competitors (Ogbonna & Harris, 2000).

The present study focuses on RM culture as a specific aspect of organizational culture. The rationale for choosing this aspect is provided in the following subsection.

2.3.2 Risk Management Culture as Organizational Culture

2.3.2.1 The Notion of Risk and the ‘Risk Society’

The best-known definition of risk is provided by Frank Knight (1921), who differentiated risk from uncertainty based on the foundation of probability. According to Knight (1921, p. 233), risk is ‘measurable uncertainty’ and
uncertainty is ‘unmeasurable’ uncertainty. Collier et al. (2007) interprets Knight’s
definition as follows: ‘risk was a state of not knowing what future events will happen, but having the ability to estimate the odds, while uncertainty was a state of not knowing the odds’ (p. 6).

In the foundational work of Beck (1998) and Giddens (1998a), who independently developed the concept of a ‘risk society’, risk is perceived as manageable by using systems of control and regulation. It is worth noting that the ‘risk society’ thesis recognises the ‘double face of risk’ (Beck, 1992), which offers both threats and opportunities that can each influence the achievement of the organization’s objectives (Beck, 1992; Giddens, 1998b; Power, 2009). Both Beck (1992) and Giddens (1998b) report that risks are no longer purely negative; indeed, they can also be market opportunities. In line with this thought, Power (2009, p. 850) argues that the risk society thesis presents increased market and productivity opportunities in general, embodying a conception of RM that is ‘positive, entrepreneurial and explicitly in the service of wealth creation’.

The recognition of the double face of risk has influenced the understanding of risk in RM standards; whereas the term ‘threat’ was used in connection with many former RM standards (e.g. COSO, 2004; CSA, 1997; ISO, 1999), risk is now defined as ‘the effect of uncertainty on objectives’, to allow for the probability of both positive and negative consequences (ISO, 2009, p.1). The double face of risk has also had a significant impact on how risk is managed (Collier et al., 2007; Collier, 2009). Managing risk as a threat means seeking to reduce the probability of a negative event without incurring excessive cost. Risk as a threat is the primary concern for those responsible for conformance, who often focus on reducing the
variance between anticipated and actual outcomes. Managing risk as an opportunity means using techniques to maximise gain while minimising the downside. For example, shareholders expect boards to achieve higher returns by being entrepreneurial in taking risks within the accepted risk profile of an organization (Collier et al., 2007; Collier, 2009).

In the next subsection, the study examines how the double face of risks underlies compliance-oriented and performance-oriented RM cultures, the two main examples of RM culture.

**2.3.2.2 Risk Management Culture**

This study is particularly focused on RM culture as an aspect of organizational culture based on the understanding that RM is critical to organizational performance. RM culture refers to the shared values and norms pertaining to risk and how risks ought to be managed in pursuit of organizational objectives (Collier, 2009).

According to Collier et al. (2007) and Collier (2009), RM culture originates in an organization’s understanding of risk, with the underlying shared values about risks tending to relate to the two fundamental approaches to perceiving risks as threats and opportunities. These perceptions are important because of their influence on how organizations may engage in controls systems to deal with risks and what performance outcomes they may help achieve (Collier et al., 2007). In particular, when organizations perceive risk largely as a threat, they become more averse to risk and only a low level of risk is deemed acceptable. By aiming to minimise the probability of a negative event and focusing on reducing the variance
between anticipated and actual outcomes, organizations are likely to set more risk limits when complying with regulatory standards or rating requirements, and use MCS diagnostically as ‘a signifier of potential problems’ (Mikes, 2009) to monitor and measure performance gaps on a constant basis. This will inevitably lead to organizations’ reluctance to change, because change almost always entails some risk and organizations have a low tolerance for flexibility. With the organization’s corporate governance focusing on conformance through, for example, compliance, audit assurance or oversight through an audit committee (CIMA, 2003; Collier, 2009; IFAC, 1999), it creates an RM culture that is more compliance-oriented (Collier, 2009; Collier et al., 2007).

In contrast, when organizations perceive risk as an opportunity, they will use techniques to maximise gains while minimising the probability of negative outcomes (Collier et al., 2007). Risk as opportunity for potential gain assumes that there is a relationship between risk and return. In the private sector, shareholders expect boards to achieve higher returns by being entrepreneurial in taking risks within the accepted risk profile of the organization (Collier et al., 2007; Collier, 2009). In the public sector, proactive management of risk as opportunity maximises the ability to deliver on organization’s objectives, promote sound decision making, and contribute to the accountable and responsible use of public resources (DET, 2013). Compared with organizations that perceive risk more as a threat, those that regard it primarily as an opportunity tend to display relatively lower adherence to standards and rules, focusing more on strategic planning for better use of resources and helping management to understand the key drivers of performance in strategic decision making. Obviously, this approach does not fit
easily with codes, audit and oversight but is the focus of taking risks to enhance stakeholder value (CIMA, 2003; Collier, 2009). As a result, organizational decision making becomes more focused on resource utilisation and value creation, forming an RM culture that is more performance-oriented (Collier, 2009; Collier et al., 2007). A comparison of the two types of RM culture is presented in Table 2.1.
Table 2.1: A comparison of attributes in compliance-oriented and performance-oriented RM cultures.

<table>
<thead>
<tr>
<th>Attributes of RM Culture</th>
<th>Compliance-Oriented RM Culture</th>
<th>Performance-Oriented RM Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Risk Conception</td>
<td>Conception of risk as a threat (i.e. downside risk)</td>
<td>Conception of risk as an opportunity (i.e. upside risk)</td>
</tr>
<tr>
<td>2) Risk Stance</td>
<td>Organization’s RM is designed to protect the organization from threats</td>
<td>Organization’s RM is designed to take advantage of opportunities to create value</td>
</tr>
<tr>
<td>3) Propensity to Risk</td>
<td>Risk-averse</td>
<td>Risk-seeking</td>
</tr>
<tr>
<td>4) Risk Appetite</td>
<td>Low level of risk that is deemed acceptable</td>
<td>High level of risk that is deemed acceptable</td>
</tr>
<tr>
<td>5) Corporate Governance Characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Adherence to Standards and Rules</td>
<td>Strong adherence to standards and rules</td>
<td>Weak adherence to standards and rules</td>
</tr>
<tr>
<td>- Corporate Governance Focus</td>
<td>Minimising risk through assurance from the oversight of board and/or audit committee</td>
<td>Value creation through making strategic decisions, understanding key drivers of performance, and resource utilisation through developing a range of best practice tools and techniques</td>
</tr>
<tr>
<td>- Preference to Adapt to Change</td>
<td>Reluctant to change</td>
<td>Positive towards change</td>
</tr>
<tr>
<td>- Tolerance for Flexibility</td>
<td>Low tolerance for flexibility</td>
<td>High tolerance for flexibility</td>
</tr>
</tbody>
</table>

Collier et al. (2007) noted that managing downside risk in association with compliance and prevention serves as the lower order of RM, whereas managing
upside risk to increase and sustain shareholder value serves as the higher order of RM. While prior studies have shown that organizations with strong performance-oriented cultures that feature traits such as taking risks, internal communication and flexibility, witnessed far better financial growth in the private sector (Nohria, Joyce, & Roberson, 2003), there is little research that examines to what extent risk is perceived as an opportunity for organizations in the public sector, and how this perception influences organizational RM culture, controls and outcomes. In the education sector specifically, the study of RM in schools only has only begun to attract the attention of researchers in the past ten years, with a particular focus on the compliance requirement for registration purposes and conformance with rules and standards to safeguard the safety and well-being of students and staff members in schools (Starr, 2011, 2012). While the management of downside risk serves as a baseline RM in schools, it remains unclear from the education and organizational literature whether a performance-oriented RM culture exists in schools and, if so, whether it is linked to better school outcomes. The present study addresses this literature gap and focuses on upside risk and its management in organizations through the examination of performance-oriented RM culture.

2.3.2.3 Linking Risk Management and Management Control Systems

By framing RM as a corporate governance requirement, a series of codes of practice and regulations (CCG, 1998; COSO, 2004; ICAEW, 1994, 1999) have highlighted the nexus between RM and management controls to be important (Spira & Page, 2003; Woods, 2009). According to the foundational work of Beck (1998) and Giddens (1998a), who developed the concept of the risk society, risks are inherent within an organization at all levels and in various facets, so ‘risk
should be a critical optic in shaping budgeting, planning and strategy processes’ (Power, 2009, p.852), and an organization’s RM should drive the design and use of MCS (Collier & Berry, 2002; Collier et al., 2007). This more sophisticated RM paradigm sees all management controls as being related to RM, financial or non-financial, as are found in many modern business enterprises, in which a risk-based approach to control that is used to assess, mitigate, and monitor risks (e.g. Berry & Collier, 2007). Similarly, Krogstad et al. (1999, p. 33) state that ‘controls do not exist in a vacuum and… controls exist to assist the organization in managing its risk and to promote effective governance processes’. This connection between RM and other control features within an organization necessitates a fuller consideration of the MCS literature, particularly how different RM cultures may influence the approach to other internal controls.

The following section reviews the MCS literature with a particular focus on Adler and Borys’ (1996) treatment of the manner of MCS use, namely enabling and coercive controls as important variables in MCS.

### 2.4 Management Control Systems

#### 2.4.1 Management Control Systems

Management control theory has its roots in systems theory, which holds that organizations are goal-oriented and exercise controls in pursuit of these goals by influencing behaviours in the face of environmental changes (Anthony, 1965). Anthony’s (Anthony, 1965, p.17) widely quoted definition of MCS holds that they constitute ‘the process by which managers assure that resources are obtained and
used effectively and efficiently in the accomplishment of the organization’s objectives’. MCS are a broader category that encompass management accounting systems and other controls such as personal or clan controls (Chenhall, 2007; Collier, 2005). The purpose of MCS is to provide useful information for decision making, planning and evaluation (Merchant & Otley, 2006b). Over the years, the definition of MCS has evolved from focusing on the provision of more formal, financial information to much broader information that includes external, non-financial, and predictive information, along with informal personal and social controls (Chenhall, 2007).

Research in the accounting literature has examined how the design of MCS, which are generally concerned with the configuration of specific controls, such as rules, procedures, routines and mechanisms provide information for decision making (e.g. Abernethy & Guthrie, 1994; Anderson & Young, 1999; Bouwens & Abernethy, 2000; Chenhall & Langfield-Smith, 1998; Chenhall & Morris, 1986; Guilding, 1999; Mia & Chenhall, 1994; Shields, 1995), influence behaviours (e.g. Banker, Potter, & Schroeder, 1993; Brownell, 1982; Chenhall, 1986; Hopwood, 1972; Shields, Deng, & Kato, 2000) and affect organizational outcomes (e.g. Govindarajan, 1984; Mahoney, Jerdee, & Carroll, 1963; Widener, 2007). By comparison, fewer studies exist on the effect of using MCS on organizational performance. In a recommendation for future MCS research, Langfield-Smith (1997, p. 226) suggests that ‘the appropriate orientation for examining controls is their use and importance to key decision-makers’. This suggestion has become the starting point of a literature that examines how MCS can be used to reduce uncertainty while promoting innovation (Bisbe & Otley, 2004; Davila, Foster, &
Li, 2009), facilitating particular strategies as learning devices (Abernethy & Brownell, 1999) and allowing for entrepreneurial activities (Davila, 2005). The literature has explored the interactive use of MCS (e.g. Abernethy & Brownell, 1997; Bisbe & Otley, 2004; Simons, 1995, 2000; Widener, 2007) and, more recently, the use of MCS in enabling bureaucracy (Ahrens & Chapman, 2004).

The most relevant literature that examines the use of MCS for the present study is how MCS can be used to cope with uncertainty, as risk is ‘the effect of uncertainty to organizational objectives’ (ISO, 2009). Chapman authored (1998) an early study that explored the different uses of MCS for coping with uncertain environments. Using four case studies, he found that when uncertainty is low, MCS are engaged as vertical systems in which accounting reports can fully represent organizational functioning, and as such, ‘accounting understandings of the organization could serve as a fundamental part of more general organizational communication’ (1998, p. 739). However, as uncertainty increases, Chapman (1998, p. 739) found that ‘the necessary information as to what actions are required to achieve desirable outcomes, and the possibility of effectively distributing that information through accounting reports are diminished’, so that organizations indeed need to engage MCS as horizontal systems that allow more communication and autonomy amongst employees, because greater uncertainty proves pre-determined expectations, assumptions and standards to be unreliable. The horizontal engagement of MCS was also found to enhance organizational learning through allowing ‘the organization to learn what the changing situation requires and how best to provide it’ (Chapman 1998, p. 739). Chapman’s study provides important implications in that rigid controls are incompatible with a high-
uncertainty environment and eventually detrimental to organizational performance, whereas greater flexibility and autonomy are beneficial for the ongoing determination of appropriate courses of action to facilitate better organizational learning and performance.

In line with this perspective, the more recent study by Ahren and Chapman (2004) continued exploring the different uses of MCS best suited to dealing with uncertainty by adopting the concept of enabling bureaucracy (Adler & Borys, 1996). Enabling bureaucracy, also known as the ‘enabling approach’ to control or ‘enabling control’, focuses specifically on the use of MCS to enable employee autonomy and flexibility (Adler & Borys, 1996). Facilitated by the four design characteristics of repair, internal transparency, global transparency and flexibility, enabling control was found to allow committed employees to do their jobs more effectively and offer managers more flexibility and efficiency in the achievement of organizational objectives (Ahrens & Chapman, 2004). Free examined the use of enabling control in inter-organizational relationships such as buyer-supplier relationships, finding that in inter-organizational relationships ‘enabling uses are amenable to joint problem solving, flexible adaptation, and attempts to expand total category sales and profits’ (2007, p. 898). These results linking enabling control to greater employee autonomy and flexibility indicate that enabling control may play an important role in the process of innovation amid contingencies and identifying and managing opportunities in uncertainties, and thus result in better value creation for stakeholders.
2.4.2. The Enabling Approach to Management Control Systems Use

The dichotomy of enabling and coercive control was first proposed by Adler and Borys (1996). In recognizing that the formalization of control (i.e. the extent of written rules, procedures and instructions governing employee activity) does not always occur in comparable ways, they suggest that there exist ‘good’ and ‘bad’ rules that accordingly provide ‘good’ and ‘bad’ outcomes in relation to employees. When control ‘provides needed guidance and clarifies responsibilities, thereby easing role stress and helping individuals be and feel more effective’, it has positive outcomes in relation to employees; otherwise it may result in negative outcomes and ‘stifles creativity, fosters dissatisfaction and demotivates employees’ (Adler & Borys, 1996, p. 61). Hence, in many cases, specific attributes that characterize different approaches to control need to be considered before positive and negative outcomes can be properly accounted for (Adler and Borys, 1996).

Table 2.2 presents a summary of the two types of formalization of control, enabling control and coercive control, based on the type and degree of formalization in an organization. The table is adapted from Adler and Borys’ (1996) foundational work and shows that an organization’s approach to control may vary from informal to formal and entail a bureaucratic stance that ranges from highly enabling to highly coercive.
Table 2.2: A typology of organizations (adapted from Adler & Borys (1996))

<table>
<thead>
<tr>
<th>Type of Formalization</th>
<th>Enabling Bureaucracy</th>
<th>Organic</th>
<th>Autocratic</th>
<th>Mechanistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autocratic</td>
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</tbody>
</table>

According to Adler and Borys, coercive controls are said to promote an ‘abrogation of individual autonomy’ and are ‘designed to coerce effort and compliance’ (1996, p. 62). Ahrens and Chapman (2004) point out that coercive controls rely on extensive production specifications with a great number of responses to contingencies and thus constrain the actions that employees can take. As a result, these controls ‘force reluctant compliance and extract recalcitrant effort’ (Adler and Borys, 1996, p. 69) and ‘constrain and punish rather than promote and support productive processes’ (Free, 2007, p.900). According to Walton (1985), coercive controls become a substitute for rather than a complement to commitment.
In contrast, the underlying assumption of enabling controls is that work processes neither can nor should be entirely programmable or predetermined. Enabling controls allow employees to work with much more autonomy and flexibility through the encouragement of using employees’ innate intelligence and know-how regarding the work processes with which they are intimately familiar. These controls arouse organizational memory or learning process through which lessons and best-practice procedures from past experience can be captured (Levitt & March, 1988; Walsh & Ungson, 1991). Hoy and Sweetland (2001) suggest that interactive dialogue, fostering trust, learning from mistakes and facilitating problem solving are common enabling organizational features.

Adler and Borys (1996) suggest that control must incorporate a number of characteristics to be enabling: repair, internal transparency, global transparency and flexibility. These features do not exist in coercive modes of control that force compliance with clear rules and regulations, but only appear in enabling control that allows employees to take a much greater ownership of their work and gives them the autonomy to determine the best courses of action in uncertain environments (Ahrens & Chapman 2004).

Repair is the ease and extent to which employees can remedy those parts of their work that malfunction or do not work according to plan. Since not every potential obstacle or contingency can be known in advance, ‘some intellectual work (and consequent freedom) must be left to users to determine the appropriate course of action in such unforeseen circumstances’ (Chapman & Kihn, 2009, p. 155). Hence, unlike coercive control, which views repair activities as opportunistic, enabling control views repair activities as facilitating learning and
growth amongst employees by placing a high degree of trust in workers and strongly encouraging them to seek continual improvement for themselves and the organization (Ahrens & Chapman, 2004).

Internal transparency as a feature of enabling control provides employees with insight into the internal workings of a workflow or production process (Adler & Borys, 1996). As information on the rationale for various work procedures can be easily obtained, employees often find it easy to interact with the internal function of their designated work areas so as to design their work processes creatively and overcome unexpected contingencies. Learning through making best-practice routines visible and growth by providing employees with usable feedback regarding their performance are facilitated. This is not expected in coercive control, in which there is a reduced reliance on skill and an expectation that instructions are to be followed strictly and passively.

Global transparency refers to ‘the intelligibility for employees of the broader system within which they are working’ (Adler & Borys, 1996, p. 73). Giving employees access to broader organizational information, such as an organization’s strategies, objectives and agendas, allows them to relate their local actions to the larger purpose of the organization and understand their roles in it (Chapman & Kihn 2009). This will help employees to ‘interact creatively with the broader organization and environment’ (Adler & Borys, 1996, p. 73) while enabling an appropriate prioritisation of tasks by all employees and units (Ahrens & Chapman, 2004) and lateral coordination (Galbraith, 1973).

Flexibility is associated with employees’ discretion over the use of control systems, which allows them to modify controls depending on work needs and even
ignore them if necessary (Ahrens & Chapman, 2004). In this regard, the main purpose of enabling control is to give advice and make suggestions, whereas power ultimately lies in the hands of the employee to determine the best courses of action. In comparison with coercive control, which provides little flexibility for deviation from rules and perceives any deviation as a threat to the organization’s objectives, enabling control views deviations as leaning opportunities that may lead to new ways of improving the organization’s performance (Ahrens & Chapman, 2004).

2.4.3. The Enabling Approach to Management Control Systems Use and Organizational Outcomes

Adler and Borys (1996) demonstrate how these design characteristics eventuate by examining their use in information technology design, but also suggest that their framework could be fruitfully applied to a wider array of organizational environments than the technology-related workflows on which they focus. This call has been met by a number of scholars in the accounting literature, such as Ahrens and Chapman (2004), Free (2007), Wouters and Wilderom (2008), Chapman and Kihn (2009) and Jordan and Messner (2012).

Through a detailed analysis of a single-case field study, Ahrens & Chapman (2004) show how management pursued the objectives of efficiency and flexibility by using MCS in enabling ways. Their findings suggest that the usability of MCS in terms of repair, internal transparency, global transparency and flexibility can ‘support rather than constrain operational management’ (p. 279), and ‘equip users to deal with emerging contingencies in ways that fit both local and central agendas’ (p. 281). Similarly, Free (2007) examined enabling control in supply chain relationships, reporting that ‘enabling use of management controls seeks to
capitalize on the intelligence of individual managers by giving them the freedom to innovate amid contingencies, unexpected events, and obstacles that might impede the goals, objectives, and productivity of the organization’, and thus ‘supports operational creativity and shapes innovation efforts by providing agents with a wide range of information to aid them in interacting creatively with processes and the organizational environment’ (p. 901). Both studies indicate that enabling use of MCS drives employee efficiency and effectiveness by offering employees more flexibility and autonomy to manage uncertainty in the achievement of organizational objectives.

Wouters and Wilderom (2008) and Jordan and Messner (2012) focus on the variability in how controls are perceived as enabling by employees. Wouters and Wilderom (2008) examined the development process that resulted in performance measurement systems’ (PMS) being perceived by employees as enabling their work. By undertaking a mixed methods approach involving a three-year longitudinal study with quantitative survey data and qualitative interview data from the logistics department of a beverage manufacturing company, they found that a development process that built on existing performance measurement experience of employees and allowed experimentation with specific performance measures contribute to employee perception that the nature of PMS was enabling. A more recent study by Jordan and Messner (2012) also explored employee perception of control by showing that leaders can influence lower-level managers’ perception of enabling or coercive use of MCS through the way in which the leaders communicate the role and relevance of performance indicators. Based on a longitudinal field study in a manufacturing organization, Jordan and Messner
(2012) found that top managers’ sense giving will translate into lower managers’ perception of the control systems as being coercive rather than enabling, because top managers signal an increased importance of the indicators. In showing that leaders can influence the way in which organizational actors make sense of the organization and its future by adopting a ‘sense-giving mode’ (Jordan & Messner, 2012), the study provides an important implication of the role leadership may play in influencing the approach to control systems use.

While the above studies examine enabling control by drawing evidence largely from field studies, Chapman and Kihn (2009) empirically link enabling use of MCS to organizational performance in the case of information system integration. The study predicts that information and communication technologies do not represent a source of competitive advantage since they are easily replicable; instead, information system architecture that supports an enabling approach to management control would constitute a management competence, which is difficult to imitate but leads to enhanced performance (Chapman & Kihn, 2009). This is because ‘an enabling approach to control might significantly reduce forms of resistance and other disruptive activity generated through a more coercive approach to control, learning to work together, to develop a joint understanding of the bounds within which local discretion is meant to be exercised, and working to meet and develop objectives flexibly’, which together ‘represent a complex social achievement’ (Chapman & Kihn, 2009, p. 157). Through cross-sectional survey data collected from 169 Finnish managers, Chapman and Kihn (2009) provide evidence to support that the design characteristics of enabling control are positively related to enhanced business unit performance from the financial, market and
social perspectives. In particular, they find that, except internal transparency, all aspects of enabling control contribute to various elements of business unit performance. While developing the implications of enabling control in the context of MCS, these findings suggest the potential of the framework to inform future questionnaire-based research that examines the enabling use of MCS.

Twenty years after Adler and Borys’ (1996) foundational work about enabling bureaucracy, and especially after its importation to accounting research by Ahrens and Chapman (2004), enabling control has allowed accounting and control researchers to offer many insights into the organizing of formal bureaucracies. However, there are still some avenues of research that have not yet been explored. Strauss and Tessier (2016), in their editorial call for further investigation of Adler and Borys’ (1996) framework, suggest the need for studies that link enabling bureaucracy to objectives other than financial performance (e.g., sustainability), as well as a consideration of factors (e.g., individual and organizational conditions) that may affect the type of bureaucracy used by organizations. As Strauss and Tessier (2016) note, this will allow an expansion of the conceptual understanding of the framework in light of contemporary issues.

2.5 Chapter Summary

This chapter has reviewed the literature concerning the relationship between leadership style and organizational performance. The review indicates that important mediators may exist in the indirect relationship between leadership style and organizational performance, including organizational culture (Ogbonna & Harris, 2000) and MCS (Abernethy et al., 2010). Drawing on this insight, the
chapter further reviews both conceptual and empirical studies drawn from the organizational culture and MCS literature, with specific focus on their relevance to RM in organizations.

The next chapter develops a conceptual framework that integrates the leadership, RM culture, and enabling control literature. Hypotheses are generated based on that framework.
Chapter 3: Development of Hypotheses

3.1 Introduction

This chapter provides an overview of the conceptual framework of the study and a discussion of the development of its hypotheses. Insights from the functionalist approach to transactional and transformational leadership theories, along with empirical findings of prior studies, are drawn upon in the development of the hypotheses.

The remainder of the chapter is structured as follows. Section 3.2 provides an overview of the conceptual framework and its constructs. Section 3.3, based on the research questions outlined in Chapter 1 and the conceptual framework, develops a set of hypotheses to examine i) the effect of school principals’ leadership styles on organizational RM culture and the approach to MCS use; ii) the relationship between organizational RM culture and the approach to MCS use; and iii) the effect of organizational RM culture and the approach to MCS use on school academic and financial (sustainability) performance. Finally, Section 3.4 concludes the chapter with a brief summary.

3.2 Conceptual Framework

Figure 3.1 illustrates the conceptual framework of this study, in which school performance is seen as a function of the leadership styles adopted by school principals, school sector (i.e. private versus public) and two facets of an entity’s
MCS, namely performance-oriented RM culture and an enabling approach to MCS use.

The proposed conceptual framework undertakes a functionalist approach, within a social science context, that assumes that ‘the social world is composed of relatively concrete empirical artefacts and relationships which can be identified, studied and measured through approaches derived from the natural sciences’ (Burrell & Morgan, 1979, p.26). Gunter and Ribbins (2003), Ribbins (2006) and Hartley (2010), in reviewing the research on leadership in education, all propose that the merits of a functionalist approach delivers organizational outcomes through evaluative and instrumental ways of knowledge production (Gunter & Ribbins, 2003, p. 262). More specifically, the evaluative approach is concerned with measuring ‘the impact of leadership and its effectiveness at micro (individual), meso (network) and macro (systems) levels of interaction’ (Gunter & Ribbins 2003, p. 262). Hannah and Lester (2009) explain that the process of organizational learning is best affected when leadership ‘1) foster[s] follower developmental readiness at the individual level (i.e. micro level) and promote their learning through engagement in developmental experiences, 2) facilitate effective knowledge networks (i.e. meso level) for these key knowledge catalysts to operate within and between, and 3) scan, sanction, and institutionalize critical emergent knowledge at the systems level (i.e. macro level) using both leadership and management practices’ (p. 45). Hannah and Lester (2009) hold that while individuals are the fulcrum of organizational learning, achieving organizational learning requires the creation and diffusion of knowledge by leaders’ setting the conditions and building the structures. Hence, shaping organizational learning to
achieve desired outcomes in education is an integrated process of leadership itself and the management choices made by leaders (Gunter & Ribbins, 2003).

By contrast, the instrumental method ‘seeks to provide leaders and others with effective strategies and tactics designed to deliver organizational and system level goals’ (Gunter & Ribbins, 2003, p.262). Gunter and Ribbins (2003) argue that the instrumental method is ‘a synthesis of “interesting” findings usually combined into a convincing strategy for enabling change to happen… it is intended that this type of work will support evidence-informed practice where practitioners have access to what works, and so can make the right decisions regarding how to teach and facilitate learning’ (p. 266). This allows school practitioners to change efficiently and effectively their practice and understand what choices to make, what to accept and what to discount and what to retain and what to forget. The instrumental approach is thus more about informing practice conceptually where possible and cannot witness intellectual work, in which practice is and is not immediate and where context does and does not shape outcomes (Gunter, 2001). Focusing on ‘particular types of doing’ (i.e. the instrumental purpose rather than the conceptual purpose) (Gutter & Ribbins. 2003 p. 263), both the evaluative and instrumental methods serve the functionalist approach, adopted in the current study, to assess how school leadership and the approach to MCS use contribute to school performance in the RM process.

However, research undertaking a functionalist approach on school performance remains scant, which limits a more generalised evaluation of the impact of organizational and individual characteristics on school outcomes. For instance, Hartley (2010) suggests that more educational studies have taken the
interpretivist approach\textsuperscript{10} to studying leadership in schools, and that ‘few studies have generated the “scientific” instrumental knowledge which would place them within the paradigm of functionalism’ (p. 271). Only a limited number of studies have sought to adopt the functionalist approach and generate knowledge about what ‘make schools more effective’ (Hartley 2010, p. 274).

Moreover, given that past studies have not identified a clear and consistent relationship between leadership and school outcomes within different school sectors, the use of a functionalist approach appears suitable for generating more comparable knowledge on the significance of the role played by mediating variables related to the nexus between leadership and school performance.

\textsuperscript{10} The interpretivist approach is orientated towards obtaining an understanding of the subjectively created social world ‘as it is’ in terms of an ongoing process (Burrell & Morgan 1979, p. 31). In the education literature, the approach has focused largely on the understanding of meanings of leaders, leading and leadership as well as understanding the experiences of those who are leaders and those who are led (Gunter & Ribbins 2003).
For the purposes of this study, school performance focuses on two distinct dimensions – academic and financial (sustainability) performance – that reflect the broadening expectations on evolving societal and regulatory developments in the education sector (OECD, 2013). The underlying theoretical premise for the conceptual framework is drawn from several streams of research, including the leadership literature (e.g. Abernethy et al., 2010; Avolio & Bass, 2004; Bass & Avolio, 1990; Jansen, 2011; Moore & Rudd, 2006; Rothenberg, 2011; Tracey & Hinkin, 1998) including organizational psychology (e.g. Augustyniak, 2014; Shriberg, Satchwell, McArdle, & James, 2010; Vecchio, Justin, & Pearce, 2008), MCS studies (e.g. Ahrens & Chapman, 2004), and literature concerning public and private sector differences. More specifically, conceptual guidance is derived from the transformational, information processing and traits leadership perspectives (Bass & Avolio, 1990; Hanges et al., 2000; Leonard, 2003; Stewart, 2006) in the development of several hypotheses linking school principals’ leadership styles and their approaches to or effects on two key MCS variables: a performance-oriented RM culture and an enabling approach to MCS use. The conceptual framework also proposes school sector, defined as whether a school is privately or publicly owned, as an independent variable that shapes the level of performance-oriented RM culture and the extent of the enabling approach to MCS use. Subsequently, the extent of performance-oriented RM culture and the use of an enabling approach to MCS are hypothesised to affect school performance, both in terms of academic and financial (sustainability) performance.

The first body of literature that helps inform hypothesis development relates to the vast literature on leadership theories, which aim to explain how leaders, their
personal attributes, behaviours and selection of work practices may influence particular organizational outcomes. There are multiple theoretical perspectives on leadership and its implications for organizations (Canella & Monroe, 1997; Fiedler, 1996; Peterson et al., 2003), including eight major schools of thought as identified by Antonakis, Cianciolo and Sternberg (2004): behavioural, contingency, sceptic, contextual (situational), relational, trait, information processing and transformational (Augustyniak, 2014). This study will draw largely on three leadership perspectives for predicting and understanding how leadership styles of school principals may affect school outcomes: the transformational, traits and information processing perspectives.

The traits leadership perspective seeks to identify and contextualize personal attributes that distinguish leaders from non-leaders (Bono & Judge, 2004; Foti & Hauenstein, 2007). Contemporary views of the traits leadership perspective recognizes that ‘individual differences are both general and enduring but also shaped by an individual’s setting, developmental status, and experience’ (Augustyniak 2014, p. 19). Some trait attributes, such as cognitive abilities, dispositions, and motives, are seen as distal attributes because they are relatively fixed and exhibit cross-situational contributions to leader success (Bass & Avolio, 1990; Yukl, 2005; Zaccaro, Kemp, & Bader, 2004). In contrast, other trait attributes like social capabilities, technical skills, professional expertise and tacit knowledge are recognized as ‘proximal’ attributes because ‘they are more malleable and their influence on leader performance is more constrained by

11 Cognitive capacity includes general intelligence, cognitive complexity and creativity. Dispositional attributes are adaptability, ethical imperatives, extraversion, openness and risk tolerance. Motives involve relevance of ethical standards and a tempered drive for achievement, power and social acceptance (Augustyniak 2014).
environmental demands’ (Augustyniak 2014, p. 20). In the nexus of theoretical models of leadership, Antonakis et al. (2004) posit that both the distal and proximal attributes contribute to the flexibility of a leader’s behavioural response to challenges and form the foundations of the other two perspectives, information processing and transformational.

The information processing perspective of leadership proposes that trait attributes alone are insufficient for reaching one’s leadership potential; effective leadership behaviours are inseparable from a leader’s ‘accurate perceptions of one’s strengths and weaknesses, appreciation of situational conditions, and clarity of goals’ (Augustyniak 2014, p. 21). These situational perceptions are generally addressed as cognitive schemata that guide the behaviour of the leader (Brown, Scott, & Lewis, 2004). Goodwin, Wofford and Boyd (2000) find that leaders’ beliefs about their followers influence the type of cognitions that leaders access in fulfilling their roles. Leaders’ positive beliefs, such as the view that their followers are capable, self-reliant, innovative and trustworthy result in leaders who are more likely to endorse vision-oriented transformational cognition, whereas negative beliefs, such as those that view followers as seeking reward, ineffective or idle, result in leaders who are more likely to subscribe to transactional cognitions in envisioning their roles (Augustyniak, 2014; Goodwin et al., 2000). The ways that MCS are used in managing subordinates represent the cognitions subscribed to by leaders (Augustyniak, 2014). In this regard, the information processing perspective guides the development of hypotheses relating to the manner in which MCS mechanisms are used by leaders to achieve their strategic planning and objectives.
Finally, the transformational leadership literature (e.g., Avolio & Bass, 2004; Bass, 1985, 1990b; Leithwood & Jantzi, 2006; Tracey & Hinkin, 1998) focuses on the connections formed between leaders and followers, suggesting that leaders tend to shape values and beliefs to achieve organizational outcomes. As discussed in Chapter 2, the paradigms of transformational leadership and transactional leadership (Bass, 1985) are often compared as two key leadership styles. Bass (1985, 1990b) describes transactional leadership as emphasizing short-term goals and task management (i.e. getting the day’s work done) and transformational leadership as emphasizing change in an organization through the use of empowerment, visioning and ethics. Most importantly, transformational leadership is found to stress the importance of value sharing in organizations while fundamentally targeting growth in the motivation and capacity of followers to attain organizational goals (Leithwood & Jantzi, 2006). Shriberg et al. (2010) review the transformational leader models and argue for a congruence among the trait, information processing and transformational perspectives of leadership. Augustyniak (2014) explains this congruence in the school setting as occurring when ‘school leaders equally reflect on and invest in their organization and its members as they do in themselves’, ‘they understand their own strengths and weaknesses in relation to organizational goals and then set goals for self-development’ and ‘moreover, they duly consider the emotional, motivational, and professional needs of others in endeavours of collaborative change’ (p. 22). Augustyniak’s (2014) study thus concludes that transformational leadership represents the paramount level of leader behaviours in shaping the shared values of organizations when seeking organizational improvement.
The second body of research revolves around MCS studies. The conceptual framework for this study closely reflects the predominant approach undertaken by many management control researchers, who propose that MCS mechanisms are critical mediating variables in organizational performance dynamics. MCS features such as planning and control mechanisms can be affected by various antecedent variables such as uncertainty, information asymmetry and prior performance (Shields & Shields, 1998; Shields et al., 2000; Van der Stede, 2000), and such controls can in turn affect the achievement of organizational objectives (Abernethy et al., 2010; Bass, 1990b; Waldman et al., 2001; Waldman & Yammarino, 1999; Yukl, 2005). Further, past studies have also developed and studied MCS characteristics in various forms, including more subjective forms like shared belief systems (Ahrens & Mollona, 2007; Henri, 2006b; Simons, 1994, 2000; Widener, 2007) and the enabling or coercive manners in which MCS can be used (Adler & Borys, 1996; Ahrens & Chapman, 2004; Chapman, 1998; Chapman & Kihn, 2009; Free, 2007).

Schein (1996) noted that ‘leaders and executives… are concerned about shared values and beliefs because they are dealing with thousands rather than a few immediate subordinates, and it is their ability to organize thousands that creates some of the most effective organizations we have seen’ (pp. 233–234). This highlights the importance of organizational culture (i.e. shared values and beliefs) as an informal control (Auzair & Langfield-Smith, 2005; Collier, 2005; Dekker, 2004; Henri, 2006b). Chenhall (2003), in a review of recent MCS studies, concludes that MCS includes both formal control mechanisms like planning procedures, performance monitoring and reward systems and informal control.
mechanisms, such as organizational cultures and systems influencing members. A few recent studies have focused particularly on the notion of trust as an informal control between collaborating parties (e.g. Cooper & Slagmulder, 2004; Langfield-Smith & Smith, 2003; Van der Meer-Kooistra & Vosselman, 2000) and inter-organizational networks (Håkansson & Lind, 2004). Yet, Berry et al. (2009) find that there are relatively few studies examining organizational culture as informal control, with exceptions such as Collier (2005), Henri (2006b) and Ahrens and Mollona (2007). In an entrepreneurial organization, Collier (2005) indicates that informal controls such as group norms, socialisation and organizational culture are even more important than formal controls. Hence, the present study focuses on a dimension of organizational culture, specifically RM culture as informal control. It examines the extent to which the RM culture in a school is performance-oriented and captures the extent to which organizations perceive risk as opportunity and engage in RM to create value.

Leaders’ approach to the use of formal controls such as planning, budgeting and performance management systems as a means to influence employee behaviour is another issue of interest in the present study. Earlier research such as Chapman’s (1998) work finds that rigid controls are incompatible with a high-uncertainty environment and eventually detrimental to organizational performance, whereas greater flexibility and autonomy are beneficial for an ongoing determination of appropriate courses of actions to facilitate better organizational learning and performance. Hence, drawing on Adler and Borys’ (1996) concept of enabling bureaucracy, the present study focuses on the extent of MCS as an enabling approach to management control, which is seen in its four design
characteristics of repair, internal transparency, global transparency and flexibility. These characteristics are expected to be associated with employee autonomy and flexibility in dealing with risk in the workplace.

The third and final body of research that helps inform hypothesis development relates to the idea that the public and private sectors are very different, which has been a cornerstone of organization theory for many decades. Perry and Rainey (Perry & Rainey, 1988) illustrate this fact by recalling the etymological distinction between the two terms. The Latin *publicus* means pertaining to the people, while *privatus* literally means set apart. In the school setting, school sector has been traditionally classified as public or private, based on government and non-government ownership. The ownership difference has three effects on public and private schools: 1) sources of financial support, 2) formalization and bureaucratization and 3) student intake and school climate (Lamb et al., 2004a; Lamb et al., 2004b; NCES, 1997; OECD, 2012). Prior literature finds that these differences may result in different behaviours of public and private managers due to serving distinct goals (Boyne, 2002; Georgia Tech & Georgia Tech, 1998; Smith & Bell, 2011; Smylie, 1996) and different degrees of formalization and bureaucratization (Lamb et al., 2004a, 2004b; OECD, 2012). Similarly, these differences may also result in public and private schools having a wide variation of RM practices. Other than the minimum standards in relation to staffing, facilities, environment, management and financial capability assessments to ensure staff and student wellbeing that must be met by both sectors (VRQA – *Guidelines to the Minimum Standards and Other Requirements for Registration of Schools Including Those Offering Senior Secondary Courses*), the advance and
flexibility in adopting international RM standards (such as ERM) by many private schools distinguishes them from public schools in managing a greater variety of risks and opportunities. To date, however, most of the studies in this field focus on specific variables that differentiate the two sectors (Nutt & Backoff, 1993; Perry & Rainey, 1988; Ring & Perry, 1985; Scott & Falcone, 1998), but very few have tried to describe the sectors from a global, integrated perspective (Boyne, 2002; Perry & Rainey, 1988; Rainey & Bozeman, 2000). Therefore, hypotheses are developed that propose that the extent of performance-oriented RM culture and enabling approach to MCS use are likely to differ between public and private schools.

