A Correlation Study of Cost Management Practices and Strategic Management

Accounting Practices and Strategic Alignment

Dissertation

Submitted to Northcentral University

Graduate Faculty of the School of Business and Technology Management
in Partial Fulfillment of the
Requirements for the Degree of

DOCTOR OF PHILOSOPHY

by

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Prescott Valley, Arizona
July 2014

APPROVAL PAGE

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Dedication

I dedicate this doctoral work and journey to my beloved parents for their innate gifts, my good fortune in having them as wonderful teachers, supporters, and motivators, and as a child, young and mature adult, for the values, life principles, courage, and perseverance they have instilled in me with the notion to always pursue excellence in any type of endeavor.

Acknowledgements

Thanks to God for his blessings received during my life and throughout this journey. Thank you to my Chair Dr Robin Throne as a remarkable research methodologist, for her encouragement, and letting me impart insights of accounting and finance for the common pursuit of excellence. Many thanks to Dr Rocky Dwyer, FCPA, FCMA, the subject matter expert for his knowledge and feedback, for without a CMA, there would have been fewer faculties understanding the nature of management accounting and this study. Thanks to former Chair Dr Laura Plybon, a principled, ethical faculty, and leader helpful for the approval of my concept paper. Thank you very much to my wife Claire for her love, support, patience, and the sacrifices endured during the entire PhD journey, and thanks to our daughter Debra Ann and granddaughter Emilie for letting me be an absentee parent more often than I wanted, and; thanks to our families and my friend Randy De Souza. Thanks to my academic advisors Seth Hardesty, Jennifer Benacci, and Jessica Schoumaker for their support and understanding. A special thank to Drs Eva Mika, Janet Booker, and Dina Samora, and librarian Kerrie Hutchinson. Thanks to fellow NCU learners for their support, now Drs Brenda Kennedy, Cindy Wolfe, and Lee'Ann Hartford. Thank you to my fellow NCU learner Rad Carlo for our friendship. Many thanks to my friend and fellow NCU learner Dr Eniola Agbi for our mutual emotional and spiritual support. Thanks to CMA Canada's Anne-Marie Gammon and Lianne Thompson, CMA Ontario's Caroline Kolch, CIMA's Naomi Smith, and the IMA Research Foundation's Tara Barker for helping with survey announcement.

Abstract

The purpose of this quantitative, correlational study was to examine whether relationships existed between and the predictive value of the cost management practices (CMP) of (a) strategic cost management (SCM), (b) costing systems (CS), (c) customer profitability management (CPRM), (d) specific strategic management accounting practices (SMAP), and (e) specific strategic management concepts (SMC), and strategic alignment (SA), the criterion variable. The target population was from the certified membership of management-accounting bodies (M-AB), and the sampling frame represented CMAs drawn from the membership or roster of the M-ABs. The sampling method was random sampling, and data were collected via an online research survey from 107 CMAs and other professional accountants, and resulted in a response rate of 64.5%. The study was conducted under the theoretical framework of the contingency theory of management accounting with the use of correlation and regression analyses to assess associations between variables, and the Spearman nonparametric test where the assumption of normality was not confirmed. There were four strong positive relationships between: SMAPs and CS (r_s = .84; p < .05); SubSMAPs and CS (r_s = .70; p < .05); CS and SA (r_s = .71; p < .05), and; between SMAPs and SA (r_s = .71; p < .05), and one significant regression model explained 54% of the variance of SA (R^2 = .54, F (4, 97) = 28.54, p < .05). One moderate positive significant relationship existed between SMCs and SA (r_s = .63; p < .01), and a second significant regression model whereby SMCs explained 43% of the variance of SA (R^2 = .43, F (1, 98) = 72.71,

$p < .05$). Seven recommendations for practice included the implementation of: SCM, particularly the aspect of structural cost management; independent management accounting (M-A) modules for CSs; evidence-based management (EbM), JIT, life-cycle costing, and life-cycle costing analysis; a SMAP-monitoring system; financial risk management (FRM) and enterprise risk management (ERM); CPRM, and; business intelligence and business analytics. Seven recommendations for future research included the further study of SCM with linkages to FRM and ERM; the study of contextual economic, organizational, political, social, and cultural factors, and national culture affecting SMAPs through a quantitative methodology with quantitative methodology with a correlation and regression design with a qualitative component; a comprehensive study of SMAPs through a quantitative methodology with a quasi-experimental design and causal test of difference; the study of EbM with foundational constructs through a quantitative methodology with a regression design; the study of SMCs by replicating the current study with regional SMCs through a quantitative methodology with a regression design; a study of value-based management through a quantitative methodology with a regression design, and; the study of new SMCs through a quantitative methodology with a SEM design.

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Chapter 1: Introduction

To alleviate problems of strategic alignment (SA), or fit of organizational goals, there must be a proper choice and implementation of cost management practices (CMP) (Anderson & Dekker, 2009a, 2009b; Brierley, 2008), strategic management accounting (SM-A) practices (SMAP) (Armitage & Scholey, 2007; Certified Management Accountants of Canada [CMAC], 2013a; Guilding, Cravens, & Tayles, 2000; Institute of Management Accountants [IMA], 2013a; Marr, 2009, 2012a, 2012b, 2012c; Sorensen, 2009), and strategic management concepts (SMC) (Armitage & Scholey, 2007; Marr, 2009). The underpinning to resolve such SA problems was to discern whether a fit existed between CMPs, SMAPs, SMCs, and strategic management (SM)—and optimal SA. Management accountants (MA) and management-accounting (M-A) scholars ascertained the fit through SM-A field observations of practices, costing systems, cost structures, SMCs, and strategies, and by reliance on authoritative, specific CMPs, SMAPs, and SMCs that allowed better SA (Armitage & Scholey, 2007; CMAC, 2013a; Chartered Institute of Management Accountants [CIMA], 2013a; IMA, 2013b; Marr, 2009, 2012a, 2012b, 2012c).

The CMPs, SMAPs, and SM overarched and enabled to find cost, use cost, and to establish SM control providing the appropriate structure within which to implement strategy, and to monitor results (CMAC, 2009c; Marr, 2009). Germane constructs, known as enablers of SA, represented the assessed level of relationship between CMPs, SMAPs, and SM—and SA (CMAC, 2009c; Marr, 2009). The following constructs were used: strategic cost management (SCM)

underpins the use of cost information (CI) by MAs (Anderson & Dekker, 2009a, 2009b; CMAC, 2009c; Shank, 1989; Widener, 2007); costing systems comprise data accumulation for strategic and operational decisions (Al-Omiri & Drury, 2007; Brierley, 2008; CMAC, 2012b; Widener, 2007); customer profitability management (CPRM) enables achieving long-term customer profitability (CIMA, 2005, CMAC, 2000, IMA, 2010) while SMAPs are prospective-looking principles that enable SA (Ahrens & Chapman, 2006; Al-Omiri & Drury, 2002; Anderson, 2007; Chenhall, 2008; CIMA, 2005, 2009b, 2009c, 2013b; CMAC, 2000, 2007, 2009b, 2009e, 2013a; CPAA, 2013a; Drury & Tayles, 2005; IMA, 2009b, 2010, 2013a), and SMCs represent a set of strategic-planning constructs (CMAC, 2007; Marr, 2009) to evaluate competitive conditions and develop strategy, and to establish a sustained competitive advantage (SCA) (Marr, 2009; Porter, 1980).

The study also had a two-prong construct (SA) enabled by SM-A and SM (Anderson & Dekker, 2009a, 2009b; CMAC, 2007, 2009b, 2009c; Drury & Tayles, 2005; Marr, 2009, Marr, 2009, 2012a, 2012b, 2012c; Sorensen, 2009). Such anchors illustrated field operationalization and allowed MAs and M-A scholars to assess such enablers. Inappropriate selection of specific CMPs, SMAPs, and SMCs occurred when the firm's SCM framework was deficient and strategic misalignment existed (Govindarajan & Shank, 1992; Shank & Govindarajan, 1992; 1994). Chapter 1 includes a brief description of the study focus and constructs, background and variables, problem, purpose, theoretical framework, research questions and hypotheses, nature and significance of the study, definitions, and summary.

Background

The rise of M-A and SM-A to preeminence among organizations and in academia would have been otherwise or virtually impossible without SMAPs having facilitated or enabled SA with SCA and engendered emerging agile and competitive firms that improve production technology and speed, sell integrated solutions, become information/knowledge-driven, reduce costs, and increase gross margin and the bottom line (CIMA, 2013b; CMAC, 1994, 2001, 2013a; IMA, 2013b). Management-accounting scholars (Anderson & Dekker, 2009a, 2009b; Drury & Tayles, 2005) and M-A bodies (M-AB) (CIMA, 2013a; CMAC, 2013a; IMA, 2013a) have relied on seminal SMCs (Chandler, 1962; Galbraith, 1973; Porter, 1980) to fabricate SMAPs. Likewise, innovations by industrialists, engineers, and practitioners—Andrew Carnegie, Pierre du Pont, Donaldson Brown, and Alfred Sloan—from cost accounting and costing systems to SM engendered the advance of SMCs (Johnson & Kaplan, 1987). The application of SMAPs and related CMPs has resulted in assessing the relationship between CMPs and SA (Brierley, 2008; Brierley, Cowton, & Drury, 2001, 2006, 2007; CIMA, 2013a, 2013b; CMAC, 2009b, 2009c; 2013a; Drury & Tayles, 1994b, 1995, 2000, 2005, 2006b; Shank, 1989). The cited studies echo the need for further research and the raison d'être for the present study.

Value-adding SMAPs are tactical tools used within the constraints of traditional M-A while value-creating SMAPs enable appropriate structures, or the environment to implement strategy, which have been both inherent to SCM to promote SA (CIMA, 2013a, 2013b; CMAC, 2009b, 2009c, 2013b; Shank, 1989).

The SCM framework of a firm is deficient when the firm does not have strong performance management (i.e., efficiency) and measurement (i.e., effectiveness) programs, appropriate costing structures, systems—e.g., the often-cited case of Tektronix when the firm totally eliminated eight supposedly *core* [emphasis added] system elements from its former M-A system, essentially replacing it with SCM concepts—, and organizational design (Shank, 1989). Similar deficiency also occurs when MAs do not use SMAPs, for example, value chain analysis (VCA), strategic positioning analysis (SPA), and cost driver analysis (CDA). As for VCA combined with just-in-time (JIT), all American auto assembly plants regularly missed production schedules by 25% or more while Japanese plants varied 1% or less from schedules (Jones & Udvare, 1986). As for SPA, this analysis enabled SA through greater information requirements for strategy business units (SBU) (Galbraith, 1973) within a firm, thus, justifying the need for SMAPs (Shank, 1989), and; for firms with SBUs using a differentiation strategy (market share growth for interim weak competitive positions in relatively attractive industries) rather than a low-cost strategy (cost reduction, short-term earnings, and cash flow maximization for interim strong competitive positions in relatively unattractive industries) (Gupta & Govindarajan, 1986; Porter, 1980), differentiation-strategy SBUs required more relevant SMAPs. As for CDA, it is an essential element of SCM to achieve SA (Shank, 1989).

The value-creating VCA, combined with JIT (also a value-creating SMAP), yielded a fundamentally, significantly different outcome than the value added concept (Shank, 1989). With MAs failing to adopt VCA at Tektronix proved to be

a very costly oversight (Shank, 1989). Under the use of the contingency theory of management accounting (CTM-A) research approach, the Tektronix research became the genesis for, and a widely-accepted case study in promoting an efficient SCM framework and in assessing CMPs and SMAPs, and their relationship with SA (Anderson & Dekker, 2009a, 2009b; Brierley, 2008; Shank, 1989).

The CTM-A used for the CMP study is a research approach that identifies specific aspects of an accounting system, which are associated with certain defined circumstances and demonstrate an appropriate matching (Otley, 1980). In CTM-A, the key concept is fit, under which contextual factors and aspects of an accounting system must fit in concert for an organization to be effective (Drazin & Van de Ven, 1985). The CTM-A is founded on the premise that there is no universally appropriate accounting system, which applies equally to all organizations in all circumstances (Otley, 1980). Such matching and the CTM-A design are encapsulated in the inextricable reality that the management accounting system and organizational structure are inseparable and interdependent (Horngren, 1972). Through such attributes, generally, the use of the CTM-A in research has helped resolve problems of SA in several areas of M-A and enable SMAPs, and has been the most compelling theory found throughout SM-A literature and the most cogent for SM-A research applications, which are all akin to those of this CMP study (Brierley, 2008; Brierley et al., 2001, 2006, 2007; Drury & Tayles, 1995, 2000, 2005; Otley, 1980).

Specifically, the CTM-A has been used for accounting information systems (Brierley, 2008, Drury & Tayles, 1995, 2000; Gordon & Miller, 1976), the design of the planning, control system, costing procedures, and product costing (Dermer, 1977; Drury & Tayles, 1994b, 2005), and for the three-cycle planning process of strategic planning, management and operational control, and profitability analysis (Anthony, 1965; Drury & Tayles, 2006b). The CTM-A has also been used in other research areas such as the design of overhead absorption, cost structures, product-costing practices in different production settings, industries, and technologies, and in M-A innovations (Brierley, 2008; Brierley et al., 2001, 2006, 2007; CIMA, 2013a, 2013b; CMAC, 2009b, 2009c, 2013a, 2013b; Dhavale, 2007; Drury & Tayles, 2005; Guilding et al., 2000; Lapsley & Wright, 2004a). Through such attributes and applications, the CTM-A has allowed assessing the CPM-study's subdimensions, or predictor variables of SCM, CS, CPRM, and specific SMAPs and SMCs, and enable identifying and recommending better-matching SMAPs that potentiate greater SA, the criterion variable.

The SCM-framework deficiency resulted in a lack of strategic alignment under different circumstances. For example, deficiency occurred by implementing CMPs that did not allow finding all appropriately-measured costs and by implementing CMPs that do not match the scale and scope of a firm's products and services (Brierley, 2008; Brierley et al., 2007; Drury & Tayles, 2005; Bromwich, 1990; CIMA, 2013a, 2013b; CMAC, 2009b, 2009c, 2013a, 2013b; Kaplan, 2006; Lapsley & Wright, 2004a; Shank & Govindarajan, 1992, 1994).

Another area of deficiency was where the firm had weak SM, strategy formulation, communication, and implementation, and strategic control (CIMA, 2013a, 2013b; CMAC, 2009b, 2009c, 2013a, 2013b; Govindarajan & Shank, 1992; Shank, 1989). Finally, deficiency intensified when firm executives and MAs inappropriately evaluated competitive conditions and failed to create SCA (Porter, 1985). Through all such areas, MAs and M-A scholars spoke to the practical and theoretical confluent significance of the SCM framework.

The need for a robust SCM framework and assessment of the relationship among the described constructs, operationalized variables, and SA resided in three main problems. First, there were the lack of SA induced by the weak effectiveness of CMPs (inadequate features or requirements; e.g., absorption costing for a large enterprise), puny flexibility of CMPs (limited unsuitable selection of SMAPs; e.g., use of ABC for SMEs or a small entity, and not using the balanced scorecard, benchmarking, and six sigma depending on entity size), and an insufficient level of progress in adopting SMAPs (not using the latest concepts and techniques; e.g., CPRM, and evidence-based decision making). This deficiency also resulted from the inappropriate selection of SMCs (not using world-class concepts and practices; e.g., Porter's five-forces model, and McKinsey 7S framework) within enterprises (CIMA, 2013a, 2013b; CMAC, 2000, 2009b, 2009c, 2009e, 2013a, 2013b; IMA, 2010, 2013a; Kaplan & Anderson, 2007a, 2007b; McKinsey & Company, 1982; Porter, 1985; Shank, 1989).

Second, it is because the inducement arose also from multiple SMAP characteristics or conditions. In practice, certain SMAPs originated from

endogenous value addition (CIMA, 2009c, 2013a, 2013b; CMAC, 2009b, 2009c, 2013a, 2013b; Guilding et al., 2000), and others were derived from exogenous value creation (CMAC, 2009b, 2013b; Guilding et al., 2000). For example, value-adding SMAPs are anchored into practices with simple characteristics, or features such as developing and using cost information for tactical management accounting tools to support strategic planning, and establish SM and management control to implement strategy and to monitor its results (Armitage & Scholey, 2007; CIMA, 2013a, 2013b; CMAC, 2009b, 2009c, 2013a, 2013b; Marr, 2009, 2012a, 2012b, 2012c). Such features are associated with the use of certain confined cost elements such as direct material, direct labor, related cost drivers, and cost centers that lean towards traditional costing approaches and M-A accounting systems. There were other characteristics such as broad costing principles, classification, and indirect costs that both enabled and inhibited the costing structure of the firm (CIMA, 2009c, 2013a, 2013b; CMAC, 2009b, 2009c, 2013a, 2013b; Guilding et al., 2000).

Conversely, value-creating SMAPs recognized exogenous changes in the environment viewed (Bromwich, 1990; CIMA, 2013a, 2013b; CMAC, 2009b, 2013a, 2013b). Value-creating SMAPs have had the characteristics to produce the appropriate structure or environment for strategy implementation (CIMA, 2013a, 2013b; CMAC, 2009c, 2013a, 2013b). Management accountants and M-ABs designed such SMAPs to enable rectifying the lack of SA (CIMA, 2013a, 2013b; CMAC, 2009c, 2013a, 2013b). Third, the lack of SA was also induced by contextual economic (Federal Reserve Board [FRB], 2013), organizational,

political, social, and cultural factors (Brierley, 2008; CMAC, 2007; Porter, 1980, 1985, 1990).