3.3 Development of Hypotheses

3.3.1 Performance-Oriented Risk Management Culture

Prior studies examining organizational culture have found various antecedents, such as the influence of the values of founders and organizational leaders (e.g. Schein, 1992, 2006, 2010), the industry (e.g. Chatman & Jehn, 1994; Drennan, 1992), and national or societal cultures (e.g. Jung, Su, Baeza, & Hong, 2008; Lindholm, 2000; Van Muijen & Koopman, 1994). Among these antecedents, the role of organizational leaders in maintaining particular types of culture, such as innovative versus bureaucratic, competitive versus communitarian, has been noted in the management literature (Bass & Avolio, 1993a; Schein, 1992; Siehl, 1985), because organizational culture theory posits that acceptable values and norms are often learned or imbibed from leaders and role models (Schein, 2010).
As discussed in Chapter 2, RM culture, as a particular dimension of organizational culture, pertains to shared values and norms around risks and their management (Collier, 2009; Collier et al., 2007). A performance-oriented RM culture takes a positive view of risks as opportunities that contrasts with a negative view of risks as threats and involves a proactive management of opportunities for value creation (Collier, 2009; Collier et al., 2007). This means innovation, risk-taking, questioning assumptions and generating creative solutions become critical shared values that facilitate organizational performance improvement (Bass & Steidlmeier, 1999). Perry (2007) notes that in Australian schools, ‘risk and its management have become integral parts of a principal’s professional repertoire as the commonplace activities of schooling have become framed as risks to be managed’ (p. 4). In addition, based on a study of the effect of risk on decision-making behaviour in organizations, Sitkin and Pablo (1992) reported that, ‘even subtle cues from leaders about their preferences regarding risk can powerfully affect the risk perceptions of other decision makers and acceptable behaviours concerning risk’ (p. 22). These studies underlie the importance of school principals’ leadership as a critical driver in shaping schools’ RM culture as a facet of MCS.

In the present study, the focal leadership perspectives guiding hypothesis development are transactional leadership and transformational leadership. Prior literature contends that this classification concerns cognitive, behavioural and interactional explanations that account fully for leader-follower relations and outcomes (Bass, 1990a; Leithwood & Jantzi, 1999; Leithwood & Riehl, 2003; Silins, Mulford, & Zarins, 2002). In the following subsections, a first set of
hypotheses linking transactional and transformational leadership styles and the nature of the school sector to performance-oriented RM culture is presented.

3.3.1.1 Leadership Style and Performance-Oriented Risk Management Culture

Transactional leadership is concerned with the exchange of rewards for employee effort and performance, in which leaders react to whether the employees have carried out what they have agreed to do (Bass & Steidlmeier, 1999). While employees are motivated by contingent rewards for the achievement of expected performance, transactional leadership often emphasizes means such as rules, responsibilities, expectations, stability, avoiding errors and a concrete, short-term plan (Hamstra, Van Yperen, Wisse, & Sassenberg, 2011; Öncer, 2013). Hamstra et al. (2011) noted that ‘these transactional behaviours fit prevention-focused individuals’ preference to direct goal striving toward obligations and responsibilities, their preference for stability, their concern with avoiding mistakes, and their preference to look at short-term details. In sum, transactional leadership may be seen as encouraging followers to carry out their work in a prevention-focused manner, and may accordingly elicit fit for those who prefer to use prevention means of self-regulation’ (p. 183). This point is reinforced by Öncer’s (2013) findings, which indicate that transactional leadership does not drive innovation and risk taking in the organizational process of seeking entrepreneurial orientation. Within a school context, it is thus expected that a transactional leadership style would allow the school principal to maintain the

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12 Öncer (2013) finds that transactional leadership has no association with innovation and risk taking, whereas transformational leadership is significantly and positively associated with both.
status quo of a school by defining roles and tasks unambiguously and ensuring that employees adhere strictly to rules, procedures and norms, with the aim of to reducing the variance between anticipated and actual outcomes. However, these transactional behaviours may also place constraints on employee choices and actions and promote risk-averse values that reduce the willingness of employees to seek value-creating activities that enhance student learning experience and outcomes.

By contrast, transformational leadership occurs ‘when leaders broaden and elevate the interests of their employees, when they generate awareness and acceptance of the purposes and mission of the group, and when they stir their employees to look beyond their own self-interest for the good of the group’ (Bass, 1990b, p. 21). Transformational leadership features the four characteristics of idealized influence, inspirational motivation, intellectual stimulation and individualized consideration, which are seen to ‘integrate creative insight, persistence and energy, intuition and sensitivity to the needs of others to “forge the strategy-culture alloy” for their organizations’ (Bass & Avolio, 1993, p. 112). Compared with transactional leadership, transformational leadership encourages employees through ideals, optimism, positive expectations, change, eagerness and an abstract, long-term perspective (Hamstra et al., 2011; Öncer, 2013). Hamstra et al. (2011) noted that ‘transformational behaviours fit promotion-focused individuals’ directedness at an ideal self, their preference for optimism and positive expectations, their preference for focusing on a long-term time perspective, working in changing situations, and their eagerness to try out new things (p. 183). More recently, Öncer (2013) reported that transformational leadership has
significant positive effects on innovativeness, risk taking, and proactiveness. This view is supported by educational scholars who suggest that supportive, participative, vision-setting, democratic and collaborative management styles are effective in encouraging innovation (Cunningham & GRESSO, 1993; WASSERSTEIN-WARNET & KLEIN, 2000; WATKINS & MARSICK, 1993, 1996; WATKINS, YANG, & MARSICK, 1997; YANG, WATKINS, & MARSICK, 2004). In schools, this means that school leaders focus on providing staff with a sense of overall purpose, involving staff in schools’ strategic decision-making and encouraging staff to participate in innovative curriculum development and more opportunistic engagement with the community and other stakeholders. With value creation at the core of the RM processes, these all help in developing a performance-oriented RM culture in schools.

Based on the above discussion, it is thus hypothesised that:

\textbf{H1a. The greater the transactional leadership style, the lesser the extent of a performance-oriented RM culture.}

\textbf{H1b. The greater the transformational leadership style, the greater the extent of a performance-oriented RM culture.}

3.3.1.2 School Sector and Performance-Oriented RM Culture

As indicated previously, the term ‘school sector’ concerns with ownership. The ownership difference has three major effects on public and private schools: 1) sources of financial support, 2) formalization and bureaucratization, and 3) student

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13 Proactiveness refers to processes aimed at anticipating and acting on future needs by seeking new opportunities which may or may not be related to the present line of operations (Lumpkin & Dess 1996)
intake and school climate (Lamb et al., 2004a, 2004b; NCES, 1997; OECD, 2012). In particular, public schools are owned, operated and fully funded by government and private schools receive significant funding from private sources such as fees, charges and private donations, with varying levels of support from government (Harrington, 2011). The different ownership and funding structure lead to government-owned organizations having distinctive goals, such as equity and accountability, that need not be present in private organizations (Ferlie, Ashburner, Fitzgerald, & Pettigrew, 1996). Boyne (2002) contends that these goals ‘stem from the common ownership of public organizations, and from the attempts to control their behaviour in order to achieve collective purposes’ (p. 100). The increasing accountability and equity in using public resources result in public organizations adopting a more risk-averse approach to management generally (Boyne, 2002). McPhee (2005, p. 3) noted that “some of this no doubt arises due to the importance of the legal framework which guides public administration, and the fact that public moneys need to be managed with due care”.

It is perhaps not surprising that previous studies (Lamb et al., 2004a, 2004b; OECD, 2012) suggest the presence of a much higher degree of formalization and bureaucratization or red tape within government-owned entities than in non-government entities. Formalization refers to written rules, regulations and procedures that remain in force and impose a certain compliance burden on the organization. High levels of formalization associated with government ownership arguably also foster more risk-averse and compliance-oriented behaviours (e.g., Crow, Emmett & Jacobson, 1990; Lamb et al., 2004a; 2004b; OECD, 2012; Pandey & Bretschneider, 1997). This is also found in the education sector, where
public schools are seen to be more bureaucratic and less performance-oriented than their private counterparts (Bohte, 2001; Krueathep, 2011; Ouchi, 2004; Ouchi, Cooper, & Segal, 2002; Ouchi et al., 2003; Ouchi & Segal, 2003). As recently argued by Levinson (2011), despite the emerging school reforms that emphasize autonomy, flexibility, innovation and maximisation of student learning outcomes, public schools remain compliance-focused.

By contrast, Chubb and Moe (1988) argue that, unlike public schools, private schools operate in an entirely different institutional environment. Krueathep (2011) notes that ‘they (i.e. private schools) are leaner in their responses to demands for quality education and act in their own best interests when making adaptive adjustments. In this respect, private schools always out-perform over-bureaucratized public schools, since market incentives usually permit competition and responsiveness direct to the clientele groups, which later on help generate more preferable education performance’ (p. 123). As such, the added pressures from charging higher fees drive private schools to deliver better academic results through providing more innovative and rigorous curricula design and delivery. In line with this thought, Chubb and Moe (1988, 1990) conducted comparative analyses of public and private schools, using national survey data from the U.S. They found that public schools are shaped by larger social purposes as defined by broader constituencies like politicians and administrators and therefore are ‘literally not supposed to provide the kind of education they (i.e. students and parents) might want’ (p. 1067). By contrast, private schools are driven by market forces, which allows them to determine their own goals, standards and methods; if they are to prosper, they are generally more concerned with value creation than
public schools. As such, it is expected that private schools encourage a more performance-oriented RM culture than public schools. Based on the above discussion, the following hypothesis is proposed:

**H1c. Compared to public schools, private schools are more likely to adopt a performance-oriented RM culture.**

### 3.3.2 The Enabling Approach to MCS Use

Ahrens and Chapman (2004) comment that Adler & Borys’ (1996) classification of coercive versus enabling bureaucracy facilitates a better understanding of ‘how organizations seek to elicit flexible and local attempts to streamline and refine work processes with no necessary implications for hierarchical relationships’ (p. 277). As discussed in Chapter 2, enabling bureaucracy, also known as an enabling approach to control or enabling control, focuses specifically on the use of MCS to enable employee autonomy and flexibility (Adler & Borys, 1996). Facilitated by the four design characteristics of repair, internal transparency, global transparency and flexibility, enabling control has been found to be crucial for developing innovative and timely solutions to emergent problems by allowing committed employees to do their jobs more efficiently and effectively for the achievement of organizational objectives (Ahrens & Chapman, 2004). Prior studies have identified factors such as trust (Ahrens & Chapman, 2004), accounting information and technology (Free, 2007) and information system integration (Chapman & Kihn, 2009) that can potentially influence the use of controls in either more coercive or more enabling ways.
A more recent study by Jordan and Messner (2012) shows that leaders can also influence lower-level managers’ perception of enabling or coercive use of MCS through the way in which the leaders communicate the role and relevance of performance indicators. Drawing from data in a longitudinal field study of a manufacturing organization, Jordan and Messner (2012) found that top managers’ sense giving will translate into lower managers’ perception of the control systems as being coercive rather than enabling, as top managers signal an increased importance of the indicators. This is because organizational leaders often adopt a ‘sense-giving mode’ (Gioia & Chittipeddi, 1991) when trying to influence the way in which organizational actors make sense of the organization and its future; this is especially true when strategic change is initiated from the top (Jordan & Messner, 2012). That study provides important implications for the role leadership may play in influencing the approach to MCS use.

In the following subsections, hypotheses linking transactional and transformational leadership styles and the nature of the school sector to the enabling approach to MCS are presented.

### 3.3.2.1 Leadership Style and the Enabling Approach to MCS Use

The information processing perspective of leadership that concerns leaders’ situational perceptions, generally known as cognitive schemata, guides leader behaviour (Brown, Scott & Lewis, 2004). Antonakis et al. (2004) argue that the ways MCS are used in organizations represent the cognitions subscribed to by leaders. Goodwin, Wofford and Boyd (2000) found that leaders’ positive beliefs result in leaders being more likely to endorse vision-oriented, transformational cognition, whereas negative beliefs result in leaders who are more likely to
subscribe to transactional cognitions in envisioning their roles (Augustyniak, 2014; Goodwin et al., 2000).

Transactional leadership is founded on the negative cognitive schemata of leaders, in which followers are described as seeking rewards, ineffective or idle (Goodwin et al., 2000). These negative cognitive schemata result in leaders’ subscribing to transactional behaviour in envisioning their roles, including setting clear performance targets, defining specific tasks and imposing constraints and drawing boundaries for employee choices and behaviours (Bass, 1990b; Bass & Steidlmeyer, 1999). In this environment, controls are expected to be used in a way that is more restraining so as to coerce employees’ effort and compliance (Adler and Borys, 1996, p. 62). As coercive controls rely on extensive production specifications with a large number of responses to possible contingencies, prior studies have find that transactional leadership relies on their use to constrain the actions that employees can take and enforce strict adherence to pre-determined strategies, routines, procedures and expectations (Ahrens & Chapman, 2004; Free, 2007). However, as coercive control leads work to be seen as disutility and managers to fear opportunism and conflict more than valuing the skills and commitment of their employees, this control may ‘force reluctant compliance and extract recalcitrant effort’ (Adler & Borys, 1996, p. 69) and ‘constrain and punish rather than promote and support productive processes’ (Free, 2007, p.900). Hence, the negative cognitive schemata imbedded in transactional leadership may hinder employee autonomy and flexibility in dealing with uncertainties, leading to less enabling characteristics of MCS.
In contrast, transformational leadership is grounded on the positive cognitive schemata of leaders, in which followers are seen as capable, self-reliant, innovative and trustworthy (Goodwin et al. 2000). Positive cognitive schemata result in leaders’ subscribing to vision-oriented, transformational behaviour in crafting their roles, such as encouraging employees to think about and approach their jobs in a more open, innovative and flexible way and supporting staff to take responsibility and be proactive in solving problems more independently (Leithwood & Jantzi, 2006; Lim & Ployhart, 2004). In this environment, controls are expected to be used in a way that encourages more autonomy and flexibility amongst employees so that organizational learning process can be fostered, through which lessons and best-practice procedures from past experience can be captured (Levitt & March, 1988; Walsh & Ungson, 1991). As such, transformational leadership is likely to be more appealing to an enabling approach to control as it encourages flexibility, independent ideas and problem solving and presents fewer bureaucratic hurdles (Hoy & Sweetland, 2001). In the school setting, Stollar et al. (2008) have found that transformational leaders seek and create opportunities to provide teachers and other staff with the necessary freedom and creative space through collaborative strategic planning to change schools systematically and improve student outcomes. This is consistent with Hoy and Sweetland’s (2001) study, which suggests that interactive dialogue, fostering trust, learning from mistakes and facilitating problem solving are common ways in which an enabling approach to MCS can be adopted. Therefore, the positive cognitive schemata imbedded in transformational leadership may enhance the enabling approach to MCS to stimulate intellectual work and encourage employee learning and growth.
Based on the above discussion, the second set of hypotheses for this study is as follows:

**H2a. The greater the transactional leadership style, the lesser the extent of the use of an enabling approach to management control.**

**H2b. The greater the transformational leadership style, the greater the extent of the use of an enabling approach to management control.**

### 3.3.2.2 School Sector and the Enabling Approach to MCS Use

As discussed above, government-owned entities have been found in general to practice a higher degree of formalization than non-government entities (Lamb, et al. 2004a, 2004b; OECD, 2012). Prior literature posits that more bureaucracy in government-owned entities calls for organizational control mechanisms that promote values around compliance and a focus of rules with risk-averse norms (Georgia Tech & Georgia Tech, 1998; Ranson & Stewart, 1994). For example, Krueathep (2011), in examining the effect of school bureaucracy on school performance, notes that compared with other interest groups like politicians, administrators and teachers unions, the core clientele – parents and students – of school education is actually a very small constituent. In effect, the democratic process, which strives to ensure that all constituents’ interests be addressed, results in a more bureaucratized school system to serve its own needs and powerful electoral considerations, rather than the educational needs of parents and students. Krueathep (2011) adds that these ‘hierarchical control mechanisms, then, are institutionalized to ensure that all electoral preferences and undertaken. However, the mechanisms inevitably lead to more stringent rules and procedures that limit
autonomy of street-level bureaucrats (teachers) to propose and implement innovative pedagogical improvement, thus preventing the school system from responding quickly and effectively to the demand of parents and students’ (p. 122). In addition, Bozeman and Scott (1996) argue that red tape is a pathological side-effect of bureaucracy, implying an unnecessary and counter-productive obsession with rules rather than results and with processes instead of outcomes. As noted by Adler and Borys (1996), coercive controls rely on extensive production specifications with a large number of responses to contingencies and thus constrain the actions that employees can take. As a result, these controls ‘force reluctant compliance and extract recalcitrant effort’ (Adler and Borys, 1996, p. 69) and ‘constrain and punish rather than promote and support productive processes’ (Free, 2007, p.900). As such, it is expected public schools are more likely to use controls in a coercive than an enabling manner to control processes, given their priority on meeting numerous regulatory compliance and ensuring accountability to the general public, rather than on results.

By contrast, private schools have less red tape but greater market incentive; the ‘voice and exit’ options (Hirschman, 1970) often force private schools to pursue what students and parents explicitly demand (Krueathep, 2011). As a result, private schools are obliged to make more flexible and adaptive adjustments so that they can be quicker in response to market demands. Chubb and Moe (1988, 1990) found that hierarchical controls tend to be inefficient and counterproductive in private schools for such purposes. Rather, the achievement of these purposes requires such schools to provide for more autonomy amongst employees in the development and implementation of teaching practices, in order to facilitate better
student learning and achieve higher school performance. This appears to fit well with the key features of an enabling approach to control, which allows employees to take much greater ownership of their work and gives them the autonomy to determine best courses of action in uncertain environments (Adler & Borys, 1996). Thus, private schools are expected to be more akin to using MCS in an enabling manner, so that teachers are empowered to take on more innovative and creative thinking to enhance value creation.

Based on the preceding discussion, it is hypothesized that:

**H2c. Compared to public schools, private schools are more likely to adopt an enabling approach to management control.**

### 3.3.3 The Link between RM Culture and the Enabling Approach to MCS Use

Prior literature linking organizational culture and MCS have examined the influence of entity-level shared values on management accounting mechanisms such as budgeting (Dunk & Lysons, 1997; O'Connor, 1995), and performance measurement systems (Henri, 2006b). The rationale linking organizational culture and MCS is that organizational culture as a form of clan control has a pervasive impact on organizational interactions and activities and in turn would influence the manner in which MCS is used to motivate individual staff (Bhimani, 2003; Chatterjee et al., 1992; Henri, 2006b). For example, Henri (2006) found that organizations reflecting stronger flexibility values tend to use more performance measures and use PMS to focus on organizational attention, support strategic decision-making and legitimate actions to a greater extent than those reflecting a control dominant culture. Drawing from data collected from interviews,
questionnaire survey, and internal corporate documents, Bhimani (2003) shows that MCS cannot achieve its desired outcomes without an alignment with organizational culture. These studies echo the calls of Shields (1995) and Birnberg (1998, 2000) which reiterate the desirability of investigating how control system adoptions and effects are conditioned by organizational culture.

RM culture, as a specific dimension of organizational culture, determines the shared perceptions and attitudes towards risks and how risks ought to be managed in pursuit of organizational objectives (Collier et al., 2007; Collier, 2009). As discussed in Chapter 2, performance-oriented RM culture, in particular, emphasizes a positive perception of risk as opportunity and taking advantage of RM to create value for stakeholders (Collier et al., 2007; Collier, 2009). Prior studies find that the process of identifying and managing opportunities for performance improvement is often closely associated with organizations allowing employees with more autonomy and flexibility (Ahmed, 1998; Brunetto & Farr-Wharton, 2007; Cakar & Erturk, 2010; Ford & Randolph, 1992; Grensing-Pophal, 2010). Grensing-Pophal (2010) noted that empowered employees feel free to challenge the status quo, which is critical for organizations in today's fast-changing, technology-driven environment. Hence, organizational leaders need to ensure that the use of control systems facilitates employees to feel free to question, challenge and offer new ideas. In the education literature, employee empowerment is also contended as a key factor that drives innovation and organizational learning, and facilitates a culture of excellence in schools (Cunningham & Gresso, 1993; Huberman & Miles, 1984; Marks & Louis, 1999; Simsek & Louis, 1994). As an enabling use of control mechanisms empower employees with greater autonomy.
and flexibility through fostering employees’ innate intelligence and know-how of work processes, they would also tend to arouse organizational memory or learning processes through which lessons and best-practice procedures from past experience be captured (Levitt & March, 1988; Walsh & Ungson, 1991). Hence, under the performance-oriented RM culture, an enabling approach to MCS use is likely to be sought to facilitate learning and growth amongst employees, and promote for innovations and value creating activities for the enhancement of organizational performance. For example, in high performance-oriented RM culture in schools, teachers would value more creative curriculum development and take advantage of opportunities to create value for student learning. As such, there will be a need for more enabling approach to MCS which engenders gaining the appropriate and necessary internal and global information to make innovative and value-adding decisions. Given the common view and evidence supporting organizational culture effects on organizational control (Bhimani, 2003; Chatterjee et al., 1992; Henri, 2006b), it is likewise proposed that performance-oriented RM cultures are also likely to affect the preferences for use of MCS in an enabling manner.

Based on the discussion above, the third hypothesis for this study is as follows:

**H3 The greater the extent of a performance-oriented RM culture, the greater the extent of the use of an enabling approach to management control.**

3.3.4 Performance-Oriented Risk Management Culture, Enabling Approach to MCS Use and School Performance
3.3.4.1 Performance-Oriented Risk Management Culture and School Performance

School performance is conceptualised as comprising two distinct but related dimensions: academic performance and financial (sustainability) performance. Both these dimensions are also multi-faceted and display a positive correlated. As previously discussed, school academic performance is reflected not only in the standard academic indicators of student performance in formal examinations and national competitions, but also in positive student attitudes to learning, pathways to higher education, student retention and staff and parent satisfaction with the academic rigour of the school curricula and support services (Lamb et al., 2004b; Starr, 2012). Financial (sustainability) performance pertains to factors associated with the stability of matters such as the school’s ability to meet budgetary targets, raise necessary revenue, attract government funding and have adequate liquidity – both short-term and long-term – to support strategic initiatives such as curriculum and infrastructure development (Harrington, 2011).

Prior studies have found that organizations with strong, goal-oriented cultures with clarity of goals and processes that are aligned with those goals tend to perform better than their counterparts (Gordon & Di Tomaso, 1992; Kotter & Heskett, 1992). Nevertheless, researchers (e.g. Sonresen, 2002) who have assessed the links between culture and performance emphasize that culture must not only be strong in the sense of widely shared, but must also contain key drivers of superior performance, such as the adaptability of the organizational culture to changes in environmental conditions (Denison, 1990; Denison & Mishra, 1989; Gordon & Di Tomaso, 1992). The conceptualisation of performance-oriented RM culture in the
study assumes that the more intensive the shared beliefs on taking the appropriate actions to lead to achieving performance goals (Collier, 2009), the greater the willingness to accept that there is a relationship between risk and return and to view risks as opportunities for gain. Organizations with a high performance-oriented RM culture have greater tolerance for flexibility and are willing to explore possible ways to change so as to achieve higher performance. Such a culture may facilitate employee learning and growth, encourage inspiration and intellectual stimulation and allow employees the flexibility to explore uncertainty for opportunities to create value.

From a school context, it is arguable that schools with performance-oriented RM cultures will encourage staff to align their day-to-day activities with the school goals in mind. Staff members sharing this culture are more likely to be innovative in developing rigorous curricula and extra-curricular activities. Further, an RM culture focusing on performance goals in terms of learning outcomes is likely to improve teacher quality and effectiveness either directly or indirectly (Silins & Mulford, 2004), which will eventuate in better academic performance.

Likewise, it is expected that schools with a strong performance-oriented culture will nurture the achievement of financial goals by taking risks and opportunities that will support attracting resources to the school and reducing costs. This may include working collaboratively and innovatively with other stakeholders, including parents, regulators and the community as a whole (Gruenert, 2005; Lieberman, 1988; Waldron & McLeskey, 2010). Emphasizing a performance-oriented RM culture will also focus investment in new learning technologies that are cost-efficient and innovative ways to source funding, which
in turn is likely to yield improvements in academic reputation, resulting in greater student demand and overall improvements in the financial standing of the school.

Based on the above discussion, it is thus hypothesised that:

**H4a. The greater the extent of the performance-oriented RM culture, the higher the level of academic performance.**

**H4b. The greater the extent of the performance-oriented RM culture, the higher the level of financial (sustainability) performance.**

### 3.3.4.2 The Enabling Approach to MCS Use and School Performance

The use of MCS in an enabling manner has received increasing attention in the accounting literature (Adler & Borys, 1996; Ahrens & Chapman, 2004; Free, 2007). This growth in research is rooted in Adler and Borys’ (1996) initial assertion that bureaucratic structures and processes can be used either in an enabling manner by helping employees learn and master their tasks or in a coercive manner by insisting that employee efforts comply with extensive bureaucratic policies. An enabling approach to use of controls is associated with higher performance as a result of its greater flexibility, transparency and autonomy in identifying and seizing opportunities to create value in the work area. Chapman and Kihn (2009) assessed how different characteristics of enabling controls relate to various dimensions of business unit performance; they found that, except for internal transparency, all aspects of enabling control contribute to aspects of business unit performance such as financial, market and sustainability evaluations. According to these authors, an enabling approach to control may significantly reduce resistance and other disruptive activities that are caused by coercive
controls, leading employees to ‘learn to work together, to develop a joint understanding of the bounds within which local discretion is meant to be exercised, and working to meet and develop objectives flexibly represent a complex social achievement’ (p. 157). These findings echoed the conclusion of Ahrens and Chapman’s (2004) field study of MCS in a restaurant chain, which suggested that an enabling approach to control allowed committed employees to do their jobs more effectively and offered managers flexibility and efficiency in the achievement of objectives. In addition, Free (2007), in examining the use of enabling control in inter-organizational relationships, found that ‘enabling uses are amenable to joint problem solving, flexible adaptation, and attempts to expand total category sales and profits’ (p. 898).

Similarly, in the education literature, an enabling use of MCS has been found to lead to better problem solving, facilitation of trust, greater flexibility to meet students’ learning needs, less role conflict and reduced dependence of teachers on the hierarchy and rules, all of which are perceived as necessary practices for school success (Hoy & Sweetland, 2000, 2001; Jacobson, Johnson, Ylimaki, & Giles, 2005; Tatnall, 1995). Hoy and Sweetland’s (2001) exploration of an enabling approach in schools, posit enabling controls as ‘flexible, cooperative, and collaborative rather than rigid, autocratic, and controlling’, which ‘facilitate teaching and learning’ (p. 300). It is thus expected that an enabling use of MCS can increase teacher autonomy and flexibility in the development and implementation of teaching practices, leading to better student learning and ultimately higher academic performance. A greater level of enabling MCS use also reflects a greater propensity for internal transparency and repair which encourages
employees to develop an open understanding of school operations like revenue and cost levels and to investigate deviations in school budgets and targets. There would be greater opportunities for schools to use school information and resources to transact and collaborate with other stakeholders on initiatives that could lead to cost sharing and/or reveal new sources of funds and other resources. In contrast, a more coercive use of controls would mean adhering to regulatory and bureaucratic policies within fixed boundaries. Organizational theory and research have long argued that formal bureaucratic controls such as standard work rules and sanctions are largely ineffective in professional and semi-professional organizations such as schools, where the work is uncertain, non-routine and regularly requires employee judgment and flexibility (Etzioni, 1964). Prior education studies have found that regulatory and bureaucratic policies constrain teachers’ ability to serve their students (e.g. Hoy & Sweetland, 2000, 2001; Smith, 1991), as ‘their tendency toward standardization can limit teachers' ability to make pedagogical decisions that accommodate the wide range of learning needs of diverse student populations’ (Smylie, 1996). In addition, while bureaucratic policies do contain mechanisms for teacher accountability, they generally lack incentives for teachers to improve their practices; rather, they introduce disincentives, such as work overload, value conflicts, role conflicts and reductions in professional autonomy, that all constrain creativity and innovation (Hoy & Sweetland, 2000, 2001; Porter, 1989). Smylie (1996, p. 9) added that ‘the incentive value and usefulness of these policies are diminished further if, as reported by a number of studies (e.g. Wilson & Corbett, 1990), teachers gain little relevant information about students' learning needs or how to teach them more effectively’.
Hence, the above discussion leads to the following hypotheses:

**H4c. The greater the extent of the use of an enabling approach to management control, the higher the level of academic performance.**

**H4d. The greater the extent of the use of an enabling approach to management control, the higher the level of financial (sustainability) performance.**

### 3.3.5 Control Variables

Several variables are controlled in this study as, according to the prior literature, they may affect school culture and school performance. These include personal views regarding risk and RM, school size, school location, SES, principals’ demographic information (including gender, age, years of experience in current school and in education) and the financial training of school principals.

First, the study controlled for the effects of personal views of risk and RM for the organization’s RM culture, as many prior studies have argued that the risk attitude of organizational leaders plays a particularly important role in influencing organizational perception of risk (Georgia Tech & Georgia Tech, 1998; Lewin & Stephens, 1994; March & Shapira, 1987). Sitkin and Pablo (1992) noted that ‘even subtle cues from leaders about their preferences regarding risk can powerfully affect the risk perceptions of other decision makers’ (p. 22). Hence, following the practice of previous research, school principals’ personal risk propensity and risk stance are controlled for the schools’ RM culture (Collier, 2007; Lewin & Stephens, 1994). Sitkin and Pablo (1992) described risk propensity as an individual’s willingness to take risks, while personal risk stance is a person’s views...
about RM as a tool to avoid negative consequences and/or achieve positive consequences (Collier et al., 2007).

School size is the second control variable for the study; it is of importance to school performance (Lamb et al., 2004b). Prior literature has reported that large schools produce economies of scale through providing levels of service in a more cost-effective manner. Smaller schools, in comparison, appear to be less efficient, as they have higher per capita funding demands to provide the same level of services as larger schools. The increased resource pressure on smaller schools can hamper their ability to pursue the same educational goals as larger schools (Lamb et al., 2004). The OECD report (OECD, 2001a) on student reading performance reported significant gains in performance for each increase of 100 students up to 1,000 students. Hence, school size is controlled for school performance in this study.

Third, school location is controlled, as it is a key contextual variable that may affect school performance. School location – urban, suburban or rural – is an important factor to be controlled when considering school performance (Teese, 2000; Teese & Polesel, 2003). Prior literature has found that students from non-metropolitan areas are more likely to have lower educational outcomes in terms of academic performance and retention rates than students from metropolitan areas (Cheers, 1990; HREOC, 2000). Despite an adequate number of educational facilities in rural and remote Australia, schoolchildren from these areas remain disadvantaged by other factors, such as access to education in regional areas, which is affected by costs, the availability of transport and levels of family income support. In addition, inequity exists with regard to the quality of the education that
rural students receive, often as a result of limited subject choice. Students may also have limited recreational and educational facilities within the school (HREOC, 2000). Hence, location is included as a control variable for this study.

The fourth control variable is SES. SES has become an influential factor for public sector organization performance research in literature in recent years (Polidano, Hanel, & Buddelmeyer, 2013). In that field, there are three commonly used SES measures: occupation status of parents, education status of parents and the amount of household resources. Recently, SES has been found to have a significant impact on school completion rate (Polidano et al., 2013). It is a factor that helps address the imbalance in student opportunity by family background and reduce intergenerational inequity. In the present study, it is perceived to have an impact on organizational performance; for example, schools located in wealthier areas may have higher school performance due to the greater availability of resources). Hence, SES is included as a control variable in this study.

The demographic information of principals, including gender, age, years of experience in their current school and in education generally, are also controlled for school performance in the study. These factors have been found to have an impact on school performance (Branch, Hanushek, & Rivkin, 2008; Clark et al., 2009; Coelli & Green, 2009; Lee, Chaudhry, & Tekleab, 2014). For example, Eberts and Stone (1988) found principals’ experience is positively related to school performance. In addition, principals’ experience in formal training in financial management is also controlled for schools’ financial performance, due to the findings in prior literature that formal training and professional development
programs received by principals may also influence school performance (Clark et al., 2009).

### 3.4 Chapter Summary

The conceptual framework presented in this chapter is built on leadership theories, especially the transformational, traits and information processing perspectives of leadership, which are drawn upon for predicting and understanding how school principals’ leadership styles may affect school outcomes. The framework proposes that the relationship between leadership styles and organizational performance is mediated by an organization’s performance-oriented RM culture and an enabling approach to MCS use, which is seen in its four design characteristics of repair, internal transparency, global transparency and flexibility.

This framework serves as the basis for answering the research questions outlined in Chapter 1. To address the gaps in the literature identified in Chapter 2, hypotheses were developed to examine the relationships between the various constructs in the research model. These hypotheses are empirically tested in Chapter 5. The next chapter outlines the methodologies adopted in carrying out the empirical part of the research.
Chapter 4: Research Design and Method

4.1 Introduction

This chapter offers explanations of the research methods used to collect the data and to test the hypotheses that are central to this research. The study employs a questionnaire survey for data collection, so issues relating to 1) research population and respondents, 2) the steps involved in developing the questionnaire survey and 3) the statistical technique used for estimation of the research model are discussed in this chapter.

Section 4.2 describes the research design of the study. Section 4.3 addresses the development of the questionnaire instrument and provides the definition and measurement of the research constructs adopted. Pre-testing of the survey instrument and detailed data collection procedure are discussed in Section 4.4, which is followed in Section 4.5 by a review of the structural equation modelling (SEM) techniques and the justification for the use of the SEM-based PLS technique to analyse the survey data. The chapter concludes with a summary of the above points.

4.2 Research Design

A mixed method is employed to collect data. Green et al. (1989) define mixed method designs as ‘those that include at least one quantitative method (designed to collect numbers), and one qualitative method (designed to collect words)’ (p. 256). In recent years, there has been a marked increase in the
popularity of mixed method research in the social, behavioural and related sciences (Bergman, 2008). A strong suggestion within the research community is that quantitative and qualitative research are best thought of as complementary and therefore should be mixed in research of many kinds (Amaratunga, Baldry, Sarshar, & Newton, 2002; Johnson & Onwuegbuzie, 2004; Johnson, Onwuegbuzie, & Turner, 2007; Rossman & Wilson, 1985, 1994). Das (1983) states that “qualitative and quantitative methodologies are not antithetic or divergent, rather they focus on the different dimensions of the same phenomenon. Sometimes, these dimensions may appear to be confluent; but even in these instances, where they apparently diverge, the underlying unity may become visible on deeper penetration” (p. 311). Rossman and Wilson (1985) address three benefits for combining qualitative and quantitative methods: 1) to enable confirmation and collaboration through triangulation, which “allows the researcher to improve the accuracy of conclusions by relying on data from more than one method” (p. 632); 2) to provide richness and details through elaboration or development of analysis; 3) to uncover paradox and contradiction which have the potential of leading to “creative intellectual insights” and “areas for further analysis” (p. 633). Therefore, a mixed-method approach can overcome biases arising from using a sole method and, when the results of the methods converge or corroborate one another, can enhance the validity of an enquiry’s findings (Axinn & Pearce, 2006; Caracelli & Green, 1993; Green et al., 1989).

Therefore, to derive a more complete understanding of the phenomenon in question, the study was conducted in two phases, a questionnaire survey for the collection of quantitative data and semi-structured interviews for the collection of
qualitative data. Multiple sources of evidence, when complementing each other, are expected to improve the interpretability of assessing a single phenomenon through broader content coverage and alternate levels of analysis (Caracelli & Green, 1993; Hammersley, 2008; Mark & Shotland, 1987).

In the first phase, a survey questionnaire was developed based on prior literature and distributed to potential respondents for data collection. Potential respondents were given the option of receiving either a web-based or paper-based questionnaire. This is consistent with Dillman’s Tailored Design Method (Dillman, 2007), which suggests that mixed-mode surveys can help reduce coverage errors and non-response bias while improving the response rate.

In the second phase, semi-structured interviews were conducted with a number of volunteer participants. The interviews offer an in-depth understanding of the idiosyncrasies and interactions of latent variables. Perceptions of participants were obtained through semi-structured interviews regarding their view of risk and RM in their organizations, their leadership and management styles, their approach to control and how these may all interact to influence school performance. To avoid repetition, details regarding interview participants and the development of the interview protocol and data collection procedures are presented in Chapter 6. This chapter focuses exclusively on the questionnaire survey for the collection of quantitative data.

Ethical clearance was obtained from the Human Research Ethics Committee of RMIT (Royal Melbourne Institute of Technology) University to conduct both the survey and the semi-structured interviews. Potential participants were informed that their participation in the research was entirely voluntary and that all data
provided would be treated in an anonymous and confidential manner. In addition, participants were assured that the research would not be excessively demanding or onerous for their organizations and that the strictest ethical considerations would be maintained, with related assurances of confidentiality and anonymity in any published work.

4.3 Development of Questionnaire Survey Instrument and Measurement of Individual Constructs

To examine the effect of leadership styles on organizations’ RM culture and approach to control and their performance implications, a questionnaire survey was developed to measure the constructs of interests. Where possible, the questionnaire draws on measurement scale items from previous leadership, organizational and accounting studies, adapted as necessary to the specific application of the school setting. To improve the response rate, the questionnaire was prepared in both web-based and paper-based versions; the web-based version was designed to closely imitate the visual layout and question order sequence of the paper version (Dillman, 2000). The following section outlines the definition and measurement for each variable in the present study. A copy of the survey questionnaire is attached in Appendix 1.

4.3.1 Leadership Styles

Bass’ (1985) model of transactional and transformational leadership includes two factors for transactional leadership style and three factors for transformational leadership style to identify their different behavioural components. The two
behavioural factors depicted by a transactional leadership style are *contingent reward* and *management-by-exception*, based on the leader’s bureaucratic authority and organizational standards (Bass, 1990b; Tracey & Hinkin, 1998; Vera & Crossan, 2004; Waldman, Bass, & Einstein, 1987). The three behavioural factors associated with transformational leadership style are *charisma/inspiration*, *intellectual stimulation* and *individualized consideration*, with the influence of the leader focusing on a total emotional, intellectual and moral engagement of the followers by creating an encouraging and innovative environment (Bass, 1985; Bass, 1990a; Turner & Muller, 2005).

An adapted version of the Silins (1994) instrument was used to measure transactional and transformational leadership styles in the school setting. Silins (1994) designed measurement scale items for the two leadership styles in the school setting. These measurement scales were then adapted in many studies examining transactional and transformational leadership styles in elementary and secondary schools (e.g. Geijsel, Sleegers, Stoel, & Kruger, 2009; Silins & Murray-Harvey, 1995, 1999), and are therefore more appropriate for the present study than other instruments developed to examine for-profit organizations (e.g., Garcia-Morales et al., 2008; Kamisan & King, 2013). Based on Silins (1994), transactional leadership style is measured using six items, with the first three (i-iii) measuring the behavioural component of contingent reward and the remaining three (iv-vi) measuring management-by-exception. Transformational leadership is measured using 22 items to capture the behavioural traits of charisma/inspiration (vii-xix), intellectual stimulation (xx-xxii) and individualized consideration (xxiii-xxviii). These measurement scale items are presented in Section 1 (Q1.1) of the
questionnaire. A Likert-type scale ranging from 1 to 7 was used, with 1 being ‘Strongly Disagree’ and 7 being ‘Strongly Agree’.

4.3.2 School Sector

As argued in a wide number of diverse empirical studies, government and non-government ownership of schools may lead to differences in their RM culture, due to self-selection effects (Bellante & Link, 1981) and the degree of formalization and red tape (Buchanan, 1975; Crow, Emmett, & Jacobson, 1990; Pandey & Bretschneider, 1997). In particular, government entities tend to have higher degrees of formalization and more bureaucratic policies than non-government-owned organizations, which may undermine risk taking (Bozeman & Kingsley, 1998) and limit public managers’ discretion and ability to approach decisions unencumbered by rigid structures and inflexible procedures (Alchian & Demsetz 1973).

Consistent with prior studies that examine the impact of school sector on school effectiveness (e.g. Dronkers, 2001; Dronkers & Robert, 2003; Teddlie & Reynolds, 2000; Vandenberghe & Robin, 2003), this study classified school sector into public schools (government schools) and private schools (independent schools and Catholic schools). Participants were asked to indicate their school type in Section 3 of the survey questionnaire (Q3.1). A binary classification was used: 1 = public schools and 0 = private schools.