Problem Statement

The problem was, as denoted in past research, that poor SCM, CSs, CMPs, SMAPs, and SMCs engendered the lack of SA across industries; thus, inhibited firm performance (Brierley, 2008; CMAC, 2009c, 2013a; Drury & Tayles, 2005, 2006b; Marr, 2009, 2012a; Porter, 1980; Shank, 1989). Sorensen (2009) called for researchers to bridge the gap between practice and education as SM-A guideline formulation was needed for educators, MAs, and business managers through practitioner-based educational programs. The specific problem of lack of SA has been found to be due to (a) inadequate SCM with scarce CI (Shank, 1989; Widener, 2007) as 80% of respondents reported CM was important to strategic goals (IMA, 2003), and structural CM represented a small portion of the C-M focus that reduced SA of a firm's cost structure with its strategy (Anderson, 2007); (b) insufficiently-developed costing systems (Brierley, 2008) with higher levels of CM-system sophistication positively associated with the importance of CM information, SMAPs, and SA with 53% of UK firms (SMEs, <£100 million) having no formal costing systems (Al-Omiri & Drury, 2007, Brierley, 2008); (c) the fact that CMPs, SMAPs (e.g., CPRM), and SMCs may not be a good organizational fit (Ahrens & Chapman, 2006; Anderson, 2007; CMAC, 2007; Drury & Tayles, 2005; Galbraith, 2005) through the absence of value-creating SMAPs with only 46% of UK firms using innovative SMAPs (Guilding et al., 2000; CMAC, 2013a). Thus, these past findings justified the need for certain SMAPs

and SCM practices (CMAC, 2000, 2009c; IMA, 2010, 2013b; Shank, 1989), and the given practices and concepts negatively affected SA and performance (Armitage & Scholey, 2007; Brierley, 2008; Brierley et al., 2006, 2007; Guilding et al., 2000; Lapsley & Wright, 2004a; Marr, 2009; Porter, 1980) as 80% of respondents considered implementing new SMAPs (e.g., CPRM) a low-to-medium priority thereby neutralizing SA (IMA, 2003).

Purpose of the Study

The purpose of this quantitative correlational study was to examine whether relationships existed between and the predictive value of the cost management practices of (a) strategic cost management, (b) costing systems, (c) customer profitability management, (d) specific SMAPs, and (e) specific SMCs, and SA. Through targeting organizations and CMAs around the world, different types of firms and CMAs of management-accounting bodies worldwide, the study aim was to ascertain which elements, or subdimensions (variables) of M-A would allow firms to best choose and align their CMPs and SMAPs with strategic goals to optimize efficiency and effectiveness, increase performance management and measurement, improve the measurement of cost, and increase profitability and SCA. This objective was achieved utilizing the CTM-A (Dermer, 1977; Horngren, 1972; Otley, 1980), the structure-supports-strategy (SSS) theory (Chandler, 1962), and the still-used contemporary strategic management paradigm (SMP) that allows firms maintaining a SCA (Porter, 1980). The data were collected via the CMP survey (Appendix A), an electronic questionnaire disseminated through the M-ABs to CMAs, from firms around the world, and resulted in a final sample

of 107 respondents. The CMP survey was founded on a validated survey from Drury and Tayles of 1994 (1994a) with permission to use obtained (Appendix B).

Theoretical Framework

This study and the theoretical framework have their genesis in the CTM-A (Dermer, 1977; Horngren, 1972; Otley, 1980), and were informed by two broad theories: first, Chandler's SSS theory (Chandler, 1962), and second, Porter's SMP theory (Porter, 1980, 1985, 1990). Management-accounting researchers have used the CTM-A in virtually all areas of SM-A research, too many to mention, as a proxy leading to innovation in contemporary SM-A and the issuance of all SMAPs (CIMA, 2013a; CMAC, 2013a; IMA, 2013b). Along the way, from the 1970's to now, M-A scholars have used the CTM-A and helped M-ABs developing leading-edge SM-A media (SMAPs, statements on management accounting [SMAs], and MAPs) that have enhanced the science and practice of M-A for both academics and practitioners, and endured through prosperity, economic recession, and scandals, unlike its sibling, F-A standards (CIMA, 2013a; CMAC, 2013a; IMA, 2013b).

In the CTM-A, the key concept is fit, under which contextual factors and aspects of an accounting system must fit in concert for an organization to be effective (Drazin & Van de Ven, 1985). The CTM-A is founded on the premise that there is no universally appropriate accounting system, which applies equally to all organizations in all circumstances (Otley, 1980). Under the use of the CTM-A, the theoretical framework promoted an efficient SCM framework and enabled to assess CMPs and SMAPs and their relationship with SA (Anderson &

Dekker, 2009a, 2009b; Brierley, 2008; Shank, 1989). The CTM-A has been used in SM-A and this CMP study to identify specific aspects of an accounting system, which were associated with certain defined circumstances and demonstrated an appropriate matching (Otley, 1980). For example, the CTM-A has been used for accounting information systems, the design of planning, control system, costing procedures, and product costing; for the three-cycle planning process of strategic planning, management and operational control, and profitability analysis, and; in the design of overhead absorption, cost structures, product-costing practices in different production settings, industries, and technologies, and in M-A innovations. Thus, the CTM-A has allowed assessing the CPM-study's subdimensions, or predictor variables of SCM, CS, CPRM, and specific SMAPs and SMCs, and enabled identifying and recommending better-matching SMAPs that potentiated greater SA, the criterion variable.

SSS theory. The SSS theory enables determining how an organization is structured. The seminal work of Chandler rests on the notion that without a strategy and a clear mission, firms find it difficult to design an effective structure. Management executives and MAs fabricate the structure according to the appropriate strategy, not the other way around. Chandler formulated a sequence to allow for changing strategy and structure throughout the lifecycle of an organization, invariably leading to SA and SCA, and mission accomplishment (Chandler, 1962). The central theme of the SSS theory was that changes in strategy led to organizational structure as organizations grew over time. The SSS theory induced several types of structures, all beyond the scope of this

discussion. More importantly, based on Chandler's (1962) analysis of Sears Roebuck, General Motors, Standard Oil, and DuPont, the theorist found that strategy determined structure, environmental changes resulted in strategic options, and then, necessitated changes in organizational structure. The key to the SSS theory was the strategy-structure linkage examined through the organizational life cycle, integrative mechanisms, and the contingency approach to determinants of structure (Chandler, 1962). The SSS theory originated from in the 1930's from earlier theorists (Taylor, Fayol, & Weber) of the organizational structure theory, then considered a matter of choice (Pfeffer, 1997). Another theorist focused on the impact of environment and technology on organizational structure (Galbraith, 1973), with the prevalence of the two emerging ideas currently applied in research and this study in the use of the SSS theory. Thus, executives and MAs have employed tools of organizational design—e.g., determination of firm boundaries, scale, and governance structures—, product design and process design (product, services, corporate and infrastructure services) to build an organizational and cost structure that supports strategy (Chandler, 1962, 1977, 1990).

SMP theory. The SMP is rooted in competitive strategy, and the competitiveness and economic development of firms, nations, states, and regions. Professor Porter's theories and ideas, still taught around the world, are anchored in his notion of SCA through the alignment of a firm's entire supply chain with its external environment, and the adoption of three major competitive strategies (cost leadership, differentiation, and focus) with the key tenet to

achieve SA and SCA. One of the key concepts of the SMP was to consider value chain management in an effort to enable the alignment of the firm's cost structure with its strategy. Such pursuit of cost-management decisions allowed to deploy the strategy where SA was measured by the difference between business-unit strategic goals, needs, and critical functions, and—SM-A orientation (Porter, 1980). A significant outcome of the SMP reposes in the fact that most of SM or SMCs, developed since the early 1980's, have originated from the SMP because of its overall external focus on the value chain (Anderson, 2007; Kaplan & Norton, 1996). Out of the SMP, have come, for example, the Five-Forces Model and STEEP (Social, Technological, Economic, Environmental, and Political) analysis (Porter, 1980, 1985, 1990), some of the most used SMCs since inception (Kaplan & Norton, 1996). Except for Chandler's works, all SMCs are derivatives of Porter's seminal work and major enablers of strategy development, implementation, monitoring, and execution, and SA (Porter, 1980). Thus, the SMP allowed identifying and implementing the most appropriate CMPs and SMAPs to achieve such purpose (Porter, 1980, 1985, 1990).

Through their preferred research theory, the CTM-A, M-A researchers have carried on SM-A research in its most intricate areas (Brierley, 2008; Brierley et al., 2001, 2006, 2007; Drury & Tayles, 2000, 2005, 2006b). By joining the SMP and the SSS theory with the CTM-A, M-A scholars have used such theories and advanced the science of SM-A (Kaplan, 2006). The seminal work on such

theories are still taught globally at most universities given the eternality of this trio of theories (Anderson, 2007), and were best suited as the theoretical foundation.

Because SM-A comprises SMCs, SMCs have flourished (i.e., definition of SMCs) during the evolution of SM-A where SM-A studies abounded with an emphasis on SMCs (Kaplan & Norton, 1992, 1996, 2001), SCM (Shank, 1989; Simmonds, 1981a; Govindarajan & Shank, 1992), and the value chain management of SCM (Anderson, 2007). Grounded in field research through the CTM-A (Dermer,1977; Guilding, 1999; Horngren, 1972; Otley,1980), this design sustained the theoretical framework while SMAPs (CIMA, 2013b; CMAC, 2013a; IMA, 2013b), MAPs (CMAC, 2009c) and CMPs (Brierley et al., 2001, 2006, 2007; Drury & Tayles, 2005; Guilding et al., 2000; Lapsley & Wright, 2004a) have facilitated and validated the adoption of best M-A practices and the fortitude of the theoretical framework. The theoretical framework compelled examining controversies such as cost structures, costing-system complexity, allocation of overhead, and business-sustaining costs (Brierley et al., 2001, 2006, 2007; Drury & Tayles, 2005). All such seminal work and events represent the underpinnings of the theoretical framework, and the framework rested on the CTM-A, and the SSS and SMP theories (Anderson, 2007; Chandler, 1962; Chenhall, 2008; Porter, 1980, 1985, 1990), all emerging from the use of the CTM-A (Dermer,1977; Horngren, 1972; Otley,1980).

Research Questions

Unlike previous research studies (Brierley, 2008; Brierley et al., 2001, 2006, 2007; Davila & Wouters, 2007; Drury & Tayles, 2005, 2006b), the

extensive nature of this CMP study sought to examine to what extent can CMPs, SMAPs, and the firm's SM orientation help a firm achieve greater SA and SCA. With the use of the CTM-A (Brierley et al., 2007; Dermer, 1977; Drury & Tayles, 1995, 2000, 2005; Horngren, 1972; Otley, 1980), the following research questions represented constructs and variables never studied concurrently.

Q1. To what extent, if any, do each of the subdimensions of CMPs and SMAPs—strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices—relate to SA across different types of firms and among CMAs of management-accounting bodies worldwide?

Q2. To what extent, if any, does the subdimension of SM—specific strategic management concepts—relate to SA across different types of firms and among CMAs of management-accounting bodies worldwide?

Q3. What is the predictive value of each subdimension of SM-A (strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices) for SA?

Hypotheses

$H1_0$. There is no statistically significant relationship between each of the subdimensions of CMPs and SMAPs—strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices—and SA across different types of firms and among CMAs of management-accounting bodies worldwide.

$H1_a$. There is a statistically significant relationship between each of the subdimensions of CMPs and SMAPs—strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices—and SA across different types of firms and among CMAs of management-accounting bodies worldwide.

$H2_0$. There is no statistically significant relationship between the subdimension of SM—specific strategic management concepts—and SA across different types of firms and among CMAs of management-accounting bodies worldwide.

$H2_a$. There is a statistically significant relationship between the subdimension of SM—specific strategic management concepts—and SA across different types of firms and among CMAs of management-accounting bodies worldwide.

$H3_0$. The subdimensions of SM-A—strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices—are not statistically significant predictors of SA.

$H3_a$. The subdimensions of SM-A—strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices—are statistically significant predictors of SA.

Nature of the Study

The study was conducted through a quantitative methodology and correlational design to examine whether relationships existed between the overarching constructs of CMPs, SMAPs, SM, and SA. The constructs operationalized through the predictor variables of (a) strategic cost management, (b) costing systems, (c) customer profitability management, (d) specific SMAPs, and (e) specific SMCs, and—strategic alignment, the criterion variable. The CTM-A was used as the study theoretical framework (Dermer,1977; Horngren, 1972; Otley,1980) with the mainstream hypothetico-deductive approach as the standard of past M-A research (Al-Omiri & Drury, 2007; Brierley et al., 2006; Drury & Tayles, 2000, 2005) through a quantitative research survey. The CMP-research survey (Appendix A) was administered as an electronic questionnaire through Qualtrics for data collection from CMAs working for organizations around the world, which study instrumentation was a pre-validated survey (Borrego, Douglas, & Amelink, 2009) from Drury and Tayles (1994a) to gather quantitative data for the study variables with permission to use obtained (see Appendix B). Founded on the CTM-A and such seminal insights, the quantitative correlation and multiple regression analyses, or the use of the multiple regression correlation (MRC) approaches were judged most appropriate based on scholarly direction (Cohen et al., 2003; Keppel, & Zedeck, 1989; Vogt, 2007), and with respect to the purpose and research questions of the study.

The population of the study consisted of CMAs, all certified members of internationals M-ABs with a total membership of approximately 221,150. The

sampling frame represented CMAs drawn from the rosters of international M-ABs (e.g., CIMA, 2009a; CMAC, 2009a; IMA, 2009a). The sampling method was the single-stage random sampling design approach involving the use of the systematic or probabilistic sample method through a random numbers table with the matching of M-AB membership numbers (Black, 2009; Field, 2009; Keppel, 1991; Vogt, 2007). With the sample-test assumptions of a desired power of 0.80, a two-tailed Cronbach's (1951) alpha level of significance of 0.05 (Cohen, 1988; Gerstman, 2003), and an effect size of 0.15 (Cohen, 1988), the minimum a priori sampling-size determination through G*Power software (Faul, Erdfelder, Lang, & Buchner, 2007) was determined to be 92 participants (Cohen, 1988; Gerstman, 2003).

Question responses were anchored in a 7-point Likert-type scale (1 = Strongly Disagree; 7 = Strongly Agree). The quantitative correlation analysis used Spearman r_s (i.e., assumption of normality was not met) for Qs1-2 to test Hs1-2 and determined the strength of any correlation between five predictor variables (SCM, CS, CPRM, and specific SMAPs and SMCs) and the criterion variable (SA). Multiple regression analysis was used for Qs1-2 to affirm Hs1-2 and for Q3 to test H3 to determine which predictor variable was most strongly related to the criterion variable (Aczel & Sounderpandian, 2006; Black, 2009; Faul et al., 2007; Keith, 2006; Keller & Warrack, 2000). Descriptive analysis was conducted on the demographic data using descriptive statistics.

Significance of the Study

Strategic management accounting has attained its current preeminent status due to the advances and thought leadership of several M-A pioneers (Atkinson et al., 1997, 2007; Guilding et al., 2000; Horngren, 1972; Johnson & Kaplan, 1987; Kaplan, 2006; Kaplan & Cooper, 1998; Kaplan & Norton, 1992; Porter, 1980; Seigel, 1996; Shank, 1989; Shank & Govindarajan, 1992, 1994; Simmonds, 1981a) and the innovative research work of M-ABs (CIMA, 2013a; CMAC, 2013a; IMA, 2013a). The appropriate selection and implementation of SMAPs and CMPs originated from the necessity to alleviate problems of SA, or fit of organizational needs and goals (CMAC, 2009a, 2009c, 2009d, 2013b; Guilding et al., 2000). Strategic management accounting has flourished despite scandals in the other branch of the discipline, financial accounting (i.e., reporting and auditing), and has enabled firms to achieve a SCA (Porter, 1980). An important part of the realized SCA has been represented by the implementation of SMAPs and CMPs (CIMA, 2013a, 2013b; CMAC, 2013a, 2013b; IMA, 2013a, 2013b). The paucity of SM-A research has made several M-A scholars argued and called for additional research on certain aspects of SM-A and costing (Ahrens & Chapman, 2006; Brierley et al., 2001, 2006, 2007; Davila & Wouters, 2007; Drury & Tayles, 1995, 2005). The magnitude of this research resided in SA having an *ex ante* [emphasis added] value to increase a firm's SCA through superior CMPs and SMAPs. This perspective validated the comprehensive view that SM-A research played an important role in the success of businesses (Allen, 2013; CMAC, 2000, 2009b; IMA, 2010).

The genesis of this CMP study rested in the need for entity executives and MAs to comprehend SA relative to their choice of SMAPs and CMPs (Guilding et al., 2000). This CMP study was the first endeavor to illuminate on making the best choice of CMPs and SMAPs to enable SA for any entity given their sector and industry, and the diversity of products and services (Brierley et al., 2007; Drury & Tayles, 2000, 2006b). Theorists and M-A pioneers of quantitative research methodology have postulated and advanced the benefits and results of quantitative research as a preferred research approach for this type of study (CMP study) (Anderson & Widener, 2007; Black, 2009; Cohen et al., 2003; Keith, 2006; Keppel, & Zedeck, 1989; Vogt, 2007).

Initiating SM-A research aimed at continuing the scholarly work directly attributed to the needs for further research, as addressed in the past studies for example, direct cost assignment, and by studying variables (SCM, CS, CPRM, and specific SMAPs and SMCs, and SA) that have not been researched simultaneously (Ahrens & Chapman, 2006; Brierley et al., 2007; Davila & Wouters, 2007; Drury & Tayles, 2005). The study also sought to determine for the first time how SA, SMAPs, CMPs, and SM cohered in the field, and how the study's findings, translated into unique recommendations and enabled practical insights for practitioners and academics through SMAPs (CIMA, 2013a, 2013b; CMAC, 2013a, 2013b; Guilding et al., 2000; IMA, 2013a, 2013b; Marr, 2009, 2012a, 2012b, 2012c). Through the overarching constructs, dimensions, and subdimensions (predictor variables), this study has allowed for new knowledge and enabled the pent-up demand of the M-A environment, or SM-A and SCM

policy formulation for educators, MAs, and business managers through practitioner-based educational programs, thus, closed the known gap between practice and education (Sorensen, 2009).

Finally, unlike previous research that has focused on information accumulated within costing systems, their complexity along a continuum range, the apparent gap and lack of coherent findings from ABC contingency studies, and indirect allocation costing methods, (Brierley, 2008; Brierley et al., 2001, 2006, 2007; Davila & Wouters, 2007; Drury & Tayles, 2005, 2006b), this study is different. A broader perspective was adopted to examine to what extent can CMPs, SMAPs, and the firm's SM orientation helped a firm achieve greater SA and SCA.

Definitions of Key Terms

Peer-reviewed articles and other referenced sources cited in the following definitions related to constructs of the chosen design model (i.e., variables) and to other concepts of the study. Such concepts represent the sciences of SM and SM-A (Chandler, 1962, 1977, 1990; Porter, 1980, 1985, 1990; Simmonds, 1981a). Some references were germane to the development and evolution of SM and SM-A (CIMA, 2013a; CMAC, 2013a; IMA, 2013a).

Primarily originating from prior research, definitions of constructs (and variables) represented seminal sources of validity and reliability that have passed peer-review tests. Definitions of other key terms from similar foundation represented a unique nomenclature that scholars and the M-A profession have validated (CIMA, 2013a; CMAC, 2013a; IMA, 2013a). Key M-A terms were akin

to financial-accounting (F-A) terms and standards that standard-setting bodies (American Institute of Certified Public Accountants [AICPA], 2013; Financial Accounting Standards Board [FASB], 2013a) and auditing-standards setting bodies (AICPA, 2013; Public Company Accounting Oversight Board [PCAOB], 2013) have issued. Such M-A terms were formulated through committee deliberations (including scholarly representations) and constantly pursuant to peer-reviewed articles. Such SM-A terms originated from the same types of professional and scholarly sources, as F-A terms have, and have earned comparable etymological and ontological authoritativeness.

Whether constructs, SCM, CS, CPRM, specific SMAPs and SMCs, and SA, and other discipline terms, all presented definitions constituted an unprecedented conceptual subordinate connectedness within the study (CIMA, 2013b; CMAC, 2013a; IMA, 2013a). Such terms possess potent authoritativeness supporting more than sufficiently to represent the way they came together in the field (CIMA, 2013b; CMAC, 2013a; IMA, 2013a). Both types of definitions appear under separate captions.

Definitions of overarching constructs. The definitions of this study's constructs provided a scholarly, professional, and trustworthy source conducive to enhance understanding of SM-A, and mitigated the risks of misinterpreting concepts, even for the most trained CMAs. The definitions were theoretical and embedded with practical insights that cohered in the field of M-A. Each definition was crafted with details crucial for the participants of the study, most of which

were practitioners, some academics, and for its future readers. Such constructs included CMPs, SA, SM, and SMAPs.

Cost management practices (CMP). An important characteristic of SM-A is the notion that organizations can develop different cost information for different decisions (CMAC, 2009c). Cost management practices are the practices that MAs use to find cost, use cost, and to establish strategic-management control (i.e., anchors) to provide the appropriate structure, or environment in which to implement strategy, and to monitor its results (CMAC, 2009b, 2009c). By enabling cost finding (CMAC, 2009c), CMPs allow MAs making the right decisions the first time (CMAC, 2009b, 2009c). By facilitating cost using (CMAC, 2009c), CMPs allows choosing the best possible practices (e.g., target costing -TC, activity-based budgeting -ABB) the organization should adopt, determining which SMAP characteristics (e.g., strategic plans and strategy monitoring) best enable SA (CMAC, 2009c; Drury & Tayles, 2005), and deciding on which contextual economic, organizational, political, social, and cultural factors affect most and best CMPs (CMAC, 2009b; 2009c). By enabling strategic-management control (CMAC, 2009a), and the analysis of M-A data, CMPs aid MAs develop and monitor the business strategy (Simmonds, 1981a). All CMPs have two main attributes. Effectiveness is tactical while efficiency is strategic (CMAC, 2009b; 2009c). Effectiveness originates in the features of the CMPs that provide the most appropriate type and quality of data, and allow for rapid deployment of the CMPs (CMAC, 2009b; 2009c). Flexibility is about cost using, hence, choosing the best possible CMPs the organization should adopt,

choosing which SMAP conditions and contextual factors affect most and best CMPs (CMAC, 2009b; 2009c), and selecting the best SMAPs that enable strategic choices concerning its underpinning economic structure (Shank, 1989). As such, the costing of products and services is part of CMPs, and CMPs are part of MAPs (i.e., MAP definition) (CMAC, 2009c), and part of the larger SMAPs (i.e., SMAP definition) family. In this research study, CMPs are a dimension and overarching construct of the study. All CMPs have refuge into the three mentioned anchors that enable SA (CMAC, 2009c), and although not predictor variables, such distinguishing anchors encapsulate the predictor variables of strategic cost management, costing systems, customer profitability management, and specific SMAPs.

Strategic alignment (SA). There are two parts to this definition. The first part relates to SM-A while the second part connects with SM. Part one is about SM-A, and how SA is related to strategic-management approaches and SCM, including value chain management (VCM) and analysis (VCA), purporting to align the firm's cost structure with its strategy (Porter, 1980). Strategic alignment pertains to M-A as well, or when MAs and executives pursue cost management decisions to deploy the strategy where SA is measured by the difference between business-unit strategic goals, needs, and critical functions, and—SM-A orientation (flexibility), that is, supporting the hypothesis that SA is affected directly by CMPs and SMAPs (Anderson, 2007; Kaplan & Norton, 1996, 2004; Shank, 1989; Shank & Govindarajan, 1992, 1994; Sorensen, 2009; Tomkins & Carr, 1996a, 1996b). Strategic alignment is also about the external perspective

of profits stemming from the firm's competitive positioning in its market (Simmonds, 1981a), which is one of the foundations of part two. Strategic alignment also means the emphasis MAs place on decision support, planning, and control from a transactions-based focus (Siegel, 1996). For example, there exists a relationship between SM-A and SA (Ahrens & Chapman, 2006; Silverman, 1993), and one relationship between the flexibility of CMPs and SMAPs and SA (CMAC, 2009c, 2009d; IMA, 2013b; Shank, 1989; Shank & Govindarajan, 1992, 1994). For this study, SA is the only criterion variable, which is also an overarching construct that requires surveying CMPs, including product costing practices (PCP), service costing practices (SCP), and other practices. The second part is about SM that represents a set of SMCs, or set of strategic-planning concepts and techniques (CMAC, 2007), which originates from a contemporary SMP (Porter, 1980, 1985, 1990) rooted in VCM and VCA. Together with the theory that organizational structure supports strategy (SSS) (Chandler, 1962, 1977, 1990), such concepts help to evaluate competitive conditions, develop, deploy, and monitor strategy (Kaplan & Norton, 1996, 2001), and to establish SA and SCA (Porter, 1980, 1985, 1990). Such concepts affect SA and include, for example, the Five-Forces Model and STEEP (Social, Technological, Economic, Environmental, and Political) analysis (Porter, 1980, 1985, 1990), the McKinsey 7S framework (McKinsey & Company, 1982), the Strategic Four-Factor Model (Rowe, Mason, Dickel, Mann, & Mocker, 1999), the Diamond-E Framework (Fry & Killing, 2000), the SWOT (Strength, Weakness, Opportunity, Threat) and PEST analyses (Selznick, 1957), PMI (Plus, Minus,

Interesting) (de Bono, 1982) Red and Blue Ocean strategies (Kim & Mauborgne, 2004), the Balanced Scorecard (Kaplan & Norton, 1992, 1996), and the Strategy-Focused Organization (Kaplan & Norton, 2001). Except for Chandler's and Selznick's works, all such concepts are derivatives of Porter's seminal work, but all are major enablers of strategy development, implementation, monitoring, and execution, and SA (Porter, 1980). Through alignment and coherence of the entity's restricted resources, Kaplan and Norton (2001) argued that a robust strategy can produce a nonlinear performance breakthrough positing the creation of a new culture (Schermerhon, Hunt, & Osborn, 2000), based on the requirements of the strategy, thus, facilitating strategy execution and alignment. In this research study, SA is a foundational dimension and overarching construct of the study, and the lone criterion variable.

Strategic management (SM). Briefly, SM represents SMCs, or strategic-planning concepts and techniques (CMAC, 2007) that originate from a contemporary SMP (Porter, 1980, 1985, 1990) based in VCM and VCA for SCA. Together with the theory that organizational SSS (Chandler, 1962, 1977, 1990), the concepts that arise from SM help to evaluate competitive conditions and develop, deploy, and monitor strategy (Kaplan & Norton, 1996, 2001), and to establish a SCA (Porter, 1980, 1985, 1990) (i.e., strategic alignment has a broader definition). As such, SM is the pillar of SM-A, a foundational dimension, and overarching construct of the study for SMCs.

Strategic management accounting practices (SMAP). Strategic management accounting practices have attributes exhibiting one, or more of the

following elements: environmental or marketing orientation; focus on competitors, and; long-term, forward-looking orientation (Guilding et al., 2000). This perspective represents a confluence of the ideas of earlier writings on SM-A from a number of scholars (Bromwich, 1990)—competitor focus, derived primarily from the model of competitive positioning (Porter, 1980)—, (Simmonds, 1981a)—marketing focus—, and (Wilson, 1995)—future focus—, all enablers of SCA. All MAGs are SMAPs, and all SMAPs are part of the contemporary definition of SM-A. For example, SMAPs include, but are not limited to, attribute costing, brand value budgeting, brand value monitoring, competitor cost assessment, competitive position monitoring, competitor appraisal based on published financial statements, lifecycle costing (LCC) (Dunk, 2004), quality costing, strategic costing, strategic pricing, target costing (TC), value chain costing, and evidence-based decision making with a strong IT role (CIMA, 2009b; CMAC, 2009c, 2009d, 2009e; Guilding et al., 2000; IMA, 2013b; Marr, 2009, 2012a, 2012b, 2012c). The SMAPs also comprise financial simulation, cash flow management, target costing, activity-based management, ABC, budget and pro-forma management financial statements, strategic cost management, Kaizen costing, product mix decisions, uncertainty and capital budgeting, and time-driven activity-based costing (TDABC), the balanced scorecard (BSC), total quality management (TQM), total quality assurance (TQA), continuous quality improvement (CQI), just in time (JIT), and costing system improvements integrated into ERPs (CMAC, 2009d; Kaplan & Anderson, 2007a, 2007b; Kaplan & Norton, 1992, 1996). In this research study, SMAPs are a foundational

dimension and overarching construct of the study, and specific SMAPs are one of its five predictor variables.

Definitions of other key terms. The definitions of the following key terms were vital to capture the meaning of certain SM-A terms used in this research study and its survey. Such terms include business-sustaining costs, Certified/Chartered/ Management Accountant, Cost and Management Accountant, cost driver, costing systems, costing-system complexity, or sophistication, customers, customer profitability management, hidden customer costs, management accounting, management accounting guidelines, management accounting practices, product costing practices, service costing practices, statements on management accounting, strategic cost management, strategic management, strategic management accounting techniques, strategic management-based costing approach, and SCA. Through such authoritative definitions, survey participants have and study readers will acquire an appreciation of the study's context and make an informed judgment about the nature and requirements of each main research question, their accompanying detailed survey questions, and the study's potential findings and conclusions. The definitions addressed the subdimensions and predictor variables of the study's detailed questions: costing systems, customer profitability management, strategic cost management, specific strategic management accounting practices, and specific strategic management concepts all under the generic umbrellas of SMAPs, or SM-A, and SM.

Business-sustaining costs (BSSC). Sometime called committed costs, or referred to as, or long-term costs, such costs are oftentimes also labeled as facility-sustaining costs, or capacity-related costs that provide resources for the organization with the capacity to make goods, or services with their cost depending on the amount of the resource acquired, not the amount used. Capacity-related costs or business-sustaining costs are the costs of resources that sustain the organization's broad operations. There are two types of business-sustaining costs: a) those that would exist irrespective of the level of operations as long as the entity exists, these being costs not usually allocated to any cost object, and; (b) those that change over time to reflect changes in the organization's activity level, these costs being indirect costs. As such, BSSCs represent investment in plant, or factory, building and warehouse, machinery, equipment, advanced-manufacturing technologies, R&D and IT/IM assets, and long-term capital-asset financing costs (including those for capital leases) essential to achieve the purpose of the enterprise, or the mission of a governmental organization (CMAC, 2002a; 2002b; Drury & Tayles, 2005).

Certified/Chartered Management Accountant/Cost and Management Accountant (CMA). All management accountants are identified as CMAs, and there is only one type of management accountants. The designation CMA has three different full names; Certified Management Accountant in Canada (CMA Canada, or CMAC) recognized by legislation, and in the U.S. (IMA) and Australia (Institute of Certified Management Accountants of Australia [ICMAA], 2013) incorporated by companies' laws, and using a registered trademark, and the

Institute of Certified Management Accountants of Sri Lanka (ICMASL, 2013) founded by an act of Parliament. The UK-based CIMA issues the Chartered Management Accountant (CMA) designation under a royal charter, and the Institute of Chartered Management Accountants of Pakistan (ICMAP, 2013a) has been established by an act of Parliament. Other bodies use Cost and Management Accountant such as the Southeast Asian M-ABs (Institute of Cost Accountants of India [ICAI], 2013a; Institute of Cost and Management Accountants of Bangladesh [ICMAB], 2013), and all have been established by acts of Parliament. Regardless of their affiliation, all CMAs possess the same characteristics, training, or body of knowledge, which includes strategy, management accounting, financial planning and analysis, financial management, corporate finance, operations management, internal control, risk management, cost management, performance management, decision analysis, financial accounting, statistics, economics, and ethics. Other accountants are referred to as financial accountants, public accountants, and auditors when working in a practice that offers public accounting services while CMAs do more than just measure value—they create it. As the leaders in management accounting, CMAs are trained in business management, capable of advising on business strategy and enterprise risk management, and actively apply a unique mix of financial expertise, strategic insight, innovative thinking, and a collaborative approach to help grow successful businesses (CIMA, 2009a; CMAC, 2009a; IMA, 2009a).

Cost driver. First-stage cost drivers are cost drivers, or activity measures being an allocation base in an ABC system. Resources consumed by products are first allocated to cost pools. The following types of activity, or activity cost pools (with the level in parenthesis) are examples followed by their respective first-stage cost drivers: customer orders (batch-level pool) with the number of customer orders; product design (batch-level pool) with the number of product designs; order size (unit-level pool) with machine hours; customer relations (customer-level pool) with the number of active customers, and; support existing products (batch-level pool) with the number of products (Garrison, Noreen, & Brewer, 2006; Kaplan & Cooper, 1998). Second-stage cost drivers are cost drivers, or activity measures being an allocation base in an ABC system. In the second-stage allocation process, activity rates are used to apply costs to products (Van Veen, 1992), customers, and other cost objects. The activity rate is a function of the cost driver. The cost driver rate is a function of a number, the denominator representing the cost driver (e.g., the number of orders). The following example reveals a total cost for a cost pool and the cost allocated by product: resources consumed by the customer-order cost pool = $315,000 ÷ 1000 orders = activity rate = $315; resources consumed by three orders = $945 (Garrison et al., 2006, Kaplan & Cooper, 1998).

Costing systems (CS). Costing systems are designed to collect and generate cost data. Most CSs are components of a management accounting system, or the broader accounting system. In virtually all situations, the functionality of the CS is to track incurred costs, and analyze them for planning,

decision making, SA, and SCA (CIMA, 2005; CMAC, 2012b; Horngren et al., 2006; Horngren et al., 2010). Costing systems are known to service all types of cost accounting methods including absorption, direct, full, variable, marginal, and uniform costing (CIMA, 2005). Many CSs also use several cost pools and types of cost drivers (Brierley, 2008; Drury & Tayles, 2005), and have several core elements (Shank, 1989). In general, CSs cater to organization's strategy and objectives, transactions, cost profiles, volatility, and availability of data (CMAC, 2012b). There are several factors that influence the choice of product costing systems with all factors rooted in the CTM-A literature and a slant towards enabling SA. Such factors include product diversity, cost structure, size, level of competition, degree of customization, lean production, total quality management, automation, competitive strategy, organizational structure, quality of information technology, manufacturing industry type, the number of cost pools, and the number of allocation bases (Bjornenak, 1997; Chenhall, 2003; Drury & Tayles, 2005; Krumwiede, 1998; Malmi, 1999). In this study, CS is a subdimension of the SMAPs overarching construct and dimension, and one of five predictor variables.

Costing-system complexity, or sophistication (CSC & CSS).

Complexity, or sophistication ranges from low complexity; single plant-wide cost pool and single volume-based cost driver to high complexity; many first-stage cost pools, many different types of volume and non-volume based second-stage cost drivers; and the use of transaction, duration, and intensity cost drivers (Brierley, 2008; Drury & Tayles, 2005).

Customers. *Profitable (P) Customers* [emphasis added] represent typically about 20% (but occasionally also between 15% and 25%) of all customers, generating anywhere from 150% to 300% (occasionally from 100% to over 300%) of firm profits (50% to 200% to what is referred to as above sea level) (i.e., full cost recovery including incremental costs in the public and NFP sectors) (IMA, 2010). *Breakeven (B) Customers* [emphasis added] represent typically about 70% (although percentages may vary between 55% and 80%) of all customers (full cost recovery excluding incremental costs in the public and NFP sectors) (IMA, 2010). *Loss (L) Customers* [emphasis added] represent typically about 10% (although percentages may vary between 5% and 15%), who destroy, erode, or reduce firm profits anywhere from 50% to 200% of firm profits, bringing cumulative profit to sea level loss (not covering full cost recovery in the public and NFP sectors) (IMA, 2010).