4.3.3 RM Culture

RM culture is defined as the set of shared attitudes and values that characterize how an organization considers risk in its day-to-day activities (Collier,
While RM culture has emerged as an important feature of contemporary RM and is posited in both academia (Kleffner, Lee, & McGannon, 2003) and practice (e.g. CIMA, 2003, 2005; IFAC, 1999) to be of critical importance in elements of corporate governance that underpin an organization’s success, the literature has been relatively silent on the particulars of this concept.

According to Collier et al. (2007) and Collier (2009), RM culture can be driven by a compliance mind-set or a performance imperative. The two types of RM culture originate from an organization’s understanding of risk, so the underlying philosophy of the broad RM culture remains with, at a deeper level, the organizational conception of the two fundamental aspects of risks – risks as threats (the downside of risk) and risks as opportunities (the upside of risk) (Collier et al., 2007, Collier, 2009). Apart from the risk conception, the authors continue to argue that organizational RM culture is also characterized by a risk stance, which is inferred from the degree to which organizational RM is perceived to take advantage of risk as opportunity and the degree to which organizational RM is perceived to provide protection from risk (Collier et al., 2007).

In addition to risk conception and risk stance, which partially reflect the shared attitudes to risk and RM in an organization (Collier, 2009; Rousseau, 1990; Trefry, 2006), Collier et al. (2007) also noted that an organization’s RM culture can be seen in its propensity for taking risks (known as risk propensity) and the level of risks that management deems acceptable (known as risk appetite). In the school setting, risk propensity refers to the willingness of school management to take specific risks, while risk appetite refers to the overall level of risk that school management deems acceptable.
According to prior studies, another potential attribute that outlines the difference between compliance-oriented and performance-oriented RM cultures is the *focus of corporate governance* in an organization (Collier, 2009). Corporate governance under a performance imperative has fewer adherences to standards and rules, but focuses more on strategy and better use of resources, helping management understand the key drivers of performance and make strategic decisions. Arguably, such a performance-orientation ethos will place less emphasis on codes, audits and oversight processes and focus more on taking risks to achieve stakeholder value (CIMA, 2003; Collier, 2009).

In addition, prior studies posit that the performance imperative inevitably requires organizational governance to have a *preference to adapt to change* (Berglund, 2007; Field & Keller, 1998) and a greater *tolerance for flexibility* (Berglund, 2007). These organizational governance characteristics are crucial for discovering and creating opportunities in uncertain contexts for organizational enhancement (Berglund, 2007; Field & Keller, 1998; Sarasvathy, 2006); thus, they are included as attributes of RM culture in this study.

In summary, drawing on themes identified from the review of the organization and management literature, Collier et al.’s (2007) instrument was adapted to measure risk conception, risk stance, risk propensity and risk appetite, together with an additional view on the focus of school governance, leading to a twelve-item scale of RM culture for the questionnaire survey. Risk conception (Q3.6) is defined as the extent to which the respondents perceive risk as a threat or opportunity in the school content. Risk stance (Q3.7) is defined as the extent to which RM is about avoiding negative consequences or about achieving positive
consequences, again in the school context. All items are presented on 7-point Likert scales ranging from 1 (‘Strongly Disagree’) to 7 (‘Strongly Agree’).

Using Collier et al. (2007) as a foundation, risk propensity in this study indicates the extent of a school’s overall tendency to take risks. Items are presented on 7-point Likert scales ranging from 1 (‘Never Willing to Take Risks’) to 7 (‘Always Willing to Take Risks’) (Q3.8). Similarly, risk appetite refers to the overall level of risk that school management deems acceptable, with 1 being ‘Very Low’ and 7 being ‘Very High’ (Q3.9).

The focus of corporate governance (Q3.10) contains five self-developed items, the first two of which evaluate governance features under the compliance mindset: 1) adherence to codes, standards and rules and 2) strong clarity of accountability for managing risk through oversight of the council or board and/or relevant committees. The third item measures the feature of governance under the performance imperative, regarding value creation through making strategic decisions, understanding key drivers of performance and utilizing resource through developing a range of best practice tools and techniques. All three items are measured on 7 point-Likert scales and developed based on the description of the corporate governance features under different RM cultures in the seminal work of Collier (2009).

To measure organizational governance characteristics in relation to preference to change and tolerance for flexibility, two additional self-developed items are included in Q3.10. These characteristics are also measured on 7-point Likert scales where 1 is ‘Strongly Disagree’ and 7 is ‘Strongly Agree’. The highest
ranking indicates that the school has a very strong preference for change and tolerance for flexibility, indicative of the adoption of a performance imperative in the RM culture (Berglund, 2007; Field & Keller, 1998).

4.3.4 Bureaucratic Stance on Management Controls

Today’s more sophisticated RM paradigms see all management controls as being related to managing risks, whether threats or opportunities, in the achievement of organizational objectives (Berry & Collier, 2007; Collier & Berry, 2002; Collier, 2009; Krogstad et al., 1999). In the school setting, the bureaucratic stance on management controls concerns school leaders’ approach towards the use of controls to manage school resources for improvement and better outcomes. Hence, the construct draws on Adler and Borys’ (1996) dichotomy of enabling and coercive form of bureaucracy and the contributions made by a number of studies within the management accounting literature that have examined the characteristics of enabling approach to control (e.g., Ahrens & Chapman, 2004; Chapman and Kihn, 2009; Free, 2007).

Adler and Borys’ (1996) enabling control is seen in its four design characteristics of repair, internal transparency, global transparency and flexibility. These features do not exist in coercive modes of control but only in enabling control; they allow employees more autonomy and flexibility to determine the best courses of actions in uncertain environments (Ahrens & Chapman, 2004; Chapman & Kihn, 2009). Chapman and Kihn (2009) developed an instrument to examine the contribution of the four design characteristics to business unit performance. Accordingly, an adapted version of their instrument to examine enabling control
was included in the survey questionnaire of this study, suitably adjusted for the school setting (Q3.11). The measurement was comprised of 14 items, all evaluated on 7-point Likert scales ranging from 1 (‘Strongly Disagree’) to 7 (‘Strongly Agree’):

- repair was measured using a two-item scale (viii-ix);
- internal transparency using a four-item scale (i-iv);
- global transparency using a six-item scale (v-vii & x-xii); and
- flexibility using a two-item scale\(^{14}\)(xiii-xiv).

The items required respondents to indicate the degree to which they agreed or disagreed with statements concerning the ways that MCS provided organizational information and facilitated employees’ autonomy and flexibility in the achievement of organizational objectives.

4.3.5 Academic Performance

The measurement of school academic performance is guided by the annual report of school performance mandated by the DET in Victoria. The report comprises school performance indicators which are used by the school system to assess the effectiveness of schools in general, focusing on a variety of quantitative and qualitative soft-skill outcomes, such as soft skills, including student learning (student test scores in Years 7 and 9, and the ATAR score\(^{15}\)), student engagement

\(^{14}\) Consistent with Chapman and Kihn (2009), the two questions regarding flexibility are reverse-coded questions.

\(^{15}\) ATAR stands for Australian Tertiary Admissions Rank and is calculated by the Universities Admissions Centre (UAC) based on a student’s overall academic achievement in Year 12.
and well-being (student attendance, retention, and attitude to school) and student pathways and transitions (entry rates to university and transition to further training or full-time employment). In addition, as important stakeholders of the school, satisfaction among parents and school staff are also included in the report.

School academic performance was measured with a total of 11 items (Q3.12). Student academic achievement was evaluated by three items related to student performance in NAPLAN\textsuperscript{16} Year 7 and Year 9 and the ATAR score\textsuperscript{17} (i-iii). Student engagement and well-being was also measured using three items, capturing attendance rates, retention rates and attitudes to school (iv-v & ix). The percentage of students undertaking higher education, vocational education and training and entering full-time employment were measures for student pathways and transitions (vi-viii). Parent and staff satisfaction was also evaluated to provide a comprehensive view of the school academic performance (x-xi). Using 7-point Likert scales, ranging from 1 (‘Well Below State Average’) to 7 (‘Well Above State Average’), respondents were asked to indicate the performance of their school in the above aspects compared to the state average at the time of the survey.

\textsuperscript{16} NAPLAN stands for ‘National Assessment Program - Literacy and Numeracy’. It serves to determine if educational outcomes have been achieved by students and to inform government policy and curriculum planning. Tests are completed in Years 3, 5, 7 and 9 of school. Four components are tested: reading comprehension, writing, language conventions – spelling, grammar, punctuation, and numeracy.

\textsuperscript{17} The ATAR score is measured, as some secondary schools have VCE and IB scores and both can be converted into the ATAR score.
4.3.6 Financial Performance

While school academic performance indicators are generally used in the education literature to measure school performance (Lamb et al., 2004b), more recent studies perceive a school’s financial well-being to be of equal importance, especially after the failure of a few schools in the recent years due to poor financial management (Starr, 2012, 2014). This highlights the importance of addressing financial risk through appropriate controls in schools.

Based on a review of the literature, five self-developed items were included in the survey questionnaire (Q3.13). The items were developed to capture school financial (sustainability) performance by asking respondents to indicate how well their schools performed in the following aspects: securing government and other funding, meeting targets in budget and maintaining short-term and long-term liquidity. Seven-point Likert scales were used for all five items, ranging from 1 (‘Very Poor’) to 7 (‘Excellent’).

4.3.7 Personal Views on Risk and Risk Management

The measurements of personal views on risk and RM were adopted from Collier et al.’s (2007) instrument. Participants were asked to describe their personal propensity to take risks, ranging from 1 (‘Never Willing to Take Risks’) to 7 (‘Always Willing to Take Risks’) (Q2.1). Further, participants were asked to indicate to what extent they personally agree or disagree with statements about RM as to 1) avoiding negative consequences, 2) achieving positive consequences and 3) handling through a formal system that identifies, manages and reports risks. These measures were presented on 7-point Likert scales, ranging from 1 (‘Strongly
Disagree’) and 7 (‘Strongly Agree’).

4.3.8 Respondent Demographic Information

A number of items concerning the respondents’ demographic information and their organizations were included in the survey questionnaire:

i) sector (government, Catholic or independent school) (Q3.1)

ii) location (urban, suburban or rural area) (Q3.2)

iii) size (number of staff members and students) (Q3.3)

iv) ICSEA\(^{18}\) index number (Q3.4)

v) previous year’s annual budget (Q3.5)

Six further items collected demographic information about respondents:

i) current job title (Q4.1)

ii) years of work experience as a principal (Q4.2)

iii) years of work experience as a principal in current school (Q4.3)

iv) age group (Q4.4)

v) gender (Q4.5)

vi) whether the respondent has undertaken any formal training in financial management (Q4.6)

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\(^{18}\) ICSEA stands for Index of Community Socio-Educational Advantage. The index is constructed from the socio-economic status (SES) characteristics of the districts in which each student at a school lives. It incorporates elements over which the school has very little control, for example average income, level of education, and types of employment for the households of students enrolled in the school.
4.4 Data Collection through Survey Questionnaire

4.4.1 Research Population and Respondents

One primary benefit of the survey method, according to Salant and Dillman (1994), Dillman (2000) and Dillman (2007), is that it allows researchers to survey a large population and collect quantifiable data to examine relationships at a relatively low cost. In addition, surveys provide respondents with sufficient time to respond carefully to questions and a feeling of anonymity.

The population for this study consists of all public and private schools offering secondary education in the state of Victoria, Australia. With the first establishment of schools in the 1860s, Victoria has a long history of public and private school education (Bob, Hayes, & Mills, 2002; Gammage, 2008). There are 2,228 schools (23.7% of Australia’s 9,389 schools) in Victoria (Summary Statistics for Victorian Schools 2015; DET), with the highest student increase (15,747, a 1.8% increase) in 2014 (ABS, 2014). It also offers a higher level of autonomy to public school principals in school governance than states such as Queensland or Tasmania. Victoria’s schools are thus an appropriate setting for a study in which the variables of interest, such as principals’ leadership styles, school RM culture, MCS use and school performance tend to range widely. Secondary schools were selected for the study as they have a common measure for graduates' academic performance (NAPLAN Year 7 & Year 9, ATAR score), which facilitates school performance comparisons (Lamb et al., 2004a, 2004b).
The full school list from the Department of Education and Training\footnote{See the list in http://data.gov.au/dataset/school-locations-victoria} was initially downloaded to identify Victorian schools for the study. The list provided the school name, head office address, and school sector. In total, 579 public and private schools (26% of 2228 Victorian schools) containing secondary education were identified for this study.

Consistent with prior studies that examine school performance and effectiveness (Cheng, 1994; Hallinger & Heck, 1998; Leitner, 1994; Marks & Printy, 2003), school principals were selected as respondents, because they are organizational leaders and play a particularly important role in influencing organizational culture. In addition, principals are key players in making strategic decisions for their schools and engaging in control systems to coerce or enable their employees in the achievement of school objectives.

4.4.2 Pre-Testing of the Survey Instrument

The survey instrument was pre-tested prior to its implementation. Dillman (2007) suggests that pre-testing a survey instrument will increase its validity and reliability through obtaining feedback from different people who bring varying specialized knowledge to the questionnaire. Hence, pre-testing of the survey instrument was conducted, first, among six academics across the disciplines of education, accounting, and RM. Feedback and advice regarding the content and form of the survey were collected and used to revise the survey instrument.

After those revisions were incorporated, the survey instrument was further pre-tested with five public and private school principals. The primary feedback
received from school principals involved the wording of some items in the instrument. Accordingly, the feedback and suggestions collected during this round of pre-testing were also incorporated into the final version of the survey.

4.4.3 Data Collection Procedure

Phone calls were made to all 579 principals of public and private secondary schools to generate interest in the project and confirm the name of the principal and preferred delivery method to forward the survey questionnaire to. Based on those calls, 45 schools were removed from the mailing list due to reasons of closure, lack of contact or being unable or unwilling to participate. Thus, the final distribution list was comprised of 534 public and private secondary school principals, of which 448 principals opted to receive the survey invitations via email, with the remaining 86 principals opting to receive postal invitations.

The survey questionnaire was printed in colour in a four-page booklet on A4 paper. The booklet comprised four sections. Section 1 on the front page involved the leadership style of school principals. Section 2 on page two covered principals’ personal views of risk and RM. Section 3, across pages two, three and four, covered the RM, approach to control and school performance. An area on page four (Q3.14) was left blank to allow respondents to provide comments concerning other aspects in which the school had performed well. This question provided ideas for the development of the semi-structured post-survey interviews. At the bottom of page four, Section 4 was devoted to gathering respondents’ demographic information.

The postal group was sent a package including a personalized invitation
letter (see Appendix 2), a survey booklet and a post-paid reply envelope. The personalized invitation letter introduced the study researchers, explained the study’s objectives, kindly asked respondents to participate in the research and assured participants of procedures to ensure the anonymity, confidentiality and security of the data collected. In appreciation for respondents’ contribution to the study and as a gesture of goodwill, a tree would be donated to Landcare Australia on behalf of each respondent who returned a completed questionnaire. As recommended by Dillman (2000) and Miller (1996), these types of incentives may improve the return rates of surveys. At two-week intervals after the initial distribution, two reminder letters were sent out. In consideration of the possibility that some respondents might have misplaced the survey and hence need a replacement, a copy of the survey was enclosed with the reminder letters.

The online group was provided with a web-based version of the survey questionnaire, which was designed to closely imitate the visual layout and question order sequence of the paper version. A personalized email with an embedded, unique hyperlink to the survey, developed using the Qualtrics online survey research suite, was sent to each respondent who opted to receive the online version. Similar to the postal group, two email reminders were sent to respondents at two-week intervals after the initial email was sent, with the third reminder targeting non-respondents – defined as those whose personalized hyperlinks had not been activated – from the online group to improve the response rate (Dillman, 2000).

During the survey period, some paper and online surveys were returned to the researcher for various reasons. They either had an incorrect postal/email
address or were caught in spam filtering. These were followed up by phone calls to check the address again and, if possible, encourage respondents to participate in the study. This process was quite successful in helping the researchers obtaining more completed surveys and thus improving the response rate (Dillman, 2000).

4.5 Structural Equation Modelling and Partial Least Squares

4.5.1 Structural Equation Modelling

Ullman and Bentler (2003) defined SEM as a technique ‘that allows a set of relationships between one or more independent variables (IVs), either continuous or discrete, and one or more dependent variables (DVs), either continuous or discrete, to be examined’ (p. 3). As a technique that allows for simultaneous estimations of a series of multiple regression equations, SEM is capable of incorporating both directly observable and unobservable (better known as latent) variables in a hypothesized model to be analysed simultaneously (Hair, Black, Babin, & Anderson, 2008; Smith & Langfield-Smith, 2004). A latent variable is a theoretical construct that is not directly observable in itself but is represented by measured (observable) variables (Byrne, 2001; Hair et al., 2008; Ullman & Bentler, 2003). In SEM, the items that are used to measure a latent variable are assumed to be reflective in nature; their measurement errors are accounted for in the estimation process (Hair et al., 2008; Chin, 2010). For many years, SEM has been known as a confirmatory method in data analysis that provides researchers with a comprehensive means for the assessment and modification of theoretical models (Anderson & Gerbing, 1988b; Ullman & Bentler, 2003).
The model-building task in SEM involves the analysis of two conceptually distinct models: a confirmatory measurement model and a confirmatory structural model (Anderson & Gerbing, 1988b; Joreskog & Sorbom, 1984). The measurement model is a factor analysis of the relations of the observed measures to their underlying constructs, allowing the constructs to be interrelated freely (Anderson & Gering, 1982, 1988). The structural model specifies the causal relations between constructs, as predicted by theory (Anderson & Gerbing, 1982, 1988a; Joreskog & Sorbom, 1984; Kline, 2011). Both models can be estimated simultaneously (Bentler, 1985; Hancock & Mueller, 2013; Joreskog & Sorbom, 1984).

Unlike other multivariate techniques, SEM is a covariance structure analysis technique that ‘focuses on explaining covariance among the variables measured, or the observed sample covariance matrix’ (Hair et al., 2008, p. 649). Prior studies suggest that there are a few key considerations underlying the appropriateness in using covariance-based SEM analysis in research (Chin, 1998; 2010; Kline, 2011). These considerations may include sample size, degree of emphasis on covariance explanation, indeterminate or defined theoretical constructs, hard or soft distributional assumptions and the exploratory nature of the study (Chin, 1998; 2010; Kline, 2011).

SEM is known primarily as a technique for large sample sizes. A general agreement in the prior literature suggests a minimum sample size of 200 to produce parameter estimates with any confidence; otherwise, SEM results may become indefensible unless they are an evaluation of a very simple model (Barrett, 2007). Second, while the focus of SEM on explaining covariance among the variables
adds credit to the model evaluation, Chin (2010, p. 661) suggested that ‘more complex model capturing many factors related to attitudes, opinions, and behaviours over time could be difficult to fully capture using covariance based SEM’. A model may thus become too complex and lead to indeterminacy in covariance-based SEM when the number of measured items increases. Third, the maximum likelihood (ML) estimator in SEM is based on hard assumptions of ‘a specific joint multivariate distribution and independence of observations’ (Chin, 2010, p. 659), which means assuming that observations follow a specific distributional pattern and must be independently distributional. Lastly, covariance-based SEM is a confirmatory method which typically employs a full information ML estimation process. This requires that a ‘true’ model is being tested, based on defined theoretical constructs, which may limit the exploratory nature of many studies (Chin, 2010).

The key issues above were evaluated when considering the appropriateness of covariance-based SEM for the present study. The evaluation was conducted in comparing -based SEM with an alternative technique of SEM-based analysis, PLS. Chin (1998, 2010) suggested that, depending on the researcher’s objectives for a study in terms of prediction versus explanation, on the epistemic view of data’s relationship with theory and on sample size, PLS can be argued to be a more suitable and powerful method of SEM-based analysis. Following this line of thought, the next section provides a review of the PLS approach and the justification for the method of analysis used for the present study by undertaking a comparison of PLS and covariance-based SEM.
4.5.2 Partial Least Squares (PLS)

PLS was developed in the 1960’s by Herman Wold; it started as a causal modelling approach in science and engineering (Wold, 1974, 1985). Since the 1990s, PLS has gained in popularity in other business disciplines (e.g. Duxbury & Higgins, 1991; Hulland & Kleinmuntz, 1994; Smith & Barclay, 1997), in the strategic management area (e.g. Birkinshaw, Morrison, & Hulland, 1995; Fornell, Lorange, & Roos, 1990; Johansson & Yip, 1994) and more recently in the management accounting area (e.g. Chenhall, 2005; Hair, Sarstedt, Ringle, & Mena, 2012; Hall, 2008; Hall & Smith, 2009; Mahama, 2006).

PLS has several advantages that can make it a compelling alternative to covariance-based SEM. First, PLS is a non-parametric technique and thus does not require distributional assumptions; it places minimal demands on measurement scales (Chin, 1998; Chin & Todd, 1995; Smith & Langfield-Smith, 2004). Compared with covariance-based SEM, which rests on hard assumptions of normality, PLS uses more general, soft distributional assumptions known as soft modelling (Chin, 2010). This allows PLS to avoid ‘the assumptions that observations follow a specific distributional pattern and that they must be independently distributed’ (Chin 2010, p. 659). Given that the data gathered in this study are non-normal (see Chapter 5 for more detail), the use of an SEM technique is precluded.

Second, PLS estimates its latent variables as combinations of the observed measures and offers the advantage of exact definitions of component scores, whereas covariance-based SEM has an inherent indeterminacy, especially in
working with highly complex models (Anderson & Gerbing, 1988; Chin, 1998; 2010). Chin (2008) observed that few SEM models were very complex. This warrants component-based PLS, which ‘regardless of whether applied under a strong substantive and theoretical context or limited/exploratory conditions, comes to the fore relative to covariance based SEM’ (Chin, 2010, p. 661). This is especially true for the current study, which contains factors related to attitudes, opinions and behaviours over time, which are hard to capture fully with covariance-based SEM (Chin, 1998; Chin & Todd, 1995).

Third, in comparison with covariance-based SEM, which works in confirmatory mode with an expectation of strong theoretical grounding, PLS offers greater flexibility for both theory confirmation and for predicting where relationships might or might not exist and suggesting properties for future testing (Chin, 1998, 2010). This feature fits the present study well, as some of its measures are not fully established in the literature, but rather self-developed on the basis of theoretical knowledge, which calls for a technique that can be used for both confirmatory and predictive purposes.

Fourth, PLS has much smaller sample size requirements for complex models than those required by covariance-based SEM (Chin, 1998, 2010; Chin & Newsted, 1999). In general, covariance-based SEM requires a sample of at least 200 to avoid drawing inaccurate inferences (Medsker, Williams, & Holahan, 1994; Smith & Langfield-Smith, 2004), whereas PLS can work with much smaller sample sizes, because the iterative process in PLS performs a series of ordinary least squares (OLS) to produce the parameter estimate of a construct, taking into account only those neighbouring constructs it is structurally connected (Chin, 2010). This makes
PLS appropriate for the present study, given the sample size available for hypothesis testing (see Chapter 5 for greater detail on this point).

Given the non-normality of the data, the complexity of a study that contains factors related to attitudes, opinions, and behaviours, the need for theory confirmation and prediction and finally the sample size, PLS was deemed to be the appropriate technique for data analysis in the present study.

4.6 Chapter Summary

This chapter outlines the research method used to collect data to test the hypotheses generated in Chapter 3. The study utilized both quantitative and qualitative approaches, with the quantitative data collected through a paper-based and web-based survey questionnaire and the qualitative data collected through semi-structured interviews with school leaders. Details of the qualitative study are presented in Chapter 6.

The chapter describes the development of the questionnaire instrument, details the data collection procedures and justifies the use of the SEM-based PLS technique for the analysis of the survey data. After removing 45 schools from the list of secondary schools in Victoria, the survey questionnaire was distributed to 534 public and private secondary school principals for data collection. The next chapter discusses the survey data analysis and results of the hypothesis testing.
Chapter 5: Survey Data Analysis and Findings

5.1 Introduction

This chapter focuses on the survey data analysis and findings. It presents the results of the tests of the eleven hypotheses related to the conceptual framework developed in Chapter 3.

The rest of the chapter is organized as follows. Section 5.2 discusses the process of data preparation and screening, while Section 5.3 discusses the concepts of reliability and validity of variables through factor analysis of multi-item constructs. Section 5.4 considers the measurement of key variables, before Section 5.5 turns to the descriptive statistics of respondents’ demographic information and the main variables contained in the conceptual framework. Section 5.6 examines the PLS measurement and structural models, and further discusses the results of hypothesis testing. The chapter concludes with a brief summary.

5.2 Data Preparation and Screening

Phone calls were made to 579 principals of public and private secondary schools in Victoria, Australia to double-check the information provided in the database. The principals’ names were obtained to personalize cover letters and to ensure that the survey was sent to the right addresses. Table 5.1 shows that among the 579 schools, 45 schools were closed, \(^{20}\) could not be reached by phone or were

\(^{20}\) Where a phone call was not connected, the school’s name was searched online to check its status. This resulted in a finding of 45 schools that had either merged into other schools or closed permanently.
unable or unwilling to participate; they were removed from the mailing list. The research questionnaire was then distributed to the remaining 534 public and private school principals; a total of 130 responses were received (24.3%). From the 130 responses, 23 cases were removed due to significant levels of missing data, reducing the number of usable responses to 107, representing 20.0% of schools surveyed. This response rate falls within the typical range of 10–25% that has been reported in similar recent studies published in reputable management and accounting journals (e.g. Baines & Langfield-Smith, 2003; Henri, 2006a; Lee, Lee, & Pennings, 2001; Spanos & Lioukas, 2001).

<table>
<thead>
<tr>
<th>Sample</th>
</tr>
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<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Public</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>Original sample</td>
</tr>
<tr>
<td>Declined to participate</td>
</tr>
<tr>
<td>Survey sent</td>
</tr>
<tr>
<td>Received replies</td>
</tr>
<tr>
<td>Usable replies</td>
</tr>
</tbody>
</table>

Of the 107 responses, one more case (from a public school) was excluded as the principal had only held that position in the school for three months and was hence deemed to have insufficient experience to make informed responses. After this removal, the sample was reduced to 106 responses.

Given that outliers may exist in any data collection, a histogram was drawn for each variable to check distributions and identify outliers. The approach applied was to look for any value that fell out of the range of the mean plus or minus three times of standard deviation (Hair, Anderson, Tatham, & Black, 1998). The
screening shows that the values of key variables of all responses fell within that range; no outliers were identified, generating a final sample of 106 responses. The 106 responses are composed of 69 public schools (approximately 65.1% of the final sample) and 37 private schools (approximately 34.9% of the final sample).

In a survey, non-response bias may exist if ‘persons who respond differ substantially from those who do not’, and as a result, ‘the results do not directly allow one to say how the entire sample would have responded’ (Armstrong & Overton, 1977, p.396). Given that only 20.0% of the 534 schools responded to the study, it was necessary to test for non-response bias. To do so, the responses of the first 32 respondents (first 30% of the final sample) and the last 32 respondents (the last 30% of the final sample and a proxy for non-respondents), including both web-based and paper-based responses, were compared. Table 5.2 outlines the results of independent sample t-tests conducted to compare the mean values of each latent variable; the results show that none of the items was significantly different \(p < 0.05\) than the mean value, indicating no significant differences between early and late respondents.
Table 5.2

*Independent Samples t-Tests for the First 30% and Last 30% of Responses (N = 106)*

<table>
<thead>
<tr>
<th>Variables</th>
<th>t-Value</th>
<th>p-Value (2-tailed)</th>
<th>Mean for Early Responses</th>
<th>Mean for Late Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transactional Leadership</td>
<td>0.29</td>
<td>0.77</td>
<td>3.30</td>
<td>3.22</td>
</tr>
<tr>
<td>Transformational Leadership</td>
<td>0.21</td>
<td>0.10</td>
<td>6.36</td>
<td>6.17</td>
</tr>
<tr>
<td>Performance-Oriented RM Culture</td>
<td>0.37</td>
<td>0.42</td>
<td>5.24</td>
<td>5.06</td>
</tr>
<tr>
<td>Enabling Control</td>
<td>0.68</td>
<td>0.95</td>
<td>5.38</td>
<td>5.39</td>
</tr>
<tr>
<td>Academic Performance</td>
<td>-1.62</td>
<td>0.11</td>
<td>4.42</td>
<td>4.97</td>
</tr>
<tr>
<td>Financial (Sustainability) Performance</td>
<td>0.93</td>
<td>0.15</td>
<td>4.80</td>
<td>5.26</td>
</tr>
</tbody>
</table>

Independent sample *t*-tests were also performed to compare the means of the postal (N = 24) and online groups (N = 82). Non-significant *p*-values (untabulated) were found for the variables in Table 5.2, indicating that there was not a statistically significant difference between the two modes of administering the questionnaire.

As a means to assess the extent of common method bias, a Harman’s one-factor test on the survey questions that form the primary constructs of interest for our study was performed (Podsakoff & Organ, 1986). The factor solution yielded multiple factors with eigenvalues greater than one, with the first factor explaining 31.4% of the total variance. It was also noted that items that form the primary constructs of interest to the study largely loaded on the appropriate constructs. These results suggest the absence of significant single-source bias (Podsakoff & Organ, 1986).
5.3 Factor Analysis of Multi-Item Constructs

Prior to testing the hypotheses, factor analysis was performed using SPSS 22.0 to examine the validity and reliability of each variable (Hair et al., 2008). The purpose of factor analysis is to ensure that the items are actually related to the construct that is intended to be measured.

The factor loading of each item was examined to determine which items could be retained and which ones should be considered for removal. After applying a cut-off loading of 0.4 (Hair et al., 2008), the factor analysis results identified six distinct groups of variables (Table 5.3). The results showed the items that have a factor loading greater than the cut-off loading, which indicates that these items are related to the construct that are intended to be measured. A number of items were eliminated as their loadings were below the threshold.21

Apart from the factor loadings, how well the variance in variables is explained by the items was also examined. Fornell and Bookstein (1982) suggest that the minimum threshold for variance explained is 0.50. Table 5.3 shows the percentage of variance explained for each of the key variables. 53.9% of the variance in transactional leadership is explained by the six items and 62.9% of variance in transformational leadership is explained by the 22 items, reinforcing the validity of these items adapted from prior literature (Silins, 1994). 61.5% of variance in performance-oriented RM culture is explained by its latent constructs, indicating that the choice of items in measuring this emerging new variable was

21 Items eliminated due to very low loadings were: TS2 for transactional leadership, TF 2,4,5,10,17,19 for transformational leadership, RMC 1,3,5,8,9 for performance-oriented RM culture, AP 7,8 for academic performance.
appropriate. 52.8% of variance in enabling controls is explained by the 14 items adapted from Chapman & Kihn (2009), confirming the importance of these items in measuring the enabling qualities of MCS. Finally, 70.6% of variance in academic performance and 58.8% variance in financial (sustainability) performance of schools are explained by the eleven and five items respectively.
Table 5.3

Factor Loadings, Variance Explained and Cronbach’s Alpha (n = 106)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Transactional Leadership (TS)</td>
<td>TS1</td>
<td><strong>.784</strong></td>
<td>-.160</td>
<td>-.045</td>
<td>-.014</td>
<td>-.030</td>
<td>-.012</td>
</tr>
<tr>
<td>(Variance Explained = 53.91%,</td>
<td>TS3</td>
<td><strong>.774</strong></td>
<td>-.176</td>
<td>-.018</td>
<td>-.118</td>
<td>-.063</td>
<td>-.053</td>
</tr>
<tr>
<td>Cronbach’s Alpha = 0.783)</td>
<td>TS4</td>
<td><strong>.671</strong></td>
<td>-.168</td>
<td>.099</td>
<td>-.037</td>
<td>-.179</td>
<td>-.221</td>
</tr>
<tr>
<td></td>
<td>TS5</td>
<td><strong>.641</strong></td>
<td>-.265</td>
<td>.131</td>
<td>-.213</td>
<td>-.088</td>
<td>-.211</td>
</tr>
<tr>
<td></td>
<td>TS6</td>
<td><strong>.532</strong></td>
<td>-.252</td>
<td>.060</td>
<td>-.222</td>
<td>-.038</td>
<td>-.297</td>
</tr>
<tr>
<td>2. Transformational Leadership (TF)</td>
<td>TF1</td>
<td>.004</td>
<td>.845</td>
<td>.023</td>
<td>.228</td>
<td>.043</td>
<td>.030</td>
</tr>
<tr>
<td>(Variance Explained = 62.88%,</td>
<td>TF3</td>
<td>-.037</td>
<td>.725</td>
<td>-.038</td>
<td>.040</td>
<td>.116</td>
<td>.084</td>
</tr>
<tr>
<td>Cronbach’s Alpha = 0.960)</td>
<td>TF6</td>
<td>-.076</td>
<td>.712</td>
<td>.107</td>
<td>.111</td>
<td>.101</td>
<td>-.031</td>
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<tr>
<td></td>
<td>TF7</td>
<td>-.117</td>
<td>.822</td>
<td>.004</td>
<td>.162</td>
<td>.092</td>
<td>.228</td>
</tr>
<tr>
<td></td>
<td>TF8</td>
<td>.000</td>
<td>.702</td>
<td>.039</td>
<td>.299</td>
<td>.005</td>
<td>-.118</td>
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<td>TF9</td>
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<td>.147</td>
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<td>.220</td>
<td>.098</td>
<td>.056</td>
<td>.052</td>
</tr>
<tr>
<td></td>
<td>TF12</td>
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<td>.757</td>
<td>.191</td>
<td>.159</td>
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<td>.063</td>
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<td></td>
<td>TF13</td>
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<td>.785</td>
<td>.164</td>
<td>.149</td>
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<td>.149</td>
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<td></td>
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<td>.249</td>
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<td>.144</td>
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<td></td>
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<td>.087</td>
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<td>.051</td>
</tr>
<tr>
<td></td>
<td>TF21</td>
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<td>.221</td>
<td>.093</td>
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<td>TF22</td>
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<td>.712</td>
<td>.084</td>
<td>.179</td>
<td>.120</td>
<td>-.208</td>
</tr>
<tr>
<td>3. RM Culture (RMC)</td>
<td>RMC2</td>
<td>-.074</td>
<td>.317</td>
<td>.607</td>
<td>.145</td>
<td>.075</td>
<td>.031</td>
</tr>
<tr>
<td>(Variance Explained = 61.53%,</td>
<td>RMC4</td>
<td>-.110</td>
<td>.313</td>
<td>.668</td>
<td>.217</td>
<td>.123</td>
<td>.086</td>
</tr>
<tr>
<td>Cronbach’s Alpha = 0.895)</td>
<td>RMC6</td>
<td>.060</td>
<td>.304</td>
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<td></td>
<td>RMC7</td>
<td>.084</td>
<td>.202</td>
<td>.775</td>
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<td>RMC10</td>
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<td></td>
<td>RMC11</td>
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<td>.252</td>
<td>.561</td>
<td>.229</td>
<td>.136</td>
<td>.160</td>
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<td></td>
<td>RMC12</td>
<td>.141</td>
<td>.315</td>
<td>.575</td>
<td>.109</td>
<td>.125</td>
<td>.089</td>
</tr>
<tr>
<td>4. Enabling Control (EC)</td>
<td>EC1</td>
<td>-.100</td>
<td>.307</td>
<td>-.002</td>
<td>.672</td>
<td>.101</td>
<td>.391</td>
</tr>
<tr>
<td>(Variance Explained = 52.80%,</td>
<td>EC2</td>
<td>-.175</td>
<td>.324</td>
<td>.015</td>
<td>.686</td>
<td>.210</td>
<td>.306</td>
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<td>-.020</td>
<td>.251</td>
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<td>.823</td>
<td>.069</td>
<td>.292</td>
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<tr>
<td></td>
<td>EC4</td>
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<td>.277</td>
<td>-.062</td>
<td>.816</td>
<td>.032</td>
<td>.311</td>
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<tr>
<td></td>
<td>EC5</td>
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<td>.777</td>
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<td>.215</td>
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<td>.317</td>
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<td>.746</td>
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<td>.092</td>
<td>.190</td>
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Table 5.3 (cont.)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Items 1</th>
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<th>6</th>
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</thead>
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<tr>
<td>EC8</td>
<td>.059</td>
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<td>.171</td>
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<td>.102</td>
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<td>EC9</td>
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<td>.100</td>
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<td>EC10</td>
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<td>.151</td>
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<td>.717</td>
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</tr>
<tr>
<td>EC11</td>
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<td>.277</td>
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<tr>
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<tr>
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<td>.201</td>
<td>.163</td>
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<td>.828</td>
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<td></td>
<td>.154</td>
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<td>.211</td>
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<td>.107</td>
<td></td>
</tr>
<tr>
<td>AP4</td>
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<td>.062</td>
<td></td>
<td>.103</td>
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</tr>
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<td>.240</td>
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</tr>
<tr>
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<td>.040</td>
<td>.063</td>
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<td>.142</td>
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</tr>
<tr>
<td>AP9</td>
<td>-.033</td>
<td>.115</td>
<td>.245</td>
<td></td>
<td>.106</td>
<td></td>
</tr>
<tr>
<td>AP10</td>
<td>-.033</td>
<td>.108</td>
<td>.196</td>
<td></td>
<td>.131</td>
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</tr>
<tr>
<td>AP11</td>
<td>.100</td>
<td>.123</td>
<td>.126</td>
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<td>.083</td>
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<td>.153</td>
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<td>FS2</td>
<td>.272</td>
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<td>.223</td>
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<td>.185</td>
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<td>FS3</td>
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<td>.182</td>
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<td>.018</td>
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<td>FS4</td>
<td>.198</td>
<td>.239</td>
<td>-.217</td>
<td>-.004</td>
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<td>.050</td>
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<td>FS5</td>
<td>.273</td>
<td>.285</td>
<td>-.245</td>
<td></td>
<td>.117</td>
<td></td>
</tr>
</tbody>
</table>

The study also examined Cronbach’s alpha reliability coefficients to see how well a single uni-dimensional latent construct was measured by a set of items. When the inter-item correlations are high, Cronbach’s alpha is also high, so a high Cronbach’s alpha is evidence that the items in question are measuring the same underlying construct. In this study, we followed the practice in prior literature and set the threshold for the Cronbach’s alpha as 0.60 (Gong & Ferreira, 2014; Hair et al., 1998). Table 5.3 shows that all our constructs exhibit acceptable Cronbach’s alpha values, indicating that each variable has good internal reliability.\(^{22}\)

\(^{22}\) Q2.2 was eliminated for further analysis due to the very low loadings of the items and a Cronbach’s alpha of 0.453, less than the threshold of 0.60 (Gong & Ferreira, 2014; Hair et al. 2008).
5.4 Variable Measurement

Table 5.4 outlines the measurement of key variables used to test the hypothesis. Transactional leadership, transformational leadership, performance-oriented RM culture, enabling controls, academic performance and financial performance of schools were measured by their reflective indicators respectively. School sector, principal’s gender and financial training were taken as dummy variables with ‘1’ as proxies for public schools, male and having financial training experience, and ‘0’ for private schools, female and no prior financial training experience. Principals’ overall years of work experience as a principal and as a principal in their current school were measured as the number of years they have been holding this position. In addition, as school location and a principal’s age may also influence school performance, we followed prior literature and broke the results into blocks according to geographical location and principals’ age groups (Lamb et al., 2004a; Lamb et al., 2004b). The index number represents the SES of the area in which a school is located. As the base index number is 1,000, which represents the average SES in Victoria, in order to give more meaning to an index number, each number is subtracted by 1000 so that a positive result shows the school is located in an area with advantages in SES, while a negative outcome shows the school is located in an area with disadvantages in SES. Lastly, school size was measured by the number of students in the school. As the number of students was likely to be skewed, it was logged to generate a distribution more closely resembling a normal distribution, significantly reducing its kurtosis after transformation.
Table 5.4

<table>
<thead>
<tr>
<th>Variables</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transactional leadership</td>
<td>Measured by five reflective indicators</td>
</tr>
<tr>
<td>Transformational leadership</td>
<td>Measured by 16 reflective indicators</td>
</tr>
<tr>
<td>Performance-oriented RM culture</td>
<td>Measured by seven reflective indicators</td>
</tr>
<tr>
<td>Enable control</td>
<td>Measured by 14 reflective indicators</td>
</tr>
<tr>
<td>Academic performance</td>
<td>Measured by nine reflective indicators</td>
</tr>
<tr>
<td>Financial (sustainability)</td>
<td>Measured by five reflective indicators</td>
</tr>
<tr>
<td>Performance</td>
<td></td>
</tr>
<tr>
<td>School Sector</td>
<td>Measured as dummy variable (1 for public and 0 for private schools)</td>
</tr>
<tr>
<td>School Size</td>
<td>Measured by the log of the number of students</td>
</tr>
<tr>
<td>ICSEA</td>
<td>Measured by the index number subtracted by 1000</td>
</tr>
<tr>
<td>School Location</td>
<td>Measured as 1 for urban schools, 2 for suburban schools, 3 for rural schools</td>
</tr>
<tr>
<td>Years as a Principal</td>
<td>Measured by years of work experience as a principal</td>
</tr>
<tr>
<td>Years as a Principal in Current School</td>
<td>Measured by years of work experience as a principal</td>
</tr>
<tr>
<td>Financial Training</td>
<td>Measured as dummy variable (1 for having prior financial training; 0 if not)</td>
</tr>
<tr>
<td>Gender</td>
<td>Measured as dummy variable (1 for male and 0 for female)</td>
</tr>
<tr>
<td>Age</td>
<td>1 for age group 25–34</td>
</tr>
<tr>
<td></td>
<td>2 for age group 35–44</td>
</tr>
<tr>
<td></td>
<td>3 for age group 45–54</td>
</tr>
<tr>
<td></td>
<td>4 for age group 55+</td>
</tr>
</tbody>
</table>
5.5 Descriptive Statistics

This section presents descriptive statistics of demographic information for respondents and organizations participating in the study, as well as key variables of interest. Common descriptive statistics, such as maximum, minimum, mean and standard deviation are shown to provide a preliminary picture of the observed variables.

Demographic information on respondents and organizations are presented in Table 5.5. The table shows that, on average, respondents have been in their current position for around seven years, with some being very recently appointed (approximately six months) and some with many years of experience (28 years). Their average time of working as a principal is 10.6 (rounded) years, ranging from one year to 35 years, suggesting that respondents have adequate knowledge and experience. Respondent schools have an average of 87 employees, although the smallest has only 12 full-time equivalent employees. This small school is located in a rural area and also has the smallest number of students (45). Most large schools are located in the urban and suburban areas in Victoria (19 urban schools, 47 suburban schools and 40 rural schools), with the largest school having 3,000 students and 450 full-time employees.
Table 5.5

Descriptive Statistics for Demographic Variables (N = 106)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal in current school</td>
<td>0.5</td>
<td>28</td>
<td>7.01</td>
<td>5.52</td>
</tr>
<tr>
<td>Years of work experience as a principal</td>
<td>1</td>
<td>35</td>
<td>10.55</td>
<td>7.05</td>
</tr>
<tr>
<td>Number of employees</td>
<td>12</td>
<td>450</td>
<td>87.41</td>
<td>66.90</td>
</tr>
<tr>
<td>Number of students</td>
<td>45</td>
<td>3000</td>
<td>784.72</td>
<td>538.44</td>
</tr>
</tbody>
</table>

The demographic information of respondents also shows that the majority of respondents are in the 55+ age group (64 respondents), followed by the 45–54 (37 respondents) and 35-44 (five respondents) age groups, with no respondent in the 25–34 age group. More than half (64) of the respondents are male; the rest (42) are female. In addition, around half of the respondents (51) have prior experience of formal training in financial management.

Table 5.6 presents the descriptive statistics for the main variables contained in the conceptual framework. Each variable was measured on a 7-point Likert scale; its range, mean and standard deviation are presented, along with the skew and kurtosis statistics. Some key observations of the descriptive statistics for the main variables are noted afterwards.
Table 5.6

Summary Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transactional Leadership</td>
<td>106</td>
<td>1.00</td>
<td>6.68</td>
<td>3.41</td>
<td>1.20</td>
<td>0.29</td>
<td>-0.15</td>
</tr>
<tr>
<td>Transformational Leadership</td>
<td>106</td>
<td>4.09</td>
<td>7.00</td>
<td>5.93</td>
<td>0.67</td>
<td>-1.24</td>
<td>0.90</td>
</tr>
<tr>
<td>Performance-Oriented RM Culture</td>
<td>106</td>
<td>2.39</td>
<td>6.83</td>
<td>5.13</td>
<td>0.80</td>
<td>-0.75</td>
<td>0.24</td>
</tr>
<tr>
<td>Enabling Control</td>
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<td>2.87</td>
<td>6.82</td>
<td>5.34</td>
<td>0.85</td>
<td>-0.37</td>
<td>-0.24</td>
</tr>
<tr>
<td>Academic Performance</td>
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<td>2.01</td>
<td>7.00</td>
<td>4.93</td>
<td>1.20</td>
<td>-0.03</td>
<td>-0.78</td>
</tr>
<tr>
<td>Financial Performance</td>
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<td>2.00</td>
<td>7.00</td>
<td>5.26</td>
<td>1.15</td>
<td>-0.46</td>
<td>-0.61</td>
</tr>
</tbody>
</table>
On average, all respondents showed some degree of transactional leadership, ranging between 1.00 and 6.68, with an average of approximately 3.41. The range for transformational leadership starts from a minimum of 4.09 to a maximum of 7 with an average of 5.93, which is higher than the average score of transactional leadership. This shows that although the two leadership styles coexist as two dimensions of leadership behaviour (Jansen, 2011), school principals tend to place a greater emphasis on the influence and charisma of leaders, their ability to inspire and motivate employees, to stimulate innovation and creativity and to show concern for employee well-being (Avolio & Bass, 2004; Northhouse, 2004).

Next, the mean for the performance-oriented RM culture is 5.13, ranging from 2.39 to 6.83. This suggests that while schools show a tendency towards developing a performance-oriented RM culture as a result of RM reform in the schooling system in recent years, some schools retain a bureaucratic approach to RM, with a strong reliance on conformity and less emphasis on taking advantage of RM to achieve growth, innovation and creativity. In contrast, other schools have almost fully embraced reform, which is reflected in these schools’ showing more traits of a performance-oriented RM culture, such as being willing to treat risks as opportunities, showing strong tolerance for flexibility and placing substantial focus on value creation through making strategic decisions and resource utilization.

The descriptive statistics further suggest that many schools have adopted an enabling approach to control, as evidenced by a mean score of 5.34, ranging between 2.87 and 6.82. A further breakdown of this result into the four characteristics of enabling controls – internal transparency, global transparency, repair, and flexibility – shows that internal transparency has the highest mean (5.61)
of all (the mean scores for global transparency, repair and flexibility are 5.46, 4.67, and 3.76 respectively), suggesting that MCS plays a greater role in providing employees with insight into the internal workings of work flows in schools. However, the overall lower mean score for flexibility suggests that schools are less inclined to allow much flexibility in their control systems, at least in comparison to the other three design traits. This finding is consistent with prior studies, which have also observed difficulties in the flexible use of MCS (Chapman & Kihn, 2009; Jordan & Messner, 2012).

Finally, schools’ academic performance and financial performance show similar patterns, with the former ranging between 2.01 and 7.00, with an average of 4.93, and the latter ranging between 2.00 and 7.00, with an average of 5.26. Given that the median is 4.77 for academic performance and 5.50 for financial performance, more than half of the respondents rated the academic performance and financial performance of their schools as above the state average (4 on the 7-point Likert scale), indicating that most respondents perceived their organizations’ performance to be reasonably satisfactory when viewed in the context of the goals set by the DET over the previous two years.

The skewness and kurtosis values of the variables are also presented in Table 5.6. As these values are above or below zero, they indicate non-normal distribution of the data (Hair et al., 2008). Further tests using the Kolmogorov-Smirnov test and the Shapiro-Wilk test show that some of the variables are not normally

---

23 Hair et al. (2008) described normal distribution as ‘purely theoretical continuous probability distribution in which the horizontal axis represents all possible values of a variable and the vertical axis represents the probability of those values occurring. The scores on the variable are clustered around the mean in a symmetrical, unimodal pattern known as the bell-shaped or normal curve’ (p. 36).
distributed.\textsuperscript{24} This finding reconfirmed the choice of the PLS technique, which deals with testing non-normal data, as explained in Chapter 4.

5.6 Hypothesis Testing – Partial Least Squares (PLS)

As discussed in Chapter 4, PLS path modelling is a non-parametric technique and hence does not require distributional assumptions and places minimal demands on measurement scales (Chin, 1998; Chin & Todd, 1995; Gong & Ferreira, 2014; Smith & Langfield-Smith, 2004). It places fewer requirements on sample size than covariance-based SEM (Chin, 1998, 2010). In addition, the PLS software estimates both measurement and structural model and avoids the problems of inadmissible solutions and factor indeterminacy (Chin, 1998; Chin & Todd, 1995) making it a compelling alternative to structural equation modelling. As such, the PLS path modelling technique has become widely accepted in the management accounting literature (e.g. Chenhall, 2005; Hair et al., 2012; Hall, 2008; Hall & Smith, 2009; Mahama, 2006). In the study, a PLS model was analysed using Smart PLS (Version 2) and interpreted in two stages: 1) the assessment of the reliability and validity of the measurement model and 2) the assessment of the path coefficients and the R\textsuperscript{2} values of the structural model (Chin, 1998).

5.6.1 Measurement Model

The measurement model is a factor analysis of the relations of the observed measures to their underlying constructs, allowing the constructs to be interrelated freely (Anderson & Gerbing, 1982). Assessment of a reflective model involves

\textsuperscript{24} The Kolmogorov-Smirnov test and the Shapiro-Wilk test showed that transformational leadership, performance-oriented RM culture, academic performance and financial performance are all not normally distributed.
determining individual item reliability, internal consistency reliability, convergent validity and discriminant validity\textsuperscript{25} (Hair et al., 2012; Hartmann, Naranjo-Gil, & Perego, 2010).

\textbf{5.6.1.1 Reliability of the Measures}

Individual item reliability assesses whether each measure is strongly related to the construct it intends to measure and does not have a stronger connection with any other construct (Chin, 2010). Barclay et al. (1995) noted that ‘individual item reliability is assessed by examining the loadings, or simple correlations, of the measures with their respective construct’ (p. 295). Hulland (1999) suggests a preferred threshold of 0.7 or higher for individual item loading, which implies more shared variance than error variance between the construct and its measures.

While traditionally Cronbach’s alpha is used to measure internal consistency reliability in the social science research, it tends to provide a conservative measurement when PLS and SEM are used (Wong, 2013). Prior literature has suggested using ‘composite reliability’ as a replacement (Hair et al.). Composite reliability is a measure of internal consistency and was assessed using internal composite reliability (ICR) (Fornell & Larcker, 1981). As shown in Table 5.7, all constructs exhibit ICRs above 0.8 (> 0.7), indicating that each construct has good internal consistency reliability (Hulland, 1999).

\textsuperscript{25} Convergent validity is the extent to which blocks of items strongly agree or converge in their representation of the underlying construct that they were created to measure. Discriminant validity is the extent to which a construct is distinct from other constructs in a given model (Chin 2010; Hair et al. 2008).
### Table 5.7

*Individual Item Loadings, Composite Reliability (ICRs), and Average Variance Extracted (AVE) (n=106)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Items</th>
<th>Loadings</th>
<th>ICR</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Transactional Leadership (TS)</td>
<td>TS1</td>
<td>0.716</td>
<td>0.840</td>
<td>0.518</td>
</tr>
<tr>
<td></td>
<td>TS3</td>
<td>0.709</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TS4</td>
<td>0.755</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TS5</td>
<td>0.876</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TS6</td>
<td>0.783</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Transformational Leadership (TF)</td>
<td>TF1</td>
<td>0.861</td>
<td>0.964</td>
<td>0.629</td>
</tr>
<tr>
<td></td>
<td>TF3</td>
<td>0.712</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TF6</td>
<td>0.732</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TF7</td>
<td>0.858</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TF8</td>
<td>0.729</td>
<td></td>
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<tr>
<td></td>
<td>TF9</td>
<td>0.834</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TF11</td>
<td>0.796</td>
<td></td>
<td></td>
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<td></td>
<td>TF12</td>
<td>0.827</td>
<td></td>
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<tr>
<td></td>
<td>TF13</td>
<td>0.832</td>
<td></td>
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<tr>
<td></td>
<td>TF14</td>
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<td></td>
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<tr>
<td></td>
<td>TF15</td>
<td>0.775</td>
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<tr>
<td></td>
<td>TF16</td>
<td>0.792</td>
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<tr>
<td></td>
<td>TF18</td>
<td>0.787</td>
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<td></td>
<td>TF20</td>
<td>0.828</td>
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<td></td>
<td>TF21</td>
<td>0.787</td>
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<tr>
<td></td>
<td>TF22</td>
<td>0.723</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. RM Culture (RMC)</td>
<td>RMC2</td>
<td>0.709</td>
<td>0.917</td>
<td>0.614</td>
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<tr>
<td></td>
<td>RMC4</td>
<td>0.813</td>
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<td>RMC6</td>
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<td></td>
<td>RMC7</td>
<td>0.807</td>
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<td>RMC10</td>
<td>0.831</td>
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<td></td>
<td>RMC11</td>
<td>0.732</td>
<td></td>
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<tr>
<td></td>
<td>RMC12</td>
<td>0.798</td>
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<td>4. Enabling Control (EC)</td>
<td>EC1</td>
<td>0.805</td>
<td>0.937</td>
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<tr>
<td></td>
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<td>0.828</td>
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<td>EC3</td>
<td>0.868</td>
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<tr>
<td></td>
<td>EC4</td>
<td>0.864</td>
<td></td>
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<td></td>
<td>EC5</td>
<td>0.793</td>
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<td></td>
<td>EC6</td>
<td>0.848</td>
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<td>EC7</td>
<td>0.831</td>
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<td>EC8</td>
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<td>EC9</td>
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<td></td>
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<tr>
<td></td>
<td>EC11</td>
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<td>EC12</td>
<td>0.789</td>
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<td>EC13</td>
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<tr>
<td></td>
<td>EC14</td>
<td>0.754</td>
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<tr>
<td>Variable</td>
<td>Items</td>
<td>Loadings</td>
<td>ICR</td>
<td>AVE</td>
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<tr>
<td>--------------------------------</td>
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<td>-----</td>
<td>-----</td>
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<tr>
<td>5. Academic Performance (AP)</td>
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<td>0.955</td>
<td>0.705</td>
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<td></td>
<td>AP2</td>
<td>0.868</td>
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<tr>
<td></td>
<td>AP3</td>
<td>0.857</td>
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<tr>
<td></td>
<td>AP4</td>
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<td>AP5</td>
<td>0.831</td>
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<td></td>
<td>AP6</td>
<td>0.877</td>
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<tr>
<td></td>
<td>AP9</td>
<td>0.850</td>
<td></td>
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<tr>
<td></td>
<td>AP10</td>
<td>0.809</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>AP11</td>
<td>0.708</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Financial Sustainability (FS)</td>
<td>FS1</td>
<td>0.709</td>
<td>0.872</td>
<td>0.576</td>
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<tr>
<td></td>
<td>FS2</td>
<td>0.761</td>
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</tr>
<tr>
<td></td>
<td>FS3</td>
<td>0.767</td>
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<tr>
<td></td>
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<td>0.763</td>
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<td></td>
<td>FS5</td>
<td>0.808</td>
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</tr>
</tbody>
</table>
5.6.1.2 Convergent Validity of the Measures Associated with Individual Constructs

It is essential to establish the validity of the latent variables in the examination of a measurement model. Researchers are often concerned about the convergent validity of measures when using multiple measures to determine the underlying constructs (Hulland, 1999). Convergent validity is the extent to which blocks of items agree in representing of the underlying construct they are created to measure (Chin, 2010).

To check convergent validity, the average variance extracted (AVE) of each latent variable is evaluated. AVE measures the amount of variance that a latent variable captures from its indicators relative to the amount due to measurement error (Chin 1998; 2010). As a composite reliability tool, AVE is only applicable for latent variables with reflective indicators (Chin 1998; 2010). An AVE greater than 0.50 indicates the convergent validity of a variable (Bagozzi & Yi, 1988; Chin, 1998, 2010). Table 5.7 shows that all variables do qualify for convergent validity, as the results indicated an AVE above 0.5 for all constructs.

5.6.1.3 Discriminant Validity

Prior studies suggest that discriminant validity holds if a construct shares more variance with its measures than it shares with other constructs in a given model (Hulland, 1999; Mahama, 2006). Chin (2010) commented that ‘if a specific construct is more correlated with another construct than with its own measures, there is the possibility that the two constructs share the same types of measures and are not conceptually distinct’ (p. 670). This indicates that the two sets of items are...
not in fact clearly differentiating the two underlying constructs that were asserted to exist.

According to Chin (2010), discriminant validity at the item level can be claimed if all items load more highly on their own construct than on other constructs and if all constructs share more variance with their measures than with other constructs. This premise of the discriminant validity of variables is measured by comparing the square root of an AVE value with inter-construct correlations (Chin, 2010; Hair et al., 2008). To perform this check, a correlation matrix table can be used for comparison. The correlations between variables are shown in the left diagonal elements of the matrix, while the square roots of the AVE values for each construct can be shown along the diagonal (Hulland, 1999). Clear evidence of discriminant validity can be established if the square root of AVE is greater than the inter-construct correlation values among the latent variables (Chin, 1998; Fornell & Larcker, 1981; Hulland, 1999).

Given the values of the square roots of AVE (in bold) exceeded the corresponding correlations for each value, as shown in Table 5.8, it is reasonable to conclude that there is adequate discriminant validity among variables used in this study. These results suggest that all indicators are valid measures of their underlying latent variables.
<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Transactional Leadership</td>
<td>0.720</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>2. Transformational Leadership</td>
<td>-0.351**</td>
<td>0.793</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3. Performance-Oriented RM Culture</td>
<td>-0.241*</td>
<td>0.601**</td>
<td>0.784</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4. Enabling Control</td>
<td>-0.332**</td>
<td>0.461**</td>
<td>0.491**</td>
<td>0.725</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5. Academic Performance</td>
<td>-0.218*</td>
<td>0.255**</td>
<td>0.372**</td>
<td>0.371**</td>
<td>0.840</td>
<td></td>
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<tr>
<td>6. Financial Performance</td>
<td>-0.042</td>
<td>0.255**</td>
<td>0.299**</td>
<td>0.311**</td>
<td>0.626**</td>
<td>0.759</td>
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<tr>
<td>7. Individual Risk Propensity</td>
<td>-0.085</td>
<td>0.328**</td>
<td>0.331**</td>
<td>0.080</td>
<td>0.005</td>
<td>0.153</td>
<td>1.000</td>
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</tr>
<tr>
<td>8. School Sector</td>
<td>0.201*</td>
<td>-0.260**</td>
<td>-0.280**</td>
<td>-0.260**</td>
<td>-0.544**</td>
<td>-0.447**</td>
<td>0.057</td>
<td>1.000</td>
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<tr>
<td>9. School Location</td>
<td>0.072</td>
<td>0.017</td>
<td>-0.186</td>
<td>-0.116</td>
<td>-0.244*</td>
<td>-0.106</td>
<td>-0.061</td>
<td>0.202*</td>
<td>1.000</td>
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<tr>
<td>10. School Size</td>
<td>-0.101</td>
<td>-0.024</td>
<td>0.058</td>
<td>0.005</td>
<td>-0.060</td>
<td>-0.023</td>
<td>0.000</td>
<td>-0.008</td>
<td>-0.439**</td>
<td>1.000</td>
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<tr>
<td>11. Years of Work Experience</td>
<td>0.036</td>
<td>-0.020</td>
<td>0.110</td>
<td>-0.074</td>
<td>0.075</td>
<td>0.099</td>
<td>0.145</td>
<td>-0.013</td>
<td>-0.227**</td>
<td>0.180</td>
<td>1.000</td>
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<td>12. Years of Work Experience in Current School</td>
<td>-0.119</td>
<td>0.118</td>
<td>0.128</td>
<td>0.087</td>
<td>0.235*</td>
<td>0.267**</td>
<td>0.206*</td>
<td>-0.046</td>
<td>-0.294**</td>
<td>0.222*</td>
<td>0.638**</td>
<td>1.000</td>
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<td>13. Age</td>
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<td>-0.144</td>
<td>-0.043</td>
<td>0.031</td>
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<td>0.013</td>
<td>-0.076</td>
<td>0.020</td>
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<td>0.270**</td>
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<td>0.385**</td>
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<td>14. Gender</td>
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<td>-0.027</td>
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<td>-0.017</td>
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<td>0.006</td>
<td>0.070</td>
<td>-0.108</td>
<td>-0.018</td>
<td>0.035</td>
<td>0.285**</td>
<td>0.079</td>
<td>-0.021</td>
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<td>0.219*</td>
<td>0.164</td>
<td>0.146</td>
<td>0.081</td>
<td>-0.028</td>
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<td>0.151</td>
<td>-0.055</td>
<td>-0.038</td>
<td>0.094</td>
<td>0.041</td>
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<td>16. ICSEA</td>
<td>-0.120</td>
<td>0.108</td>
<td>0.047</td>
<td>0.036</td>
<td>0.571**</td>
<td>0.357**</td>
<td>-0.021</td>
<td>-0.408**</td>
<td>-0.303**</td>
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<td>0.224*</td>
<td>0.104</td>
<td>-0.014</td>
<td>0.123</td>
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</tr>
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</table>

Bold-faced elements on the diagonal represent the square root of the average variance extracted (AVE). Off-diagonal elements are Pearson correlations among variables, N = 106.

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).
While there are some instances of significant correlations between the independent variables, they are not sufficiently large to raise multicollinearity concerns in examining the variance inflation factors (VIFs)\textsuperscript{26} (Griffiths, Hill, & Judge, 1993).

5.6.2 Structural Model and Results of Hypothesis Testing

The structural model evaluated the $R^2$ values and the structural path coefficients between the constructs. After running the Smart PLS software, the resampling technique bootstrapping was used to obtain estimates of significance of each path of the structural model. The bootstrapping technique provides the $T$-statistic for each path coefficient by creating multiple subsamples from an original dataset (Byrne, 2001; Chin, 1998). In line with prior studies (e.g., Chin, 1998), this study performed a bootstrap on 500 samples to evaluate the statistically significant estimates for path coefficients. Table 5.9 reports the path coefficients and $t$-values with the level of significance achieved.

\textsuperscript{26} The VIF for transactional and transformational leadership styles is 1.134, well below the threshold of 3, indicating no multicollinearity concerns (Griffiths et al. 1993).
<table>
<thead>
<tr>
<th>Independent variable -&gt; Dependent variable</th>
<th>Expected Sign</th>
<th>All Schools $(N = 106)$</th>
<th>Public Schools $(N = 69)$</th>
<th>Private Schools $(N = 37)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transactional Leadership -&gt; Performance-Oriented RM Culture</td>
<td>H1a -</td>
<td>0.014</td>
<td>0.160</td>
<td>0.046</td>
</tr>
<tr>
<td>Transformational Leadership -&gt; Performance-Oriented RM Culture</td>
<td>H1b +</td>
<td>0.541***</td>
<td>6.508</td>
<td>0.643***</td>
</tr>
<tr>
<td>Transactional Leadership -&gt; Enabling Control</td>
<td>H2a -</td>
<td>-0.274***</td>
<td>2.588</td>
<td>-0.285**</td>
</tr>
<tr>
<td>Transformational Leadership -&gt; Enabling Control</td>
<td>H2b +</td>
<td>0.160</td>
<td>1.097</td>
<td>0.406**</td>
</tr>
<tr>
<td>School Sector -&gt; Performance-Oriented RM Culture</td>
<td>H1c -</td>
<td>-0.136*</td>
<td>1.890</td>
<td>N/A</td>
</tr>
<tr>
<td>School Sector -&gt; Enabling Control</td>
<td>H2c -</td>
<td>-0.099</td>
<td>1.128</td>
<td>N/A</td>
</tr>
<tr>
<td>Performance-Oriented RM Culture -&gt; Enabling Control</td>
<td>H3 +</td>
<td>0.289**</td>
<td>2.363</td>
<td>-0.003</td>
</tr>
<tr>
<td>Performance-Oriented RM Culture -&gt; Academic Performance</td>
<td>H4a +</td>
<td>0.168**</td>
<td>2.187</td>
<td>0.056</td>
</tr>
<tr>
<td>Performance-Oriented RM Culture -&gt; Financial (Sustainability) Performance</td>
<td>H4b +</td>
<td>0.184**</td>
<td>1.967</td>
<td>0.035</td>
</tr>
<tr>
<td>Enabling Control -&gt; Academic Performance</td>
<td>H4c +</td>
<td>0.253***</td>
<td>2.770</td>
<td>0.016</td>
</tr>
<tr>
<td>Enabling Control -&gt; Financial (Sustainability) Performance</td>
<td>H4d +</td>
<td>0.212**</td>
<td>2.125</td>
<td>0.134</td>
</tr>
</tbody>
</table>
## Table 5.9 (cont.)

<table>
<thead>
<tr>
<th>Control Variables</th>
<th>Expected Sign</th>
<th>All Schools</th>
<th>(N = 106)</th>
<th>Public Schools</th>
<th>(N = 69)</th>
<th>Private Schools</th>
<th>(N = 37)</th>
<th>Path Coeff.</th>
<th>t-value</th>
<th>Path Coeff.</th>
<th>t-value</th>
<th>Path Coeff.</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent variable -&gt; Dependent variable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual Risk Propensity -&gt; Performance-Oriented RM Culture</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.194*</td>
<td>1.773</td>
<td>0.198**</td>
<td>2.051</td>
<td>0.132</td>
<td>1.198</td>
</tr>
<tr>
<td>Years of Work Experience -&gt; Academic Performance</td>
<td>+</td>
<td>-0.079</td>
<td>0.915</td>
<td>0.009</td>
<td>0.061</td>
<td>-0.166**</td>
<td>2.329</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years of Work Experience -&gt; Financial (Sustainability) Performance</td>
<td>+</td>
<td>-0.041</td>
<td>0.296</td>
<td>0.117</td>
<td>0.391</td>
<td>-0.444**</td>
<td>3.759</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years of Work Experience in Current School -&gt; Academic Performance</td>
<td>+</td>
<td>0.132</td>
<td>1.480</td>
<td>0.115</td>
<td>1.028</td>
<td>0.120*</td>
<td>1.667</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years of Work Experience in Current School -&gt; Financial (Sustainability) Performance</td>
<td>+</td>
<td>0.207</td>
<td>1.433</td>
<td>0.225</td>
<td>1.033</td>
<td>0.231**</td>
<td>2.054</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICSEA -&gt; Academic Performance</td>
<td>+</td>
<td>0.556***</td>
<td>7.993</td>
<td>0.657***</td>
<td>8.310</td>
<td>0.350**</td>
<td>6.030</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICSEA -&gt; Financial (Sustainability) Performance</td>
<td>+</td>
<td>0.340***</td>
<td>3.604</td>
<td>0.310***</td>
<td>2.731</td>
<td>0.194**</td>
<td>2.671</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Location -&gt; Academic Performance</td>
<td>-</td>
<td>-0.098</td>
<td>1.001</td>
<td>-</td>
<td>-0.175***</td>
<td>2.743</td>
<td>0.047</td>
<td>0.579</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Size -&gt; Academic Performance</td>
<td>+</td>
<td>-0.209***</td>
<td>2.696</td>
<td>-0.268***</td>
<td>2.865</td>
<td>0.021</td>
<td>0.284</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Size -&gt; Financial (Sustainability) Performance</td>
<td>+</td>
<td>-0.128</td>
<td>1.486</td>
<td>-0.263*</td>
<td>1.718</td>
<td>0.137</td>
<td>0.946</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age -&gt; Academic Performance</td>
<td>+</td>
<td>-0.023</td>
<td>0.208</td>
<td>-0.072</td>
<td>0.770</td>
<td>-0.034</td>
<td>0.532</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender -&gt; Academic Performance</td>
<td>+</td>
<td>0.048</td>
<td>0.592</td>
<td>-0.124</td>
<td>1.589</td>
<td>0.045</td>
<td>0.565</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Training -&gt; Financial (Sustainability) Performance</td>
<td>+</td>
<td>-0.142</td>
<td>1.430</td>
<td>-0.078</td>
<td>0.560</td>
<td>0.068</td>
<td>1.101</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Figure 5.1 presents the results of testing the structural model (path coefficients), their statistical significance and the proportion of explained variance of endogenous variables ($R^2$); non-significant paths were omitted for presentation reasons²⁷.

![Figure 5.1 PLS Graph: Significant path coefficients (n=106)](image)

Notes: ***Significant at 1% level (two-tailed).
**Significant at 5% level (two-tailed).
*Significant at 10% level (two-tailed)

²⁷ While the literature review shows that most leadership variables are either weakly (e.g. D’Agostino, 2000; Hallinger & Heck 1998; Van de Grift & Houtveen, 1999) or insignificantly (e.g. Creemers, 1994; Leitner, 1994) related to organizational performance, with more recent studies proposing the influence of mediating factors in the relationship (e.g. Garcia-Morales et al., 2008; Muijs, 2011; Ogbonna & Harris, 2000; Peterson et al., 2003), the study also explored the direct link between leadership styles and organizational performance. The empirical results show that neither transformational ($p > 0.10$) nor transactional leadership ($p > 0.10$) is directly related to school performance, but through mediating variables.
5.6.2.1 Hypothesis 1

Leadership Style and Performance-Oriented RM Culture (H1a and H1b)

The study predicts that transactional leadership style is negatively associated with the adoption of a performance-oriented RM culture (H1a) and that transformational leadership style is positively associated with the adoption of a performance-oriented RM culture (H1b). The PLS analysis (Table 5.9) provides strong support for hypothesis H1b, indicating that there is a positive relationship between transformational leadership style and the adoption of a performance-oriented RM culture. The standardised path coefficient between transformational leadership style and RM culture was 0.541 ($p < 0.01$). However, the $p$ value for the relationship between transactional leadership style and the performance-oriented RM culture did not support H1a ($p > 0.10$), the hypothesised negative relationship between the two constructs. This finding is somewhat contrary to Bass and Avolio (1993a), who argued that the levels of innovation and risk taking may be severely curtailed with a transactional leadership style.

School Sector and Performance-Oriented RM Culture (H1c)

School sector (public vs. private) may influence RM culture and enabling controls due to the differences in government and non-government school ownership (Lamb et al., 2004a; 2004b; OECD, 2012). The study hypothesized that compared to public schools, private schools are more likely to adopt a performance-oriented RM culture (H1c). The standardised path coefficient between school sector and performance-oriented RM culture was -0.136 ($p < 0.10$), supporting H1c. This finding is consistent with Crawford and Stain (2004), who found that organizations with government ownership reflect the traditional image of having a compliance-
driven mindset towards managing risks. The finding shows that, despite the current debate concerning public entrepreneurship (Barzelay, 2001; Kapucu, 2006; Lane, 2000, McLaughlin et al., 2002), which elevated the understanding of risks as opportunities to a central place on the government agenda, some public schools have yet to fully embrace the new perspective towards risk and build it into their RM practices.

5.6.2.2 Hypothesis 2

Leadership Style and Enabling Controls (H2a and H2b)

The study hypothesised that transactional leadership is negatively related to enabling controls (H2a) and that transformational leadership is positively related to enabling controls (H2b). The results (Table 5.9) indicate that H2a was strongly supported, but H2b was not. The standardised path coefficient between transactional leadership and enabling controls was -0.274 ($p < 0.01$). However, no significant evidence was found for H1d ($p > 0.10$), rejecting the prediction of a direct and positive relationship between transformational leadership and use of enabling controls.

The support of the findings for H2a in that transactional leadership has a direct impact on enabling controls may not be surprising, as transactional leadership is based on bureaucracy and organizational standards (Tracey & Hinkin, 1998) and depends on planning and policy (King, 1994; Mink, 1992). Hence, the major way that a transactional leadership influences the organization and its employees is through initiating structure throughout the organization to set performance targets, define specific tasks and establish constraints and set boundaries for employees’ choices and behaviours. Further investigation into transactional leadership suggests that in many
cases this construct expands the gap between leader and employees, restricting the leader’s freedom to interact and communicate with employees due to its bureaucratic nature (Bass, 1990b). Therefore, the effect of transactional leadership is more on the control system itself rather than on the people and their collective perceptions of the organization.

By contrast, the findings reject H2b, in that no direct relationship was found between transformational leadership and the use of enabling controls. Prior studies found that transformational leadership focuses on the overall relationship and specific connections between leaders and followers (Avolio & Bass, 2004; Bass, 1990b; Tracey & Hinkin, 1994). By viewing the primary role of leaders as mentors, coaches or role models (Bass & Avolio, 1993b), transformational leadership exerts a much stronger influence on people and their collective risk perceptions in organizations than does transactional leadership (Vera & Crossan, 2004). In addition, by using fewer constraints, transformational leadership influences organizations through developing a collegial and trusting relationship between leaders and subordinates, which allows leaders to communicate their preferences informally, seek input from subordinates and, by offering new ways of looking at the performance of the organization, stimulate their followers to revise their own views, which they may never have previously questioned (Abernethy et al., 2010; Jansen, 2011). These studies concur with the findings in the current study in that transformational leadership will more easily support the formation of a strong performance-oriented RM culture (which can be seen in the strong support for H1b) through informal, direct communications between leaders and followers, which reduces the need to use more formal controls.

School Sector and Enabling Control (H2c)
The study hypothesized that compared private schools are more likely than to public schools to adopt an enabling approach to control, driven less by bureaucracy and more by market incentives (H2c). With respect to H2c, no significant relationship was found between school sector and an enabling approach to control (\( p > 0.10 \)), indicating that school sector is not directly associated with the enabling use of control.

5.6.2.3 Hypothesis 3

Performance-Oriented RM Culture and Enabling Control (H3)

Hypothesis H3 predicted a positive relationship between performance-oriented RM culture and the enabling approach to controls. This hypothesis was strongly supported by the data (Table 5.9), indicating that organizations that adopt a more performance-oriented RM culture tend to adopt an enabling approach to controls. The results showed a significant standardised path coefficient of 0.289 (\( p < 0.05 \)). This finding adds to previous studies that posit a close association between an organizational culture and how it treats controls (Dent, 1991; Flamholtz et al., 1985; Gordon & Miller, 1976). Prior literature on MCS and organizational culture has examined the influence of organizational culture on management accounting techniques such as budget (O’Connor, 1995) and use of PMS (Henri, 2006b), finding that organizational culture has a significant impact on the use of MCS. Focusing on how an organization’s RM culture is associated with the use of control systems, the support for H3 is comparable with the findings of a comparatively recent study. Mikes (2009), which examined the effect of a dimension of RM culture – calculative culture (i.e. organizational members’ beliefs in risk quantification) – on the diagnostic and interactive use of risk control systems and concluded that different
calculative cultures (i.e. quantitative enthusiasm and quantitative scepticism) will lead control systems to be used either diagnostically or interactively.

5.6.2.4 Hypothesis 4

Performance-Oriented RM Culture and Organizational Performance (H4a and H4b)

Prior studies have found that organizations with well-established cultures achieve higher performance than those with weak cultures (Asree et al., 2009; Ogbonna & Harris, 2000). In addition, they also emphasize that culture must not only be widely shared, but must also have certain qualities which are key drivers of performance, such as the adaptability of the organizational culture to changes in environmental conditions (Sonresen, 2002). In line with this thought, the study predicts a positive relationship between performance-oriented RM culture and organizational performance. In the school setting, organizational performance is differentiated between academic performance (H4a) and financial performance (H4b).

The results supported hypotheses H4a and H4b (Table 5.9). More specifically, a significant path coefficient of 0.168 ($p < 0.05$) was found between a performance-oriented RM culture and a school’s academic performance. The relationship between performance-oriented RM culture and a school’s financial performance also exhibited a significant path coefficient: 0.184 ($p < 0.05$). The result related to H4a concurs with findings of recent education studies which indicated that improvement in teaching and learning occurs in schools when values and beliefs reinforce a strong educational mission and a strong sense of commitment to value creation for school improvement (Deal & Peterson, 2016; Fullan, 2011; Smylie, 2009). The result associated with H4b agrees with earlier studies positing that organizational culture plays a significant role in the financial performance of an organization. This is true not only in the private
sector (Collins & Porras, 1997; Kotter & Heskett, 1992), but also in the public sector, where a market-oriented culture that emphasizes competition and performance is a strong driver of more efficient public financial management (Kloot & Martin, 2007). Taken together, the findings support arguments from prior studies that culture can generate competitive advantage only when it has some distinctive qualities such as the adaptability of the organizational culture to changes in environmental conditions; it is these qualities that lead to superior organizational performance (Denison, 1990; Denison & Mishra, 1989; Gordon & Di Tomaso, 1992).

**Enabling Controls and Organizational Performance (H4c and H4d)**

Enabling controls, as conceptualized by Chapman and Kihn (2009), has the potential to overcome many of the problems generated by coercive controls, such as resistance and other disruptive activity to control. Consequently, enabling controls may lead to long-term enhanced organizational performance as a result of providing employees with greater flexibility, more transparency and more autonomy to identify and seize opportunities to create value in the work area. Following this line of thought, the study predicted a positive association between enabling use of MCS and school performance.

The results from the PLS analysis (Table 5.9) reveal a significant positive relationship between enabling controls and a school’s academic performance – the standardised path coefficient was 0.253 ($p < 0.01$). There is also a significant positive relationship between the enabling use of MCS and a school’s financial sustainability performance, with a standardised path coefficient of 0.212 ($p < 0.05$).

These results are broadly consistent with the findings of Chapman and Kihn (2009), who empirically examined the association of enabling use of MCS and
organizational performance in the case of information system integration (ISI) in Finland companies. They found that the design characteristics of enabling control are positively related to enhanced business unit performance (Chapman & Kihn, 2009). The findings of the present study also extend the examination of the role of enabling controls on organizational performance from the private sector to the public sector. Hoy and Sweetland (2001) examined the effect of an enabling bureaucracy on trust and role conflict in schools; at the end of the paper, they called for more quantitative studies to examine the impact of an enabling bureaucracy on the effectiveness of schools (Hoy & Sweetland, 2001). The findings of this study help to answer this call by providing empirical evidence on this effect.

Table 5.10 provides a summary of the results of hypothesis testing.
Table 5.10

Summary of Hypothesis Testing

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a The greater the transactional leadership style, the lesser the extent of a performance-oriented RM culture.</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H1b The greater the transformational leadership style, the greater the extent of a performance-oriented RM culture.</td>
<td>Supported</td>
</tr>
<tr>
<td>H1c Compared to public schools, private schools are more likely to adopt a performance-oriented RM culture.</td>
<td>Supported</td>
</tr>
<tr>
<td>H2a The greater the transactional leadership style, the lesser the extent of the use of an enabling approach to management control.</td>
<td>Supported</td>
</tr>
<tr>
<td>H2b The greater the transformational leadership style, the greater the extent of the use of an enabling approach to management control.</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H2c Compared to public schools, private schools are more likely to adopt an enabling approach to management control.</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H3 The greater the extent of a performance-oriented RM culture, the greater the extent of the use of an enabling approach to management control.</td>
<td>Supported</td>
</tr>
<tr>
<td>H4a The greater the extent of the performance-oriented RM culture, the higher the level of academic performance.</td>
<td>Supported</td>
</tr>
<tr>
<td>H4b The greater the extent of the performance-oriented RM culture, the higher the level of financial (sustainability) performance.</td>
<td>Supported</td>
</tr>
<tr>
<td>H4c The greater the extent of the use of an enabling approach to management control, the higher the level of academic performance.</td>
<td>Supported</td>
</tr>
<tr>
<td>H4d The greater the extent of the use of an enabling approach to management control, the higher the level of financial (sustainability) performance.</td>
<td>Supported</td>
</tr>
</tbody>
</table>

5.6.3 Explanatory Power of the PLS Model

As PLS does not provide a test of theoretical fit but rather the $R^2$ for endogenous variables, Hulland (1999) states that researchers should report $R^2$ values\(^2^8\) for all endogenous constructs in their models when using the PLS method. $R^2$ for each dependent variable is shown in Table 5.11 for the whole school sample ($N = 106$). The explanatory power\(^2^9\) of the model is strong for each variable. School

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\(^2^8\) The $R^2$ values are the coefficient of determination. They indicate to what extent the endogenous variables are explained by the latent variables (Hulland 1999; Wong 2013).