Customer profitability management (CPRM). To identify profitable, breakeven, and unprofitable customers, firms use the strategy-based linkage CPRM to devise strategies that add value to most-profitable customers, stop or reduce erosion of unprofitable customers, and increase long-term customer profitability (IMA, 2010). The CPRM subordinate function, customer profitability analysis (CPA) is the analysis of the revenue streams and service costs associated with specific customers or customer groups, and oftentimes, provides data on customer segments, and geographical areas (CMAC, 2000). More than otherwise, CPRM and CPA reside into two important facts, or areas: expanding global competition, and attaining greater shareholder value. Through a

backbone CPRM costing system tracing and causalling, assigning costs, turning such facts into realities, not only increase in customer satisfaction, loyalty, and value, but also, more importantly, achieving these realities enable SA and SCA (CIMA, 2005, CMAC, 2000, IMA, 2010). In this study, CPRM is a subdimension of SMAPs, and one of five predictor variables.

Hidden customer costs (HCC). Such HCCs include: inventory carrying costs; stocking and handling costs; quality control and inspection costs; customer order processing; order picking and order fulfillment; billing, collection, and payment processing costs; accounts receivable and carrying costs; customer service costs; wholesale service and quality assurance costs, and; selling and marketing costs (CMAC, 2000).

Management accounting (M-A). Management accounting is an integral part of management concerned with identifying, generating, presenting, and interpreting information used for (a) formulating strategy, (b) planning and controlling activities, (c) decision taking, (d) efficient resource usage, (e) performance improvement and value enhancement, (f) corporate governance (CG) internal control (IC), and (g) safeguarding tangible and intangible assets (CIMA, 2009c). Management accounting is the practical science of value creation within organizations in both the private and public sectors (CIMA, 2009c). It combines accounting, finance, and management with the leading edge techniques needed to drive successful businesses (CIMA, 2009c). Management accountants operate in financial and non-financial roles throughout organizations, and carry out all their training and experience requirements within the business

itself, providing them with a unique insight into how their organizations operate (CIMA, 2009b, 2009c). The research team at the IMA (2009b) provides a newer definition of M-A relative to the profession of M-A. Management accounting is a profession that involves partnering in management decision making, devising planning and performance management systems, and providing expertise in financial reporting and control to assist management in the formulation and implementation of an organization's strategy (IMA, 2009b). In this study, M-A is the discipline and science at hand.

Management accounting guidelines (MAG). Management accounting guidelines, oftentimes called the Strategic Management Series is an indispensable key resource for the latest in scholarly M-A and SM-A concepts and techniques to gain a competitive advantage in the global marketplace (CMAC, 2009d). The scholarly, strategic MAGs feature action-oriented management guidelines to help MAs and others implement industry-recognized best practices and see how M-A and SM-A cohere in the field. The series includes also emerging issues papers (EIP), research studies and reports, and case studies on specific topics and industries to stimulate awareness and discussion on groundbreaking management techniques (CIMA, 2013a; CMAC, 2009d, 2013a; IMA, 2013a, 2013b). Many of the MAGs feature case studies and practical examples; the Series is international in scope, applicable to any organization worldwide, and; major accounting bodies have endorsed CMAC's strategic-management publications, and sell them in their jurisdictions (CMAC, 2009d). Akin to MAGs, the IMA publishes SMAs, many of which were developed

jointly with CMAC. The SMAs present the views of the IMA regarding M-A and financial management issues, and in their development, SMAs are subjected to a rigorous exposure process (IMA, 2013b). Individual SMAPs are in fact MAGs, which is the name of the SM-A media. Research studies and reports are similar to MAGs (CIMA, 2013a). The MAG definition is akin to the SMAP and SMAT definitions. In this research study, MAGs, through SMAPs, are an essential part of the study.

Management accounting practices (MAP). Management accounting practices, or MA standards (MAS) are tactical and strategic tools and techniques needed to develop, evaluate internal operations, and make decisions within individual organizations. Management accounting bodies stratify MAPs into three categories: cost finding, cost using, and strategic-management control (CMAC, 2009c, 2009h). The MAPs are also presented under six captions: strategic management, risk management and governance, performance management, performance measurement, financial management, and financial reporting (CMAC, 2009c, 2013b). The applicability of a MAP will depend on the circumstances that each organization faces at any particular time (CMAC, 2009c, 2009h, 2013b). In this research study, MAPs are an essential part of the study.

Product costing practices (PCP). Cost management practices involve traditional (e.g., absorption, variable, throughput) and non-traditional (e.g., activity based costing -ABC-, time-driven ABC, or TDABC, target costing, or TC, and net TC) costing approaches that a firm's executives and MAs use (CMAC, 2009c). Whether MAs use any of the approaches mentioned, PCPs are the

practices encompassing the computation of the cost of products using normally either job order costing, or process costing. The calculation of product costs includes direct and indirect costs. Indirect costs comprise the segregation of flexible and committed costs (or capacity-related costs) during the allocation process. Whether FIFO, WA, or SC is used, the conventional practice sets a standard for what is deemed normal spoilage that is part of product costs, whereas abnormal spoilage is treated as a cost of current operations (period cost), not as a product cost (CMAC, 2009c). In this research study, PCPs are an essential part of the study.

Service costing practices (SCP). Whether SCPs results from the accumulation of costs by organizational, or responsibility unit, or by activity, a primary activity can be substituted for an operating department, and the secondary activity can be substituted for a support department. Operating or productions departments perform primary activities. The process that creates the organization's goods, or services consumes such activities (CMAC, 2009c). The costs of such activities may be direct costs attributed to the cost of goods, or services of the producing department, or attributed to other operating or productions departments when readily attributable directly to other organizational units, or to the activities of such units. If a direct cost is a common cost, or the cost of operating a facility shared by two, or more users, the common cost becomes allocatable whether it is the cost of an operating or support department. In all cases, where a support or service department cannot attribute indirect costs directly, the department must allocate such costs to cost objects (e.g.,

organizational unit, activity, and project). Thus, SCPs constitute the set of practices that attribute costs directly, or allocate indirect costs using various allocation methods (CMAC, 2009c). In this research study, SCPs are an essential part of the study.

Statements on management accounting (SMA). The definition of SMA is similar to that of MAGs (IMA, 2013b).

Strategic cost management (SCM). Determining SCM requires an a priori consideration of the central roles of accounting information to facilitate developing and implementing business strategies (Shank, 1989). The role CI plays is in the four stages of SM, strategy formulation, strategy communication, strategy implementation, and strategic control (Shank, 1989; Govindarajan & Shank, 1992). From this role perspective, succinctly, SCM is the managerial use of CI aimed at one, or more of the four stages of the strategic management cycle (Shank, 1989). To this role, the first named scholar (Shank, 1989) applied three themes: Value Chain Analysis (VCA), Strategic Positioning Analysis (SPA), and Cost Driver Analysis (CDA), and the cited duo (Govindarajan & Shank, 1992) reiterated the themes to formulate a framework concerned with the relationship between strategy and M-A. The cited authors (Shank, 1989; Govindarajan & Shank, 1992) refer to this framework as 'Strategic Cost Management', which, at the time represented a new paradigm, and now, is defined similarly still with the three themes. Informed by the named duo (Govindarajan & Shank, 1992), SCM does not have anymore an internal-operations focus adopted in M-A in the eighties stemming from value added analysis—starting with payments to

suppliers (purchases), and stopping with charges to customers (sales)—, but rather a value chain concept guided by a contemporary SMP (Porter, 1980, 1985, 1990) endorsed by the named team (Govindarajan & Shank, 1992). The value chain framework highlights how a firm's products fit into the buyer's value chain, and has an external perspective (Govindarajan & Shank, 1992). Remaining true to its core strategic concept, SCM takes two forms, *structural* [emphasis added] and *executional* [emphasis added] cost management (SLCM, ELCM) (Anderson, 2007; Shank, 1989; Govindarajan & Shank, 1992). First, firm executives and MAs consider at least five strategic choices (Shank, 1989) concerning its underpinning economic structure that drive cost position for any given product group, and is succinctly described as follows. Scale is the size of investment in manufacturing, R&D, marketing, and horizontal integration; scope is the degree of vertical integration; experience is the number of times the firm has done what it is about to do again; technology is process technologies used throughout the value chain, and; complexity is the diversity of line of products, or services. From such structural cost drivers (SLCD) (the five choices) (Shank, 1989), through SLCM, executives and MAs employ tools of organizational design—e.g., determination of firm boundaries, scale, and governance structures—, product design and process design (product, services, corporate and infrastructure services) to build an organizational and cost structure that supports strategy (Chandler, 1962, 1977, 1990). Securing flexibility is about cost using (CMAC, 2009b, 2009c) relative to SLCM and SLCDs (Shank, 1989). Through cost using, executives and MAs leverage flexibility for example, with

various SMAPs (e.g., target costing, activity-based management, Kaizen costing, and time-driven activity-based costing [TDABC]) (CMAC, 2009d; Kaplan & Anderson, 2007a, 2007b). In addition, flexibility also includes for example, the balanced scorecard (BSC), and total quality management (TQM), total quality assurance (TQA), continuous quality improvement (CQI), just in time (JIT), and costing system improvements integrated into ERPs—enabling the implementation of the best M-A tools to attain strategic objectives (CMAC, 2009c). For such reasons, flexibility attracts CMP elasticity, and also helps MAs achieve SA, and meet business' demands (Shank, 1989; Govindarajan & Shank, 1992, Shank & Govindarajan, 1992, 1994). Second, in ELCM, executives and MAs employ common M-A tools, or executional cost drivers (ELCD) (Shank, 1989), not limited to, but including—workforce involvement, TQM, capacity utilization, plant layout efficiency (as does LEAN with value stream mapping [VSM]), product configuration, and exploiting linkages with suppliers and customers—to measure cost performance in relation to competitive benchmarks for continued improvement opportunities and initiatives. Leveraging effectiveness is about cost finding—developing cost information used to inform strategic planning, and monitoring the financial results of implemented strategies (CMAC, 2009c)—where executives and MAs employ ELCDs in ELCM (Shank, 1989), and measure cost performance in relation to competitive benchmarks for continued improvement opportunities and initiatives (Shank, 1989). The effectiveness of CMPs, notable in implementing requirements for existing systems through its main function, cost using—formulating broad costing

principles and classification, determining cost structures, joint costs, indirect costs, support-department costs, and OH costs, including as well, creating cost pools, attributing direct costs to cost objects, determining indirect-cost and OH-cost allocation rates, cost drivers, cost centers, performing job order costing and process costing (product & service), and designing a costing system—is an enabler of strategic management and of internal control and monitoring (CMAC, 2009b, 2009c; Widener, 2007). Strategic cost management is a foundational subdimension of the study and one of its five predictor variables.

Strategic management accounting (SM-A). Originally, one scholar (Simmonds, 1981a) defined SM-A as the provision and analysis of M-A data about a business and its competitors for use in developing and monitoring the business strategy. The scholar saw profits stemming *not* from internal efficiencies, but from the firm's competitive positioning in its market. Strategic M-A is that part of the management process that develops and uses both financial and non-financial information for adding long-term value for customers, shareholders, and other stakeholders in dynamic and competitive environments (CMAC, 2009b). Therefore, the purpose of SM-A is to inform the process of strategic planning, guide the implementation of strategic plans, and monitor the results of implemented strategies (CMAC, 2009b). Strategic M-A is also a form of M-A in which emphasis is placed on information, which relates to factors external to the entity, as well as non-financial information, and internally-generated information (CIMA, 2005). In SM-A, the management accountant engages with the organization's top management team, contributes to strategy

development and implementation with the aim of creating customer value and a strong competitive position for the organization, and enables enhancing business performance (CMAC, 2009b). This segment (SM-A) highlights techniques of VCM and VCA and project management, which have become increasingly important in contemporary operational environments (CPA Australia [CPAA], 2013a). Simply stated, contemporary SM-A is also a set of scholarly SMAPs (i.e., SMAPs definition) that the three main M-ABs have developed (CIMA, 2009c; CMAC, 2009b; IMA, 2013a) allowing the firm to retain a SCA (Porter, 1980). Because SM-A is grounded in SCA, the most important characteristic of SM-A stems from strategic-management control, which provides the appropriate structure, or environment to implement strategy and monitoring its results (CMAC, 2009c). Akin to developing and implementing other best management practice frameworks, through its main characteristics, executives and MAs draw on SM-A (SMAPs)—strategic performance measurement (SPME) process control, cycle time management, standard cost and variance analysis, statistical process control/business analytics (BA), productivity measurement, activity-based management (ABM), transfer pricing, ethics control systems, and operation control systems. In addition, SM-A also includes—objectives alignment and incentive compensation, transfer pricing in regulated environments, reporting organizational unit profit responsibility control, creating and improving customer value, value-chain costing, LEAN and Six Sigma, enterprise risk management, CPRM, project management, value-based management (VBM), corporate governance (CG), and environmental

sustainability (ES)—to create the best context for the firm's strongest competitive positioning and external monitoring (Simmonds, 1981a; CMAC, 2009b, 2009c), and organizational design (Shank, 1989). In this research study, SM-A is an important foundation of the study, and within this context, it is also the use of the best current and most appropriate CMPs, MAPs, and SMAPs; the advancement of SM-A per se (CMAC, 2009a, 2009c), and; an enabler of business strategy, strategic management, and strategic alignment (Simmonds, 1981a). In this research, SM-A represent the study's foundation and nature.

Strategic management accounting techniques (SMAT). Strategic management accounting techniques and SMAPs are different terms with the same meaning. For example, SMATs also include, but are not limited to, activity-based management (ABM), ABC, TDABC, Kaizen Costing (KC), activity-based budgeting (ABB), enterprise risk management (ERM) and financial risk management (FRM), strategy mapping, business continuity management (BCM), organizational restructuring, strategic performance management and measurement (SPM) (Ballantine, Brignall, & Modell, 1998), developing comprehensive performance indicators, customer profitability analysis (CPA), measuring customer value, and monitoring customer value (CIMA, 2009b; CMAC, 2009c, 2009d; IMA, 2013b; Roslender & Hart, 2003). In this research study, SMATs are an essential part of the study.

Strategic management-based costing approach (SMBCA). This costing approach rests on the notion SCM. The approach is informed by the use of strategic-management theories through VCM and VCA (Porter, 1980, 1985,

1990), thus the latter's Five Forces Competition Theory Model (FFCTM), and guided by the works (mostly SCM frameworks) of several scholars (Anderson, 2007; Anderson & Dekker, 2009a, 2009b; Bromwich, 1990; Chenhall, 2008; Galbraith, 2005; Govindarajan & Shank, 1992; Kaplan & Norton, 1996, 2004; Shank, 1989; Shank & Govindarajan, 1992, 1994; Simmonds, 1981a; Sorensen, 2009; Tomkins & Carr, 1996a, 1996b; Wilson, 1995). Management accountants and M-A scholars use the approach (always descriptively, but without a name) relating SCM to strategy development. The SMBCA enables connecting market and competitive analysis that informs strategy development, thus the name SMBCA. Because the foci of value proposition and organizational design define long-term cost structure, the SMBCA has emerged, enabling MAs to engage in SCM of the activated value chain with its contributing stakeholders (Anderson, 2007; Anderson & Dekker, 2009a, 2009b). Through this deployment, MAs require two levels of ongoing analysis: (1) analysis of the sustainability of the value chain, and; (2) analysis of the performance of the value chain, indicating inadequacies in executing the strategy rather than inadequacies of the strategy (Anderson, 2007). The researcher has asked Certified and Chartered Management Accountants and Cost Management Accountants-respondents through the study-survey's instructions to reflect on the SMBCA to potentiate answers to survey questions. In this research study, the SMBCA is one of its important components.

Strategic management concepts (SMC). Strategic management concepts represent a set of strategic-planning constructs and techniques (CMAC,

2007) that originate from a contemporary SMP (Porter, 1980) and the organizational SSS theory (Chandler, 1962, 1977, 1990), and where the concepts help to evaluate competitive conditions and develop strategy, and to establish a SCA (Porter, 1980, 1985, 1990). Other than accounting constructs, SMCs affect strategic alignment independently from the accounting constructs, and include, for example, the Five-Forces Model and STEEP (Social, Technological, Economic, Environmental, and Political) analysis (Porter, 1980, 1985, 1990), the McKinsey 7S framework (McKinsey & Company, 1982), the Strategic Four-Factor Model (Rowe et al., 1999), the Diamond-E Framework (Fry & Killing, 2000), the SWOT (Strength, Weakness, Opportunity, Threat) and PEST analyses (Selznick, 1957), PMI (Plus, Minus, Interesting) (de Bono, 1982) Red and Blue Ocean strategies (Kim & Mauborgne, 2004), the Balanced Scorecard (Kaplan & Norton, 1992, 1996), and the Strategy-Focused Organization (Kaplan & Norton, 2001). Except for Chandler's and Selznick's works, all such concepts are derivatives of Porter's and Chandler's works, but all are major enablers of strategy development, implementation, monitoring, execution, and strategic alignment (Kaplan & Norton, 2001). Through alignment and coherence of the entity's restricted resources, the cited M-A scholars argued that a robust strategy can produce a nonlinear performance breakthrough positing that the creation of a new culture (Schermerhon et al., 2000), based on the requirements of the strategy, facilitates strategy execution and alignment (Kaplan & Norton, 2001). In this research study, SMCs are a foundational subdimension of the study and one of the predictor variables of SA.

Sustained competitive advantage (SCA). Linked to SM-A, SCA represents two types of competitive advantage, cost leadership and product differentiation, which leads to three basic strategies, cost leadership, differentiation, and focus (Porter, 1985).

Summary

Through the overarching constructs of CMPs, SMAPs, and SM—and all definitions—, the purpose and focus of the study were to assess the relationship among SCM, CS, CPRM, and specific SMAPs and SMCs (predictor variables)—and SA (criterion variable), and to determine to what extent SA was affected by the mentioned variables. The lack of good organizational fit (Anderson, 2007; Drury & Tayles, 2005) stemmed from unsatisfactory CMPs and the absence of innovative SMAPs and has spurred the call for this study. Unlike previous research that has focused mostly on information accumulated within costing systems (e.g., Brierley, 2008), this study had a broader perspective adopted to examine to what extent could CMPs, SMAPs, and the firm's SM orientation (SMCs) help a firm achieve greater SA and SCA (e.g., Brierley et al., 2007; CIMA, 2013b; CMAC, 2009c, 2013b; Drury & Tayles, 2005; Porter, 1980).