\(^2^9\) Explanatory power refers to how effectively a hypothesis or theory explains the subject matter it pertains to (Hulland 1999).
academic performance is a main outcome factor in the conceptual framework, and it exhibited an $R^2$ of 0.543. This indicates that a large proportion of the variance of academic performance was jointly explained by its antecedents, performance-oriented RM culture and the enabling approach to controls. The two antecedents also jointly explained the variance in school financial (sustainability) performance, with an $R^2$ of 0.303. More than 40% ($R^2 = 0.442$) of the variance in performance-oriented RM culture was explained by its antecedent, transformational leadership, indicating the importance of leadership traits in influencing organizational culture. Finally, more than one third ($R^2 = 0.358$) of variance in enabling control was jointly explained by its two antecedents, performance-oriented RM culture and transactional leadership. This is consistent with prior studies that proposed an important role for leadership (e.g., Abernethy et al., 2010) and organizational culture (Bhimani, 2003; Chia & Koh, 2007; Henri, 2006b; Soin & Collier, 2013) in explaining the ways MCS are engaged for the achievement of organizational objectives.

**Table 5.11**

$R^2$ of PLS Model

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance-Oriented RM Culture</td>
<td>44.2%</td>
</tr>
<tr>
<td>Enabling Control</td>
<td>35.8%</td>
</tr>
<tr>
<td>Academic Performance</td>
<td>54.3%</td>
</tr>
<tr>
<td>Financial (Sustainability) Performance</td>
<td>30.3%</td>
</tr>
</tbody>
</table>

### 5.6.4 Additional Analysis

#### 5.6.4.1 Public and Private Schools

The school setting is particularly interesting due to the ongoing debate on the effectiveness of public versus private schools, including Catholic schools (Lamb et al., 2004b). It has long been argued in the economic literature that there are basic
differences in the behaviour of public and private managers stemming from
differences in the government and non-government ownership of organizations
(Alchian & Demsetz, 1973; Lamb et al., 2004a; Lamb et al., 2004b). In the school
setting, different ownership often means different stakeholders with varying
understandings of risk and divergent interests that must be addressed. These are all
important in shaping a school’s RM culture, which may in turn affect MCS and
school performance. As the main hypothesis testing above supported a significant
relationship between school sector and performance-oriented RM culture, as
predicted in H2a, an additional set of tests was conducted to understand whether the
relationships between latent variables were different between public and private
schools.

An independent samples t-test was first run to compare the means of academic
and financial performance between the two subsamples of public (N = 69) and private
(N = 37) schools. It is observed that, for academic performance, the mean value of
the private school subsample (5.95) is higher than that of the public school subsample
(4.37), and that the difference is statistically significant (p < 0.01). For financial
(sustainability) performance, the private school subsample also shows a significantly
(p < 0.01) higher mean performance (5.97) than the public school subsample (4.93).
This is consistent with prior studies that found average achievement levels to be
higher in private schools in general (Bryk, Lee, & Holland, 1993; Chubb & Moe,
1990; Coleman, Hoffer, & Kilgore, 1982; OECD, 2011). After accounting for
differences in student characteristics and the SES of students, those studies found the
performance difference between public and private schools to be associated with
higher levels of autonomy over curricula and management, and the material and
instructional advantages that accrue to private schools.
Using PLS analysis, a closer examination of the relationship between latent variables was conducted for the two subsamples. The results for the public school subsample are shown in Table 5.9 and Figure 5.2, where H1b, H2a and H2b were all supported. This indicates that transformational leadership is significantly and positively associated with performance-oriented RM culture (H1b, path coefficient = 0.643, \( p < 0.01 \)) and enabling use of controls (H2b, path coefficient = 0.406, \( p < 0.05 \)); transactional leadership is significantly and negatively associated with enabling control (H2a, path coefficient = -0.285, \( p < 0.05 \)). No support was found for the remaining hypotheses (H1a, H3, H4a, H4b, H4c and H4d), indicating that, in the public school subsample, while the two leadership styles performed their predicted roles in influencing schools’ performance-oriented RM culture and control systems, these relationships were not translated into higher academic and financial performance. An examination of the control variables suggests that public school performance is significantly associated with SES (academic performance, path coefficient = 0.657, \( p < 0.01 \); financial performance, path coefficient = 0.310, \( p < 0.01 \)), location (academic performance, path coefficient = -0.175, \( p < 0.01 \)) and size (academic performance, path coefficient = -0.268, \( p < 0.01 \); financial (sustainability) performance, path coefficient = -0.263, \( p < 0.10 \)). It was also observed that school principals’ individual risk propensity significantly influences a school’s performance-oriented RM culture (path coefficient = 0.198, \( p < 0.05 \)). Figure 5.2 shows significant relationships between the key variables of interest in the public school subsample.
As mentioned in Chapter 4, school academic performance mandated by DET, Victoria comprises of three dimensions – student learning, student engagement and well-being, and student pathways and transitions. The study thus undertook an additional PLS analysis to examine the effect of performance-oriented RM culture and enabling control on each of the three dimensions of academic performance in the public school subsample. Results are very similar to Figure 5.2 above, where H1b (path coefficient = 0.628, p < 0.01), H2a (path coefficient = -0.286, p < 0.05) and H2b (path coefficient= 0.407, p < 0.05) were all supported but no support was found for significant relationships between the two risk control features (i.e. performance-oriented RM culture and enabling control) and each of the three academic performance dimensions. SES, school location and school size remain to be the control variables that are significantly associated with each dimension of the academic performance.

Figure 5.2 PLS Graph of the public school subsample: significant path coefficients (N = 69)

Notes: ***Significant at 1% level (two-tailed)
**  Significant at 5% level (two-tailed)
It is also observed that in the public school subsample, a majority of the public schools (i.e. 51 public schools) are located in the low SES areas. Prior literature find that SES has been a major explanatory factor for variations in school performance (Polidano et al., 2013). To examine if public schools with higher SES are featured with higher quality school governance and leadership, additional analysis was conducted by removing the 51 low SES public schools\textsuperscript{30} from the public school subsample. This resulted in a smaller public school subsample of 18 schools\textsuperscript{31}. The PLS analysis on the 18 higher SES public schools shows that transformational leadership style is significantly and positively related to performance-oriented RM culture (path coefficient = 0.418, \( p < 0.01 \)), which in turn has a positive relationship with one dimension of academic performance - student engagement (path coefficient = 0.194, \( p < 0.01 \)) and marginally with school financial (sustainability) performance (path coefficient = 0.338, \( p < 0.10 \)). The findings continued to show that SES is a significant factor affecting student engagement and student learning in these high SES public schools. These findings, however, must be taken with caution due to the small sample size (i.e. \( n=18 \)) which may hinder the reliability of the results (Hair et al., 2013).

In the private school subsample, support was found for almost all hypotheses, except H1a and H2b (results shown in Table 5.9 and Figure 5.3). The results show that transformational leadership is significantly and positively associated with performance-oriented RM culture (H1b, path coefficient = 0.486, \( p < 0.01 \)); transactional leadership is significantly and negatively associated with enabling

\textsuperscript{30} Low SES public schools have an ICSEA index value of less than 1000 - the base index number which represents the average SES in Victoria.

\textsuperscript{31} Among the 18 public schools, 2 have an ICSEA index value of 1000 and others are all above 1000.
control (H2a, path coefficient = -0.283, \( p < 0.05 \)); performance-oriented RM culture is significantly and positively associated with enabling control (H3, path coefficient = 0.622, \( p < 0.01 \)) and both performance-oriented RM culture and enabling control are significantly and positively associated with a school’s academic performance (H4a, path coefficient = 0.228, \( p < 0.05 \); H4c, path coefficient = 0.628, \( p < 0.01 \)) and financial performance (H4b, path coefficient = 0.236, \( p < 0.05 \); H4d, path coefficient = 0.503, \( p < 0.01 \)). In the private school subsample, transactional leadership did not play a role in influencing performance-oriented RM culture (H1a, \( p > 0.10 \)), nor did transformational leadership in influencing enabling control (H2b, \( p > 0.10 \)).

It was also observed that in private schools, principals’ years of work experience, years of work experience in current schools, and SES were significantly associated with school performance. However, no significant relationship was found between a principal’s individual risk propensity and a school’s performance-oriented RM culture. Figure 5.3 shows the relationships between the key variables of interest in the private school subsample.
Overall, as predicted, leadership styles play important roles in influencing organizational performance-oriented RM culture and the use of control systems in both public and private schools. However, it is also interesting to note that while the relationships of leadership and control mechanisms lead to higher performance in private schools, this effect is not found in public schools. Prior studies posit that the differences in the government and non-government ownership of schools can be a reason for such an outcome (Cobbold, 2009; Allen & Mintrom, 2010). Government-owned organizations in general have higher degrees of ‘red tape’ and more robust bureaucracies than organizations with ownership structures (Allen & Mintrom, 2010; Cobbold, 2009; Farazmand, 2006), which may limit public managers’ discretion and ability to approach decisions unencumbered by rigid structures and inflexible procedures. For example, public schools face more compliance pressure from the government, whether it is the intake of students, resource management or curriculum
development, all of which restrain the autonomy and flexibility of public schools to make timely localized decisions to benefit long-term school performance. These unavoidably lead to an engagement in more compliance-based RM culture and coercive controls to address baseline operational risks to satisfy external measures and national standards, rather than focusing on the development of people and on school improvement. In comparison, private schools have less compliance pressure from the government but have more flexibility in managing their own resources. These allow private schools to focus RM on value creation through engaging controls to make timely strategic decisions, understand key drivers of performance and utilize resources by developing best practice tools and techniques. This imperative facilitates the enabling use of controls through a strong emphasis on continuous learning and growth among staff and students, greater involvement of employees in decision making to foster debate and discussion surrounding emerging threats and opportunities and greater emphasis on employee autonomy and localised flexibility to improve students’ learning outcomes. Hence, the effort to engage a transformational leader and the adoption of appropriate RM culture and management controls drive school performance in the private setting, whereas in the public setting, bureaucracy and strict compliance with government regulations may hinder such a translation, leading to lower performance outcomes as a result of narrowed choices and less autonomy.

The primary findings of the additional analysis of the public and private school subsamples are as follows:

- Both academic performance and financial (sustainability) performance are significantly higher in the private school subsample than the public school subsample.
• In the public school subsample, H1b, H2a and H2b were supported, indicating that transformational leadership is significantly and positively associated with performance-oriented RM culture and the enabling use of controls; transactional leadership is significantly and negatively associated with enabling control. No support was found for the remaining hypotheses (H1a, H3, H4a, H4b, H4c and H4d).

• A closer examination of the three dimensions of academic performance – student learning, student engagement and well-being, and student pathways and transitions in the public school subsample shows similar results to the above findings (i.e. supports were only found for H1b, H2a and H2b). SES, school location and school size remain to be the controls variables that are significantly associated with each dimension of the academic performance.

• Further examination of the higher SES public schools (i.e. 18 public schools with ICSEA value equal or greater than 1000) shows that transformational leadership style is significantly and positively related to performance-oriented RM culture, which in turn, has a significantly positive relationship with student engagement and marginally with school financial (sustainability) performance. These findings, however, must be taken with caution due to the small sample size that may hinder the reliability of the results.

• In the private school subsample, support was found for all hypotheses, except H1a, the relationship between transactional leadership and performance-oriented RM culture, and H2b, the relationship between transformational leadership and enabling control.
• The relationships of leadership styles and control mechanisms lead to higher performance in private schools, but not in public schools. This may be due to higher degrees of red tape in government-owned organizations, which may limit public managers’ discretion and ability to approach decisions unencumbered by rigid structures and inflexible procedures.

5.6.4.2 Higher and Lower Performing Schools

In the current study, school performance is taken as a proxy for academic performance and financial (sustainability) performance. An interesting observation in the empirical findings is that, although private schools demonstrate a higher average performance than public schools, high-performing public schools exist, if fewer in number. The statistics shows that the mean academic performance of the whole sample \((N = 106)\) is 4.92, which allows for 48 higher-performing schools\(^{32}\) to be identified. A further examination of the 48 higher-performing schools suggests that 18 schools\(^{33}\) are public (37.5% of 69 public schools) and 30 schools are private schools (81.1% of 37 private schools). This observation raises important questions: while all public schools have the same degrees of red tape and face the same compliance pressure from the government, why do performance differences exist in public schools? Ignoring the phenomenon of higher-performing public schools would be problematic, as good practices may have been developed in these schools that can be learnt and implemented elsewhere in the public sector.

\(^{32}\) While academic performance was used to evaluate the performance of the schools, given the high correlation between academic and financial performance in Table 5.8, these schools almost always display higher financial performance.

\(^{33}\) None of the 18 schools are selective public schools; some are located in lower-SES areas.
The examination of this question was included in the post-survey semi-structured interviews with school leaders to develop an in-depth understanding of the idiosyncrasies of latent variables (i.e. leadership styles, RM culture, and approach to control), and how their dynamic interactions to influence school performance. In addition, external factors that may influence the development of performance-oriented RM culture in public and private schools are also explored. The analysis of the semi-structured interview data is presented in Chapter 6.

5.7 Chapter Summary

This chapter discussed response rate, independent sample t-test for non-response bias and outliers in the dataset. This was followed by factor analysis, variable measurement and descriptive statistics for key construct variables. Lastly, hypothesis testing was conducted with Smart PLS Version 2.0 for the entire school sample and for the two subsamples of public and private schools.

The conceptual framework of this study examined how leadership styles are related to performance-oriented RM culture and enabling controls. Following this, the relationship between performance-oriented RM culture and enabling controls, and their effect on school academic and financial performance were examined. The findings of this study supported all the hypothesised relationships with regard to the prediction of academic and financial performance. The findings also supported the views that that transactional leadership is negatively associated with enabling controls and that transformational leadership is positively associated with the adoption of a performance-oriented RM culture. In addition, performance-oriented
RM culture is positively associated with the adoption of an enabling approach to controls.

In recognizing that the hypothesized relationships among latent variables may not be the same for public and private schools, given their different ownership structures, additional analyses were conducted on the public and private school subsamples. The results indicate that while the interaction between leadership styles, organizational RM culture and control systems may be the same in the two school sectors, this interaction translated into higher performance in private schools, but not in public schools. The next chapter discusses the semi-structured interview data collection and analysis.
Chapter 6: Semi-Structured Interview Data Analysis

6.1 Introduction

This chapter provides findings from the second phase of this research programme, where an interpretive systems approach to understanding risks as perceived by organizational leaders and its subsequent implications for organizational controls and outcomes within a school setting is undertaken. This phase of the study is intended to present complementary evidence to the earlier survey-based study; it involves qualitative data analysis from semi-structured interviews of school leaders. The qualitative study utilises Schein’s (2006) organizational model of change dynamics as a conceptual guide for framing research issues and for data analysis. Its main aim is to provide a more holistic perspective and in-depth insights into the dynamics involved in the sense making of risks in schools and its effects on the attitudes and behaviours towards organizational processes and policies, before turning to the ultimate implications for school performance.

The remainder of the chapter is organized as follows. Section 6.2 provides a detailed rationale for a qualitative study and utilises Schein’s (2006) organizational model of change dynamics to explicate the conceptual framework for the research questions. Section 6.3 outlines the background details of interview method, participants and data collection procedures. A series of subsections in Section 6.4 discuss the findings of the semi-structured interviews, taking into account Schein’s (2006) organizational change dynamics model within a school context. Section 6.5 concludes the chapter with a brief summary of the findings.
6.2 Conceptual Framework

6.2.1 Rationale for Qualitative Approach

This research programme involves two distinct phases. The first phase is premised on a structural functionalist approach to organizational research (Merton, 1968; Parsons, 1961), and comprised testing the conceptual framework proposed in Chapter 3 by using a survey-based study. The results of this study, discussed in Chapter 5, indicate that there are significant associations between leadership style and school performance, mediated by performance-oriented RM culture and an enabling approach to MCS. However, two limitations may exist within the functionalist design of the study: 1) the focal variables of interest and their measurement had been developed based on past studies, which entails a limited, predestined set of constructs; and 2) while the understanding of risks are often subject to people’s perceptions, values and beliefs, which interrelate with different components external or internal to the organization (Cardona, 2004; Murdock, 1999; Wildavsky & Dake, 1990), such richer and more complex set of interrelated issues and processes are generally not captured in a quantitative study, which tends to use static, cross-sectional data.

Hence, in the second phase of the study, an interpretive systems approach is adopted to complement the survey-based study. The interpretive systems approach is frequently referred to as “soft systems thinking” which is primarily concerned with perceptions, values, beliefs and interests of people (Jackson, 2000). It emphasizes that “systems possess a much more precarious existence as the creative constructions of human beings. It is necessary, therefore, to proceed by trying to understand subjectively the points of view and the intentions of the human beings concerned
Embracing “subjectivism” leads soft systems thinking to diverge from the widespread belief that systems thinking is functionalist in nature. Rather, the interpretative systems approach aims to “tease out integrative values from multiple viewpoints and so assist managers predict and control outcomes” (Jackson, 2000, p. 211). Furthermore, soft systems thinking is also heavily influenced by the “root metaphor” of contextualism. It stresses meaning can only be extracted by supplying appropriate “context” (Jackson, 2000). Prior literature (e.g. Burrell & Morgan, 1979) find “culture” is commonly employed in the interpretive systems approach, where “individuals attribute meaning to their situation and can make of organizations what they will”. Hence, “some engineering of corporate culture needs to take place to ensure that values and beliefs are sufficiently shared to ensure organizational survival and effectiveness” (Jackson, 2000, p. 211).

With respect to the present study, the application of soft systems thinking would mean that the examination of how risks come to be understood within a school context is critically important for a better insight of the development of a performance-oriented RM culture and its implications for school performance. Cardona (2004) notes that ‘it is important to consider risk perceptions, attitudes and motivations both individually and collectively that can vary notoriously from one context to another’ (p. 165). Similarly, Figueira-de-Lemos et al. (2010) argue that ‘the concepts of risk, uncertainty, and knowledge are used in different ways in different contexts’. Therefore, it is necessary to understand how risks are perceived in the school context before an apprehension of the interrelations of risk perceptions, approaches to RM and the outcomes of such management as a function of a broader set of factors occurring in a dynamic school environment can be obtained.
As indicated in Chapter 1, the school context is highly complex and dynamic. There are increasing pressures on education policy, often emanating from neo-liberal political structural reforms and a growing free market environment. Demands for public accountability and regulatory oversight have also heightened in recent years, leading to escalating pressures on Australian schools as they manage various types of strategic and operational risks in their pursuit of academic excellence and financial stability (Gronn, 2004; Leithwood, 2007; Starr, 2012).

However, despite the increasing awareness of the rapidly growing number of risks in schools and the need to develop appropriate systems and processes to manage such risks, the education literature remains opaque on the nature of risks within the school context. Not only are research efforts and empirical evidence scarce in this area, but it has also been argued that even the theoretical approach to studying risks remains narrow. According to Starr (2012), risks are still considered as the consequence of threats and RM responsibilities perceived as ‘avoiding mischance or danger’ (Starr, 2012, p. 467), which contrasts with newer notions in which risks can also be seen as opportunities. The ‘risk society’ thesis recognizes that risk has a double face (Beck, 1992): the downside of risk as threats and the upside of risk as opportunities. Both faces influence the achievement of organizational objectives (Beck, 1992; Giddens, 1998b; Power, 2009). This means that risks are no longer negative phenomena or only the dark side of opportunities; they are also market opportunities (Beck, 1992; Giddens, 1998b). Nevertheless, how to make sense of risks in a school setting remains unclear.

In response to this literature gap, a qualitative study is, therefore, undertaken in phase two of this study to examine the ‘how’ and/or ‘why’ questions (Yin, 1993, 2003). Interpretivists believe that reality is multiple and relative, thus depending on
other systems for meanings (Hudson & Ozanne, 1988; Lincoln & Guba, 1985; Neuman, 2000). Therefore, the knowledge acquired under an interpretive approach is socially constructed rather than objectively determined and perceived (Carson, Gilmore, Perry, & Gronhaug, 2001). This is achieved by an interpretivist researcher’s entering the field with some prior insight of the research context, but remaining open to new knowledge throughout the study and letting it develop with the help of informants. In this regard, an interpretive approach is helpful for the present study, as it has the potential to engender deeper understandings and subtler interpretations of the motives, meanings and reasons behind organizational processes and outcomes through subjective experiences of interviewees that are bound in time and context (Carson et al., 2001; Hudson & Ozanne, 1988; Neuman, 2000).

6.2.2 Phase 2 – Research Issues

In general, school performance is commonly judged by academic outcomes, including student scores on national and state level competency tests. Increasingly, with technological advancements and expanding community expectations, the financial sustainability of schools is also being scrutinised, leading to concerns over a school’s ability to acquire and use resources efficiently. Not surprisingly, school governing bodies and leaders are challenged by a widening range of risks around academic excellence and financial sophistication. In particular, there are increasing calls for a more performance-oriented RM culture within the school sector (DET, 2013), signalling the need for a more dynamic and in-depth analysis of how are risks perceived, rationalised and managed within an organizational system (Soin & Collier 2013). Various external and internal factors including people and processes have the potential to support or to thwart the development of a performance-oriented RM culture.
In their review of the RM literature, Soin and Collier (2013) contend that past organizational behaviour and MCS studies provide little understanding of how perceptions of risks at the entity level and shared notions on managing such risks are related to MCS and organizational effectiveness. While there are a few exceptions (e.g., Arena et al., 2010; Bhimani, 2009; Collier & Berry, 2002; Mikes, 2009, 2011; Power, 2009), these studies are not in the school sector. In the education literature, the focus has been more intensive on how risk-based regulation is utilized as a mode of control for university-level governance and internal control in the higher education sector (e.g. Huber, 2009), leaving control systems for RM purposes in schools unexplored. The lack of research on the risk-MCS and performance nexus is surprising, given that ‘risk management has moved away from being seen from the finance silo’s view of value at risk and derivatives, and the accounting silo’s view of disclosure in financial reports to a central concern with management control’ (Soin & Collier, 2013, p. 5). In addition, past research suggests that MCS tend to function interactively with both people and other processes within organizations, with the possibility of MCS affecting how risks are perceived and actioned (Arena et al., 2010; Bhimani, 2009; Mikes, 2009, 2011). As such, acknowledging that RM is part of a larger open interactive system is critical for developing a richer understanding of the organizational dynamics that support a performance-oriented RM culture. Following this line of thought, the two focal research issues addressed by the qualitative study in phase two are as follows:

i) How are external factors such as government RM policies and the school sector as the setting and internal factors, chiefly school leaders, associated with the development of a performance-oriented RM culture in schools?
ii) How does a performance-oriented RM culture interact with MCS use, and what are the implications of this interaction for school performance?

In answering these questions, a systems perspective, as outlined by Schein’s (2006) organizational model of change dynamics, is employed to guide the conceptual analysis of the relationships between school leaders, performance-oriented RM culture, MCS and organizational performance in a school setting.

6.2.3 Schein’s Organizational Model of Change Dynamics

Schein’s (2006) organizational model of change dynamics is grounded in systems theory, which is ‘an interdisciplinary theory about every system in nature, in society and in many scientific domains as well as a framework with which we can investigate phenomena from a holistic approach’ (Mele, Pels, & Polese, 2010, p. 126). Systems thinking shifts attention from the part to the whole, which emphasizes the relationships between the components of a system and perceives the result as a shared purpose produced by rationally connected system elements (Jackson, 2003; Laszlo, 1996). The systemic perspective argues that in order to comprehend the phenomenon in its entirety, there is a need to analyse the elementary components of the phenomenon and the necessity of a global vision or holistic perspective to underline its functioning (Jackson, 2003; Meadows, 2008; Mele et al., 2010). The global vision considers both the interactive dynamics of components and the systemic environmental factors that shape and give meaning to the organization (Amagoh, 2008; Shafritz & Russell, 2005; Wang, 2004).

Using a systems theory approach, Schein (2006) proposed an organizational model of change dynamics which emphasises the importance of understanding the interactive processes between the components of a system and the system as a whole.
Schein (2006) contends that a phenomenon or entity cannot be fully understood without considering at least three different perspectives:

(1) an individual perspective which considers the nature and idiosyncrasies of the components of a system;

(2) a systemic perspective which focuses on the aims and overarching purpose of the phenomenon or entity of interest; and

(3) an interactive process perspective, which represents the dynamic interactions and relationships between the individual parts and the overall phenomenon or entity as a whole.

The framework encapsulating all three perspectives is presented in Figure 6.1.

Figure 6.1 Schein’s Organizational Model of Change Dynamics
In the framework, the individual perspective is needed to understand the nature of the *components* of a system (Schein, 2006). In general, the components are elements like functions, people, information and processes that support a system’s goals or the purpose of the overall phenomenon (Mele et al., 2010). Previous studies have generally selected one or more parts of a system to understand the nature of components and their associations. For example, Emery and Trist (1960) address organizations as socio-technical systems, underlining the two main components of organizations as a social component (people) and a technical component (technology and machines). Tien and Berg (2003) hold that the elements of a system can be composed of people, processes and products on the one hand, and attributes like input, process and output characteristics of each component, on the other hand. Such approaches reflect the early proposition by Von Bertalanffy (1968), who argues that, when applying systems theory, it is necessary to start with a specific, reductionist view by analysing and understanding the elementary components of a system before a holistic view on how a system functions can be obtained.

The systemic perspective emphasises the need to define and study what ‘health’ or effective performance means at a systemic level (Schein, 2006). This can be observed at the core of the framework, which is *organizational health or performance*, seen here as a function of a set of components operating interactively in the face of external factors. From an open systemic perspective, environmental factors become critical in shaping and giving meaning to the organization (Amagoh, 2008; Shafritz & Russell, 2005; Wang, 2004). A lack of consideration of the interaction between organizations and their environment in closed systems may inhibit organizations’ capacity to obtain sufficient energy for survival and success (Amagoh, 2008). Hence, Schein (2006) notes that organizational performance is not
only understood as a function of the interaction of its internal elements, but also one that is influenced by energetic input from its environment. System theorists find organizations that are better able to adapt to the changing environmental conditions tend to achieve more effective performance through their greater ability to ‘hear’ their contextual patterns, commitment to continuous learning and gaining experiences from external events (Amagoh, 2008; Shafritz & Russell, 2005).

An interactive process perspective involves understanding the dynamic interactions that occur between different components of a system (Schein, 2006). The achievement of organizational outcomes is seen as a complex process of these interactions, specifically emphasizing the important role of leaders as components that drive change in organizations. He argues that the idiosyncrasies of leaders in their role as change agents interact with organizational culture and the use of generative rules and resources, necessary for the change process of transforming the current organizational state of performance to a desired state of performance (Schein, 2004, 2006). This is because rules and resources are constantly implicated in the organization of human conduct, which provide the fundamental means for interactions (Giddens, 1995; Schein, 2006).

In conclusion, Schein’s model of change dynamics provides a useful framework that highlights the need, when studying an organizational entity, to recognise multiple components of a system, the objectives of a system as a whole and most importantly the interactive nature of these various components in relation to a wider environment.

In the next section, Schein’s (2006) framework is considered in a school setting.
6.2.4 The Organizational Model of Change Dynamics within Schools

The application of Schein’s (2006) framework to the school context serves to identify a preliminary set of external environmental factors affecting school performance objectives and how different components, namely school leaders, RM culture and internal control mechanisms, are potentially placed to interact and influence school performance. The Organizational Model of Change Dynamics within Schools from an RM perspective is outlined in Figure 6.2.

![Image: The Organizational Model of Change Dynamics within Schools](image)

**Figure 6.2: The Organizational Model of Change Dynamics within Schools**

**Systemic Environmental Factors:** The environment in which a school operates is generally highly community-sensitive, where public and regulatory scrutiny is very high. Further, there are at least two major environmental factors within a school context that have strong potential to shape organizational behaviours:
i) government regulatory mandates and school governance guidelines, including academic standard setting and assessment, and ii) the long-existing differences between public and private schools, including funding arrangements and management culture. At minimum, these environmental factors can be expected to have implications for how risks are perceived, prioritised and managed in schools.

In relation to the first factor, the public sector reforms undertaken since the mid-1980s and known as NPM have provided much impetus for schools to change their attitudes and approaches towards accountability and transparency. NPM reforms aimed to enhance organizational productivity through the opening of competition, greater privatisation and accountability standards (Barzelay, 2001; Lane, 2000; McLaughlin et al., 2002), leading to changes in organizational structures, processes and managerial behaviour (Kapucu, 2006). Driven by NPM reforms, there has been powerful advocacy to change the traditional image of schools, which have been seen to adopt a more risk-averse approach to management generally, to accepting that a key benefit of RM is the optimisation of opportunities which must be managed proactively rather that reactively (DET, 2013). This unavoidably influences the shared perceptions of risk and RM practices in schools. In addition, recent years’ rising demands for higher-quality governance, globally comparable academic standards and technological and digital advancements have also spawned new risks and placed further pressures on RM.

The second environmental factor with the potential to influence school RM processes pertains to the long-standing systematic differences between public and private schools. Due to their difference in ownership, public and private schools face different funding and resource restrictions and opportunities (Lamb et al., 2004a, 2004b; OECD, 2012). Over the past thirty years, Australia has introduced quasi-
markets\textsuperscript{34} in education as a part of a broad movement to introduce market-style approaches to government services (Cobbold, 2009). A virtually unique phenomenon in this country, compared with other developed countries, is the extent of government support for private schools as an important mechanism to extend choice and competition in the schooling education. Private schools in Australia, despite receiving significant funding from the government, are not owned by the government. The ownership difference results in public and private schools having distinctive goals, different levels of autonomy and flexibility and different student intake and school climate realities (Lamb et al., 2004a, 2004b; NCES, 1997; OECD, 2012). These differences are all likely to affect the sense making of risk within schools and subsequently the scope and dimension of school RM.

\textbf{Systemic Perspective – School Performance:} As discussed in Chapter 3, for the present study school performance comprises a wider set of dimensions than just the traditional academic performance. In Australia, school performance is often judged from student academic outcomes, which include not only test scores of formal examinations and national competitions, but also positive student attitudes to learning, pathways to higher education, student retention and staff and parent satisfaction with the academic rigour of the school curricula and support services (Lamb et al., 2004b; Starr, 2012). In addition, under increasing pressure in recent years for greater accountability for the use of public resources, schools’ ability to remain financially sustainable by meeting budgetary targets, raising revenue,

\textsuperscript{34} A quasi-market is not a free market where buyers are free to choose what to buy at a preferred price with a presumption of private ownership of commodities or services for sale. It is, instead, an approach often proposed for government school systems that constitutes a constrained market that has a greater choice in schools and greater competition between schools (Bartlett & Le Grand 1993; Glennester 1991). The rationale for introducing quasi-markets is that greater competition and choice will improve student achievement, increase the efficiency of the public sector and reduce the costs of public education (Cobbold 2009).
attracting government funding and having adequate short- and long-term liquidity, have also attracted attention in the education literature (Harrington, 2011). Both dimensions of school performance have funding and reputational implications for schools (Jensen & Sonnemann, 2014; Lamb et al., 2004a; Lamb et al., 2004b; OECD, 2013). While external environmental forces act as important ‘push factors’ for school performance objectives, school performance outcomes at the systemic level cannot be fully understood without considering each internal organizational component, known as ‘pull factors’ (Peters, 1996).

Individual Components: The three components that are of direct interest to this study are school leaders, performance-oriented RM culture and the approach to MCS use. Schein (2004) emphasises that in the formation of the shared mode of behaviour and thoughts that is organizational culture, organizational leaders play a vital role. While culture is created by shared experience, Schein (2004) notes that ‘it is often the leader who initiates this process by imposing his or her beliefs, values, and assumptions at the outset’ (p. 225), and continues to influence culture from ‘what they notice and comment on to what they measure, control, reward, and in other ways deal with systematically’ (p. 247). In this regard, leaders are expected to play the dual role of influencing the organizational culture through their own assumptions and values and facilitating the organizational culture through monitoring and control choices. Hence, the examination of the idiosyncrasies of the three pull factors of school leaders, performance-oriented RM culture and the approach to MCS use and their interactions informs efforts to reform school RM and provides a deeper insight of the effect of RM practices on school performance from a holistic perspective.
6.3 Interview Method, Participants and Procedures

6.3.1 Development of the Semi-Structured Interview Protocol

In-depth, semi-structured interviews are an important data collection approach in qualitative research, as interviews ‘yield direct quotations from people about their experiences, opinions, feelings, and knowledge’ (Patton, 2005, p. 1634). The interview data are generally organized into narrative descriptions with major themes, patterns and insights extracted inductively through content analysis (Patton, 2005; Yin, 1993, 2003). In this study, the interviews serve the purpose of gaining deeper insights into the influence of the external environment, the idiosyncrasies inherent in the components of a school RM system and the resultant effects of the dynamic interactions among the components associated with RM on school performance.

The interview protocol started with a briefing regarding the objective of the study and demographic questions to obtain background information regarding the participant’s school, the participant’s role, how long the participant has been working in the current position and the prior positions that the participant had held in the education sector. According to the theoretical framework, the semi-structured interview questions were grouped into four sections in the rest of the interview protocol: risk and RM in the school, leadership style, approach to control and school performance.

To examine RM culture, participants\(^{35}\) were asked to explain their perceptions of

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\(^{35}\) In the event that the participant was a leading teacher who spoke on behalf of the school principal and the school, he or she was asked to comment on the leadership style of the principal, the principal’s perception of risk and risk management and the impact of these factors on the use of control and school performance.
risk and RM in their schools. The following questions were asked (Beck, 1992, 1998; Collier, 2009; Collier et al., 2007; Giddens, 1998):

- What does ‘risk’ and RM mean to you in your day-to-day work (e.g., threats/opportunities to the achievement of the school’s objectives)? Is there any influence from the government’s RM policy on i) the perception of risk and RM in your school, and ii) the focus of school governance?

- What are some major risks faced by your school and how would you prioritise these risks? To what extent do you think these risks are threats and/or opportunities to your school?

- How are these risks generally managed in your school? Please provide some examples (depending on the school sector of the participant’s school, are there any major differences in the perception/priority of risk and RM practice between your school and public/private schools).

- Does RM in your school play a role in facilitating strategic decision making, better resource utilization and/or understanding key drivers of school performance? Can you please give some examples?

To elicit the participant’s leadership and its impact on RM culture, participants were asked to comment on the following questions (Collier, 2009; Collier et al., 2007):

- Does your perception of risk and RM influence how other stakeholders (e.g. teachers and parents) perceive risk in your school?

- How would you generally describe your leadership style?
• Do you think your leadership style influences how risk is perceived and managed in your school? If so, how?

To elicit the approach to control and its interaction with RM culture and leadership style, participants were asked to answer and explain the following questions (Abernethy et al., 2010; Ahrens & Chapman, 2004; Chapman & Kihn, 2009):

• What control systems (e.g., budgeting, performance management system, and incentive programs) are being used in your school?

• Do you think the ways these controls are used in your school are influenced by your leadership style? If so, how?

• Do you think the ways these controls are used in your school are influenced by the school’s shared belief of risk and RM? If so, how?

Depending the participant’s answer to the question, two further questions can be asked to clarify this question including,

i) Can you give some examples of how these control systems are used to manage the above mentioned risks (as threats and/or opportunities), and

ii) Do you think the ways these controls are used to manage risks are more coercing or enabling) (i.e. forcing strict compliance with established standards, rules, procedures or allowing staff members to have greater autonomy and flexibility to handle uncertainties at work)?
Finally, to explore school performance indicators and the effect of RM practice on school performance, participants were asked to define school performance and explain how RM may facilitate or hinder school performance in response to the following questions (Lamb et al., 2004a; 2004b):

- How do you define school performance?
- What are some key factors that affect the performance of your school?
- Is the way risk is perceived and managed in your school related to school performance in any respect, such as student outcomes or the financial sustainability of the school? Please provide some examples.
- Is the way controls are engaged in your school related to school performance in any respect? Please provide some examples.

The above questions served as a guide for the semi-structured interviews. Depending on a given participant’s responses to the questions, further information and understandings were sought with additional questions as appropriate.

The interview protocol ended with the following question to allow participants to extend their comments into any areas relevant to the present study:

- Are there any other comments you would like to make concerning the study?

### 6.3.2 Interview Participants

This qualitative study involved semi-structured interviews with school principals and leading teachers in eight public schools and eight private schools. Considering that selective public schools are a special type of public schools and comprise a very small proportion of public schools, no interviews were conducted at selective public schools to avoid inserting bias into the interview findings.
(four independent and two Catholic schools). Table 6.1 presents the profile of semi-structured interview participants. The interviews were conducted with ten school principals and five other interviewees with the title of a job position of leading teacher, risk and compliance officer or corporate services manager. The five interviewees who were not school principals were all in the leadership team of their schools, in charge of or formally involved in the RM of their schools and were able to speak on behalf of the school principal (with approval of the school principal) in relation to RM practices in their schools. Their expertise in the area of RM has given the study an additional, profound understanding of how RM is conducted in schools. Their observations also provide evidence of school principals’ leadership in relation to RM from the standpoint of another member within the leadership team, although their positions were subordinate to the school principal, who can be likened to a CEO.

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37 The number of interviews conducted in each school sector largely followed the relative proportion of these school sectors in the school sample as a whole.

38 According to Human Resources - DET (DET, 2016b) roles in schools include principals/assistant principals, leading teachers, classroom teachers, paraprofessionals, and education support class. While principals take the primary leadership role of leading and managing the planning, delivery, evaluation and improvement of education of all student in a community, leading teachers are highly skilled classroom practitioners and undertake leadership and management roles to improve the skill, knowledge and performance of the teaching workforce in a school. They (i.e. leading teachers) are expected to lead and manage a significant area or function within the school with a high degree of independence, and to make a significant contribution to policy development relating to teaching and learning in the school. A leading teacher can be assigned a role of risk and compliance officer in a school, or such a role can be taken by an education support staff in other schools. Corporate service manager is a position in the diverse education support class which covers the delivery of support services including school administration and operations (e.g. HR, finance, facilities), school support services (e.g. library, laboratory, IT), and direct student and teaching support (e.g. classroom assistance to teachers, careers counselling, student health and wellbeing).

39 Two of the interviewees are from the same independent school, but hold different positions in the school. One is the risk and compliance officer and the other is the corporate services manager. Both are non-teaching staff members but are part of their school’s leadership team.
Table 6.1: Summary of Interview Details

<table>
<thead>
<tr>
<th>Person Interviewed</th>
<th>School Sector</th>
<th>Years in Current Position (Education)</th>
<th>Interview Duration (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal A</td>
<td>Public</td>
<td>5 (32)</td>
<td>90 min</td>
</tr>
<tr>
<td>Principal B</td>
<td>Public</td>
<td>6 (23)</td>
<td>45 min</td>
</tr>
<tr>
<td>Principal C</td>
<td>Public</td>
<td>10 (45)</td>
<td>90 min</td>
</tr>
<tr>
<td>Principal D</td>
<td>Public</td>
<td>3 (29)</td>
<td>60 min</td>
</tr>
<tr>
<td>Principal E</td>
<td>Public</td>
<td>5 (28)</td>
<td>45 min</td>
</tr>
<tr>
<td>Principal F</td>
<td>Public</td>
<td>17 (25)</td>
<td>60 min</td>
</tr>
<tr>
<td>Principal G</td>
<td>Public</td>
<td>3 (29)</td>
<td>45 min</td>
</tr>
<tr>
<td>Leading Teacher &amp; Risk and Compliance Officer H</td>
<td>Public</td>
<td>2 (12)</td>
<td>45 min</td>
</tr>
<tr>
<td>Principal I</td>
<td>Private (Independent)</td>
<td>11 (30)</td>
<td>60 min</td>
</tr>
<tr>
<td>Principal J</td>
<td>Private (Independent)</td>
<td>10 (39)</td>
<td>60 min</td>
</tr>
<tr>
<td>Principal K</td>
<td>Private (Independent)</td>
<td>8 (22)</td>
<td>50 min</td>
</tr>
<tr>
<td>Corporate Services Manager L</td>
<td>Private (Independent)</td>
<td>2 (15)</td>
<td>60 min</td>
</tr>
<tr>
<td>Risk and Compliance Officer M</td>
<td>Private (Independent)</td>
<td>10 (10)</td>
<td>60 min</td>
</tr>
<tr>
<td>Leading Teacher – Family Aid Officer N</td>
<td>Private (Catholic)</td>
<td>0.5 (12)</td>
<td>90 min</td>
</tr>
<tr>
<td>Leading Teacher – OH&amp;S Officer O</td>
<td>Private (Catholic)</td>
<td>2 (8)</td>
<td>50 min</td>
</tr>
</tbody>
</table>

Invitation emails to participate in the interviews were sent to the 130 schools that competed and returned the survey questionnaire in the earlier survey-based study⁴⁰. Fifteen interviewees accepted the invitation and agreed to participate in the interviews. A summary of the semi-structured interviews is presented in Table 6.1, which contains the job title of the participants, the school sector, their years of work experience in the current position and the education sector, and the duration of the

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⁴⁰ This approach is intended to elicit a higher response rate for the interviews. Participants who have completed a survey are expected to have more interest in the topic area than non-participants of the survey.
interviews. The participants have worked in their current position for an average of 6.3 years, with an average of 23.9 years of work experience in education. This ensures that they have adequate knowledge of their schools and the education sector in general, thus offering reassurance about the reliability of the data collected.

6.3.3 Data Collection Procedures through Semi-Structured Interviews

Semi-structured interviews can encourage and allow interviewees to converse freely in a guided conversation (Maykut & Morehouse, 1994; Norris & O'Dwyer, 2004; O'Dwyer, 2003). This provides the researcher with the freedom ‘to move in any direction that appears interesting and rich in data’ (Tierney, 1991). As a complement to the statistical analysis where ‘an inference is made about a population (or universe) on the basis of empirical data collected about a sample from that universe’ (Yin, 2009, p. 38), the follow-up interviews provide an in-depth illustration to support the theoretical analysis.

The semi-structured interviews in the present study were conducted with a face-to-face approach to elicit leadership, culture, control and performance beliefs from interviewees. Prior to the interviews, an ethical clearance was obtained from the Human Research Ethics Committee of RMIT University. Participants were informed that the research would not be excessively demanding or onerous upon their organizations and that strictest ethical considerations would be maintained with related assurances of confidentiality and anonymity in any published work.

To increase possible responses, an invitation email was sent to all survey participants to encourage them to take part in the semi-structured interviews. The contact details of participants were readily available from the information collected in the initial phone calls made to the population before the survey was distributed. Upon
receiving reply emails from participants who indicated their willingness to participate in the interviews, individual appointments were arranged by email with each participant to confirm date, time and location for the interview. The participant information sheet and consent form were also attached to this email.

All interviews were conducted at the participants’ workplace and lasted between 45 and 90 minutes. The interviews began with the researcher explaining the project and going through the main content of the information sheet, such as the withdrawal procedures, privacy of personal information and security of the research data, with the participant and obtaining his or her consent to participate in the project. Participants were also informed that the interviews would be audio-recorded and consents were obtained.

The interview protocol was used to guide the interviews, with time for further discussion allowed should any topic of interest arise relevant to the area of the study. This was critical for gaining an in-depth understanding of the dynamics of school governance and controls and of their performance implications.

All interviews were transcribed, categorized and analysed by employing Eisenhardt’s (1989) method. These included identifying common themes and unique insights as well as areas of disagreement. The interview data were analysed with reference to the latent variables leadership style, RM culture, approach to control and school performance. Systemic environmental factors, including the government’s RM policy and differences between public and private school management practices, were highlighted to allow for a better understanding of the effect of these factors on school RM.

To ensure the reliability and validity of the data collected, the following
verification strategies were applied in accordance with the recommendations of prior literature (Creswell & Miller, 2000; Morse, Barrett, Mayan, Olson, & Spiers, 2002; Shenton, 2004; Simon, 2011; Whittemore, Chase, & Mandle, 2001). Firstly, a random sampling approach was used to prevent the bias in the selection of participants (Shenton, 2004). Preece (1994) notes that random sampling helps ensure that any “unknown influences” are distributed evenly within the sample. In addition, the approach also provides “the greatest assurance that those selected are a representative sample of the larger group” (Bouma & Atkinson, 1995). Secondly, two forms of triangulation were implemented when conducting interviews. One form involved direct observation and triangulation of data - where possible, supporting data (e.g. school reports and RM policies) were obtained to provide a background and explain the attitudes and behaviours of participants, as well as to verify particular details that participants supplied (Shenton, 2004; Simon, 2011). The other form involved the use of a wide range of participants (e.g. school principals, leading teachers, RM officers etc.) so that individual viewpoints and experiences can be verified against others, esp. in a comparable position (Shenton, 2004; Van Maanen, 1983). Thirdly, during the interview, participants were assured the right to withdraw from the study at any point and were informed there are no right answers to the questions that will be asked. These allowed the researcher to ensure “the data collection sessions involve only those who are genuinely willing to take part” and “honesty in informants” (Shenton, 2004, p.66). Furthermore, interactive questioning was conducted so that the researcher can “return to matters previously raised by an informant and extract related data through rephrased questions” (Shenton, 2004, p. 67). Last but not least, “reflective commentary” (Guba & Lincoln, 1989) was followed that evaluates the project as it develops. A reflective commentary is devoted
to the effectiveness of the technique employed and to record the researcher’s impression of patterns appearing to emerge in data collected and theories generated. Guba and Lincoln (1989) note that the commentary also plays an important role in establishing “progressive subjectivity” and monitoring the self-developed constructions for establishing credibility.

In the following section, a discussion of the detailed findings of the interviews is presented, following the outline proposed by Schein’s (2006) organizational model of change dynamics. More specifically, Section 6.4.1 presents the findings of organizational health at a systemic level: school performance indicators as perceived by interviewees. Section 6.4.2 discusses the idiosyncrasies of the internal organizational factors: performance-oriented RM culture, the school leader and the approach to MCS use, in consideration of the influence of environmental factors. Section 6.4.3 follows the interactive process perspective and shows the interactions that occur between internal organizational factors and their implications for school performance outcomes.

6.4 Interview Findings

6.4.1 Systemic Perspective of School Performance

At the core of the organizational model of change dynamics in the school setting is school performance. When asked about how school performance is defined in their schools, consistently, all interviewees contended that student learning experience and outcomes are important indicators of school performance. Learning outcomes commonly include student achievement test scores in Years 7 and 9, the
General Achievement Test (GAT) and final year certificate results. Learning experience were perceived to be reflected in student engagement and wellbeing, as indicated by factors like student attendance, motivation and safety, and student pathways and transitions such as entry rates to university and transition to further training or full-time employment. Two interviewees specifically highlighted the importance of student attendance and pathways to school success:

One indicator for school performance is the attendance rate of students. If you’ve got a lot of students who aren’t coming to school – it doesn’t matter what their figures are for their grades – if they’re not here, that’s not success, that’s not helping their performance. So attendance I think is a really important one. (Public School Principal C)

We also have some students, especially with VCAL\textsuperscript{41} students, who finish early because they are offered apprenticeships. So they’re actually leaving to go into work, things like that. So that’s a success. It’s not always seen in the numbers, but it’s definitely a success for the school. (Public School Principal G)

These indicators are generally included in the annual school report which is compulsory for all public schools and selective for private schools. As hard data, they provide a holistic view of the achievement of schools in managing the uncertainty surrounding student learning experience and outcomes.

Other than fulfilling school objectives to provide quality education, four interviewees indicated that school performance tends to be judged by how a school is ‘financially sound’ or ‘financially stable’, which reflects long-existing concerns regarding the danger of poor financial management for schools’ survival (Starr, 2012,

\textsuperscript{41} VCAL refers to Victorian Certificate of Applied Learning. It is a hands-on option for Year 11 and 12 students, offering practical work-related experience and literacy and numeracy skills. Like the VCE (Victorian Certificate of Education), VCAL is an accredited secondary school certificate. Students who complete VCAL have several career options, including transferring to VCE, studying at TAFE, doing an apprenticeship or traineeship or starting a job once school has finished (DET, 2015).
2014). Terhile and Ibuh (2014, p. 96) note that ‘poor financial management is one of the greatest obstacles of effective management of secondary schools... the problem usually emanates from the inability of many school managers or principals to plan and execute school budgets in line with the objectives of the school’. To public schools, being financially sound or stable means fulfilling their accountability to the community and government for the efficient use of public resources. To private schools, this means not only fulfilling their accountability to parents who pay significant amounts in tuition fees, but also to the government that invests substantial public monies in private schools (Cobbold, 2007, 2009). Despite these differences in accountability at the level of detail, school performance in managing the uncertainty of finances forms a crucial part of the holistic view of school health among interviewees. In the words of a private school principal:

As you saw that there were school failings last year, four schools closed, and that’s poor risk management of finance. So financial stability is a very important part of school performance. The school’s financial reporting to government would be questions directed to make sure that the financial risk is well managed. The VRQA\(^{42}\), the government want to know that their investment is actually going to be worthwhile and not jeopardised. So the things we report on are related to minimising this risk. (Private School Principal I)

In addition, and consistent with earlier studies in the education literature (e.g., Lamb et al., 2004a), interviewees’ understanding of school performance diverged, including items such as ‘enrolment’ (two interviewees), ‘staff retention’ (two), ‘number of job applications received’ (one), ‘number of visitors from nationally and internationally’ (one) and ‘teacher efficacy’ (two). Most of these indicators are

\(^{42}\) The Victorian Registration and Qualifications Authority (VRQA) is the statutory authority responsible for the registration of providers of education and training (including course and qualification owners) to ensure they meet quality standards.
related in and of themselves to the success of schools in managing the uncertainty of school operations and reputation. With the increase in competition and choice within and between school sectors in recent years, school reputation is becoming an increasingly important part of a holistic view of school performance (Cobbold, 2009; Starr, 2012).

In the next section, findings on how risks are understood and prioritized based on what makes school performance a success, particularly under the pressures of government RM reform and the inherent differences in school sectors, are presented.

6.4.2 The Idiosyncrasies of the School Risk Management Components

6.4.2.1 Performance-Oriented RM Culture in the School Context

As discussed in Chapter 2, the expanded conceptualisation of the nature of risk from threat to opportunity and the purposes that RM serves from compliance and prevention to value creation combine to define a performance-oriented RM culture (Collier et al., 2007; Collier, 2009). Performance-oriented RM culture emphasizes risk as opportunity and the purpose of RM as maximization of gain while minimizing downside. With little understanding of the development of performance-oriented RM culture in the school setting, questions were asked of interviewees regarding the government’s recent RM policy and any inherent difference in the public and private school sectors on how risks are understood and prioritized.

Over the past two decades, risk in education has risen dramatically in both stakes and prominence. Starr (2012) notes that, twenty years ago, the attention to risk was more immediate and elementary, consisting of ‘slips, trips and falls’ that did not require constant monitoring and much paperwork ahead of the event, whereas today RM is big business in schools (Starr, 2012, pp. 464). As a result, school RM is becoming increasingly complex and entails a host of risks of different kinds: strategic, policy, market, student learning, reputational, operational, financial, asset, technological, health, security, workforce, regulatory and governance (Starr, 2012).

In Victoria, the DET has developed an RM policy framework for schools which echoes recent government reforms that focus on achieving a better performing public sector (Pollitt & Bouckaert, 2011). The core aim of the school RM policy is proactive management of threats and opportunities to improve decisions and outcomes (DET, 2013). The policy highlights that school principals are responsible for identifying and managing risks which affect their responsibilities, ensuring risk strategies and processes are in place and aligning schools’ resource allocation, decision making and corporate governance with RM. The RM framework also stresses that effective RM starts with ‘a strong risk culture (that) does not mean a culture of risk aversion. RM maximises the ability to deliver on school objectives, promotes sound decision making, works to safeguard child, student and employee wellbeing and contributes to meeting community and Government expectations for accountable and responsible use of public resources’ (DET, 2013). Schools should thus develop a shared understanding that effective RM is not a risk-averse approach by management, but a
culture of identifying and dealing with both threats and opportunities to maximize the ability to deliver on school objectives.

The government’s push for a strong RM culture that aims at formalizing RM and assigning accountabilities of managing risk as threats and, more importantly, opportunities has played an important role in the development of performance-oriented RM culture (Collier et al., 2007). It takes an important step forward from a traditional RM culture that involves adhering to RM rules and regulations to address downside risks like health and safety, bullying and harassment and finance, to an understanding of RM as a tool of value creation that is aimed at achieving the dual performance goals of ‘enhancing school accountability and improving student outcomes’ (DET, 2013). On the one hand, school accountability involves managing baseline operation risks to ensure the accountable use of public resources. On the other hand, the Framework for Improving Student Outcomes (DET, 2016a) provides a common language for school improvement across Victoria’s public schools. It is structured around four state-wide priorities that have a strong bearing on school effectiveness: excellence in teaching and learning, professional leadership, a positive climate for learning and community engagement in learning. The emphasis on these priorities is expected to drive school RM from compliance and protection to performance improvement.

To examine whether the government RM policy has indeed led RM culture to become more performance oriented in schools, questions were raised with interviewees surrounding the key attributes of RM culture, including the shared perceptions of risk and RM in schools, risk priorities and the focus of school governance. These findings are presented below.
- Shared Perceptions of Risk and Risk Management

In the education literature, studies about shared perceptions of risk and RM in schools are sparse (Leithwood, 2001; Starr, 2012). In a more recent study, Starr (2012) conducted extensive interviews with school principals across Australia to find that most principals viewed risk in terms of mischance or danger, with few citing risk as opportunity. However, in conducting the interviews, the present study found an important change in this perception. When asked about what risk and RM mean in their day-to-day work, nine of the fifteen interviewees indicated that perceptions are changing from perceiving risk as a mere threat to a consideration of risk as both threat and opportunity. One school principal described this as follows:

*It's [risk management for performance] increasingly so. It was a concept, if you’d said to me risk management five years ago, in terms of performance of school, I would’ve said what? I would’ve understood it in terms of managing the negative risk, but now with the Department of Education using the thresholds to measure schools, and to see where schools are performing on behalf of students – yes, you certainly see that the risk as an opportunity to develop. So you’re reading risk in a different way totally.* (Public School Principal C)

Similar views were shared by other school principals who used the words ‘opportunity’ or ‘opportunities’:

*The government policy allows us to understand now that we can’t just go along with the normal, we must look for opportunities, and that’s where the culture makes a difference.* (Public School Principal A)

These conversations reinforce the changing perception of risk and RM, which has been accompanied by a change in the attitude towards risk taking among school management. Eight interviewees agreed that school management has now started to
recognize and accept the risk-return trade-off and is more willing to explore opportunities for innovation and creativity in the development of school curricula and other activities for better student learning outcomes. For example, in the words of one school principal:

*It’s beginning to become part of the conversation that we talk about the open pathway, opportunities and innovations for student learning. In terms of school management though, if we decide that we’ve got to take a particular pathway to improve literacy or some element of school performance, then we have to determine the human and physical resources we must adjust within the school to make that happen, to establish strong policies around the emotional management of people… you know, you’re managing risk all the time there because you really don’t want negative behaviour to influence people and/or negative situations to influence people… and the change management plans that are going to be needed to actually ensure the embedding of any change. And we take a risk as soon as we start that process. (Public School Principal C)*

*If you perceive risk more as a threat then people would say, ‘No I wouldn’t take it, I’m not willing to take that risk at all’, but we wouldn’t. We are willing to try new things, although there may be risk associated. (Private School Principal I)*

During the interviews, however, it also appeared that some principals were not completely willing to embrace the emerging concept of risk as opportunity. The conversations revealed two primary reasons for this observation. One is that some school principals were cynical and doubted the true intention of school RM reform. For example, one school principal so commented:

*Well, the government has talked a lot about providing greater autonomy in schools and turning risks into opportunities. Well I see that could be very positive, but it could also be seen as the government is washing their hands of responsibility and placing that responsibility directly on the shoulders of the*
school because departmental resources have been diminished. (Public School Principal A)

The other reason arises from the fact that the traditional view of risk as threat and the view of RM’s purpose remain difficult to change in a short period of time. To some interviewees, the very term ‘RM’ is narrowly and automatically understood only as managing staff and students’ health and safety, which does not cover management of other areas like student learning that are related to the improvement of school performance.

The risk management in the school is just looking after the regular playground equipment, the school bus and any risks involved with school trips and that sort of things. So it’s [RM] not about improving student results at the end of Year 12. (Public School Principal G)

I do have a checklist that I accompany with that, but that checklist is fairly basic. In my history in OH&S, yeah, just observations, so it’s a physical check of every room, of every part of the school and I write an action plan up from that report, and we go from there... We might not identify student learning as risk management, but they still would be a threat, you know, just under a different title if you like. Generally it wouldn’t be seen under the risk management category. (Private School Leading Teacher – OH&S Officer O)

One important observation about the interviewees who referred to RM as managing threats only is that their schools are all located in areas with comparatively low SES.43 This challenging social environment may force schools to focus their RM on managing threats like high the high influence of gangs, drugs and domestic violence on students and minimizing the number of students whose outcomes fall below national standards. It is clearly more challenging for these schools to move

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43 As the base index number is 1000, which stands for the average SES in Victoria, a school is considered to be located in a low SES area when its base index number is less than 1000.
away from rule-based compliance or a ‘box-ticking’ approach to RM, as they strive harder to meet national standards with their intake of students in an environment that is more challenging than schools in higher-SES areas. A public school principal expressed these concerns in these words:

*It’s about how we deal with those underlying risks of family, finance, food, domestic violence, gambling – all of those risks are what we’re more concerned with. So our risk management is to ensure the school is a safe and orderly environment.* (Public School Principal E)

- **Risk Priorities**

  When asked about the major risks faced by schools and how they are prioritized, interviewees named a number of risks. First, interviewees agreed that student and staff safety and wellbeing (15), legal risk (four) and financial risk (four) were baseline risks to be managed. These risks are perceived by interviewees primarily as threats to schools’ successful operation and even survival. One school principal said:

  *We have obligations to run a safe environment, so in terms of occupational health and safety, we would be wanting to ensure that we are running a physically safe place for visitors, contractors and employees, students and parents and so on. We also have other accountabilities in terms of the school’s financial wellbeing, so we report to government in terms of stability and finances.* (Private School Principal I)

  In addition, nine interviewees ranked risk of student learning outcomes as a risk at the forefront, followed by reputational risk (six). These risks are seen to be both threats and opportunities. In the words of a school principal:

  *I see them as both threats and opportunities. As threats, we must ensure our students, and the school, are not falling below the minimum performance
targets set by the government. As opportunities, there is certainly a lot we can do to improve student learning. There I see the double face of risk as you call it. (Public School Principal E)

Interviewees also perceived that the two risks of student learning and school reputation are closely associated, as uncertainty about student learning outcomes significantly influences the uncertainty of the school’s reputation, and both are related to the strategic priorities of schools. Representative comments follow:

The management of risk of achieving student outcomes is important to a goal of managing reputational risk. They are our risk management priorities as they are major drivers of our performance. (Private School Principal J)

The notion of learning outcomes is a risk management and it is linked to, and it’s an ego here for schools, reputation. (Public School Principal A)

- Focus of School Governance

As discussed in Chapter 2, the focus of corporate governance is a key attribute of RM culture (Collier, 2009). In the school setting, school governance has been a prominent subject in school administration (Allen & Mintrom, 2010; Conley, 2003; March & Olsen, 1995; Wong & Shen, 2003). School governance involves leading, directing and controlling a school’s functions through a governing body (Allen & Mintrom, 2010). In Victorian schools, the framework for Improving School Governance (DET, 2016) defines the governing body as the school council which is composed of the principal, other teaching and non-teaching staff members, parent members and sometimes community members. Acting as a team, a school council is expected to support the principal in decision making and school management so that the school can operate optimally and achieve its aims and objectives (DET, 2016).
When asked about the focus of school governance, nine interviewees commented that the school RM reform has led to more strategic concerns being evaluated by school management when making decisions. These may include a consideration of students’ background, natural ability, whether they actually increase and improve beyond that innate level and whether teachers are able to add to the value to student learning. These concerns are linked to student learning experience and outcomes, which has great potential to create value for school improvement. One school principal stated:

*When we’re in the strategic meeting together, we don’t talk about the photocopying prices or the cost of pens. We talk about learning. We want to know what the kids are learning...That’s we’re doing with the pedagogy, making sure that common language is spoken about learning. So that’s the driving force for our performance.* (Public School Principal C)

When further questioned what practices were engaged in value creation, a number of interviewees described how their schools engage in practices such as establishing a database for success measurement. The data capture students’ results (especially in Years 7 and 9) on an annual basis and are analysed to identify performance gaps to aid value creation. Schools can then target programs that have been successful in improving the performance of students and find out what in those programs can be applied in other situations. On the contrary, if a subject is not performing well, reasons are identified by school management and improvements are made within a set period of time. In this way, school management can monitor and ensure continual value adding to the student learning experience and to student outcomes.
In addition to performance evaluation, one school principal provided a specific example of how school resources are allocated for the purpose of value creation. These resources are not only tangible in the form of equipment and teaching facilities but also and more importantly intellectual, in the form. Here are his words:

If I place all my good teachers in one area, then you don’t give your school a chance to grow - you need to make sure that the foundation’s there [to allow good results in Year 9 and VCE\textsuperscript{44}], so Year 7, 8 is a fairly strong focus. And convincing teachers who have been teaching for 20 years, to teach Year 7 and 8 is sometimes difficult, because they think they’ve earned VCE. But that’s a concept you can’t allow. So you must push back and manage that. So the risk management begins with managing the negative, but it does turn around to actually enhance and make better what you’ve actually got. (Public School Principal C)

Taken together, these findings show that the new RM policy echoes the broader government reforms that focus on achieving a better-performing public sector (Pollitt & Bouckaert, 2011). By emphasizing a key benefit of RM as the optimisation of opportunities to enhance school performance, we can see the beginnings of fundamental change the perception of risk and the objective of RM in schools. A progression from managing threats to managing opportunities (Collier et al., 2007) has begun. Undoubtedly, the new RM policy is an important institutional driver for a more comprehensive understanding of risk and RM, is which triggering a more proactive approach to RM generally in schools.

\textsuperscript{44} Victorian Certificate of Education (VCE) is usually completed in Years 11 and 12. It is awarded to students who successfully complete their secondary education. It is recognised internationally, and provides pathways to employment as well as to further study at university and TAFE (Technical and Further Education) (DET, 2015).
The Influence of the School Sector on the Development of Performance-Oriented RM Culture

It has long been argued in the education literature that there exist systematic differences between public and private schools, both domestically and internationally, due to their difference in ownership (Lamb et al., 2004a, 2004b; OECD, 2012). The ownership difference has three effects on public and private schools: 1) sources of financial support, 2) formalization and bureaucratization and 3) student intake and school climate (Lamb et al., 2004a, 2004b; NCES, 1997; OECD, 2012).

First, the defining distinction in ownership between public and private schools results in their having difference sources of financial support (ABS, 2014; Lamb et al., 2004a, 2004b). Public schools are owned, operated and fully funded by the government, whereas private schools are not government-owned and receive significant private funding in the way of fees, charges and private donations (Harrington, 2011). The difference in funding sources leads to public and private schools having distinctive goals. As government-owned organizations, public schools face an increasing demand for accountability and equity in using public resources, which has resulted in public schools adopting a more risk-averse approach to management generally (Boyne, 2002). McPhee (2005, p. 3) noted that, ‘some of this no doubt arises due to the importance of the legal framework which guides public administration, and the fact that public moneys need to be managed with due care’. In contrast, these goals are not always present in private organizations (Ferlie et al., 1996). Private schools are driven by market forces and accountable to their own stakeholders: students, parents, donors and perhaps religious organizations. These
result in private schools’ being able to place greater emphasis on achieving higher academic performance to respond to market demand and meet the requirements of those stakeholders (Georgia Tech & Georgia Tech, 1998; Smith & Bell, 2011; Smylie, 1996).

Second, public and private schools are different in their degree of bureaucratization, which is generally higher in government-owned entities than in other organizations (Buchanan, 1971; Crow & Emmert, 1990; Bellante & Link, 1998). Formalization has two major effects on schools, in terms of decision-making authority and school flexibility (NCES, 1997). Owned by the government, public schools necessarily must take some direction from governmental education authorities like Victoria’s DET. The NCES report (1997) found that private school principals reported much more influence over school policy, curriculum design and overall control of school than public school principals, who attributed more influence to the education authorities and teachers than to themselves. In addition, private schools reported greater flexibility than public schools in designing more rigorous academic programs and in the provision of additional support for learning as a result of less bureaucratization (NECS, 1997).

Third, prior studies have also found that public and private schools differ in student intake and school climate (Lamb et al., 2004a, 2004b; NCES, 1997; OECD, 2012). Public schools in Victoria, as government-owned entities, are expected to provide their services to the general public and are required to enrol a student as long as the student lives in a designated catchment areas, whereas private schools are both chosen by students (or their families) and choose which students to admit (Lamb et al., 2004a, 2004b). Students bring to schools their background characteristics, such as their own and their families’ social and economic conditions, which may affect their
attitudes toward learning and learning outcomes. Schools must take these characteristics into consideration as they organize and manage schools, and design and implement curriculum and support activities (OECD, 2012; Smith & Bell, 2011). Hence, many of the ways in which public and private schools differ reflect differences in their student populations and the learning environment of a school (Lamb et al., 2004a, 2004b; NCES, 1997; OECD, 2012).

These differences between public and private schools, caused primarily by different ownership, are all likely to affect schools when making sense of risk and directing the scope and dimension of school RM. When asked about whether there exist differences in the perceptions of risk and RM between public and private schools, interviewees provided a few significant dimensions where RM culture may differ.

A majority of interviewees (12) indicated that government ownership provides a ‘safety net’ for public schools in relation to RM. This does not only mean that the government provides RM guidelines for public schools, but also that the government offers governance support to public schools that display risk aversion. A public school principal made the following comment about the safety net:

Government schools have central governing bodies behind driving them. I think what the government does is it provides a safety net. It provides security for a leadership team – I know I can phone my legal department. So with risk aversion we have the department behind us. The private schools are in a marketplace, they are driven by the market and their success really is about enrolments, so reputation is enormous. That’s a big risk factor for them and if they get some of that wrong their reputation will go down. (Public School Principal A)
Without the coverage of the government’s safety net, private school principals were found to express greater concerns over their ‘duty-of-care’ obligations such as removing health or safety hazards, alleviating bullying or harassment and ensuring a school’s financial stability, as they are all related to litigation risk, financial risk and reputational risk. A private school principal stated:

_We’re living in an age of litigation, so schools have their particular duty of care not only physically for children, but also socially, emotionally and psychologically. It’s a very important responsibility. So we need to take risk management very seriously... (Private School Principal I)_

Here is another example in which a private school principal compares that school with public schools in the management of finance, indicating that a key difference is the presence or absence of the safety net:

_We have complete control over our financial management. So the things that we manage within the school guarantee the school’s stability and future. A government school does not manage all of its finances; they get what they are given by the government.

For example, if they want a new building, they have to apply to the ministry and get approval. They don’t have to necessarily manage the contract, make sure that they’re getting value for money, making sure the builder doesn’t go broke, whereas, if we’re going to build a new building we need to know that we can get the finance from the bank or that we have sufficient in reserve. We have to assure ourselves the contract is watertight, so we get legal advice. We would get advice about the solvency of the builder, every aspect of a project like that we need to manage with the budget in mind, whereas in a government school you don’t have to worry about that, somebody else does. (Private School Principal I)_

According to the interviewees, the more cautious attitudes in private schools towards the above risks are driven by the intensive market competition in education.
While public schools often do not see private schools as their competitors as they are covered by the government safety net, private schools do face competition from public schools – especially those that also excel in student academic results in the area – and other private schools in the open market. Therefore, they are more vulnerable than public schools in relation to any downside risk to their reputation and finances. This can be seen in the comments of a public school principal and a private school principal below:

*I don’t see them [private schools] as a threat at all because our students perform very well academically. And that’s an attraction for many families living around here. Yes, their facilities are fantastic, grounds, gymnasiums, all of that, but is it worth in parents’ view of $30,000 over six-seven years, so you know $200,000 over a period at least, for what they are getting? In that sense, we are a threat to private schools. (Public School Principal A)*

*Public schools are higher funded substantially than private schools. The only way private schools are able to operate is if we charge fees. If something damages our reputation, that’s going to have a huge impact on our enrolments, finance and in the worst case, survival. (Private School Principal J)*

This finding differs from prior studies which found that public schools are more risk-averse than private schools (e.g. Bohte, 2001; Ouchi, 2004; Ouchi, Cooper & Segal, 2002; Ouchi et al., 2003). In relation to managing threats, it seems that private schools can become more conservative and risk averse than public schools, without having the sense of security provided by the government ownership.

In relation to the management of opportunities, on the other hand, private school interviewees spoke more strongly than their public counterparts on the management of student learning risk and reputational risk. All seven private school interviewees emphasized their focus on achieving better student learning experience
and outcomes, not only by ensuring that students obtain good academic results but also in helping students identify their full potential and achieve their life goals. Here are some examples:

*We are very focussed on the achievement in student learning as it’s the core of the business and our reputation.* (Private School Principal J)

*We enable students to learn at their own capacity and help them identify their greatest potential, whatever they can be, to achieve their own best. So we have very much a focus on that.* (Private School Leading Teacher N)

These commonly shared perceptions of activist management of student learning risk and reputational risk are very likely driven by market demand; parents expect high academic results and a holistic education for their children. In Victoria particularly, a state that has the longest history of private school education in Australia, a common feature for private schools is a culture of searching for ‘a point of difference’, something that differentiates them from their competitors and helps build their student learning outcomes and reputation in the market. This is made clear by the comment of a private school principal:

*Private schools have been around for 150-plus years and what we are all doing, especially at the top, we are looking for a point of difference. We are willing to take the risk of an initiative if we’ve seen it as an opportunity to enhance student learning outcomes and the reputation of the school.* (Private School Principal K)

In comparison, only half of the public school interviewees (four) mentioned a concern with student learning risk and reputational risk. The other four referred to RM as managing threat risks only, such as safeguarding the health and safety of staff and students (four), ensuring students do not fall below national standards (two) and financial management (two). When asked further about why risk was not perceived
as an opportunity in their schools, the major concerns of these four interviewees were found to be related to decision making authority and school flexibility. Consistent with prior studies (e.g., NCES, 1997), interviewees claimed limited influence over school policy, curriculum design and school resources in the public system, attributing more influence to the DET. In the words of a public school principal:

As government schools we have less flexibility, whereas private schools have more flexibility of delivering what they want. I may see an initiative as a good opportunity for student learning, but I can’t just turn around and say I want to start this somewhere, it would have to be governed by the Department. (Public School Principal G)

The same view was echoed by a private school principal when comparing private schools with public schools:

We can be more nimble, so we can adjust, for example, to better meet the needs of our market. So Chinese is a case in point. When I came here Chinese wasn’t taught, yet we have a lot of families with Chinese background and their children were going off learning Chinese on Saturday. So it made sense to introduce it here. It would have been a much longer process to go through to have approval on that in a government school, whereas, here we can make the decision and make it happen fairly quickly. (Private School Principal I)

Overall, the findings above show that the differences in the school sector, in terms of government and non-government ownership, influence schools’ perceptions of risk and the scope of their RM. Private schools, driven by market forces, are stronger in their perceptions of managing both threats and opportunities than public schools. Government ownership, on the one hand, provides public schools with a sense of security by sharing the responsibility for managing threats. On the other hand, however, the bureaucratization associated with government ownership hinders flexible localized decision making that could allocate resources to create value for
schools. The findings are consistent with prior studies that have argued that a high level of formalization may result in organizational inflexibility and inefficiency (e.g. Bozeman & Kingsley, 1998; Buchanan, 1975; Crow et al., 1990; Pandey & Bretschneider, 1997; Rainey, Pandey, & Bozeman, 1995). As a result, public schools are viewed as weaker in managing threats and less motivated to manage opportunities. Hence, while performance-oriented RM culture is finding its way in both public and private schools, as advocated by the new Risk Management Framework, the benefit of RM as the optimisation of opportunities has yet to be fully embraced by many public schools.

6.4.2.2 School Leaders’ Role in School Risk Management

In examining RM culture in public and private organizations generally, Georgia Tech & Georgia Tech (1998, p. 111) note that that ‘organizational leaders play a particularly important role in influencing perceptions that risk is or is not legitimate’. Their view echoes the Sitkin and Pablo’s study (1992), which states that ‘even subtle cues from leaders about their preferences regarding risk can powerfully affect the risk perceptions of other decision makers’ (p. 22). Hence, the knowledge of organizational leaders’ perception of risk and RM can provide valuable insight into acceptable behaviours concerning risk in organizations (Georgia Tech & Georgia Tech, 1998).

When asked about the extent of principals’ perception of risk and RM influences in schools, most interviewees (10) agreed by saying ‘to a great extent’ or ‘very much’. This was noted in the comments of both public and private school principals:
I think the leader’s view of risk and how risk tolerant has a huge impact on the school – the leader’s own views and values influence how he or she introduces something like risk management in the school. (Private School Principal I)

I think principals who see risk as opportunity and look and believe they have the flexibility and the autonomy to work within the framework makes a difference. I think those who see the government risk policy as a tick box, as a compliance and that’s all, are losing out and will not take their schools forward. (Public School Principal A)

Consistent with prior literature that contends that the values of leaders are often built into their leadership styles (Bolton et al., 2008; Yukl, 2005), school principals are found in the present study to develop performance-oriented values (indicated by two thirds of interviewees) by involving staff members in various decision-making parts of the school’s affairs, developing people’s skills and creating a school climate that encourages learning and growth. These allow the values of school principals to be communicated and shared successfully; in particular, they enable employees to develop a better understanding of how to be responsive and open to the broader ranges of opportunities that will achieve the best possible performance outcomes for students. In describing the changes a new principal had made to drive the school’s performance-oriented RM culture to focus on creating value for students, a leading teacher explained:

We’ve got a new principal who has been here about eighteen months – and changed the culture of the school very, very much, to make sure it is about seeing every student as an individual, and catering to their needs. A lot more of the staff are involved... There’s a lot more professional learning around teamwork, and understanding how to get the best from children, rather than just from education, but looking at all the things behind that, to support the children. Yeah, so that’s why I said it’s about the philosophy about the
principals – [the] beliefs are behind the education of children (Private School
Leading Teacher – Family Aid Officer N)

Five school principals emphasized that the process of developing the school’s
performance-oriented RM culture is time-consuming and requires persistence and
great effort. Often, these initiatives may take years to bear fruit. A private school
principal described the impact of leadership in this process:

I’ve worked for a long time with risk management in our school, so as I’ve
worked through I have included large numbers of staff and I run lots and lots of
professional development sessions, so for larger groups where there is a
specific kind of risk I’ll enlarge the group and include them in training. So
gradually over time I build the culture and people build their understanding. So
my view has a big impact in this process. (Private School Principal I)

Pushing for the change to a performance-oriented RM culture is not without
difficulty, especially for public schools. As discussed earlier, compared with private
schools, public schools have long faced more compliance pressure from the
government, more demands for accountability, little flexibility in student intake and
fewer resources to invest in school improvement (Bellante & Link, 1998; Crow &
Emmert, 1990; Lamb et al., 2004a; 2004b; Smith & Bell, 2011). Most public schools
interviewees (five) suggested that these issues lead to public school principals’ facing
far more challenges in the process of disseminating the notion of risk as opportunity
among employees, given the long tradition a compliance-driven mindset in the public
sector (Boyne, 2002) and limited resources with which to materialize the benefits of a
performance-oriented RM culture. One public school principal expressed his
impotence in this matter:

I would say that they [teachers] see risk management as that’s the principal’s
domain, he’s got to look after that, except if it’s about me and my class then it’s
to do with me. And often it’s reactive because I’ve had to go and I’m saying I’m very sorry but there’s been a complaint made about this, then that’s a risk to teachers. I don’t think they see the notion of risk as an opportunity. (Public School Principal A)

Taken together, the above findings agree with prior studies that organizational leaders are important change agents within organizations (Georgia Tech & Georgia Tech, 1998; Schein, 2004; Sitkin & Pablo, 1992). In the school setting, principals facilitate the development of RM culture through the way they communicate and implement performance-oriented values. While the process of developing a performance-oriented RM culture can be time-consuming, especially in public schools that are restrained by bureaucratization and limited resources, the findings indicate that school leaders’ ability to establish, communicate and implement a vision is fundamental to maximizing the ability to deliver on school objectives.

6.4.2.3 MCS in Schools

Numerous studies in the accounting literature have examined MCS in the private sector (e.g. Abernethy et al., 2010; Anthony, 1965; Bisbe & Otley, 2004; Bouwens & Abernethy, 2000; Chenhall & Langfield-Smith, 1998; Davila et al., 2009; Davila, 2005; Gong & Ferreira, 2014; Langfield-Smith, 1997; Merchant & Otley, 2006a; Widener, 2007) and the public sector (Barrett, 2004; Barton, 2009; Chenhall, Hall, & Smith, 2010; Robinson, 2002). Yet, very few were found that examined MCS in the school sector, leading to this enquiry into MCS in schools.

During the interviews, all 15 interviewees took the view that the two most commonly used control mechanisms in schools are budget and PMS. Budgets are regularly used as a tool to plan and manage the use of financial resources in schools. According to the budget management guide in Victorian public schools (DET, 2012,
p. 3), ‘schools prepare an annual budget before a school year commences (planning), in order to manage financial performance during the year (control), and evaluate performance at the end of the year (evaluation)’. As an important control mechanism for financial management, budgeting provides school leaders with comprehensive information to make informed financial decisions. DET (2012) specifically highlights the risks associated with poor financial management, such as staffing instability, financial instability, poor commitment control, creditor discontent and lost opportunities to achieve a school’s strategic plan priorities, programs and projects, thus compromising the achievement of improved student outcomes.

Apart from budget, PMS is the other key control mechanism used as a tool to evaluate employees and motivate them. It is found that in all schools interviewed, teachers are under an appraisal or performance management program. Typical performance management involves a teacher going through an annual review with their supervisors, who can be the principal, a senior teacher, head of department or dean of teaching in a larger school; non-teaching staff typically meet with their managers for PMS purposes. According to most (11) interviewees, subjective performance evaluation dominates PMS, with some support from objective information involving data analysis of student assessment results or student attitudes to school surveys.