Using the CTM-A, as have M-A scholars studying different areas of SM-A (Drury & Tayles, 2005; Otley, 1980), was the most compelling theory that has allowed to study and resolve problems of SA from a SM-A and SM perspectives (Drury & Tayles, 2006b). The study variables have allowed for probing of the SMAP dimension and related subdimensions (predictor variables) including value-adding and value-creating SMAPs (Guilding et al., 2000; IMA, 2013b;

Lapsley & Wright, 2004a), and a simultaneous research endeavor never undertaken. Through a quantitative research methodology (Anderson & Widener, 2007; Black, 2009) and correlation design (Keith, 2006; Vogt, 2007), the research survey was an inquiry into quantitative correlation analysis through Spearman r_s for Qs1-2 to test Hs1-2 to determine the strength of any correlation between five predictor variables (SCM, CS, CPRM, and specific SMAPs and SMCs) and the criterion variable (SA). The study has also allowed conducting multiple regression analysis for Q3 to test H3 to determine which predictor variable was most strongly related to the criterion variable (Aczel & Sounderpandian, 2006; Faul et al., 2007; Keith, 2006; Keller & Warrack, 2000).

It is expected that the magnitude of this research will help resolve organizational problems of SA (Drury & Tayles, 2005). In doing so, this research should enable to increase a firm's SCA through superior CMPs and SMAPs (Porter, 1980). This perspective will solidify the comprehensive view that SM-A research has played an important role in the success of businesses (Allen, 2013; CMAC, 2000, 2009b; IMA, 2010).

Chapter 2: Literature Review

The purpose of this quantitative, correlational study is to examine whether relationships exist between the cost management practices of (a) strategic cost management, (b) costing systems, (c) customer profitability management, (d) specific SMAPs, and (e) specific SMCs—and strategic alignment. Through the knowledge of scholars and insights of M-A practitioners, such individuals and the leaders of SM-A bodies (M-AB) have endeavored to create new concepts, designs, and practices, in all, over 1,000 scholarly-based SM-A media (CIMA, 2009a; CMAC, 2009a; IMA, 2009a). The work of such people and organizations have come to bear on what SMAPs and MAPs are, and how management accountants can apply them successfully to actual organizations (CIMA, 2009a; CMAC, 2009a; IMA, 2009a).

Documentation

The general thematic search strategy focused on strategic management accounting, management accounting, and management accounting practices. The search involved queries from sources such as online databases, peer-reviewed articles found in management-accounting research and business-research journals available through university libraries, professional accounting magazines, and SMAPs and MAPs that the three main M-ABs have issued. The research in accounting and finance for the CMP study was conducted over a period of 5 years. The research included using the NCU library and academic resource search engines (ProQuest, Ebrary, ERIC, EBSCOhost, Elsevier, Gale Academic One File, SAGE Journals Online, SAGE Knowledge, ScienceDirect,

Wiley Online Library), the scholarly proprietary websites (membership required) for CMPs, MAPs, and SMAPs of the M-ABs (CIMA, CMAC, IMA), the AAA, AICPA, CPAA, and IFAC, and numerous peer reviewed journals, handbooks, and encyclopedias both online and in print. Key words included accounting practices, cost, costing, costing systems, customer profitability management, management accounting practices, management leadership, performance management and measurement, strategic cost management, strategic management, strategic management accounting practices, strategic management concepts, and value chain management and analysis.

Some of the diverse sources were seminal, and thus, older; however, the majority represented recent sources within the past five years. As one preeminent M-A scholar affirmed, there remains a substantial scarcity of M-A articles in the main U.S. accounting research journals that makes this dearth relevant to this review (Merchant, 2010).

Costing Systems

While one theorist focused on the impact of environment and technology on organizational structure (Galbraith, 1973), a trio first advanced and used the contingency theory of management accounting (CTM-A) (Dermer, 1977; Horngren, 1972; Otley, 1980). Otley drew on the latter's work (Galbraith) to investigate the importance of environment, technology, structure and size to the design of management control systems (MCS) as predictor variables (Otley, 1980). The latter set the foundation for MCS and for the mentioned related

variables enduring the test of time as a premise for earlier and later related research (Brierley, 2008).

Through the investigator's research (Otley, 1980) and that of colleague, the pair identified four characteristics of controlled processes for accounting information systems (AIS), including costing systems, that are necessary for effective organizational control (Otley & Berry, 1980). Such characteristics are: to specify an objective; measure the degree of objective attainment; devise a predictive model of the outcomes of control actions; and develop the ability to, and motivate to act (Otley & Berry, 1980). At the time, the M-A scholars posited that it appeared there was a prima facie case for the CTM-A. Over time, the use of this model has ensured that all stages of the control process have been considered in different areas of M-A, and the use of the CTM-A has proliferated among M-A researchers (Brierley et al., 2001, 2006, 2007; Drury & Tayles, 1995, 2000, 2005; Shank, 1989).

More recently, another M-A scholar has adopted the CTM-A for research related to MCS (Chenhall, 2003). In addition to the mentioned variables, Chenhall examined strategy and national culture with closing remarks on theory-development issues and contingency-based theories. Possibly the most important new stream of literature has related to the role of strategy (i.e., strategic alignment) suggesting important links between strategy, the environment, technology, organizational structure, and MCS (Langfield-Smith, 1997). In conducting such research, the mentioned M-A scholars have made both the CTM-A research approach and the importance of strategy proliferate by

interpreting the specific role of strategy within MCS, an area considered by other M-A scholars (Brierley, 2008; Drury & Tayles, 2005).

Relative to MCS and costing systems, Chenhall (2003) rationalized MCS-research findings as a series of propositions. The organizational framework adopted by Chenhall was informed in large part by the work of Langfield-Smith (1997) on the strategy linkage with the environment, technology, organizational structure, and MCS. Such propositions are presented below (paraphrased to save space) for each the variables previously mentioned (environment, technology, structure, size, strategy, and national culture), addressed theory-development issues, and defended contingency-based theories, all providing opportunities for future research. The external environment (EE): The more uncertain the EE the more open and externally focused the MCS, and the more hostile and turbulent the EE the greater the reliance on formal controls. The advanced technologies (AT): TQM is associated with broadly based MCS (i.e., costing systems as well) including timely, flexible, externally focused information; the AT of JIT and flexible manufacturing systems (FMS) are associated with broadly based MCS, and; researchers conducting MCS research over the past 20 years have developed the raison d'être for AT such as JIT, TQM, FMS, advanced manufacturing technology (AMT), and benchmarking, as dimensions of context. The organizational structure: Large organizations have more decentralized structures associated with more formal, traditional MCS (e.g. budgets, formal communications), and decentralization is associated with the MCS characteristics of aggregation and integration. Size: Large organizations

are associated with more diversified operations, divisionalized organizational structures, and with an emphasis on and participation in budgets and sophisticated controls. The role of strategy linkage (Langfield-Smith, 1997) is in synchronization with the work and SMP of Porter on SA and SCA (1980, 1985, 1990), and also represents the level of relationship between CMPs and SMAPs, and SA (CMAC, 2009c).

Related to the strategy and national culture, Chenhall (2003) posited as follows. Strategy: Defender orientations and cost leadership are more associated with formal, traditional MCS focused on cost control, than entrepreneurial, build and product differentiation strategies; competitor focused strategies (product differentiation) are associated with broad scope MCS for planning purposes, and customization strategies are associated with aggregated, integrated, and timely MCS for operational decisions, and; defender and harvest orientations with related cost leadership are associated with formal performance measurement systems. National culture: Given the lack of consensus on findings, a general proposition relating culture to MCS is that national culture is associated with the design of MCS. On theory-development issues, the researcher posited: There has been the use of powerful structural equation models (SEM), such as EQS, LISTREL, AMOS, and PLS, to enable the fabrication of latent variables from multi-item questionnaires, and to simultaneously identify statistical significance with multiple dependent variables (Anderson & Young, 1999; Shields, Deng, & Kato, 2000). The alignment of Chenhall's work with the mentioned investigators was significant especially on

contextual and process factors for ABC systems, and the design and effects of models on MCS. On the contingency-based theory: Chenhall examined a considerable body of literature on contingency-based research and argued that this research, or the CTM-A provides a basis to persist with such research approach to uncover generalizable findings that can ameliorate intended organizational outcomes.

Adopting the CTM-A stream of research related to MCS (Chenhall, 2003), two researchers examined various variables (factors) that affect the characteristics of product costing systems (Al-Omiri & Drury, 2007). The authors went beyond investigating the traditional adoption or non-adoption of ABC systems (Drury & Tayles, 2005; Innes, Mitchell, & Sinclair, 2000) considering all types of costing approaches (e.g., direct, absorption, and variable costing), and used alternative proxy measures to identify the characteristics of product costing systems. The duo (Al-Omiri & Drury, 2007) viewed product costing system design choices as varying along four dimensions: the number of cost pools, the number of different types of cost drivers used in the second stage of the two-stage overhead assignment process, the types of second stage drivers used, and the extent to which direct assignments or resource drivers are used in the first stage of the allocation process. The examination provided new insights of such dimensions through nine predictor variables: importance of cost information, product diversity, cost structure, intensity of the competitive environment, size of the organization, the quality of information technology, extent of the use of innovative management accounting techniques, extent of use of lean production

techniques (including JIT techniques), and business sector. With a sample of 176 respondents (CMAs) from the CIMA roster, and using multi-question Likert-type 7-point scales to derive composite scores for each variable, the variables posted Cronbach's α ranging from 0.53 to 0.87 with seven of them in the 0.70 and 0.80 ranges. For both cost pools and cost drivers, the researchers used multiple regression analysis. The overall model was significant for both models (cost pools and drivers) (F ratio p-value = .000) with respective adjusted R^2 of .19 (cost pools) and .22 (cost drivers). For example, the importance of cost information ($p < .05$ for number of cost pools and $p < .01$ for number of different types of cost drivers) resulted in p-values of .021 and .001. For the intensity of the competitive environment, p-values were respectively .001 and .006. For size, p-values were respectively .001 and .000. Thus, other than for ABC purposes (Ittner, Lanen, & Larcker, 2002), the somewhat controversial, distinguishing feature of the research led to robust results considering the use of the mentioned predictor variables. Such variables go back the foundational validated survey of the CMP study (Drury & Tayles, 1994a).

Using Simons' levers of control (LOC) framework (1995, 2000) consisting of four control systems: beliefs, (e.g., core values), boundary (e.g., behavioral constraints), diagnostic (e.g., monitoring), and interactive (e.g., forward looking, management involvement), Widener (2007) demonstrated how the four systems work together. The author confirmed that MCS provide management executives and MAs with information useful in decision-making, planning, and evaluation (Merchant & Otley, 2006) with multiple control systems working together (Otley,

1980). Through data used from a survey of 122 Chief Financial Officers (CFO), the researcher tested a structural equation model (SEM) that related strategic risk and uncertainty to control systems (i.e., beliefs, boundary, diagnostic, and interactive control systems). The systems were hypothesized to affect learning and attention, and ultimately firm performance. The aim of this study was to use the LOC framework to investigate the antecedents of control systems (i.e., strategic uncertainties and risks); the associations among the control systems; and the costs and benefits of control systems (management attention, learning, and firm performance). While several lines of research were investigated, the most pertinent was that of the alignment between strategy and a firm's MCS (e.g., akin to CMPs and SMAPs, and their SA). Not without controversy, it was then argued that strategy constructs are outdated (Chenhall, 2003), hence, the need to pursue two elements of strategy that play a central role in the LOC theory, strategic uncertainties and strategic risks (Simons, 2000). The four control systems were use to determine to what extent such systems (independent variables) affected the outcomes of management attention, learning, and firm performance (dependent variables) by using AMOS 4.0 software program. In doing so, Widener brought forward a macro view of the LOC, a broad perspective of the results, and provided empirical evidence that the LOC framework elements of strategic uncertainties and strategic risk drive the importance and role of control systems. Evidence was also documented so that each of the diagnostic and beliefs systems (e.g., beliefs, etc.) facilitates the efficient use of management attention, while the interactive system consumes

management attention (i.e., a *cost* [emphasis added] of control). Organizational learning is enhanced by emphasis on the beliefs system as well as use of the diagnostic system. Both organizational learning and attention are positively associated with performance. Finally, the author found that the interactive system influences the diagnostic and boundary systems and the beliefs system influences each of the three other systems. Thus, control and costing systems are a part of MCS (CMAC, 1985; Govindarajan & Shank, 1992), and essential in decision making and planning (CMAC, 2007; IMA, 2000).

The level of sophistication of costing (product & service) systems is a common thread relative to the effectiveness of CMPs (Brierley, 2008, CIMA, 2008). Based on prior field research studies (Al-Omiri & Drury, 2007; Brown, Booth, & Giacobbe, 2004), among 16 definitions of sophistication, the three main ones were (1) the assignment of indirect overhead costs to product costs, (2) the inclusion of all costs in product costs, and (3) the understandability of product costs by non-accountants (Brierley, 2008). The common thread is critical in reflecting the nature of the firm to: (a) identify opportunities that reduce costs; (b) meet individual needs and characteristics, and; (c) help achieve strategic goals, making the desired level of sophistication somewhat difficult to achieve (CMAC, 2002a). Such level relates to SMAP conditions and contextual factors that influence that level (Drury & Tayles, 2000, 2005; Al-Omiri & Drury, 2007). Sophistication and SCM are important elements of change that must be ingrained in the organization's culture for sophistication to flourish (Brierley,

2008, CIMA, 2008; CMAC, 2002a), including cost system integration (IMA, 2000).

The degree of complexity of cost systems is different from sophistication, and varies along a continuum ranging from very simplistic to highly complex costing systems (Brierley, 2008; Drury & Tayles, 2005). Such systems improve the quality, flexibility, and responsiveness of information systems supporting strategic decision making (CMAC, 1999a; IMA, 1999) enabling, or inhibiting the implementation of CMPs and the CMP-process redesign (CIMA, 2008; IMA, 1999). More significant to complexity and cost management information, is the examination of factors such as cost structure, competitive environment, product diversity, degree of customization, size of the organization, importance of cost information for decision making, and the industry sector within which an organization operates (Drury & Tayles, 2005). Thus, for the system to have a cause-and-effect on SCM, CMPs, and ultimately on strategic alignment, the system must be complex enough to allow capturing activities for two types of resources, (a) capacity resources (tagged capacity related costs), and (b) flexible resources (called flexible costs) (CMAC, 2002a). The different interpretations of the dichotomous dependent variables and the lack of consistency in identifying contextual variables and their measurements has resulted in a lack of coherence in the study of elements of product costing systems and contextual variables, and in the findings of the previous studies (e.g., Bjornenak, 1997; Malmi, 1999; Hoque, 2000a, 2000b; Krumwiede, 1998). Hence, a clear picture never emerged. Future research is required to ascertain whether Drury and Tayles'

assumption that smaller companies employing less than two CIMA qualified accountants (CMA) tend not to establish formal costing systems. This proposition is contingent upon obtaining the appropriate demographic information.

In this study, management-accounting scholar Brierley's (2008) purpose was to determine empirically that product system sophistication (PSS) relates to more than just indirect OH costs in product costs as some other scholars had advanced (Drury & Tayles, 2000, 2005; Al-Omiri & Drury, 2007). The named researcher used all CMA-members of CIMA working in independent operating units, and yielding 280 usable responses. Investigator Brierley conducted 55 interviews, and used meta analysis to qualitatively analyze interview data (Miles & Huberman, 1994; Strauss & Corbin, 1998). The cited scholar examined 48 peer-reviewed articles dealing with PSS, and was also informed by the works of many scholars from previous studies (Abernethy, Lillis, Brownell, & Carter, 2001; Al-Omiri & Drury, 2007; Atkinson et al., 2007; Drury & Tayles, 2000, 2005, 2006b; Horngren et al., 2006; Merchant & Van der Stede, 2006). Brierley used objective measures based on the number of cost pools, or cost drivers to define and measure sophistication, and sophistication accuracy, and discovered 16 different definitions of sophistication through which he illustrates that the attention given to OH costs in product costs is overstated, and that cross-sectional field study research enhances researchers' and MAs' understanding of a specific research area.

Customer Profitability Management

One scholar addressed simultaneously lifecycle costing analysis (LCCA) through the factors of customer profiling, competitive advantage, and quality of information system (Dunk, 2004). Subservient to lifecycle costing (LCC), the same researcher suggested that such factors potentially influence the extent to which firms used LCCA, and by ricochet, the use of several CMPs (Dunk, 2004). Thus, LCC and LCCA depend on: (a) a good accounting and costing system (Dunk, 2004; CMAC, 2009c, 2009f), or enterprise resources planning system (ERPS) (Ewert & Wagenhofer, 2006); (b) its sibling-function, lifecycle management for combining all strategic management processes (IMA, 2000), and; (c) greater reliance on M-A system (MAS) information (Moores & Yuen, 2001), all enablers of LCCA (Dunk, 2004). Unequivocally, LCCA is virtually unreliable without sound system information that allows identifying the nature and timing of costs for effective planning and control (CMAC, 2009f). As such, LCC and LCCA are effective value-creating SMAPs (CMAC, 2009b, 2009c; Govindarajan & Gupta, 1985; Shank, 1989).

The contribution to theory and practice of elaborated cost accounting systems (CAS) has been widely addressed in support of the efficacy of GPK and EDR through ERPS (Ewert & Wagenhofer, 2006). Other scholars enabled a better grasp of accounting in the German arena and language and the role of Controlling, or M-A (Evans, 2005; Kupper & Mattessich, 2005; Schaffer & Steiners, 2005). In light of the recent development of resource consumption accounting (RCA), the duo (Ewert & Wagenhofer, 2006) denoted that several

experts have acknowledged that U.S. MAS are not as sophisticated as those in some other countries because of the powerful subservience to financial reporting (i.e., part of F-A) (CMAC, 1999a, 2002d; IMA, 1999, 2000).

Through their research and survey, Ewert and Wagenhofer (2006) discussed the value and widespread use of SMAPs such as ABC (variants), TC, and LCC, and discussed their (SMAPs) intended and potential applications, and those of others, too many to mention. In addition, the named investigators provided a survey of the use of SMAPs that included a bevy of practices that attracted an interest in profitability, or TC and CPRM (CMAC, 2000; IMA, 2010), and observed on their applications in German firms. The cited M-A scholars observed that German M-A has a strong quantitative bias, which mirrors the research that has been published in the major German academic journals and in leading textbooks. German M-A, the mentioned theorists argued, is developed from F-A, production theory, and more recently, from information economics, and finance. Little research has been conducted using qualitative methods in M-A. The cited M-A scholars opined that the issue of subservience of MAS in the U.S. would necessitate the integration of elements of German CAS into U.S. systems; and MAs agree based on their SAP experience (CMAC, 1999a; IMA, 1999). The named authors' evidence merits analyzing problems of decision and control independently from issues of F-A, and MAs anticipate that, in the next years, North American MAS and others from other countries will import some of the techniques and ideas embedded in German CAS (CMAC, 1999a, 2002d, 2009c, 2012b; IMA, 1999, 2000).

The U.S. SMAPs have encapsulated new concepts and practices revolving around SM-A. They include, for example, LCCA and CPRM (CIMA, 2009c; CMAC, 2009d; IMA, 2010, 2013b; Moores & Yuen, 2001). In separate studies, profitability analysis (i.e., management) was ranked respectively third out of 43 MAPs (Chenhall & Langfield-Smith, 1998), as one of the two most new product costing methods for decision support (Lukka & Grandlund, 1996), and the most widely used practice among 11 MAPs relating to the use of ABC (Al-Omiri & Drury, 2002).

Strategic Cost Management

From cost analysis (Davidson, 1963) to SCM as contributions to M-A, we have had "new wine" rather than "old wine" recycled in "new bottles", Shank argued (1989). The introduction of SCM epitomized contemporary M-A (Shank, 1989) with its still prevalent SCM framework of three concepts (Anderson, 2007; Anderson & Dekker, 2009a, 2009b). From the use of the CTM-A, and taken from strategic management literature with a value chain concept guided by a contemporary SMP (Porter, 1980, 1985, 1990), emanated the three concepts or themes that Shank enunciated: value chain analysis (VCA), strategic positioning analysis (SPA), and cost driver analysis (CDA). As such, SCM became a benchmark used by many M-A scholars (Widener, 2007). Grounded in its core strategic concept, SCM took on two forms, structural and executional cost management (SLCM, ELCM) (Anderson, 2007; Anderson & Dekker, 2009a, 2009b; Shank, 1989; Govindarajan & Shank, 1992). At time of publication, SMC could not be accommodated using conventional M-A concepts and practices

(Shank, 1989), but time has changed all of that putting SMC at the forefront of MAPs (CIMA, 2013a; CMAC, 2002a, 2009c, 2013a, 2013b; IMA, 2013a). Although other potent practices exist such as TC, LCC, ABC, Kaizen costing, and LEAN (CMAC, 2002c, 2002d, 2009f, 2012a; IMA, 2006), SMC has remained a standalone best practice in aiding enterprises conducting successful business (CIMA, 2009a; CMAC, 2009a; IMA, 2009a; Widener, 2007). With a colleague M-A scholar, Shank later reiterated the themes and the framework concerned with the relationship between strategy and M-A (Govindarajan & Shank, 1992). In that regard, SCM remains one of the best M-A tools (CMAC, 2002a, 2002b, 2012a) enabling the attainment of strategic objectives (CMAC, 2009c).

One M-A scholar took on the challenge to write about SCM in M-A research journals with an emphasis on SLCM in what many experts believed happened predominantly outside the field of accounting (Anderson, 2007). In this research, Anderson elected to align one of the traditional dimensions of SCM, the firm's cost structure with its strategy, and optimized firm performance of the strategy through a seminal model anchored in the full value chain rather than just the production portion (Porter, 1980). The researcher distinguished two forms of SCM, SLCM, and ELCM. In the first form, SLCM, the author employed cost management tools of organizational design to build a cost structure coherent with strategy through the determination of firm boundaries, scale, governance structures, product design, and process design. In an effort to measure cost performance in relation to competitive benchmarks to realize improvement opportunities, in the second form, ELCM, the researcher used cost

management's common M-A accounting tools clearly delineating the two types of SCM. Still focusing on the production aspect of the value chain for a significant period (Bromwich, 1988, 1990; Bromwich & Bhimani, 1989), little change occurred over more than 20 years (Roslender & Hart, 2003), which caused Anderson to address all portions of the value chain. This approach, argued Anderson, constituted a departure from tradition and a different perspective of SCM. Vividly related to the CMP study's concept of SA, the work of Anderson was important in associating concepts of SCM with the overarching principle of enabling MAPs and CMPs to determine their SA with strategic and organizational goals and design (Anderson, 2007), and SCA (Porter, 1980, 1985, 1990).

Two M-A researchers (Anderson & Dekker, 2009a, 2009b) have chosen to address the broader stream of research of SCM found in choices about organizational strategy and structure, and take up the prescient challenge of SCM throughout the value chain (Shank & Govindarajan, 1992, 1994; Porter, 1980). Deliberately aligned towards the firm's cost structure and its strategy only as part of long-term profit maximization and short-term tactics rather than detecting the economics of the strategy through accounting records, the two researchers posited strongly for a strategic management (SM) approach. In lieu of supporting a stream of research that favored how firms configure accounting data to support VCA (Tomkins & Carr, 1996a, 1996b), and deriving the relationship between strategy and cost structure for accounting purposes (Ittner, Larcker, & Randall, 1997), the researchers focused on SM and structural cost management (SLCM). Through recent research in accounting, operations

management, and business strategy, the two researchers provided insights into SCM, and defined the scope of their inquiry through the value-chain elements of and SLCM decisions of sourcing, supplier selection, and design of supply relationships; and examined SLCM issues of joint product and process design between buyers and sellers. The authors concluded and confirmed that advances in SLCM oftentimes occurred outside of accounting (Anderson, 2007) with a disproportionate attention given to executional cost management (ELCM) by accountants (Bromwich & Bhimani, 1989). The authors addressed the two types of risk underlying transaction cost economics (TCE) concerns (Williamson, 1985) about opportunism and coordination failure of supply chain: relational risk and performance risk (Das & Teng, 2001). Relative to performance risk, supply chain professionals identified three most significant risks: supply chain disruption—caused by supplier failure, logistics failure, natural disaster, or geopolitical event—; weak senior leadership in supply chain management (SUCM), and; the absence of accurate, timely, supplier performance measures (O'Keefe, 2004) with more than 75% of managers, indicating in a recent survey, they believe that supply chain risk has increased significantly since 2006 (McKinsey & Company, 2008). The M-A scholars' choices present a cogent confluence relative to the objective and raison d'être to include SCM in any new research.

In their continued research of SCM in supply chains, Anderson and Dekker (2009b) took up executional cost management (ELCM) of buyer supplier relationships. As opposed to SLCM, ELCM is better known and practiced, and

comprises assessing transaction-level and relationship-level performance, and the sustainability of the supply partnership in the context of the full value chain. In this part 2, using the same broader stream of research of SCM (i.e., as in part 1) (Shank & Govindarajan, 1992, 1994; Porter, 1980), the authors turned to the two major components of ELCM: (1) measuring, evaluating, and improving supply chain transactions and relationships, and; (2) assessing supplier health and the long-term sustainability of supply relationships. Such components and executional cost drivers were the focus of the research, and reflect the efficacy and efficiency of executing the strategy. The researchers (Anderson & Dekker, 2009b) examined the more controversial area of the firm being on the efficient frontier linking SLCM and ELCM, and positing that cost driver analysis is a catalyst for both improving existing processes (i.e., ELCM), and for reengineering processes to create a different cost structure (i.e., SLCM) (Tomkins & Carr, 1996b). Through the emphasis of creating SCA (Porter, 1985), and recognizing opportunities for SCM are often at the boundaries of the firm (Shank & Govindarajan, 1992, 1994), the authors' focus on ELCM applied to suppliers of direct and indirect materials. The researchers heightened the dynamic use of performance data and measurement systems to improve performance by clarifying expectations of exchange partners through setting goals, promoting goal-directed behavior, reducing ambiguity about outcomes, and enhancing feedback and learning (Mahama, 2006). As one aspect of financial performance measurement, it was determined that the total cost of ownership (TCO) is an important innovative cost analysis, including hidden costs, although TCO is a

fertile area of research. The authors posited that both financial and nonfinancial types of performance measurement create a more balanced approach to performance measurement, as in the case of Sun Microsystems using a balance scorecard to calculate a supplier's TCO based on performance against nonfinancial performance goals (Farlow, Schmidt, & Tsay, 1996). Concerning the top four measures of on-time delivery, quality, service, and price, more than 25% percent of firms that measure supplier performance also measure compliance with contract terms, responsiveness, lead time, technical capability, environmental and safety performance, and innovation (Aberdeen Group, 2005).

Strategic Management Accounting Practices

A duo of preeminent M-A scholars have argued that theory, method, methodology, and knowledge gains in qualitative research studies (including content analysis) in M-A are intertwined through the ongoing hypothesis development in the field (Ahrens & Chapman, 2006). Two strong advocates of quantitative research provided practical guidance to M-A researchers on the design and execution of quantitative research studies to test, or build theory (Anderson & Widener, 2007). Positivistic and qualitative studies deserve each other, argued the first team (Ahrens & Chapman, 2006). As summed up from academic research, small-N qualitative research is most often at the vanguard of conceptual development (Flyvbjerg's, 2001). For example, qualitative studies have allowed conducting research on managing costs and cost structure throughout the value chain (Anderson, 2007; Anderson & Dekker, 2009a, 2009b)

while quantitative research studies enhance the power of the test, or the likelihood of revealing new theoretical relationships (Anderson & Widener, 2007).

Three M-A researchers studied PCPs in Europe on product cost structures and the bases used to calculate overhead rates (Brierley et al., 2001, 2007). The same scholars also compared PCPs among four industries including, for example, dealing with cost systems and the adoption of ABC (Brierley et al., 2001, 2007). In related research, the same researchers also compared PCPs in two different manufacturing settings (processes) demonstrating that different settings can yield varied results (Brierley et al., 2006). Two other researchers addressed OH allocation systems and whether costs are borne centrally, or by departments, a recurrent controversy in academic literature (Brown & Brignall, 2007; CMAC, 2009g). It became apparent that explaining cost-efficiency differences through a quality of service variable (Brown & Brignall, 2007) is akin to whether applying OH rates for business-sustaining costs supporting the organization's broad operations despite the chosen CMP (CMAC, 2002a, 2002b). The five researchers' (Brierley et al., 2001, 2006, 2007; Brown & Brignall, 2007) and CMAC's works are contiguous to the study of another trio of scholars who appraised the incidence of a variety of SMAPs across three main western economies identifying 12 SMAPs created through M-AB-funded research (Guilding et al., 2000), and where SMAPs work in continuous-process environments (Reeve, 1991). Another duo of scholars investigated the associated design of the control structure through the setting of an observed LEAN initiative tackling the omnipresent issue of standard costing in costing

practices, and representing that standard costing and associated reporting do no furnish functional information anymore (IMA, 2006; Kennedy & Widener, 2008).

Relying on a theory-testing, or theory-development logic, or a balanced emphasis on both (mixed methods), another preeminent M-A scholar has distilled the complex issues related to the different research approaches, rationalizing and exhibiting a preference for mixed methods research (Modell, 2005), and considering earlier M-A research in North America (Shields, 1997). Another duo of researchers conveyed a value-based management perspective to M-A research (Ittner & Larcker, 2001). Other academics have argued for SM-A field research, and condemned other forms of research only focusing on narrow topics, and on statistical significance (McKelvey & Andriani, 2005). Given the confluence observed through such sources, it is observed that more than one research methodology has been successfully used in M-A research.

Two scholars (Anderson, 2007; Chenhall, 2008) established the connectedness between research works on SMAPs and strategic alignment—and the SM-based costing approach (SMBCA) entrenched in the study—and this CMP-study survey, exemplifying this relationship. The first M-A researcher (Anderson, 2007) reaffirmed the integrating perspective of M-A to strategy development (SD) and the alignment of SCM to SD, describing how PCPs fall within the boundaries of the firm's value chain (Anderson, 2007). The second scholar (Chenhall, 2008) demonstrated the notion of the role for M-A in the design and application of the horizontal organization (HO) (Chenhall, 2008). While considering foreign studies, three Chinese scholars (Chow, Duh, & Xiao,

2007) researched not only the stage of advancement of M-A, but also the lack of information and communications technology (ICT) in the education system of MAs and the relatively-small number of Western-country designated, China-based CMAs. To verify if the disparity in survey responses between the Chineses and this study, if any, is due to economic and cultural conditions, CMA-respondents from China will be used (Chow et al., 2007). Another researcher (Dhavale, 2007) showed that product costing and pricing in a variable-proportion environment (VPE) are difficult, or impossible to approximate by fixed-proportion methods without causing significant pricing errors while a generic activity-dictionary-based method facilitated product costing (Chen & Wang, 2007). Considering the researcher's results have failed to determine the impact of the quality of a product on its price in a VPE, the TQM element remains important in any new research examining MAPs and CMPs (Dhavale, 2007).

Rooted in the CTM-A, a study of 58 SBUs, with 100% of SBUs surveyed, confirmed the relationship between resource sharing (e.g., cost associated with the use of SMAPs) and competitive advantage (i.e., SA), the need for the use of SCM, VCA, SPA, and CDA, and the implementation of both value-adding and value-creating SMAPs for greater SA (Govindarajan, 1986; Govindarajan & Gupta, 1985; Gupta & Govindarajan, 1984, 1986; Shank, 1989). The subject of decentralization and SBU strategy had not been addressed thus far (Govindarajan, 1986), and this research extended the contingency theory linking decentralization to strategy from the interfirm (i.e., corporate) to the intrafirm (i.e., SBU) context. The aim of the research has a dual context. First, the build-

harvest continuum (Govindarajan & Gupta, 1985; Larreche & Srinivasan, 1982). Second, the authors discussed competitive strategy within the framework of Porter's (1980) low cost-differentiation generic types, and Miles and Snow's (1979) prospector-defender continuum. The transfer of empirical evidence, indisputable in the choice of strategies, applies to the analogy of not only adopting SCM, VCA, SPA, and CDA, but also of choosing between value-adding SMAPs (low-cost strategy) and value-creating SMAPs (differentiation strategy) to achieve SA (Shank, 1989). The relevance of cost analysis and transition from cost accounting to managerial cost analysis emphasize the merits of SCM, and thus, the enabling of SA (Anthony, 1956; 1965; Anthony, & Reece, 1988; CMAC, 2009b, 2009c; Davidson, 1963; Shank, 1989; Simmonds, 1981a). Such SMAPs as lifecycle costing (LCC), TC, activity-based costing (ABC), and others have enabled MAs assessing how SMAPs relate to SA (Govindarajan, 1986; Gupta & Govindarajan, 1984; Shank, 1989). Thus, based on the relationship between the SBU's strategy and internal organization, conclusions are likely to be more *actionable* [emphasis added] (e.g., the case of Texas Instruments implementing a build mission with a low-cost, competitive strategy). However, the M-A scholars recommend further theoretical, methodological, and empirical research be it only to effectively implement any given strategy by examining how management executives and MAs could substitute different elements of organizational structure such as decentralization, formalization, complexity, and administrative intensity (Ford & Slocum, 1977) for greater execution.

In other studies using the same 58 SBUs, all SBU respondents also affirmed not only the relationship between resource sharing and competitive advantage (i.e., SA), that is the need for SPA, the use of SCM, but as well the implementation of both value-adding and value-creating SMAPs such as LCC, TC, and ABC (Govindarajan & Gupta, 1985; Gupta & Govindarajan, 1984, 1986; Shank, 1989). When using a build strategy (differentiation strategy), the choice of this strategy (using value-creating SMAPs) correlates positively with effectiveness (i.e., SA) (Pearson r= 0.49; p<0.001). In other words, as anticipated by Govindarajan and Gupta (1985), the strategy index correlated positively with expectations of an increase in market share (i.e., effectiveness, or SA). Thus, linking control systems (i.e., value-adding and -creating SMAPs) to SBU improvement on performance (i.e., SA) enables SA (Govindarajan & Gupta, 1985).

In another seminal study about management accounting practices (MAP), the assignment of overheads to products using blanket overhead rate was found to represent a significant minority of 26% in process manufacturing with differing production departments in different proportions, this fact pointing to the deficiency in cost drivers, type and rate, and the need for a better choice of appropriate MAPs and SMAPs to increase SA (Drury, Braund, Osborne, & Tayles, 1993). In another study of MAPs and a comparison of product costing practices (PCP) in manufacturing units, which use either discrete-part and assembly manufacturing, or continuous production, three M-A scholars conducted research in this area (Brierley et al., 2006). Given there had been no

prior research where investigators examined whether PCPs in general vary between these manufacturing environments, the trio's objective was to undertake exploratory research to compare PCPs of manufacturing units in Great Britain which use the two manufacturing processes to test if the practices vary between these types of manufacturing. Results did not support the notion of differences in PCPs between these two environments (Brierley et al., 2006). For example, out of 243 respondents using production department rates as an overhead cost allocation and assignment method, 44 respondents or 46.3% in discrete-part manufacturing, and 53 respondents or 49.1% in assembly manufacturing used this method. Due to questionnaire scope limitation, it was unclear as to why such differences arose, and further research is needed (Brierley et al., 2006).