Unlike manufacturing or commercial organizations, where incentive-based pay is often tied to performance measurement (Gong & Ferreira, 2014), schools have been found resistant to incentives and performance-based pay. First, interviewees indicated that it is hard to measure a teacher’s performance objectively, as a given student’s performance can be affected by many factors other than a teacher’s performance, such as school culture, peers, learning facilities, family circumstances,
etc. (Alexander & Pallas, 1985; Hargreaves, 1995; Markes & Printy, 2003; Silins & Mulford, 2004); in practice, struggling students are often paired with good teachers to help them improve. All of these factors make it hard to have a rating system or final score to ‘mark’ the performance of a teacher. Second, four interviewees were concerned that the performance-based pay will cause tension, competitiveness and less information- and knowledge-sharing between teachers, which would hinder student and organizational learning. A leading teacher expressed her opinions thusly:

*Well the government talked about trying to bring in performance wages, and everyone said no. Even really good teachers said, ’No, that’s not fair’, because no matter what you do in the classroom, you’re still making a difference, you’re still delivering the content; how well you deliver that content is a different thing. You’re still working the hours, you’re still doing what you need to do, and yes, I’d love to be paid more as a teacher, and I think I do a very good job, but I think it would cause more trouble within the staff, and that competitiveness... I think it would do more damage to the school than help it, if we were paid by performance.* (Private School Leading Teacher – Family Aid Officer N)

This was echoed by three school principals who typically expressed their concerns about the negative effect of incentive-based pay on team building. For example, a private school principal stated:

*I think a lot of us would argue that it’s (incentive-based pay) not appropriate. That you’ll go to start manipulating your results, or manipulating your classes, to get paid more, as opposed to wanting to do it for a more assertoric, genuine sustainable reason... If you want to create a team, you don’t start paying some people more than some others. That’s ridiculous. That’s like parents that give their kids money when they get an A+. That’s a really bad way.* (Private School Principal J)
Instead of a performance-based pay, what is usually tied to good performance in both public and private schools are roles with more responsibilities or leadership positions, although higher pay is often associated with these roles. In addition, staff may get receive professional development opportunities; for instance, high-performing staff members may be financially sponsored to attend or present at an interstate conference. Intrinsic motivations, such as passion for teaching and willingness to learn and grow, are emphasized in schools. In the words of the school principals below:

There are some roles here that I pay a higher duty for, usually a managerial role. So in other words if someone is looking after our international protocol, I pay them for a higher duty... So it might be like for my good teachers I’m asking them to go and present at the maths numeracy night, and I will go and buy them a voucher of some form. I might ask someone to attend an interstate conference and pay for them to get up to Sydney. They’ll get greater experience for them to learn and grow. (Public School Principal A)

There are some areas of responsibility for which you get paid, if you’re in those roles. But the conditions here are so fantastic that, you know, the incentive is the quality of the students you’re teaching. And the fact that it’s a great place to work. (Private School Principal J)

These non-financial rewards are seen by interviewees to provide less tension from competition and more encouragement for learning and growth, and hence are generally perceived as more appropriate for schools.

In the next section, findings regarding the dynamic interactions of the school RM components are presented. The findings demonstrate how controls are engaged in schools to manage risks as threats and, more importantly as opportunities, together with facilitating leadership styles and their implications for school performance.
6.4.3 The Dynamic Interactions between School Risk Management Components

Collier et al. (2007), in examining the progression in RM, note that RM starts from managing risk in terms of compliance, prevention and operating performance through to a higher level of managing risk as opportunity to enhance stakeholder value. While the former serves organizations at the operational level, the latter facilitates organizations’ decisions at the strategic level (Bekefi & Epstein, 2008; Collier et al., 2007). Both contribute to the achievement of organizational objectives (Armistead, Pritchard, & Machin, 1999; Bekefi & Epstein, 2008; Collier et al., 2007; Morris, Schindehutte, & Allen, 2005). Hence, the risks highlighted by interviewees in the previous sections are discussed below according to their double face of threat and opportunity. In particular, the findings present how the double face of risk is managed with different approaches to MCS use and their school performance implications. As the survey-based study focuses on the enabling approach to MCS and the findings have suggested that this approach is positively associated with managing risk as opportunity, the semi-structured interviews focus on how this has happened and what role coercive control plays in school RM.

6.4.3.1 Managing Risk as Threat, Coercive Control and School Performance Implications

Baseline risks highlighted by interviewees in the earlier section include staff and student wellbeing and safety, legal risk and financial risk. They are seen to be closely related to schools’ day-to-day operations (Midthassel & Ertesva˚g, 2008; Rossouw & Stewart, 2008). Hence, both public and private school interviewees posit them to be an important, even fundamental, part of RM. For example:
An important part of risk management is about running a safe entity, something that is financially sound where occupational health and safety is taken into account for all members of the community. I think these are fundamental for a higher level of managing opportunity risks. (Public School Principal B)

A private school principal commented on how serious the management of legal risk is for schools today:

‘We’re also living in an age of litigation and so schools, particularly with their duty of care not only physically for children, but also socially, emotionally and psychologically. It’s a very important responsibility. So we need to take risk management seriously as the potential litigation is an ever-present consideration for schools now. (Private School Principal I)

To address safety and legal risks, schools are consistently found to engage in OH&S policies, emergency management plans or the development of a risk register with the aid of risk assessment tools and sometimes risk consultants. Interviewees explained that a risk register starts by identifying possible risk scenarios or ‘events’ that are weighted in terms of probability, likely causes, frequency and consequence. Each risk is then assigned a low, medium or high risk rating, which is used to develop risk registers and action plans. Here is an example:

When we drew up our risk register we asked staff to think very broadly about their own area of work and what could constitute a risk, and then we rank those risks in terms of likelihood, severity and so on and looked at the list, and we report to our school council on the top risks. (Private School Principal I)

To address financial stability, interviewees agreed on budgeting being the key control mechanism in schools. It is an important tool to monitor and evaluate the financial position of the school and serves to protect schools from financial instability. A public school principal stated:
We are keeping our budget tight as we are managing a risk of money. In the worst case, a school is in deficit and has to clear excess teachers, that’s very negative. So in my view, budget works to ensure we are financially sound and money are spent in a fair and equitable manner. (Public School Principal C)

Other than these baseline risks, interviewees also highlighted student learning risk and reputational risk, as their management are strongly related to school performance. Improving student learning outcomes has, in recent years, attracted much attention in Australian education (Kenway, 2013). As a result, the government has enacted strong monitoring of student learning outcomes by setting state-level thresholds for examination results. The thresholds are the minimum performance targets for schools. For public schools, falling below the thresholds may lead to closer monitoring and more inspections of school performance from DET in the short run, and a negative impact on school reputation in the long run. For private schools, poor student performance may directly affect reputation and even survival fairly quickly, as a result of market competition. These concerns are clear in these interviewee comments:

The Department has introduced in the last two years a check sheet of school performance, which has things called thresholds. If we fall under the threshold, we are in trouble. We will get what is called a priority review. So we must manage that and not allow our school to be in that zone. We’ve got to make sure our students are improving their performance so they stay above the thresholds, and the whole school does. This is especially important for our school with low SES. (Public School Principal C)

45 For public schools, government funding is received according to the number of students enrolled; it is not affected by poor student academic outcomes in the short run. However, poor student outcomes will affect a school’s reputation in the long run, which may result in the reduction of student enrolment and therefore less funding from the government.
We have a reputation for high-level academic outcomes and absolutely superb behaviour. Those, probably, are our great risk areas. If something damages that reputation, that’s going to have a huge impact on our enrolments. (Private School Principal J)

Five interviewees agreed that the management of student learning risk involves the role of planning, as when schools address how to handle students who have difficulty in learning:

It’s not just unconsciously; we’ve actually got to plan very consciously what steps we’re going to take, and when we are making these steps. For example, if we have to improve literacy of some students, we’ll put it in our plans, we document how we’re doing that together and review that every six weeks. This way it remains alive in the consciousness of people. (Public School Principal C)

We have a lot of students that come in and they’re working at Grade 3, Grade 4 level. What we do is to plan for our teachers to differentiate the curriculum, making sure they are catering for those kids. And in some cases we have two teachers in the classroom, because the group is so wide. This, again, has to be well-planned to ensure enough resources are allocated to where there are such needs for student learning. (Public School Principal D)

Compared with public school interviewees who showed more concern with students facing the risk of not meeting state-level thresholds, most private school interviewees (five) were confident of their students’ academic performance but showed greater concern about the reputational risk to their schools. To them, reputational risk is related not only to shaping students’ academic results, but also to the control of the human behaviour of staff members. A private school principal noted:

“Our risk matrix is colour-coded. So, you’ve got red, amber and green for high risk, medium, and low. Reputation risk is marked red.
we can control to a great extent by employing top-level staff, doing a lot of PD around how you teach, setting the bar high and keeping encouraging our teachers to do their best. But there’s a point at which, if you look at what’s happened to the reputation of other schools, it’s all to do with human behaviour, which is hard to control. It could be a member of staff having peculiar behaviour to students. You’ve got other instances where a principal, or board, or both of them, don’t keep their eye on the Financial Board and the school closes. So it is important that we build these into the risk matrix and ensure they are closely monitoring such behaviours. (Private School Principal J)

When asked about the extent to which the above controls are coercing or enabling employees, the common views from interviewees (13) is that they are used coercively when fulfilling the purpose of compliance with government regulations, protecting schools from safety, legal, financial and reputational hazards, and ensuring that school as a whole is performing above the thresholds. As many of these risk control mechanisms are based on established rules and standards either outlined in the government compliance framework for public schools (e.g., OH&S, emergency plans, planning and budgeting) or following the registration requirements of the VQRA for private schools as with a risk register, they are seen as rule-based controls. Ahren and Chapman (2004) argue that rule-based controls specify a great number of responses to contingencies and therefore constrain the actions that employees can take. Hence, they are fundamentally consistent with Adler and Borys’ (1996) coercive bureaucracy, which is used to satisfy school compliance and operational needs.

When asked about the role of a school principal’s leadership in the management of risk as threat, seven interviewees mentioned the ability of the school leader to ‘establish rules and standards’, four noted ‘strong management’, and two used the
terms ‘authority’ and ‘power’. These behavioural traits, collectively, indicate that school principals tend to adopt a transactional leadership style when the management of risk is more closely associated with compliance and operating performance. Here are some examples:

*For compliance I need the ability to establish rules and standards, and I also need strong management. It’ll be very difficult to develop the school if it doesn’t have a safe and orderly environment in the first place. (Public School Principal B)*

*Staff will want their leaders to have the ability to manage modalities such as finance. If I want to transform and develop the school, my management has to be strong because staff would be happy with the transactional nature of my leadership style to say the finances and the HR are all taken care of. (Public School Principal A)*

These findings confirm earlier studies that argued that transactional leadership is based on bureaucratic authority, which emphasizes legitimate power and respect for rules and organizational standards (Tracey & Hinkin, 1998). With an emphasis on setting clear boundaries for employees (Bass & Avolio, 1993), transactional leadership is more able to facilitate coercive control that focuses on close monitoring and demands strict adherence to predetermined strategies, routines and procedures.

The above discussions highlight five school performance implications as a result of managing risk associated with prevention of threats and a general sense of compliance: 1) a safe, orderly and positive school environment; 2) litigation avoidance; 3) financial stability; 4) school performance above state-level thresholds; and 5) minimal reputation loss. While these outcomes fulfil the RM purpose of ensuring schools’ accountability for safeguarding student and employee wellbeing and engaging in responsible use of public resources, nine interviewees agreed that
effective RM should not end here. Two specifically stated their concerns about a ‘narrow’ understanding of RM outcomes. In the words of these school principals:

*I know the risk management that is practised in many schools is around safety, stability and finances, etc. That’s where it begins, but I think risk management should not stop there – when you start having conversations about improving student performance, the school performance as a whole, keeping your mind open, it’ll be another level of risk management.* (Public School Principal C)

*Risk operates on two levels and on one level, there’s a huge area where risk is seen as a threat, not just in a physical sense to the wellbeing of the students, or adults, but also in terms of potential legal threats and that kind of thing. On the other level, a higher level, we think we should encourage risk. That’s either as an individual, or as an institution. That risk is an opportunity, a necessary part of creativity and personal development and improvements in things like academic outcomes.* (Private School Principal J)

These conversations indicate that while managing risk as a threat is fundamental to basic school operations, they are not necessarily directly associated with the key strategic areas of schools that are known to have the greatest impact on school improvement, such as excellence in teaching and learning, improvement in school reputation and enhanced student engagement (DET, 2013). Schools are expected to maximize their ability to deliver these objectives through being responsive and open to the broader range of opportunities (DET, 2013).
Managing Risk as Opportunity, Enabling Control and School Performance Implications

Managing risk as opportunity emphasizes value creation through making strategic decisions, understanding key drivers of performance and resource utilization by developing a range of best practice tools and techniques (Collier, 2009). In schools, value is created through a focus on learning and growth amongst employees and students and by promoting innovations and creativity for the enhancement of school performance (OECD, 2014). Among the several dimensions of school performance, managing student learning was considered by 11 interviewees as the core of value creation when managing risk as opportunity.

To enhance student learning outcomes, a few school principals commented on the importance of using a PMS to enable teachers to develop the best courses of action by using their own intelligence, to repair the parts of their work that malfunction and to provide them with transparency of information to develop an understanding of the broader context of the school and relate their local actions with its larger purpose. For example, two school principals described how they used PMS in an enabling manner:

*We see everything that we are asked to do within a framework not as a tick box, which means that we need the opportunities to look at enabling our teachers more. You know, to create enablers. So, for example, when I am in a performance review, I could say to the teacher your data is down with this grade level and you need to lift it up. Nothing is enabled out of that. What I need to do is saying, ‘Right let’s look at the data, what is it telling us, what do we need to put in place for that, how does this help us achieve what we want to achieve for the school as a whole?’ and that’s an enabler and that assists the school performance in the long term. (Public School Principal A)*
You are just discussing, you know, with a big picture in mind of where the school wants to be in the future, but here are some areas where I think we can improve, you can improve, and therefore we can improve as a school. (Public School Principal G)

This approach to the PMS becomes more enabling for employees to use their own intelligence to identify and repair problems, which feeds the arousal of the learning process in the school. Similarly, another school principal described a change in the school’s PMS to allow more enabling characteristics:

We’ve changed quite a bit over the last few years. It now involves, as opposed to an appraisal system, classroom visits and observations. See, the trouble with appraisal systems is they often come from a business model and they’re tied up with salary increases and threats of sacking, or jump higher or we’ll sack you, kind of stuff. They’re also a bit of a tick box system. So we now do classroom visits and observations. We tried that this year, it’s really good because the core business of this school is teaching and learning... The classroom appraisal, I think, is to make people feel that there’s always something you can do differently, or better, or learn from the other people. It’s not there as a big stick. I don’t think we operate on a stick and carrot level, either in the classroom or as an institution. (Private School Principal J)

To assess the effect of managing student learning, the PMS may contain a database and a system analyser to feed and examine student results and compare growth. This information allows for continuous assessment of learning and for teachers to be informed of any learning patterns and dig down to the individual student. Information is also collected through student attitudes in school surveys to provide feedback regarding where students are situated within each year and where their pressure points for learning are located, so that teachers can isolate down factors that may influence students’ learning competence. With this approach, the PMS
provides sufficient transparency of information to allow teachers to take actions to improve student learning experience and outcomes.

Beyond the enabling use of the PMS, one school principal also shared an experience with the enabling use of budgets at the school; the financial information provided by the budgeting process allows the school to have a better understanding of the school’s operation and stimulate new ideas to improve operation and performance. For example, information on expenses and surplus allowed a school to consider different employment strategies, the introduction of new programs, the purchase of new equipment or even the building of more classrooms to facilitate student learning. As the principal put it:

You’ve got some money to play with, and so to grow you need about 10% of your budget to be available to take risks as opportunity. And this is where the conversation that you’re talking about is really important. That when your budget is tight, you can’t take opportunity because your budget constricts you to staying in the current program, and in 2010 we had a healthy budget and so we spent $100,000 a year for four years on re-developing the school. We actually turned wings inside out... It was a huge change moment and we could keep on the positive development all the way through. (Public School Principal C)

While the interview findings show that managing risk as opportunity requires the use of enabling control, it is observed that enabling control also reinforces the shared perceptions of risk as opportunity to facilitate continuous improvement. Both Ahrens and Chapman (2004) and Free (2007) find that, by allowing employees to have greater autonomy and flexibility to conduct intellectual work and enjoy more transparency of information, employees can develop a better understanding of their own roles in value creation. In the school setting, this is reflected in a greater sharing
of information among staff members to enhance student learning outcomes, more innovations in the development of curriculum and school activities and more teamwork for professional development. When asked about how greater autonomy and flexibility may influence a school’s RM culture, one leading teacher noted:

There’s a lot more collegial sharing of information, and when that happens, it’s better for the student. There’s a lot professional learning teams now that are coming together, so it’s about looking at all of these things: how do we improve teaching, how do we improve students’ learning, how do we cater for those at the end? And one of the things we’re now looking at specifically is, how are we going to cater for those gifted students? And as groups of teachers in these teams, we’re from all different learning areas, so it’s not just the science teachers sitting together; so it’s coming from a variety of images and a variety of ideas, how to approach the one problem. So it’s really important, that professional dialogue, to make sure that what’s going on in the classroom is the best for the students. (Private School Leading Teacher – Family Aid Officer N)

These examples of teamwork allow beliefs about value creation through better learning to be shared and strengthened across a school’s staff. A better information flow amongst employees, driven by greater autonomy and flexibility, enhances the possibility for innovation and the development of best practices and tools. As a result, enabling control reinforces the performance-oriented RM culture to facilitate a long-term improvement.

When asked about the characteristics of school principals’ leadership in the management of risk as opportunity, interviewees suggested ‘involving’ (three), ‘motivating for learning’ (five), ‘stimulating for new ideas and innovations’ (four) and ‘supporting’ (one). These characteristics collectively indicate the importance of transformational leadership for facilitating the process of enabling employees to
engage in value creation. Previous research has found that transformational leadership focuses on the need for leaders to transmit the organization’s vision and values to employees, to stimulate and appreciate innovation and new solutions and to foster the development of people (Bass, 1985; Davies, 2007; Smith & Bell, 2011). By placing great emphasis on core values and being more involved and stimulating, transformational leadership can help enhance the empowered and proactive approach to control and bring about long-term school improvement through organizational learning. A public school principal described the role of transformational leadership in enabling organizational learning to occur:

*It has to be a leadership style that is encompassing and motivating for organizational learning. When you’re excited by your learning, the staff know that they can come with ideas to me to try new things. It just threads it way through, it meanders its way through – they feel they’ve got a voice. And without a voice at a place you work I think it’s very pressured down. I often use this term - I think the word I try not to use is ‘work’ because ‘work’ for me is me asking you to do something. The word I use is ‘learning’. So let’s look at the learning that we can do and learning is us. So that’s the nature of it.* (Public School Principal A)

Another school principal confirmed applying a transformational leadership style when managing student learning a few years ago to transform the school:

*It’s always safer to stay with your default position, let your teachers teach their subjects and stay within their comfort zones. But if you need them to actually do more, you need to actually take that risk of pushing them beyond that boundary... you have to find a positive message for growth. And that’s managing the risk between the bureaucratic moment, and the learning moment. So you have to keep the teachers motivated and engaged to facilitate student learning. You have to keep the teachers believing in the system, and in their*
own school, if you like. And making sure they remain motivated and engaged. (Public School Principal C)

Transformational leadership facilitates the enabling process through a strong push from leaders to teachers to look at the development programs or the way they are teaching with the objective of improving student learning outcomes. The learning agenda is often carefully planned, implemented and reviewed on a timely basis, a process that allows the contribution of plenty of new ideas through the involvement of employees. The learning outcomes are then evaluated in a performance development meeting with staff members, with lessons and new ideas fed back into the planning for the next learning agenda. The process not only facilitates greater autonomy amongst staff but also allows staff members to develop a better understanding of the key objectives of the school as a whole and their role in helping achieving these objectives. The same principal above continued, relating how a school was transformed:

At the end of each year, my leadership team, we come together and we review what we’ve actually achieved in terms of the learning program and whether we want to push the learning program to the next 12 months. So we set up a process and a presentation. It’s a presentation where the leading teachers take control and I involve myself in that process, and we actually do a presentation on day one to the staff about this year’s learning agenda. The learning agenda is very positive, uplifting, and your responsibility and your chance to contribute is the idea. (Public School Principal C)

When asked whether managing risk as opportunity results in improvement in any aspects of school performance, interviewees named a few performance implications: 1) student learning experience and outcomes (six), 2) student engagement (three) and 3) school reputation (four).
With respect to student learning experience and outcomes, while six interviewees agreed that managing student learning risk benefits productivity and higher academic outcomes, they also emphasize that student academic results should not be the only way of evaluating student outcomes. The essence of education, for these interviewees, is to help students achieve their greatest potential and be successful in their fields of endeavour. This means that, beyond academic results, soft skills such as communication, critical thinking and leadership skills should also be cultivated in the process of managing the learning risk, as by creating student leadership programs, community building exercises and fundraising activities. Below are the thoughts of two interviewees:

*I think school performance or success at schools is not just about the result, it’s about, ‘Did this provide the student an avenue into the pathway that he or she wants to go?’ So we want them to develop holistically and physically because if they physically are stronger, emotionally are stronger, we know the sustainability of their outcomes through to Year 12 will be so much more positive.* (Public School Principal A)

*We would need to attend to risk management in order to have between student learning, student engagement and so on. You would know that a tried and tested formula for getting a student to pass an exam, low risk but not maybe the best outcome because they’re only going to get to the exam and not be thinking about the next step or beyond it. So what we want to have at the end of it [managing the learning risk], you know, we want to have young people who are leaders of tomorrow, we want to have students who are confident about the future, who are optimistic, and who are successful in their field of endeavour. So we’ve got to build those skills.* (Private School Principal J)

Four interviewees also expressed the opinion that effective RM of student learning not only fulfils the improvement framework (DET, 2016), but also enhances the reputation of schools, which now have more to offer to families and the
community and to build a brand or name as a good school over time. For example, an interviewee commented on the interaction between improving student learning outcomes and the reputation of the school:

*Good results tend to make everyone feel like it’s a good school and bring in more students, whereas, I think it goes back to reputation. Good reputation tends to breed a better reputation, because it brings more positive people and brings more enrolments.* (Private School Risk and Compliance Officer M)

In addition, three interviewees perceived that effective management of student learning and reputational risks drives student engagement performance as a result of strong encouragement for learning and growth. While Polidano et al. (2013) found that school performance tends to be higher in areas of higher SES, the interview findings reveal that student outcomes can be enhanced through an appreciation of RM for value creation in low-SES areas.

For example, an interviewee from a private school, who has been in the role of dealing with students and families at risk and coordinating family and school to enable student learning, explained how social problems have been carefully managed in the school. On the one hand, the school provides substantial concrete support such as financial assistance and free meals, books and school uniforms. On the other hand, the new school principal has made a great effort to establish a commonly shared belief and value in the school that the core of managing social problems is to keep the learning opportunity open for students by any means necessary:

*And everything we do now, when we’re looking at the social problems for our students, is finding ways to improve their situation. We can’t always solve those situations; we just have to make it better, and to allow the opportunity of education to remain there, and in the best way possible for them.* (Private School Leading Teacher – Family Aid Officer N)
As a result, despite a high gang and drug influence in its area, this school has achieved a 99% attendance rate and scores well in student retention rate and attitude to school. By retaining students in the school and allowing for open learning opportunities, better academic results are achieved. The interviewee continued with the following comment:

*So our risk management wouldn’t be working if we were losing lots of students, but the fact that they’re staying, then it’s working for us… And I think if students are attending school, you’re going to be able to retain them longer, you’re going to be able to get better results. These can be seen from our retention rate and academic results.* (Private School Leading Teacher – Family Aid Officer N)

Overall, the findings in this section show that RM adds value to the improvement of school performance as it helps manage opportunities in uncertainty, whether it is the uncertainty around student learning experience and outcomes, school reputation or student engagement with schools. This can be done through school leaders’ i) building more enabling characteristics like greater autonomy and flexibility and more transparency into the school’s MCS, and ii) adopting a more co-operative and motivating leadership style to facilitate the process of continuous learning and growth in schools. These findings add to the exploration in Collier et al. (2007) and Collier (2009) of performance-oriented RM culture by showing how a higher level of RM for value creation can actually occur in the school context. The investigation of how enabling controls are engaged to manage opportunity risk complements the survey findings that enabling control is an important driver of school performance; it also provides supporting evidence to the theoretical argument that employee autonomy and flexibility are extremely important in dealing with opportunity risks (Roberts, 2004).
Summary of Key Findings

The findings of the semi-structured interviews add to systems thinking, which emphasizes organizational performance as a shared purpose produced by rationally connected system elements (Jackson, 2003; Laszlo, 1996). In particular, the study allows Schein’s (2006) organizational model of change dynamics to be explicated in a school RM-MCS situation. By considering the three perspectives in Schein’s (2006) model – individual, systemic and interactive – in the school context, the findings highlight that the systemic achievement of school performance is a function of dynamic interactions of multiple components of school RM, all while considering a wider environment in which government RM policy and the difference between public and private schools play important roles in influencing RM reform in schools.

The findings address the two weaknesses in prior studies that were discussed in the earlier parts of this chapter: the need for greater clarity about the nature of risks in the school context and the limited research into the role of organizational leaders and MCS in facilitating effective RM. The former has been addressed through by the rich environmental factors that give meaning to the systemic perspective of school performance, which determines the associated risks in achieving the performance. These allow a better understanding of Collier et al.’s (2007) performance-oriented RM culture within the school context, especially the understanding of risks as opportunities in schools. In this regard, the findings serve as a valuable addition to prior studies on RM, which have largely taken a one-sided approach to risks (e.g., Liu & Meyer, 2012; Miller & Reuer, 1996; Reuer & Leiblein, 2000) and explicate what the double face of risk means in the school setting.
In line with an evolving RM paradigm that sees management controls as being related to RM (Berry & Collier, 2007; Collier et al., 2009; Huber, 2009; Soin & Collier, 2013; Spira & Page, 2003; Woods, 2009), the findings of the interviews add to the limited research (e.g., Arena et al., 2010; Bhimani, 2009; Collier & Berry, 2002; Mikes, 2009, 2011; Power, 2009) that examines the approach to MCS use in facilitating effective RM in past organizational behaviour and MCS studies. The exploration of how the enabling and coercive approaches to MCS (Adler & Borys, 1996) are implemented in the school context to address the double face of risk extends Chapman (1998), Ahren and Chapman (2004) and Chapman & Kihn (2009) by showing how MCS can cope with uncertainty in school RM practices. In particular, controls that are used in a coercive way include OH&S policy, emergency management plans, risk register, planning and budgeting. These “rule-based” controls ensure compliance with government regulations and standards to maintain the status quo of schools and protect schools from potential legal and financial setbacks. Controls that are used in an enabling way include PMS and budgeting. These controls feed the arousal of the learning process in schools and facilitate continuous improvement. The process supports Collier et al.’s (2007) argument for the progression of RM, which began as managing risks understood as threats associated with compliance and prevention at the operational level through to a higher level of managing risk as opportunity at the strategic level to enhance stakeholder value.

Furthermore, the findings of the dual role of school principals in influencing the shared perception of risks and the scope of RM through their own assumptions...
and values, as well as facilitating performance-oriented RM culture and control choices by adopting different leadership styles, reinforce Schein’s (2004, 2006) and argument that the idiosyncrasies of change agents interact with organizational culture and the use of generative rules and resources, which is necessary for the change process to happen. While the findings are generally consistent with numerous organization studies (e.g. Hennessey, 1998; Nicholls, 1988; Quick, 1992; Saari et al., 1988) that conclude that leadership is a vital factor in the success or failure of an organization, they specifically extend the limited understanding in the education literature regarding how school leaders interact with internal and external factors to shape the meanings associated with risk and RM. The findings may also contribute to school governance and school leadership training for school policy-makers.

Figure 6.3 depicts the key findings of the semi-structured interviews in relation to the organizational dynamics of RM in schools.
The key findings of the semi-structured interviews are summarized as follows:

**Research issue i) How are external factors (e.g., government RM policies and school sector) and internal factors (e.g., school leaders) associated with the development of performance-oriented RM culture in schools?**

**Findings:**

1) **External factors**

   - School RM policy is an important push factor for the development of performance-oriented RM culture in the Australian school sector
   
   - The ownership difference between public and private schools influences schools’ perceptions of risk and the degree to which RM can be
performance-oriented. Private schools are stronger in their perceptions of managing both threats and opportunities than public schools. While the government provides public schools with a sense of security, the bureaucratization associated with government ownership hinders flexible and localized decision making needed to allocate resources to create value in public schools. As a result, public schools are seen as weaker in managing threats and less motivated to manage opportunities.

2) School leaders

- School principals’ own views and values of risk influence how they introduce RM in schools.

- School principals’ views and values are often built into their leadership styles, or the way they communicate and implement these values within organizations.

- School principals develop performance-oriented RM culture by involving staff members in various decision-making tasks related to school affairs, developing people and establishing an atmosphere that encourages learning and growth.

Research issue ii) How does performance-oriented RM culture interact with MCS use, and what are the implications of this interaction for school performance?

Findings:

1) Systemic perspective of school performance

- The two broad performance targets of schools are:
  
  o Provision of quality education to students, as reflected by good learning experience and outcomes, which requires i.e. opportunities to be taken.
Fulfilment of accountability to the community and government in using public resources, which requires threats to be managed for compliance, prevention and operating performance purposes.

2) The idiosyncrasies of school RM components

- The emerging performance-oriented RM culture is reflected in several key attributes (discussed in Chapter 2):

  o The shared perceptions of risk and RM in schools;
    - RM is increasingly understood as not just a means to manage threats related to compliance and operating performance, but as a necessary mechanism to manage opportunities to create value for school improvement.

  o Risk priorities;
    - Safety, legal and financial risks are seen as baseline risks in schools, primarily as threats to schools’ basic operating ability.
    - Student learning risk and reputational risk are seen as both threats and opportunities, closely associated with and related to schools’ strategic priorities.

  o The focus of school governance;
    - School governance is evolving from a compliance focus to value creation through:
      - more strategic decisions that focus on student learning experience and outcomes.
      - better understanding of key drivers of performance.
- more school resources allocated to the purpose of value creation, including both physical resources and human resources.

- MCS: the two commonly used control mechanisms in schools are budgeting and the PMS
  
  - Schools prepare annual budgets as a tool to plan, control and evaluate the use of financial resources in schools.

  - The PMS is a key control mechanism used as a tool to evaluate employees and motivate them to improve performance.

  - No incentive-based pay is tied to performance management in general. Instead, good performance is tied to a role with more responsibilities or a leadership position, which may include higher pay.

3) Interactions between school RM components

- Managing risks as threats
  
  - Risks as threats are managed by using OH&S policy, emergency management plans, a risk register, planning and budgeting. These are ‘rule-based’ controls that fulfil the need to embed government regulations in school operations. Hence, they are used in a more coercive way to ensure strict compliance with government regulations and standards to maintain the status quo of schools and protect schools from potential legal and financial setbacks.

  - Managing risks as threats challenges school leaders’ ability to establish rules and standards, undertake strong management and how they use authority and power. These characteristics, collectively, indicate the use of transactional leadership in facilitating the management of risk as associated with compliance, prevention and operating performance.
Four school performance implications were found as a result of managing risks as threats: staff and student wellbeing and safety, litigation avoidance, financial stability and meeting state-level thresholds.

These performance implications result from Collier et al.’s (2007) identification of lower-level RM as focusing on compliance and prevention and on operating performance.

Managing risks as opportunities

Main controls in place to manage opportunities include the PMS and the budget. The PMS can be modified to allow for more enabling characteristics in schools. The budget is used in an enabling way as the financial information provided by budgets can allow a school to have a better understanding of its operations and stimulate new ideas to improve performance.

The relationship between managing risk as opportunity and the use of enabling control was found to be reciprocal; managing risk as opportunity requires the use of enabling control to allow for greater autonomy and flexibility and more sharing of information. Enabling control, meanwhile, reinforces the shared perceptions of risk as an opportunity to facilitate continuous improvement.

Managing risk as opportunity challenges the ability of a leader to be involved, motivating employees to learn, stimulating new ideas and supporting people. These characteristics collectively indicate the importance of transformational leadership to facilitate the process of enabling employees for value creation.

As a result of managing opportunities associated with student learning and school reputation, three performance outcomes can be achieved: better student learning experience and outcomes, improved student engagement and enhanced school reputation.
These performance outcomes result from Collier et al.’s (2007) notion of higher-level RM, which involves managing upside risk to increase and sustain stakeholder value.

6.5 Chapter Summary

The chapter discussed the semi-structured interview data in detail and presented findings from an analysis of those data. The interview findings shed light on the influence of institutional and human factors on the development of a performance-oriented RM culture, which does ensure that baseline risks are managed in schools but places a greater emphasis on managing risk as opportunity, which is conducive to controls with more enabling characteristics. This proactive management of risk facilitates organizational learning and growth and, crucially, is supported by a transformational leadership style which features inspirational motivation, intellectual stimulation and a focus on people development and growth. These findings provide complementary evidence to the survey findings in Chapter 5 and also facilitate an in-depth understanding of the idiosyncrasies of the latent variables and their dynamic interactions. The next and final chapter discusses the overall findings from the questionnaire survey and semi-structured interviews, along with the conclusions made in this thesis and their implications for literature and school management practices.
Chapter 7: Discussion and Conclusion

7.1 Introduction

This research programme covers a fairly wide range of literature relating to accounting, RM and school education. Chapter 7, as the final chapter of the thesis, aims to bring together the findings of both the qualitative and quantitative phases and assess the overall contributions to both theory and practice.

The remainder of the chapter proceeds as follows. Section 7.2 is a brief summary of the thesis and its major findings, along with a discussion of its contribution to theory and its implications for school management practice. Section 7.3 provides a discussion of its limitations and proposes possible avenues for future research. Some final remarks are offered in Section 7.4, thus concluding the thesis.

7.2 Summary of the Study

7.2.1. Overview of the Study

School performance is increasingly open to public scrutiny and rising demands for higher quality governance (Clark et al., 2009; Connolly & James, 2011; Ranson, 2008). Globally comparable academic standards as well as technological advancements have also increased risks that schools face today (Lamb et al., 2004b; Carter & Sharp, 2006; Starr, 2012; Notman, 2011, 2015). To cope with these challenges, school leaders’ responses to risk and RM have become critical both for identification of opportunities to develop more innovative academic and financial resources and for demonstrating public accountability (Pont, Nusche & Hopkins,
While school leaders potentially have many ways to deal with the challenges posed by risks in the sector, this study focuses on two key MCS features: a shared value system that focuses on performance – a performance-oriented RM culture, and the use of MCS in an enabling or coercive manner. The focus on these risk control features is motivated by recent government initiatives to introduce more formal and sound RM policies that will promulgate a strong RM culture that is performance-oriented (AO, 2002; DET, 2013; Pollitt & Bouckaert, 2011). Further, the scant evidence on how the leadership styles of school leaders are related to their use of MCS for school improvement serves as an added motivating factor (Dwyer et al., 1998; Perry, 2007; Starr, 2012). Thus, based on leadership theories that indicate the behavioural tendencies and personal traits associated with a leader influence the shared values of organizations and how controls are used to influence the behaviour of subordinates (Abernethey et al., 2010; Bass, 1990; Hunt & Conger, 1999; Waldman & Yammarino, 1999; Waldman et al., 2001; Yukl, 2005), the present study systematically examines school principals’ leadership styles as an important antecedent to the development of a performance-oriented RM culture and the use of an enabling approach to MCS. The study also assesses the implications of such MCS use for school performance.

In assessing the above relationships, the study concurrently considers the issue of the public and private school sectors due to the inherent differences associated with their ownership structures (Lamb et al., 2004a, 2004b; OECD, 2012). The idea that the public and private sectors are very different has been expressed in organisation theory for many decades (Boyne, 2002; Georgia Tech & Georgia Tech, 1998; Perry & Rainey, 1988; Smith & Bell, 2011; Smylie, 1996). Prior literature suggests that the ownership difference has three effects on public and private schools:
1) sources of financial support, 2) formalization and bureaucratization and 3) student intake and school climate (Harrington, 2011; Lamb et al., 2004a, 2004b; OECD, 2012). As these differences are all likely to affect the sense making of risks in schools and the scope and dimension of school RM structures and policies (Boyne, 2002; Georgia Tech & Georgia Tech, 1998; Smith & Bell, 2011), the study also examines if the aforementioned associations differ between public and private schools.

The study adopts a mixed method design, involving a two-phased programme. In phase 1, a questionnaire survey is conducted for the collection of quantitative data to examine the mediating role of two key MCS features, performance-oriented RM culture and an enabling approach to MCS use, in the link between leadership style and organizational performance. Following the research on leadership in education (e.g., Gunter 2001; Gunter & Ribbins, 2003; Hartley, 2010), phase 1 adopts a functionalist approach that aims to deliver organizational outcomes by evaluative methods that measure the impact of leadership and its effectiveness and instrumental techniques that seek to provide leaders and other key individuals with effective strategies and tactics to deliver organisational and system-level goals (Gunter & Ribbins, 2003, p. 262). Guided by the transformational, information processing and traits leadership perspectives (Bass, 1990; Bass & Steidlmeier, 2004; Hanges et al., 2000; Leonard, 2003; Stewart, 2006), a conceptual framework is developed, along with several hypotheses. The questionnaire survey was distributed to 534 government and non-government school principals in the state of Victoria, Australia. A final sample of 107 usable cases was obtained, representing 20.0% of schools surveyed. The survey data were then analysed using the PLS path modelling technique (Chenhall, 2005; Hall, 2008; Hall & Smith, 2009; Mahama, 2006) to test the
hypotheses developed in Chapter 3. Phase 1 survey-based research serves the generalizability the findings to a broader population of organisations (e.g. all Victorian secondary schools) using the logic of probability statistics (Hair et al., 2008).

In phase 2 of the study, an interpretive approach to understanding the nature of risks in schools and its implications for school controls and outcomes is undertaken. This phase of the study focuses on qualitative data generated from in-depth interviews of school leaders, which complement and enrich the Phase 1 survey-based study (Axinn & Pearce, 2006; Hammersley, 2008). The qualitative phase utilises systems thinking, especially Schein’s (2006) organizational model of change dynamics, as a conceptual guide for the framing of research issues and for data analysis. Post-survey interviews were held with 10 school principals and five other interviewees with job titles like leading teacher, risk and compliance officer or corporate services manager. The findings of Phase 2 aim to provide a more holistic perspective and in-depth insights into the influence of the environment, the idiosyncrasies of the components of a school RM system and the effects of their dynamic interactions on school performance.

The following subsections reflect upon the findings from both the quantitative and qualitative data analysis, along with discussing the present study’s contribution to the literature and its implications for school management practices.

7.2.2 Overall Findings and Contributions to Literature

In general, the findings of the study are consistent with more recent research that emphasises the relationship between leadership and performance to be indirect and affected by other mediating variables (Creemers & Kyriakides, 2007; Garcia-
The findings show that school principals who adopt a transformational leadership style are likely to foster a performance-oriented RM culture and that the greater the extent of performance-oriented RM culture, the higher the academic and the financial performance of a school. On the other hand, the use of a transactional leadership by school principals is not found to be significantly associated with a performance-oriented RM culture, but has a negative impact on the use of MCS in an enabling manner. Overall, the results of hypothesis testing suggest that leadership styles affect organizational performance though their impact on organizational control features. The findings accord with many prior studies, such as Ogbonna and Harris (2000), Garcia-Morales et al. (2008) and Oncer (2013), all of which find a leadership style that is stimulating and inspiring for new ideas, supportive of individual and organizational learning and considerate of employees’ needs positively influences organizational performance through fostering a culture of learning, risk-taking and innovation. In addition, Abernethy et al. (2010) find that leadership styles influence the design and use of MCS. By highlighting the positive association of performance-oriented RM culture and enabling control with school performance, the study extends Abernethy et al. (2010) by including the performance implication of control choices as influenced by leadership styles.

The focus on one specific aspect of organizational culture, RM culture, in the current study is driven by the development of contemporary RM in both academia (Kleffner et al., 2003) and practice (e.g., CIMA, 2003, 2005; IFAC, 1999). Contemporary RM sees RM culture as an emerging and important feature of RM practice and of critical importance in corporate governance for underpinning an organization’s success. Hence, drawing from the ‘risk society’ thesis of Beck (1998)
and Giddens (1998), and the seminal work of Collier et al. (2007) and Collier (2009),
the present study contributes to literature by examining the attributes of this emerging
construct, including risk conception, risk stance, risk propensity, risk appetite and
corporate governance features in the survey phase of the study. In doing so, the thesis
extends Collier et al.’s (2007) and Collier’s (2009) model of RM culture, which have
a largely corporate governance focus, by tracing the origin of the two types of RM
culture – compliance-oriented and performance-oriented RM culture – to an
organization’s conception of the two fundamental aspects of risk, as downside threat
and upside opportunity (Beck, 1998; Giddens, 1998). Meanwhile, it fills in the gap in
management and accounting literature that often focuses on measuring downside risk
(e.g., Miller & Reuer, 1996), the extent to which downside risk may influence
decision-making in organizations (e.g., Liu & Meyer, 2012) and how to reduce
downside risk (Reuer & Leiblein, 2000).