In a study dealing with overhead absorption and related to the contingency stream of research, one of the aims of the study was to examine the extent to which different explanatory variables influence the level of complexity of product costing system design choices in assigning indirect costs to cost objects (Drury & Tayles, 2005). Another investigator (Brierley, 2008) argued that all of previous research into costing system complexity and sophistication was in comparing ABC systems and non-ABC systems, and later as methods of assigning indirect overhead costs to product costs (Abernethy et al., 2001; Al-Omiri & Drury, 2002, 2007; Drury & Tayles, 2000, 2006b). The likelihood of alternative definitions of sophistication was not considered (Brierley, 2008), and the latter M-A scholar undertook broader research into definitions of complexity and sophistication. Whether derived from a database maintained specifically to enable system

design choices for indirect cost allocation, or from a general single database, the findings of this study (Drury & Tayles, 2005) related only to the accumulation of costing information extracted for decision-making purposes. Given that orientation, only 9% of 187 respondents indicated their business units maintained separate database for accumulating cost for decision making and stock valuation, a clean demarcation lacking focused cost information to perform profitability analysis, and increase profitability and SA (Drury & Tayles, 2005). For example, using MLR, the annual sales contextual variable relative to the costing structure variable (predictor variable) posted a Pearson r of 0.593 with a $p < 0.01$ confirming the correlation between the variable and the costing system complexity (the outcome variable) and the hypothesis that ABC is best for firms with larger annual turnover, a value-creating SMAP that enables greater SA, and validating the use of such diverse SMAPs to enhance SA (Drury & Tayles, 2005). As an example of cross-sectional field study research (Lillis and Mundy 2005), Brierley (2008) provided an alternative analysis of the study of the sophistication of product costing systems identifying several definitions (16 in total), thus enhancing understanding of this research area.

Value-creating SMAPs recognize exogenous changes in the environment viewed from two economic theories (Bromwich, 1990; CMAC, 2009b). Under the first theory, products and their characteristics are allowed to be considered as economic goods and to be seen and desired by the consumer not for themselves but rather for the underlying attributes or characteristics they provide to the consumers who seek to incorporate these attributes into models of market

equilibria (Lancaster, 1966, 1979). Under the second theory of contestable markets enables presenting the conditions for a firm's price and output strategy to be sustainable in the face of potential competition, the theory concentrates on cost conditions, and extends cost analysis beyond the firm and reporting on the cost structure of rival enterprises (Baumol, 1982; Baumol, Panzar, & Willig, 1988; Manes, Chen, & Greenberg, 1985).

Under such theories, value-creating SMAPs have the characteristics to produce the appropriate structure or environment for strategy implementation, support implementing strategic plans, and to monitor the financial results of implemented strategies (CMAC, 2009c). Such SMAPs are designed to and enable rectifying the lack of SA, and are implanted into M-A systems and SCM, and embrace, for example, attribute analysis and costing, brand value budgeting and monitoring, competitor cost assessment, competitive position monitoring, lifecycle costing, quality costing, strategic costing, strategic pricing, evidence-based decision making, ABC, activity-based management (ABM), total quality management (TQM), JIT, target costing (TC), economics-based transfer pricing, management of internal control, benchmarking management, distribution channels management, value chain management and costing, customer value management, customer profitability analysis, strategic partnering, supply chain management accounting, financial and enterprise risk management, cost of capacity measurement, product lifecycle management, environmental accounting, and accounting for sustainability (Atkinson et al., 1997; Bromwich,

1990; CIMA, 2013a; CMAC, 2000, 2009b, 2009c, 2009d, 2009e; Guilding et al., 2000; Kaplan, 2006; IMA, 2010, 2013a; Marr, 2009, 2012a, 2012b, 2012c).

Although M-A researchers Grandlund and Lukka (1998a, 1998b) had a greater interest in the similarities of MAPs across countries, the investigators studied differences in national cultures, and not only those forces that cause convergence, but also studying the drivers of divergence of MAPs. The M-A scholars posited that lack of analysis of convergence of MAPs and associated findings stimulate and challenge studying national cultural differences (Adler, 1991; Goddard, 1997). The M-A scholars heavily leaned on the model of isomorphism (DiMaggio & Powel, 1983) holding the view that both economic and institutional pressures have an important role to play in their analysis. The M-A scholars examined factors that could influence and shape PCPs such as economic and institutional factors, competition, organization structure, organization processes, inter-organizational relationships, strategy, education, social controls, mimetic processes, and national and organizational culture, the latter from an unpublished manuscript of the time (Chow, Shields, & Wu, 1999). The researchers found that many factors were drivers of convergence although mostly national and organizational cultures were driving divergence of MAPs. Data were collected through a field study of management accounting culture in six large international Finnish firms (Granlund & Lukka 1998b). Principally classified under normative pressures as factors driving divergence, national cultures emanate from two aspects of professionalization as prominent sources of isomorphism, university education, and networks (e.g., membership in M-ABs)

(DiMaggio & Powel, 1983). National Finnish cultures propagate rather at the micro than at the macro level as factors within the economic system and overall culture (e.g., through M-A scholars, M-ABs, consultants) where institutional factors such as the lack of trust and the failure of the old system (costing) aid in setting cultural differences (Granlund & Lukka 1998a).

In addition to extant research on how organizational structures and design affect MCSs (Lincoln & Kalleberg, 1990), the purpose of this study (Chow et al., 1999) was to examine how national culture affects the design of MCSs. Data were collected from 159 Taiwanese managers (all 159 respondents were of Chinese ethnicity) working in 18 Japanese-, Taiwanese-, and U.S.-owned (six of each) size-matched computer firms based in Taiwan to determine the impact of nation-specific factors on MCSs. Hofstede's national culture taxonomy and framework were used to derive variable predictions (1980, 1991), albeit Hofstede's definition of each cultural dimension was insufficiently precise for consistent applications across studies at the level of specific controls. The two hypotheses chosen revolved around whether the design of MCSs would change based on ownership and location. Participant answers were standardized for each variable through a 7-point Likert-type scale (1=Extremely Low to 7=Extremely High). Seven management control, culturally-related variables were studied: decentralization, structuring of activities, participative budgeting, standard tightness, participative performance evaluation, controllability filters, and performance-contingent financial rewards. Consistent with U.S. operations, there was no significant U.S.-Taiwan mean difference in the seven variables for

both design level and design-preference due to adjustments by Taiwanese firms to U.S. parent firms. However, for differences in home-country design for the same controls, five were found to differ between the Taiwanese applications of the Japanese and Taiwanese companies.

Sorensen (2009) focused on the meteoric rise of management accountants while identifying current knowledge, skills, and abilities (KSAs), and transformations, and trends. The author relied on several studies to convey findings in management accounting practice, and formulate recommendations for curricular changes based on what was known and not known at time of writing, and extrapolated into the future. The researcher's use of meta analyses translated into which KSAs were required for performing management accounting in the late nineties, early two thousands, and more recently. Both the study's premise and empirical evidence gathered by the researcher, M-ABs, and academics spoke to the meaningful participation of accounting graduates in selecting a firm's SMAPs, which is now more difficult due to the lack of new graduates' knowledge of emerging tools currently taught and applied (Sorensen, 2009). Sorensen insisted on practitioner-based educational programs to close the gap between practice and education, and offered the development of well-researched cases in management accounting, and cited several exemplars illustrating how empirical research can and should advance the knowledge of management accountants in practice and accounting professors in academia, denoting that PhD management accountants (CMAs) represent about only 30% of the supply-and-demand volume sought for financial accounting (AAA, 2005).

Sorensen suggested an update to the IMA survey (jointly with Ernst & Young-E & Y) (2003), and further research, for example, to understand why more than 30% of practitioners have rejected TC, LCC, the theory of constraints, and value-based management (2003). Sorensen argued that no one and no briefer summary offered the richness than that of Atkinson et al. (1997) of the three new directions in management accounting research that are still useful today: 1. management accounting's role in organizational change; 2. the interaction between accounting and organizational structure; 3. the role of accounting information in supporting decision making. This study parallels other studies, but the author called for a concerted action by researchers, M-ABs, and practitioners for the development and use of leading-edge SMAPs.

Accounting scholars Brierley et al. (2001) examined the perennial influence that certain factors may have on PCPs and MAPs. In a Finnish firm, in 10 out 16 main products, the difference between the adoption of ABC versus informal cost estimates was insignificant at less than 10% (Malmi, 1997). The universal argument pursued and presented by several M-A scholars was the notion that the implementation of CMPs and MAPs should not rely solely on a decision-making perspective (Brierley et al., 2001; Malmi, 1997), but also on structural factors, such as organizational power, politics and culture, and a thorough understanding of the application of accounting and control systems in practice. The researchers further argued and concluded that contextual factors should include factors external to the enterprise (Bhimani, 1996), cultural differences (Yoshikawa, Innes, & Mitchell, 1989), and the management of the

economy (Kaplan & Cooper, 1998). Due to this failure (Malmi, 1997), but more importantly, because of the subsequent dearth of research, such facts have caused the researchers (Brierley et al., 2001) to issue a challenge to M-A investigators to look further into research examining factors likely to influence and shape PCPs such as economic and institutional factors, competition, organization structure, organization processes, inter-organizational relationships, strategy, education, social controls, mimetic processes, and national and organizational culture (Granlund & Lukka, 1998; Chow et al., 1999).

Contextual factors play an important role in relating CMPs to SA (Brierley et al., 2001). Such factors are economic (e.g., the monetary policy of the Federal Reserve Board for U.S. firms investing abroad, for example, suggests considering certain factors such as money supply, level of prices, minimum lending rate, and exchange rate of the host country) (Federal Reserve Board [FRB], 2013), organizational, political, social, and cultural factors (all yet to be defined) (Brierley et al., 2001; CMAC, 2007; Porter, 1980, 1985, 1990). Furthermore, there are other economics factors at play, which are anchored in the monetary policy of the host country such as interest rates, economic stability, inflation rate, unemployment rate, GDP growth, export/import surplus/deficit, financial regulations, and general oversight corporate governance rules (FRB, 2013).

Other economic factors grounded in a host-nation's fiscal policy include, for example, fiscal accountability, level of national debt, national government investment, expansion, and downsizing levels and plans, national energy policy,

overall firms' profitability, government-debt reduction policy, government-deficit elimination strategy, tax-code overhaul plans and legislative amendments (U.S. Department of the Treasury, 2013). Such factors also include overall corporate sustainability (e.g., the equivalent of the U.S. auto industry, the bailout of GM and Chrysler; and the comparable investment banking rescue of Bear Stearns, Goldman Sachs, and Lehman Brothers), and changes in GAAPs and IFRSs (U.S. Department of the Treasury, 2013).

Strategic Management Concepts

Two researchers have enabled the advancement of managing product development (Davila & Wouters, 2007) and sound cost management (Davila & Wouters, 2004), and a trio of scholars have demonstrated the contribution of target costing (TC) to M-A and SCM, arguing that TC provides a SCA (Ansari et al., 2007). For example, SCA is enabled by performance management, new product development (NPD), ABC, TQM, Kaizen costing, and JIT, all of which interconnect with TC (CMAC, 1999b), and require insights into TC (Ansari et al., 2007; CMAC, 1999b) for successful implementation in different and more hostile marketplaces (CMAC, 1999b). Other researchers enabled using TC to develop profitable products and by using a matrix approach to literature review (Cooper & Slagmulder, 1999; Salipante, Nozt, & Bigelow, 1982). The three scholars' contribution to TC was unique using the lifecycle of management practice as a framework (Ansari et al., 2007). This framework reflected progressive knowledge and offered many insights on TC to operations managers and MAs (Ansari et al., 2007). Contribution opportunities for the management accountant to TC

proliferate particularly through the practice of Kaizen costing joining NPD and TC (CMAC, 1999b). Through the duo's advances (Davila & Wouters, 2007), and a plea for new concepts revolving around supply chain management, lifecycle costing, and environmental matters, MAs can pursue cost reductions, and champion TC in a holistic fashion (CIMA, 2009c; CMAC, 2002c, 2009d; Davila & Wouters, 2007; IMA, 2013b).

Scholar Dunk's (2004) review of extant literature suggested the existence of scant systematic evidence with respect to factors that influence the use of lifecycle costing (LCC) and LLC analysis (LCCA), two of SCM's best practices and SMAPs. The named investigator suggested that customer profiling, competitive advantage (CA), and quality of information system were three factors potentially influencing the extent to which firms used LCCA. The cited theorist defined the scope of the study using these factors. The named author argued that the hypothesis, in alternate form, of customer profiling (CPR), CA, and quality of IS information (QISI) positively influence the use product LCCA. The named researcher used a random sample consisting eventually of 77 useable respondents. Using descriptive statistics and factor analysis (DeCoster, 1998; Rummel, 1970), the cited investigator measured the three variables, or factors using the Cronbach α that suggested internal consistency to be satisfactory, or high. The named theorist measured LCCA using the U.S. (United States Environmental Protection Agency [EPA], 1995) three-item, seven-point Likert-scaled instrument anchored by (1) to no extent, and (7), to a great extent. Scholar Dunk suggested, through his findings, that manufacturing firms had not

overwhelmingly adopted LCCA. The results of the multiple regression hypothesis test indicated that CPR, CA, and QISI had a positive effect on the use of LCCA, and were consistent with the hypothesis underpinning this study. However, the literature revealed impediments, such as noting that accounting systems were not oriented towards lifecycle costs, but rather toward reporting functional area costs. For the CA variable, the named researcher measured CA by the Flynn, Schroeder, and Sakakibara (1995) instrument yielding a Cronbach alpha of 0.737 suggesting internal consistency is satisfactory. The named M-A scholar measured QISI using the Teng, Cheon, and Grover (1995) five-item 7-point Likert-scaled (1= very low to 7= very high).

The purpose of Ewert and Wagenhofer's study (2006) was to provide insights into the state of M-A theory and MAPs in German-speaking countries (i.e., Austria, Germany, and part of Switzerland). As context and contrast, the review included cost theories, German cost accounting systems, and various uses of M-A information in organizations, and the study's theoretical foundations and diffusion of MAPs into practice were presented. Given the broad scope of the research, the named scholars put these developments in a global outlook, differentiating German innovations from others not widely recognized outside German-speaking countries, and discussed their potential contribution to theory and practice. The authors gave examples of such innovations including, but not limited to costs based on discounted cash flows, the effects of uncertainty, performance measures, budgeting, transfer pricing, and variance analyses with a detailed discussion of all such examples reasonably beyond the scope of this

review. Within elaborated cost accounting systems in perspective with international developments, the named duo discussed the two most conceptually refined cost accounting systems (CAS). First, the GPK, or Grenzplankostenrechnung that MAs know about across the world. One of the many success factors of GPK is its implementability, and MAs have considered this factor as always-important (CMAC, 2002b, 2009c). The cited M-A scholars provided sources indicating that MAs and software engineers had developed GPK hand-in-hand with software that could handle the necessary mass of cost data through the integration of GPK into the enterprise resource planning (ERP) software SAP R/3 (CMAC, 1999a; IMA, 1999). Thus, the named researchers advanced the efficacy of GPK, and MAs have corroborated such advances through implementation and use of SAP (CMAC, 2002b, 2009c). Second, German MAs have called the other CAS, EDR, or Einzelkosten-und Deckungsbeitragsrechnung, and the mentioned scholars discussed that alternate costing system.

According to M-ABs (CIMA, 2009a; CMAC, 2009a; IMA, 2009a), several scholars have embraced SM-A and the M phenomenon (M for management in CMA) (Kaplan, 2006; Lapsley & Wright, 2004a; Modell, 2010; Sorensen, 2009). The first scholar (Kaplan, 2006) acknowledged the alignment of his work with those of two preeminent SM scholars (Chandler, 1962, 1977, 1990; Porter, 1980, 1985, 1990) for ABC, BSC, and his other SM-A innovations. The M is also about considering organizational design (Galbraith, 1973), the aspect of institutional performance management in the public sector (Brignall & Modell, 2000; Modell,

2001; Modell, Jacobs, & Wiesel, 2007), decentralization of M-A (Bromwich & Lapsley, 1997), and the role of MAs in organizational networks (Chapman, 1998). The conclusive assessment for a promising research agenda in M-A research should include the role of leadership in the adoption and successful implementation of SMAPs and CMPs for greater significant depth, scope, and breadth (Kaplan, 2006; Lapsley & Wright, 2004a; Modell 2007, 2009, 2010).

Summary

The trends and findings of SM-A research and CMPs were an unequivocal foundation to the need for additional research (e.g., Brierley, 2008; Sorensen, 2009). The review represented the areas of costing systems, CPRM, SCM, SMAPs, and contextual factors; and all were part of the main thrust of the CMP study. Three M-A scholars first advanced the development of the CTM-A (Dermer, 1977; Horngren, 1972; Otley, 1980). Then, other M-A researchers have used the theory to conduct research in the areas of AIS and costing systems (e.g., Chenhall, 2003), MCS (e.g., Langfield-Smith, 1997), MAPs (e.g., Drury & Tayles, 2005), SMAPs (e.g., Guilding et al., 2000), and CMPs, including PCPs (e.g., Brierley et al., 2007; Drury & Tayles, 2005) to improve CMPs.

Several characteristics and factors were accounted for in the development of costing systems (e.g., Al-Omiri & Drury, 2007) including propositions and associated variables—environment, technology, structure, size, strategy, and national culture—related to MCS (e.g., Chenhall, 2003) that enabled a greater understanding of MAPs and CMPs. Under the area of CPRM, M-A researchers elucidated on the potency of LCC and LCCA (e.g., Dunk, 2004; Ewert &

Wagenhofer, 2006), and CPRM per se (CMAC, 2000; IMA, 2010). The benefits of SCM were explained (e.g., Shank, 1989) relative to strategic approaches (e.g., Shank, 1989; Anderson, 2007; Anderson & Dekker, 2009a, 2009b) clearly delineating the two types of SCM, SLCM and ELCM (e.g., Anderson & Dekker, 2009a, 2009b) to enhance SA and SCA (e.g., Porter, 1980). Insofar as SMAPs, M-A scholars documented the empirical work of between SMAPs and SA (e.g., Anderson, 2007; Anderson & Dekker, 2009a, 2009b; Chenhall, 2008), the difference between value-adding and value-creating SMAPs established through TC, ABC, LCC, and other MAPs in different production environments and industries (e.g., Brierley et al., 2006; Drury & Tayles, 2006b; Govindarajan & Gupta, 1985; Gupta & Govindarajan, 1984, 1986; Shank, 1989).