The broad view of risk as both threat and opportunity was examined in further
details through post-survey interviews. The interview findings indicate that not all
risks are seen as having a ‘double face’ (Beck, 1992). Baseline risks, such as safety,
legal and financial risks, are seen primarily as threats to school operations, with little
room for opportunity. Other risks that are closely associated with and related to the
strategic priorities of schools, such as student learning risk and reputational risk, are
seen as both threats and opportunities. This sense making of risk is strongly
influenced by environmental factors, including government RM policy (DET, 2013,
2014) and the ownership difference between public and private schools (Lamb et al.,
2004a, 2004b; OECD, 2012). The interview findings thus add to the systemic
evaluation of risks that influence school performance (Amagoh, 2008; Jackson, 2003;
Meadows, 2008; Mele et al., 2010; Schein, 2006; Wong, 2004), and allow for a better
understanding of Collier et al.’s (2007) performance-oriented RM culture within the school context, especially the understanding of risks as opportunities (Beck, 1992; Collier, 2009; Collier et al., 2007; Giddens, 1998b).

Prior literature calls for further research into how MCS are used by top managers to communicate their vision for an organization, empower employees and execute that vision to achieve the organizations’ objectives (Abernethy et al., 2010; Jensen, 2006; Jordan & Messner, 2012). This study responds to that call by empirically examining the mediating effect of an enabling approach to control in link between leadership styles and organization performance. While prior studies have examined the influence of leadership style on management accounting change (Hoozee & Bruggeman, 2010; Jansen, 2011), on the interactive use of planning and control systems and PMS (Abernethy et al., 2010) and on PMS for individual and team performance (Hartmann et al., 2010; Rothenberg, 2011), this study explicitly analyses the overall concept of an enabling approach to control. Ahrens and Chapman (2004, p. 277) comment that the enabling approach to control provides a useful framework for ‘understanding how organizations seek to elicit flexible and local attempts to streamline and refine work processes with no necessary implications for hierarchical relationships’, which is further related to business unit performance (Chapman & Kihn, 2009). Hence, drawing together prior studies that posit leadership styles’ impact on MCS (Abernethy et al., 2010; Jensen, 2006; Jordan & Messner, 2012), which in turn influence organizational performance (Chapman & Kihn, 2009), the present study contributes to the MCS literature by furthering the understanding of leadership styles’ effects on the enabling approach to MCS and the associated performance outcomes of organizations.
In relation to the specific findings, the study finds that transformational leadership is significantly and positively related to an RM culture that is performance-oriented, and that the greater the extent of performance-oriented RM culture, the higher the performance of the school. This finding is consistent with Leithwood and Jantzi (1999) and Leithwood et al. (2008), who observe that transformational leadership impacts positively on school performance through its effect on school conditions such as shared beliefs, goals and purposes that tap into employees’ intrinsic motivation. Further, the negative effect that transactional leadership has on an enabling approach to control accords with earlier studies by Bass (1990) and King (1994), who reported that a transactional leadership style, based on bureaucratic authority and organizational standards, provides employees with little autonomy and flexibility to conduct intellectual work in the context of uncertainty, hence negatively affecting the enabling approach to control.

The predicted negative association between transactional leadership and performance-oriented RM culture was however not supported, which is somewhat contrary to Bass and Avolio’s findings (1993a); they posited that levels of innovation and risk taking may be severely curtailed under transactional leadership. This discrepancy is partly explained in the interviews, which show that transactional leadership is conducive to managing more basic day-to-day activities and maintaining the status quo in schools that require a compliance focus and meeting minimum performance indicators; transactional leadership is thus associated with a highly limited performance-oriented RM culture. These findings provide a confirmation to prior studies positing that transactional leadership may be essential in providing a basic positive learning environment for teachers and students (Larsen & Samdal, 2007; Midthassel & Erstesvag, 2008). Although a transactional leadership
style is not necessarily directly associated with the key strategic areas of schools that have the greatest impact on school improvement, the post-survey interviews show that it does facilitate the accountability of the school to the community and government in the use of public resources. The findings provide evidence for the role of leadership in fulfilling lower-level RM needs for protection, compliance and operating performance (Collier et al., 2007).

Interestingly, the relationship between transformational leadership and the enabling use of control is not significant. One plausible explanation is that since transformational leaders focus on the connections between leaders and followers to develop a collegial and trusting relationship (Avolio & Bass, 2004; Bass, 1990b; Tracey & Hinkin, 1994), such a relationship will more easily support the formation of a strong performance-oriented RM culture through informal, direct communications between leaders and followers. This will reduce the need to use more formal controls. However, the interview comments from school leaders indicate that leadership characteristics such as involving, motivating for learning, stimulating for new ideas and innovations and supporting people are all needed to facilitate the process of enabling employees for value creation. These provide complementary evidence to the prediction of a positive association between transformational leadership and an enabling use of control.

Consistent with expectations, the empirical findings support a significant and positive relationship between performance-oriented RM culture and an enabling form of control. The analysis of this relationship answers the call of Berry et al. (2009) for more studies examining organizational culture and control, in line with the argument that risk should be a critical element in shaping MCS processes (Power, 2009, p.852). Further, in examining the Adler and Borys’ (1996) notion of enabling control, this
study also extends the accounting literature (e.g., Ahrens & Chapman, 2004; Chapman, 1998; Free, 2007) by highlighting the important role of using control in an enabling manner in RM by identifying and managing opportunities amidst uncertainties. In particular, the interview findings complement the survey findings by showing that the main controls in place to manage opportunities include planning, the PMS and budgeting. All of these can be modified to allow for more enabling characteristics to ensure a better shared perception of value creation for student learning and school improvement.

The findings from the survey also suggest that enabling control is significantly and positively associated with school performance, both academic and financial. This mirrors the study of Chapman and Kihn (2009), who found that enabling control contributes to various aspects of business unit financial, market and social responsibility performance. The follow-up interviews show that enabling control in schools promotes greater employee autonomy and localised flexibility, greater involvement of employees in decision-making and a stronger emphasis on continuous learning and growth among staff and students. This is consistent with prior studies (e.g., Ahrens & Chapman, 2004; Chapman & Kihn, 2009; Free, 2007) that find enabling control leads employees to ‘learn to work together, to develop a joint understanding of the bounds within which local discretion is meant to be exercised, and working to meet and develop objectives flexibly…’, which, in turn, ‘represents a complex social achievement’ (Chapman & Kihn, 2009, p. 157). Further, these findings also echo the education literature, such as Hoy and Miskel (2001) and Hoy and Sweetland (2000, 2001), who contend that an enabling bureaucracy improves school effectiveness by leading to more cooperation at work, less role conflict, collective efficacy and the creation of knowledge. As such, enabling control
constitutes a management competence in schools, leading to enhanced school
performance in a holistic sense. Thus, the findings of the present study contribute to
both the accounting and school management literature by furthering the
understanding of the effect of enabling control on organizational performance in the
public sector.

Partially consistent with expectations, school sector (public vs. private) is
significantly related to the adoption of a performance-oriented RM culture, but not to
the use of an enabling type of control. The former agrees with earlier studies (e.g.,
Bellante & Link, 1981; Crow & Emmert, 1990; Pandey & Bretschneider, 1997) that
suggest government and non-government ownership may lead to different risk
cultures. The latter suggests that the effect of ownership on the use of enabling
control is not direct; rather, it occurs indirectly through its impact on organizational
culture. Further investigation into these relationships through the interviews suggest
that, while the crucial importance of managing reputational risk and student learning
risk are perceived as the main driver for private schools to adopt a more
performance-oriented RM culture than most public schools, performance-oriented
RM culture can exist in high-performing public schools as well. This finding agrees
with prior literature reporting that schools, public or private, can develop a positive
school climate if leaders and organizational members share the beliefs and values that
characterize strong value creation (Hinde, 2004; Lindahl, 2006; Peterson & Deal,
1998; Sergiovanni, 2000, 2001). This finding blurs the school sector boundary and
highlights the value of developing school leadership as an important factor that helps
create the conditions, organizational culture and structure under which higher
performance can be achieved (Leithwood, Harris, & Hopkins, 2008; Leithwood &
Riehl, 2003).
7.2.3 Implications for School Management Practice

The study provides several implications for school management practices. First, the findings of the study agree to a certain extent with more recent studies examining RM in schools in that many schools remain in the traditional image of having a compliance mindset towards managing risks, despite the current debate concerning public entrepreneurship (Crawford & Stain, 2004; Starr, 2012, 2014). The empirical results show that this observation is more prevalent in public than in private schools, while the interviews suggest that an important reason for this is that public school leaders are under more compliance pressure in general than private school leaders. In this regard, schools are no different than other government entities in terms of the higher degrees of red tape, which runs counter to risk taking (Crow et al., 1990; Lamb et al., 2004a, 2004b; OECD, 2012; Pandey & Bretschneider, 1997). Public schools are under constant scrutiny from external agencies, chiefly the state and federal governments, to meet performance benchmarks, and, consistent with the education literature (Marks, 2005; OECD, 2002), the pressure is found to be especially intense for schools in lower-SES areas. This demand for demonstrating accountability through meeting compliance requirements forces public school principals to focus on meeting external measures and national standards rather than on personal development of the staff and the improvement of schools, thus limiting the extent to which they can focus their time and effort on school improvement. In contrast, as discussed in Chapter 3, private schools operate in an entirely different institutional environment (Chubb & Moe, 1988; Krueathec, 2011), which allows them to be ‘leaner in their responses to demands for quality education’, ‘make adaptive adjustments’ and ‘permit competition and responsiveness direct to the clientele groups’, which will later ‘help generate more preferable education
performance’ (Krueathep, 2011, p. 123). The different compliance pressures between public and private schools imply that too much pressure on demonstrating compliance to formal policies may actually harm school effectiveness and performance. School policy-makers may need to consider how important values such as academic excellence and equity can be incorporated into policies and procedures without leading to unintended consequences during implementation (Lauen & Gaddis, 2016).

Second, despite a government RM policy that advocates a mindset change of risk and a RM approach in schools that requires ‘proactive management of risk and opportunities, to improve decisions and outcomes’ (DET, 2013), the concept of risk as ‘opportunity’ is more ambiguous than the traditional understanding of risk as a ‘threat’. Hargreaves (1997, 2009) sums up the literature on failed education reforms. He remarks that one of the reasons that educational change falters or fails is that ‘change is poorly conceptualized or not clearly demonstrated’ (1997, p. 8). It is not clear who will benefit and how and what a given change will achieve for students. In the current study, it is observed that the RM frameworks often list ‘opportunities’ in the guidelines and leave much scope for schools to figure out exactly how upside risk is to be handled. This is in contrast to the infinitely more detailed policies regarding safeguarding students and staff from hazards in curriculum activities, excursions, workplace health, safety and wellbeing. The ambiguity of the upside of risk and its performance implications for public schools may result in public school leaders either having too little actionable intelligence with which to work on an RM strategy or choosing to ignore the concept altogether, rather than building it into school RM practices. This is well apparent in the interviews, as some school leaders are either cynical or show a lack of knowledge about the double face of risk. Therefore, the
findings imply that a mindset change must not remain superficially in guidelines regarding school RM, but must be clearly transmitted to school principals through more detailed policies that clarify both downside and upside risks and offer ways to manage them separately.

The third implication of the study is that the pressure for a more performance-oriented RM culture within schools may well require school principals to adopt a more transformational leadership style and foster values and actions that support risk-taking and capitalising on opportunities i.e. dare to be different. While a leader can display both transactional and transformational leadership style in approaching their tasks (Avolio, Bass & Jung, 1999; Jansen, 2011; Vera & Crossan, 2004), the present study indicates that leaders who believe in and adopt more transformational leadership are more likely to see the upside risk and engage in control mechanisms that enable stimulation and new ideas to be identified and to activate organizational learning and value creation to improve school performance. Consistent with studies examining successful leadership in schools (e.g., Garcia-Morales et al., 2008; Leithwood et al., 2006), a transformational leadership style includes transmitting the organization’s vision and values to employees, which involves motivating, understanding emotional realities and developing people. In addition, the present study finds that school principals who adopt a more transformational leadership style often link their decisions to student outcomes. This echoes many prior studies, such as Day et al. (2000), Day and Leithwood (2007), Campbell et al. (2003), and Leithwood et al. (2006), who find that ‘successful leaders are guided by most of the same values but make greater use of their values to solve complex problems in their schools and give greater weight to the consequences of their decisions for students’. (Leithwood, Day, Sammons, Harris, & Hopkins, 2006, p.81). The findings of the
The present study thus provide implications for school leadership programs aiming at developing effective leadership in schools in the 21st century.

The study also highlights the importance of adopting an enabling approach to control for better school performance. An enabling approach to control allows employees more autonomy and flexibility, facilitates their learning and growth and encourages them to seek continuous improvement (Ahrens & Chapman, 2004). The enabling approach to control has been examined in the private sector (e.g., Ahrens & Chapman, 2004; Chapman & Kihn, 2009; Free, 2007), but had yet to be explored in the public sector. Hoy and Sweetland (2001) offer the only known study that has examined the effect of an enabling bureaucracy on trust and role conflict in schools; they called for more investigation into the impact of enabling control on the effectiveness of schools. The current study helps to answer this call by showing that between higher- and lower-performing schools, the level of autonomy and flexibility amongst employees can differ, sometimes widely. In particular, higher-performing schools often require teachers to be more autonomous and nimble to be innovative in teaching and to adjust their teaching practices to meet the different needs and potentials of the students more effectively. As a result, control systems like a PMS in higher-performing schools are used in a more enabling manner, such as strongly encouraging for staff to seek continual improvement with innovation and creativity, helping staff members understand what one principal called ‘the big picture’ and linking their roles to school performance. These enabling characteristics allow opportunities to be identified and seized more proactively to manage the reputational and student learning risks with the greatest possible effect. In comparison, a more reactive approach to the control of these risks is observed in lower-performing schools, where teachers do not see the meaning of risk as opportunity or view RM as
part of their responsibilities. These findings indicate the importance of the use of control systems in schools as a mediator to translate school leaders’ vision and values to employees and emphasize the link between the use of more proactive RM and control practices and higher school performance.

Finally, the study’s findings suggest the conditions under which higher performance can be achieved can be cultivated in both public and private schools. The interviews reveal that a systemic approach is necessary to ensure a simultaneous change in shared perceptions and values, principals’ leadership style and the approach to MCS use, all of which are required in order for school improvement to occur. These findings confirm the centrality of the school principal as the key change agent government initiatives, emphasizing the development of a mindset among principals to aid a progressive model of autonomy, building on positive school culture and empowering teachers to have greater impact on students (MGSE, 2013). Through the examination of school RM practices in Victoria, which has a more lenient compliance burden for public schools and the longest history of private school education in Australia, the study also makes clear that the independent public schools initiative in recent years, which offers schools the freedom to be responsive and open to the broader range of possibilities their communities can offer, must insist on transformational leadership and an enabling form of control to expand the opportunities for schools to innovate in order to achieve the best possible outcomes for students.

7.3 Limitations and Directions for Future Research

7.3.1 Limitations of the Study
A number of limitations in this study, both theoretical and methodological, should be recognized when considering the evidence presented.

The first relates to the cause-and-effect relationships between variables in the conceptual model. The model presumes some degree of time lag for leadership styles to affect organizational conditions like RM culture and enabling control and for these organizational conditions to affect school performance. However, in the present study, all variables were measured at a single point in time. To overcome this limitation, the study draws on prior literature to develop the theoretical causal model so that the causal variable will logically precede the effect variable and the predicted association between the focal variables can be found (Van der Stede, 2013). This approach strengthens but does not prove the inferences of causality.

The second limitation of the study relates to model specification; the possibility of two-way relations between key variables in the model must be acknowledged. For example, a feedback relationship may exist between organizational culture and control (Henri, 2006b; Sunder, 1997, 2002). On the one hand, RM culture as the shared attitudes, values and perceptions of risk in an organization may shape the control structures and procedures adopted to manage risk; on the other hand, the approach to control may conform to and reinforce the RM culture through the way that control influences those shared perceptions, attitudes and practices towards risk and its management, which are then consolidated more deeply into the culture. To overcome this limitation, the study explored the two-way relationship at significant in the post-survey interviews, finding that the relationship between managing risk as opportunity and the use of enabling control to be reciprocal. While managing risk as opportunity requires the use of enabling control, enabling control also reinforces the shared perceptions of risk as an opportunity to facilitate continuous improvement.
Further consideration of using longitudinal data or data gathered from multiple sources may be needed to assess the directionality of the relations between the studied variables.

The third limitation concerns the measurement and operationalization of several key variables. Performance-oriented RM culture was measured by combining an established instrument and five self-developed items that were based on a review of the literature. In addition to risk conception, risk stance, risk propensity and risk appetite, whose instruments were adapted from the literature, the five self-developed items were expected to capture the school governance features under the performance imperative. Given the limited studies that examine this construct (e.g., Collier, 2009; Collier et al., 2007) and its importance as a feature of contemporary RM (CIMA, 2003, 2005; Collier et al., 2007; Collier, 2009; Kleffner et al., 2003), additional research is required to develop this instrument further and extend the present understanding of the role of this construct in RM practices.

The study also acknowledges the ongoing debate in the academic literature regarding the understanding of enabling versus coercive taxonomy as design, use, or both of MCS features. The approach adopted in this study follows a number of well-cited publications in academic journals (e.g. Ahren & Chapman 2004; Chapman & Kihm, 2009) where the classification of enabling vs coercive controls of MCS has been consistently operationalised as per the method used. Consistent with these literature, a presumption for the present study is that an enabling use of control cannot be achieved if the control is designed in a coercive way. Criticism may exist and argue that they cannot be taken for granted that one follows the other.
Further, the study acknowledges that the measurement scales of the academic performance employed represent only one of a variety of scales available in the literature (e.g. Goldstein, 1993; Lamb et al., 2004b; Raudenbush & Willms, 1995; Schwartz, Hamilton, Stecher, & Steele, 2011). In addition, the conceptualisation of school performance is extended from academic performance to schools’ financial wellbeing. Due to the lack of an established instrument in the literature, five self-developed items were included in the survey questionnaire to capture schools’ financial (sustainability) performance. There has been ongoing debate concerning the adequacy of existing measurement scales and modelling procedures and the extent to which they reflect their intended theoretical constructs (e.g. Chester, 2005; Hout & Elliott, 2011; Lankford, Boyd, Loeb, & Wyckoff, 2010).

The fourth limitation is a caveat associated with the survey method; data that rely on the perceptions of respondents may cause measurement error. According to Abernethy et al. (2004, p. 563), ‘measurement error affects the consistency of the parameter estimation of the structural model and its standard errors’. However, most of the key variables in the study, such as leadership styles, school RM culture, enabling control and school performance, are related to respondents’ attitudes, opinions and behaviours over time. To preserve the anonymity of survey participants, the researcher could not identify the school where a respondent was working and was thus not able to analyse the content of the school’s annual report or undertake other communications, such as talking to teachers, to confirm the accuracy of the self-reported data. Hence, the study assumed that the responses themselves measure the true attributes of the organisations surveyed. Furthermore, the survey used for this study elicits only the views of school principals and their intentions when implementing RM and control in schools, and is therefore unable to capture the
perceptions of teachers, students or parents. Future studies may benefit from examining the perspectives of these different stakeholders on principals’ leadership styles, schools’ RM culture and the enabling versus coercing approach to control systems, which may further elucidate their relation with school performance outcomes.

A fifth limitation related to the use of PLS, given the small sample size. The number of usable responses for the study was 107, or 20.0% of schools surveyed. While that sample size is regarded as adequate for PLS analysis, a greater number of responses would have provided more confidence in the findings and allowed the use of the more complex SEM technique. SEM determines the extent to which a particular hypothesised model conforms to a particular data set process (Chin, 2010; Hair et al., 2008). In other words, SEM can explore the possibility of alternative explanations for the relations present in the sample data, provided the sample size meets a minimum requirement of 200 to avoid drawing inaccurate inferences (Medsker et al., 1994; Smith & Langfield-Smith, 2004). However, given the small population (579) of secondary schools in Victoria, the study’s sample still reflected participants from both public and private schools, and the model has met the fit criteria needed to provide meaningful results.

Finally, the interviews are also subject to several limitations. Most of the interviews were conducted with the school principals. Only on five occasions did the researcher have the opportunity to interview leading teachers in a variety of key roles other than principal. It would be valuable for future studies to interview multiple participants in a single school to obtain additional insights into perceptions regarding managers amongst teaching staff and other members of the leadership team. Stakeholder perceptions could have provided further insights into the development of
schools’ RM culture and approach to control. In addition, a future researcher’s participation in school meetings and observation of field activities may also help gain information that would triangulate the survey findings.

Notwithstanding these limitations, the evidence presented in this study supports that ways in which leadership styles affect organizational culture and MCS to drive performance in the school context should be considered a significant contribution to management accounting and education research. Thus, drawing from the above discussion on limitations of the study, the following section highlights several areas for future research.

7.3.2 Future Research

The conceptual framework for the study is based on two specific leadership theories, transactional theory and transformational theory. Future research can apply this conceptual framework to other leadership theories that have evolved over time (Kamisan & King, 2013). For example, beyond individual leadership style, a leadership team’s collective leadership style might also be influential (Spillance, 2005). Although participants took the view that principal’s leadership style can dramatically influence the team’s leadership style, and as a result, the dominant leadership style of the school principal often becomes the dominant leadership style of the leadership team, the dynamics of involving multiple individuals in both formal and informal positions in leading their organization and influencing organizational culture and control may prove to be a fruitful area for future research in applying the conceptual framework.

Future research can also be conducted by refining the methods used in this study. Researchers can engage with organizations to conduct in-depth case studies,
observe field activities and interview multiple stakeholders to obtain additional insight into factors that may influence the development of the organization’s RM culture and approach to control (Ryan, Scapens, & Theobald, 2002; Yin, 2003). Further, future research may focus on a longitudinal study of an organization and examine how leadership helps shape organizational culture and approach to control over time (Atwater, Dionne, Avolio, Camobreco, & Lau, 1999; Keller, 2006; Nielsen, Randall, Yarker, & Brenner, 2008).

Another possibility for future research would be to conduct comparative research with other Australian states (Green, 2003; Nóvoa & Yariv-Mashal, 2003). Although many of the RM policies initiated and adopted in the school sector are related to the ERM framework, different states may have different interpretations of key risk concepts and different compliance pressures (Bob et al., 2002; Gammage, 2008). As the present study deals solely with schools in Victoria, it could be valuable to discover whether the results would be comparable if this study were replicated in other states. In addition, the study could also be replicated in the private sector to echo and advance further the development of risk and RM theory and practices (Singh, Ang, & Leong, 2003). This would also be helpful to strengthen the validation of the measures developed for the present study.

7.4 Concluding Remarks

The school leadership role has become increasingly more important to the success of the entire education system, as schools are becoming more complex in themselves, which requires effective leadership that reflects 21st-century realities (Barber, Whelan, & Clark, 2010). The study has provided insights into the role of leadership in creating the conditions of a performance-oriented RM culture and an
enabling approach to control under which higher school performance can be achieved. Thus, the findings of the study offer important implications for better leadership training, school governance and approaches to control in the ongoing school reforms in Australia.

The distinctive concept of RM culture originates from the recent development of risk and RM theory and practices in the private sector. The mindset change that perceive risk as both threat and opportunity and use RM not only for protection but also for value creation in the achievement of organizational objectives have yet to be firmly established in the public sector. Thus, while this thesis contributes to the development of knowledge surrounding the broader role of MCS in assisting organizations in managing risk and promoting effective governance processes and outcomes, it is also hoped that the findings of this study will serve as a catalyst for further research into the interrelations between RM and management controls.
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Appendix 1: Survey Questionnaire

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# School Risk Management Survey

## Section 1: Leadership in Your School

1.1 Please indicate the extent to which you agree or disagree with the following statements regarding how you relate to your staff in school (please indicate your response with a tick ✓ for all items):

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Neutral</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Assure staff that they can get what they personally want in exchange for their efforts.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii. Provide staff with information relevant to implementing school policies.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii. Help staff get what they decide they want.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>iv. Ask no more of staff than what is absolutely essential to get their work done.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>v. Are satisfied with staff performance as long as the established ways work.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vi. Do not try to change anything as long as things are going all right.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vii. Insist on only the best performance from staff.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>viii. Have the capacity and judgment to overcome any obstacle.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ix. Lead by &quot;doing&quot; rather than simply by &quot;telling&quot;.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>x. Command respect from everyone in the school.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xi. Symbolize success and accomplishment within profession.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xii. Excite staff with visions of what they may be able to accomplish if working together.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xiii. Show staff that there are high expectations for them as professionals.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xiv. Will not settle for second best in performance of staff's work.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xv. Encourage staff to be &quot;team players&quot;.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xvi. Make staff less concerned about their own immediate needs and more concerned about our school reaching its objectives.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xvii. Make staff feel and act like leaders.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xviii. Provide good models for staff to follow.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xix. Give staff a sense of overall purpose.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xx. Challenge staff to reexamine some basic assumptions about their work.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xxi. Ask questions that prompt staff to think about what they are doing.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xxii. Stimulate staff to rethink the way they do things.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xxiii. Facilitate assistance and support for staff from external personnel, as required.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xxiv. Pay staff personal compliments when they do outstanding work.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xxv. Provide for extended training to develop knowledge and skills relevant to the school's objectives.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xxvi. Treat staff as individuals with unique needs and expertise.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xxvii. Behave in a manner thoughtful of staff's personal needs.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>xxviii. Provide special recognition when staff's work is especially good.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Risk in this survey refers to the effect of uncertainty on the attainment of organizational objectives. Risk can be positive (i.e. seen as an opportunity) and/or negative (i.e. seen as a threat) (ISO, 2009). Risk Management involves considering, assessing and acting upon various risks affecting an organization’s activities and outcomes.

Section 2: Your Personal Views on Risk and Risk Management

2.1 How would you describe your personal propensity to take risks (i.e. your willingness to take risks)?

<table>
<thead>
<tr>
<th>Never Willing to Take Risks</th>
<th>Sometimes Willing to Take Risks</th>
<th>Always Willing to Take Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.2 To what extent do you personally agree/disagree with the following statements about risk management?

I believe that...

- Risk management is about avoiding negative consequences.
- Risk management is about achieving positive consequences.
- Risk management should be handled through a formal system that identifies, manages and reports risks.

Section 3: Risk Management in Your School

3.1 The sector of your school is: Government school ☐ Catholic school ☐ Independent school ☐ Other, please specify ____________

3.2 The location of your school is: Urban area ☐ Suburban area ☐ Rural area ☐

3.3 Number of staff members in your school (full time equivalent): ____________

3.4 Number of students in your school: ____________

3.5 Last year’s annual budget was approximately ($million):

<table>
<thead>
<tr>
<th>&lt;$0.5m</th>
<th>$0.5m-$1m</th>
<th>$1m-$10m</th>
<th>$10m-$50m</th>
<th>More than $50m</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

3.6 To what extent do you agree/disagree with the following statements?

- Risk is perceived as a threat in my school.
- Risk is perceived as an opportunity in my school.

3.7 To what extent do you agree/disagree that risk management in your school is:

- About avoiding negative consequences.
- About achieving positive consequences.
- Handled through a formal system that identifies, manages and reports risks.

3.8 Please indicate the extent of your school’s overall propensity to take risks (i.e. the willingness of the school management to take risks):

<table>
<thead>
<tr>
<th>Never Willing to Take Risks</th>
<th>Sometimes Willing to Take Risks</th>
<th>Always Willing to Take Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.9 Please indicate the extent of your school’s overall risk appetite (i.e. the overall level of risk that school management deems acceptable):

<table>
<thead>
<tr>
<th>Very Low</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

3.10 The following statements relate to the governance structure and processes within your school. Please indicate whether you agree/disagree with each statement:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Neutral</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. The school has strong adherence to codes, standards and rules.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>ii. School governance focuses on strong clarity of accountability for managing risk through oversight of the council (board) and/or its committee.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>iii. School governance focuses on value creation through making strategic decisions, understanding key drivers of performance, and resource utilization through developing a range of best practice tools and techniques.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>iv. The school has a strong preference for change.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>v. The school has a strong tolerance for flexibility.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

In general, Management Control Systems (MCS) refer to the systems which assist managers to ensure that resources are obtained and used effectively and efficiently in the accomplishment of the organization’s objectives. Such systems include accounting-based controls of planning (e.g. budgeting), monitoring of activities, performance measurement, and any relevant incentive programs.

3.11 Based on your experience as the manager of your school activities in your role as school principal, please indicate the extent to which you agree/disagree with the following statements:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Neutral</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. MCS help to clarify the activities that make up my school.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>ii. MCS increase my knowledge of the operations of my school.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>iii. MCS increase my understanding of what drives the performance of my school.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>iv. MCS increase my knowledge of how my school works as a whole.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>v. MCS help to communicate school strategy.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>vi. MCS signal areas in which we may need to change school strategy.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>vii. MCS help staff members of my school to understand the overall context in which they are working.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>viii. It is easy to modify information and reports provided by MCS.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>ix. It is easy to get access to detailed information in order to investigate deviations in school reports.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
x. I analyze information provided by MCS in order to come up with ideas for improving operations under my control. | 1 2 3 4 5 6 7 |
x. I often think of new ways of doing things with MCS. | 1 2 3 4 5 6 7 |
xii. MCS aim to generate regular and frequent flows of strategic information between school management and other stakeholders of the school. | 1 2 3 4 5 6 7 |
xiii. I can only make expenditures that have been built into the budget. | 1 2 3 4 5 6 7 |
xiv. Discussion on information and reports provided by MCS focuses on ensuring strict adherence to original assumptions and action plans. | 1 2 3 4 5 6 7 |
3.12 The following questions are related to different dimensions of school performance. Compared to the state average, please rate the performance of your school in the last two years in relation to each of the following aspects:

<table>
<thead>
<tr>
<th>On average, in the last two years...</th>
<th>Well Below State Average</th>
<th>State Average</th>
<th>Well Above State Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. NAPLAN Year 7</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>ii. NAPLAN Year 9</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>iii. ATAR score</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>iv. Students' attendance rate</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>v. Students' retention</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>vi. Percentage of students undertaking higher education study</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>vii. Percentage of students undertaking vocational education and training</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>viii. Percentage of students gaining full-time employment</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>ix. Students' attitudes to school</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>x. Parent satisfaction</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>xi. Staff satisfaction</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

3.13 In terms of other related school outcomes, how well do you believe that your school has performed in the following aspects?

<table>
<thead>
<tr>
<th>On average, in the last two years...</th>
<th>Very Poor</th>
<th>Average</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Securing government funding</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>ii. Securing other funding</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>iii. Meeting targets in budget</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>iv. Maintaining short-term liquidity</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>v. Maintaining long-term liquidity</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

3.14 Are there any other aspects in which you believe your school has performed well?

Section 4: About You

4.1 Current job title: ________________________________

Years of work experience (approx.)

4.2 as a principal: ________________ years

4.3 as a principal in the current school: ________________ years

4.4 Your age group

25-34 [ ] 25-44 [ ] 45-54 [ ] 55+ [ ]

4.5 Your gender

Male [ ] Female [ ]

4.6 Have you undertaken any formal training in financial management?

[ ] I would like to receive a copy of the survey results. Please provide your e-mail address: ________________________________

Thank you very much for participating in this questionnaire.
Appendix 2: Invitation Letter

Dear [first name of the participant],

This study aims to improve our understanding of how risk governance mechanisms may influence school performance and the leadership role of school principals in this process. Government initiatives to introduce sound risk management policies and practices to schools in Australia for the improvement of governance and accountability has attracted increasing scrutiny in recent years. As the school leader, the expertise and insights of a school principal regarding the risk management culture and controls in place would be most useful for this survey. As such, I would greatly appreciate your participation. The survey will take approximately 15 minutes only to complete.

If you complete and return the survey, a tree will be donated to Landcare Australia on your behalf.

This project is part of my doctoral studies, and is supervised by Professor Nava Subramaniam and Dr. Gillian Vesty at RMIT University. Your participation is completely voluntary, and the return of the completed questionnaire will be taken as agreement for the information you provide to be used in this project. A self-addressed envelope has been included for return of the completed survey.

Ethics Approval

Approval to undertake this research project has been given by the Human Research Ethics Committee of RMIT University. If you have any complaints about any aspect of the project, the way it is being conducted or any questions about your rights as a participant, please contact:

The Ethics Officer, Research Integrity, Governance and Systems, RMIT University, GPO Box 2476V VIC 3001. Tel: (03) 9925 2251 or email human.ethics@rmit.edu.au

Thank you for your time and look forward to your kind assistance. If you require further information please contact:

Zhiyun Gong
Doctoral Candidate, RMIT University
School of Accounting

Please Note: All information collected will be stored securely for a minimum of five (5) years after final publication. All information will be treated as confidential until the project is complete, and the data may be destroyed. The research findings will be published in academic journals and the doctoral thesis of the principal researcher. No corporate institution or individual will be able to be identified in any publication.
Appendix 3: Survey Item Codes

Variables (acronym)

1. **Transactional Leadership Style (TS)**
   *As the principal of the school, I ...*
   - TS1: Assure staff that they can get what they personally want in exchange for their efforts.
   - TS2: Provide staff with information relevant to implementing school policies.
   - TS3: Help staff get what they decide they want.
   - TS4: Ask no more of staff than what is absolutely essential to get their work done.
   - TS5: Are satisfied with staff performance as long as the established ways work.
   - TS6: Do not try to change anything as long as things are going all right.

2. **Transformational Leadership Style (TF)**
   *As the principal of the school, I ...*
   - TF1: Insist on only the best performance from staff.
   - TF2: Have the capacity and judgment to overcome any obstacle.
   - TF3: Lead by “doing” rather than simply by “telling”.
   - TF4: Command respect from everyone in the school.
   - TF5: Symbolize success and accomplishment within profession.
   - TF6: Excite staff with visions of what they may be able to accomplish if working together.
   - TF7: Show staff that there are high expectations for them as professionals.
   - TF8: Will not settle for second best in performance of staff’s work.
   - TF9: Encourage staff to be ‘team players’.
   - TF10: Make staff less concerned about their own immediate needs and more concerned about our school reaching its objectives.
   - TF11: Make staff feel and act like leaders.
   - TF12: Provide good models for staff to follow.
   - TF13: Give staff a sense of overall purpose.
   - TF14: Challenge staff to re-examine some basic assumptions about their work.
   - TF15: Ask questions that prompt staff to think about what they are doing.
   - TF16: Stimulate staff to rethink the way they do things.
   - TF17: Facilitate assistance and support for staff from external personnel, as required.
   - TF18: Pay staff personal compliments when they do outstanding work.
   - TF19: Provide for extended training to develop knowledge and skills relevant to the school’s objectives.
   - TF20: Treat staff as individuals with unique needs and expertise.
   - TF21: Behave in a manner thoughtful of staff’s personal needs.
   - TF22: Provide special recognition when staff’s work is especially good.

3. **Risk Propensity (RP)**
   *How would you describe your personal propensity to ...*
   - RP1: Take risks (i.e. your willingness to take risks)?
Variables (acronym)

4. Risk Management Culture (RMC)

To what extent do you agree/disagree with the following statements?

<table>
<thead>
<tr>
<th>RMC1</th>
<th>Risk is perceived as a threat in my school. (R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMC2</td>
<td>Risk is perceived as an opportunity in my school.</td>
</tr>
</tbody>
</table>

To what extent do you agree/disagree that risk management in your school is ...

<table>
<thead>
<tr>
<th>RMC3</th>
<th>About avoiding negative consequences. (R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMC4</td>
<td>About achieving positive consequences.</td>
</tr>
<tr>
<td>RMC5</td>
<td>Handled through a formal system that identifies, manages and reports risks.</td>
</tr>
</tbody>
</table>

Please indicate the extent of ...

<table>
<thead>
<tr>
<th>RMC6</th>
<th>Your school’s overall propensity to take risks (i.e. the willingness of the school management to take risks).</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMC7</td>
<td>Your school’s overall risk appetite (i.e. the overall level of risk that school management deems acceptable).</td>
</tr>
</tbody>
</table>

The following statements relate to the governance structure and processes within your school. Please indicate whether you agree/disagree with each statement ...

<table>
<thead>
<tr>
<th>RMC8</th>
<th>The school has strong adherence to codes, standards and rules. (R)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMC9</td>
<td>School governance focuses on strong clarity of accountability for managing risk through oversight of the council (board) and/or its committee. (R)</td>
</tr>
<tr>
<td>RMC10</td>
<td>School governance focuses on value creation through making strategic decisions, understanding key drivers of performance, and resource utilization through developing a range of best practice tools and techniques.</td>
</tr>
<tr>
<td>RMC11</td>
<td>The school has a strong preference for change.</td>
</tr>
<tr>
<td>RMC12</td>
<td>The school has a strong tolerance for flexibility.</td>
</tr>
</tbody>
</table>

5. Enabling Control (EC)

Based on your experience as the manager of your school activities in your role as school principal, please indicate the extent to which you agree/disagree with the following statements:

<table>
<thead>
<tr>
<th>EC1</th>
<th>MCS help to clarify the activities that make up my school.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC2</td>
<td>MCS increase my knowledge of the operations of my school.</td>
</tr>
<tr>
<td>EC3</td>
<td>MCS increase my understanding of what drives the performance of my school.</td>
</tr>
<tr>
<td>EC4</td>
<td>MCS increase my knowledge of how my school works as a whole.</td>
</tr>
<tr>
<td>EC5</td>
<td>MCS help to communicate school strategy.</td>
</tr>
<tr>
<td>EC6</td>
<td>MCS signal areas in which we may need to change school strategy.</td>
</tr>
<tr>
<td>EC7</td>
<td>MCS help staff members of my school to understand the overall context in which they are working.</td>
</tr>
<tr>
<td>EC8</td>
<td>It is easy to modify information and reports provided by MCS.</td>
</tr>
<tr>
<td>EC9</td>
<td>It is easy to get access to detailed information in order to investigate deviations in school reports.</td>
</tr>
<tr>
<td>EC10</td>
<td>I analyze information provided by MCS in order to come up with ideas for improving operations under my control.</td>
</tr>
</tbody>
</table>
Variables (acronym)

| EC11 | I often think of new ways of doing things with MCS. |
| EC12 | MCS aim to generate regular and frequent flows of strategic information between school management and other stakeholders of the school. |
| EC13 | I can only make expenditures that have been built into the budget. (R) |
| EC14 | Discussion on information and reports provided by MCS focuses on ensuring strict adherence to original assumptions and action plans. (R) |

6. Academic Performance (AP)

The following questions are related to different dimensions of school performance. Compared to the state average, please rate the performance of your school in the last two years in relation to each of the following aspects ...

| AP1  | NAPLAN Year 7. |
| AP2  | NAPLAN Year 9. |
| AP3  | ATAR score. |
| AP4  | Students’ attendance rate. |
| AP5  | Students’ retention. |
| AP6  | Percentage of students undertaking higher education study. |
| AP7  | Percentage of students undertaking vocational education and training. |
| AP8  | Percentage of students gaining full-time employment. |
| AP9  | Students’ attitudes to school. |
| AP10 | Parent satisfaction. |
| AP11 | Staff satisfaction. |

7. Financial Sustainability (FS)

In terms of other related school outcomes, how well do you believe that your school has performed in the following aspects in the last two years?

| FS1  | Securing government funding. |
| FS2  | Securing other funding. |
| FS3  | Meeting targets in budget. |
| FS4  | Maintaining short-term liquidity. |
| FS5  | Maintaining long-term liquidity. |

*Items that are reverse coded contain the symbol (R)