The PRA focus was on SMAP conditions (Guilding et al., 2000; Widener, 2007) and contextual, organizational, economic, social, and cultural factors (e.g., Al-Omiri & Drury, 2007; Chenhall, 2003; Chow et al., 1999; Drury & Tayles, 2005; Grandlund & Lukka, 1998a) affecting theories, relationships, variables, MAPs, and CMPs. The review has also enabled revealing choices of MAPs, CMPs, and SMAPs (e.g., Brierley, 2008, CIMA, 2008; CMAC, 2013a, 2013b; IMA, 2013b; Widener, 2007) that enhance SA and SCA (Porter, 1980); alternative costing systems, whether mitigating SM-A evolution (e.g., Brierley, 2008; Drury & Tayles, 2005; Al-Omiri & Drury, 2007), and reservations about practices (e.g., Dunk, 2004; Ewert & Wagenhofer, 2006). Two such controversies pertain to: costing and SCM through the overhead-cost allocation systems, and whether costs are borne centrally, or by departments (Brown & Brignall, 2007; CMAC, 2009g), and;

the use of different methodologies in SM-A research (Modell, 2005; Shields, 1997).

Chapter 3: Research Method

The purpose of this quantitative, correlational study was to examine whether relationships exist between and the predictive values of the cost management practices of (a) strategic cost management, (b) costing systems, (c) customer profitability management, (d) specific SMAPs, and (e) specific SMCs, and SA. Through targeting organizations and CMAs around the world, the study aim was to ascertain which elements, or subdimensions (variables) of M-A would allow firms to best choose and align their CMPs and SMAPs with strategic goals to optimize efficiency and effectiveness, increase performance management and measurement, improve the measurement of cost, and increase profitability and SCA. This objective was achieved utilizing the CTM-A (Dermer, 1977; Horngren, 1972; Otley, 1980), the SSS theory (Chandler, 1962), and the still-used contemporary SMP that allows firms maintaining a SCA (Porter, 1980). The data were collected via the CMP survey (Appendix A), an electronic questionnaire disseminated through the M-ABs to CMAs. The CMP survey was founded on a validated survey from Drury and Tayles of 1994 (1994a) with permission to use obtained (Appendix B).

The problem was, as denoted in past research, that poor SCM, CSs, CMPs, SMAPs, and SMCs engendered the lack of SA across industries; thus, inhibited firm performance (Brierley, 2008; CMAC, 2009c, 2013a; Drury & Tayles, 2005, 2006b; Marr, 2009, 2012a; Porter, 1980; Shank, 1989). Sorensen (2009) called for researchers to bridge the gap between practice and education as SM-A guideline formulation was needed for educators, MAs, and business managers

through practitioner-based educational programs. The specific problem of lack of SA has been found to be due to (a) inadequate SCM with scarce CI (Shank, 1989; Widener, 2007) as 80% of respondents reported CM was important to strategic goals (IMA, 2003), and structural CM represented a small portion of the C-M focus that reduced SA of a firm's cost structure with its strategy (Anderson, 2007); (b) insufficiently-developed costing systems (Brierley, 2008) with higher levels of CM-system sophistication positively associated with the importance of CM information, SMAPs, and SA with 53% of UK firms (SMEs, <£100 million) having no formal costing systems (Al-Omiri & Drury, 2007, Brierley, 2008); (c) the fact that CMPs, SMAPs (e.g., CPRM), and SMCs may not be a good organizational fit (Ahrens & Chapman, 2006; Anderson, 2007; CMAC, 2007; Drury & Tayles, 2005; Galbraith, 2005) through the absence of value-creating SMAPs with only 46% of UK firms using innovative SMAPs (Guilding et al., 2000; CMAC, 2013a). Thus, these past findings justified the need for certain SMAPs and SCM practices (CMAC, 2000, 2009c; IMA, 2010, 2013b; Shank, 1989), and the given practices and concepts negatively affected SA and performance (Armitage & Scholey, 2007; Brierley, 2008; Brierley et al., 2006, 2007; Guilding et al., 2000; Lapsley & Wright, 2004a; Marr, 2009; Porter, 1980), as 80% of respondents considered implementing new SMAPs (e.g., CPRM) a low-to-medium priority thereby neutralizing SA (IMA, 2003).

Q1. To what extent, if any, do each of the subdimensions of CMPs and SMAPs—strategic cost management, costing systems, customer profitability management, and specific strategic management accounting

practices—relate to SA across different types of firms and among CMAs of management-accounting bodies worldwide?

Q2. To what extent, if any, does the subdimension of SM—specific strategic management concepts—relate to SA across different types of firms and among CMAs of management-accounting bodies worldwide?

Q3. What is the predictive value of each subdimension of SM-A (strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices) for SA?

$H1_0$. There is no statistically significant relationship between each of the subdimensions of CMPs and SMAPs—strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices—and SA across different types of firms and among CMAs of management-accounting bodies worldwide.

$H1_a$. There is a statistically significant relationship between each of the subdimensions of CMPs and SMAPs—strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices—and SA across different types of firms and among CMAs of management-accounting bodies worldwide.

$H2_0$. There is no statistically significant relationship between the subdimension of SM—specific strategic management concepts—and SA across different types of firms and among CMAs of management-accounting bodies worldwide.

$H2_a$. There is a statistically significant relationship between the subdimension of SM—specific strategic management concepts—and SA across different types of firms and among CMAs of management-accounting bodies worldwide.

$H3_0$. The subdimensions of SM-A—strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices—are not statistically significant predictors of SA.

$H3_a$. The subdimensions of SM-A—strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices—are statistically significant predictors of SA.

In addition to the previously-discussed elements of the introduction such as the restatements of the purpose, problem statement, research questions, and hypotheses, other components comprise this chapter. Such elements are the research method and design, population and sampling, materials/instruments, operational definitions of variables, data collection, processing, and analysis methods, assumptions, limitations, and delimitations, and ethical assurances.

Research Method and Design

Conducting correlational research enabled the use of a valid deductive model theory and the theory of challenge of the truth under post positivism (Al-Omiri & Drury, 2007; Anderson & Widener, 2007; Brierley, 2008; Brierley et al., 2001, 2006, 2007; Drury & Tayles, 1995, 2005), as guided by a range of previous

CTM-A research studies (Otley, 1980; Drury & Tayles, 2005). For the use of the deductive model theory by researchers engaged in quantitative research or methodology, it was critical to make assumptions about testing theories, building protection against bias, and allow for generalization and replication of findings (Campbell & Stanley, 1963). The theory of challenge of the truth under post positivism enabled researchers to go beyond the traditional thinking of positivism recognizing that research cannot always be positive about claims of knowledge that involve the behavior and actions of humans (Phillips & Burbules, 2000). The nature and resilience of the research questions, proprietary, authoritative definitions, and appropriate survey instructions were established through the use of constructs and variables that have been tested, although not simultaneously, and the confluence of the two theories with the CTM-A recognized throughout this manuscript, and; all have provided a cogent foundation to ensure validity and reliability of the research questions, actual answers, and results. The use of survey research has increased in SM-A research; this trend supporting the use of the quantitative methodology for this study (Ansari et al., 2007; Brierley, 2008). The study was surveyed CMAs through an abridged replication of a validated survey (Drury & Tayles, 1994a) related to SMAPs, CMPs, and M-A research.

The justification of all other design steps comprised selection of the quantitative methodology and correlational design as supported by past M-A researchers (Dermer, 1977; Horngren, 1972; Otley, 1980) and others who further applied the CTM-A (Brierley et al., 2001, 2006, 2007; Drury & Tayles, 1995; 2005; Guilding, 1999; Guilding et al., 2000). Then, founded on such seminal

work and the key tenets, constructs, and questions of the study, the quantitative correlation and multiple regression analyses, or the use of the MRC approaches were judged most appropriate (Cohen et al., 2003; Keppel, & Zedeck, 1989; Vogt, 2007). The CMP-study design choice demonstrated how the quantitative methodology executed the study goals, addressed the problem statement, aligned with the purpose and research questions, and quantified the extent of the relationships between the predictor and criterion variables, as have studies of the similar genre.

The CMP-research survey (see Appendix A) was generated from a selected triage, modification, and exclusion of questions originating from a validated survey. The changes made were so slight, and the same scales were used, thus, retaining the reliability and validity of the validated survey. The study instrumentation was based on a pre-validated M-A survey (Drury & Tayles, 1994a), and permission to use has been attained (see Appendix B). The SMBCA was a signal guiding the research-survey approach used in this CMP study. The approach has gained in preeminence and prevalence in several studies with different configurations and names helping researchers and participants to improve the quality of SM-A research because of the works (mostly SCM frameworks) of several M-A scholars (Anderson, 2007; Anderson & Dekker, 2009a, 2009b; Bromwich, 1990; Chenhall, 2008; Kaplan & Norton, 1996, 2004; Shank & Govindarajan, 1992, 1994; Simmonds, 1981a; Sorensen, 2009; Tomkins & Carr, 1996a; Wilson, 1995).

The execution of the quantitative methodology and correlational design was for the following motives: (a) adopt a management problem-based (i.e., strategic alignment, also the lone criterion variable) rather than a discipline-based orientation while still testing theories of CPRM, CS, SCM, and specific SMAPs, the predictor variables, and SA, the criterion variable (Lukka & Modell, 2010); (b) work toward the integration of findings by incorporating in the research designs variables (survey subsets of the mentioned predictors and criterion for precise measurement), perspectives (SMAP conditions and contextual factors), terminologies (SM-A proprietary terms and definitions), and findings from other related research areas (e.g., strategic management, value-chain management) (Brierley et al., 2007; Modell, 2005, 2009, 2010); and (c) compare, analyze, and evaluate the dimensions of this study (SMAPs and its subdimensions) to assess the influence the predictor variables have on the criterion variable.

The quantitative methodology and correlation design were also appropriate because they: (d) used a well-formatted and concise questionnaire in lieu of conducting interviews; (e) circumvented manipulation of the predictor variables to observe the effect on the criterion variable (Borrego et al., 2009); (f) conserved resources and efforts in a manner that is both cost- and time-efficient (Black, 2009, Zikmund et al., 2010), and; (g) allowed only skilled CMA-participants to answer a thorough M-A questionnaire (CIMA, 2013a; CMAC, 2013a; IMA, 2013a). All preceding arguments gave credence to retaining the quantitative methodology (i.e., deductive model theory) and correlational design through the post positivism lens (Al-Omiri & Drury, 2007; Anderson & Widener,

2007). As such, scholarly empirical evidence of choices of method and design demonstrated that the quantitative research methodology and correlational design were the most cogent for this genre of study and this CMP study (Al-Omiri & Drury, 2007; Anderson & Widener, 2007; Brierley, 2008; Brierley et al., 2001, 2006, 2007; Drury & Thales, 1995, 2005).

Population

Based on the most recent, available total certified membership of the three main M-ABs, the total accessible, target population from such bodies was nearly 161,000 CMAs (CIMA: 92,000, CMAC: 50,000, & IMA: 19,000). Another estimated 40,000 CMAs (Cost and Management Accountants), with respective membership indicated after the year of citation, were added as members of Southeast Asian M-ABs (ICMASL, 2013, 1,200; ICMAP, 2013a, 4,100; ICAI, 2013a, 31,000; ICMAB, 2013, 1,100), and, Australia's Institute of Certified Management Accountants (ICMAA, 2013; 2,600). In addition, approximately 20,000 other professional accountants, finance professionals, and MBAs from around the globe were also invited to participate through non-CMA accounting LinkedIn groups. Finally, approximately 150 CMAs and other accounting professionals were solicited by personal email for a grand total of approximately 221,150 CMAs. All are part of the 85% of the world's 2,000,000 professional accountants working as management accountants (IFAC, 2012). The sampling frame represented CMAs drawn from the membership or roster (population) of the mentioned international M-ABs (CIMA, 2009a; CMAC, 2009a; IMA, 2009a), and from the memberships of the Southeast Asian M-ABs (ICMASL, 2013;

ICMAP, 2013a; ICAI, 2013a; ICMAB, 2013) and from Australia's only M-AB (ICMAA, 2013). Management accounting (M-A) varies significantly from F-A in that M-A has a future, strategic perspective (CIMA, 2009c; IMA, 2009b) whereas F-A provides evenhanded financial and other information virtually as of a certain point in time (i.e., referred to as the accounting date, or fiscal-year end in financial reporting, the main component of F-A) (FASB, 2013b). Hence, for the CMP study, no greater participant commonality existed, and no more proper representation was achieved of this branch (M-A) of the profession than from the world's three most influential, international M-ABs (CIMA, 2009a; CMAC, 2009a; IMA, 2009a) and the other mentioned M-ABs. The most common thread of all participants was the superior knowledge of SMCs, SMAPs, and CMPs. All respondents were CMAs who best answered the level of relationship between the predictor variables and the criterion variable, SA, and facilitated coding. All CMAs chose answers from Likert-type scales for each question within the CMP survey, which also included demographic questions.

As such: (a) the data included one population from membership rosters (i.e., all M-ABs), or one set of scores for the population, and primarily examined results of all CMAs from survey items, but secondarily also showed affiliation to the accounting organizations through the demographic data; (b) according to affiliation, the sample belonging to all M-ABs was all completely independent regardless of different occupational positions and levels; (c) the membership rosters needed not to be the same for the groups (i.e., the total certified membership is different for each M-AB); (d) the population from which the single

sample was drawn had the same specific characteristics (e.g., CMA designated accountants, M-A background), and; (e) the sample was drawn under certain conditions (e.g., random sample, certified membership only) (Aczel & Sounderpandian, 2006; Black, 2009). Thus, the ordinal data values, based on whether normality was confirmed, was assessed through parametric and nonparametric statistical procedures.

In SM-A research studies, sequential timing (short longitudinal study) virtually never occurred, and studies oftentimes involved both quantitative and qualitative research, as evidenced through the American Accounting Association's (AAA) Journal of Management Accounting Research (JMAR) (2010). As such, this reinforced the notion that choices existed among research methodologies, the quantitative as the one chosen for this CMP-research study. The three main M-ABs mentioned (CIMA, 2009a; CMAC, 2009a; IMA, 2009a) announced the CMP-research survey to their membership just as they have done for several eminent M-A scholars (Al-Omiri & Drury, 2007; Anderson & Widener, 2007; Brierley, 2008; Brierley et al., 2001, 2006, 2007; Drury & Tayles, 1995, 2005; Dunk, 2004). The Southeast Asian and Australian M-ABs also assisted in making the survey available. The countries mentioned in the Purpose section and elsewhere were those in which M-ABs have significant memberships.

The CIMA (2009a) has certified membership in over 200 countries including the UK, China, Australia, New Zealand, and in other emerging economies predominantly in Southeast Asia and the United Arab Emirates and other countries in the Middle East with the core membership in the UK. The

CMAC (2009a) has mutual reciprocity agreements (MRA) with the CPAA (Australia) and CIMA (UK), and hence, a large global exposure due to MRAs, and a significant level of influence, not only in Canada and in the U.S.A., but also in Southeast Asia (e.g., Pakistan, Bangladesh, and Sri Lanka). The U.S. AICPA and other accounting bodies sell CMAC SMAPs to their members within their jurisdiction and around the world. The IMA (2009a) has an important contingent of certified members in the U.S.A., China, Southeast Asia, and the United Arab Emirates. The Southeast Asian and Australian M-ABs have CMAs practicing in Southeast Asia, the Middle East, China, Vietnam, and Australia. Through the M-ABs securing only CMA-participants' access increased data validity and reliability because of their expertise in SMAPs and CMPs unlike contribution from non-CMAs (Brierley et al., 2007; Drury & Tayles, 2005).

The approximately 221,150 CMAs worked at different occupational and executive levels in diverse organizations around the world. All management accountants were identified as CMAs, and there is only one type of management accountants. The designation CMA has three different full names; Certified Management Accountant in Canada (CMA Canada) recognized by legislation, in the U.S. (IMA) and Australia (ICMAA) incorporated by the companies laws, under a registered trademark. The UK-based CIMA and the ICMAP issue the Chartered Management Accountant (CMA) designation respectively under a government royal charter and an act of Parliament. Other bodies use Cost and Management Accountant such as the Southeast Asian M-ABs, which are all incorporated and regulated by acts of Parliament. Regardless of their affiliation,

all CMAs possess the same characteristics, training, or body of knowledge, which includes strategy, management accounting, financial planning and analysis, financial management, corporate finance, operations management, internal control, risk management, cost management, performance management, decision analysis, financial accounting, statistics, economics, and ethics (CIMA, 2009a; CMAC, 2009a; IMA, 2009a) (ICMAA, 2013; ICMASL, 2013; ICMAP, 2013a; ICAI, 2013a; ICMAB, 2013). Other accountants are referred to as financial accountants, public accountants, and auditors when working in a practice that offers public accounting services while CMAs do more than just measure value—they create it. As the leaders in management accounting, CMAs are trained in business management, capable of advising on business strategy and enterprise risk management, and actively apply a unique mix of financial expertise, strategic insight, innovative thinking, and a collaborative approach to help grow successful businesses (CIMA, 2009a; CMAC, 2009a; IMA, 2009a).

The recruitment strategy was for the M-ABs to communicate research-survey participation requests through media and insight-specific emails, and brand-magazine hyperlinks (*e* version and hard copy). The M-ABs provided survey-distribution authorities subject to updated re-confirmation. Because there was a sufficient number of participants, there was no need to use extra subjects selected according to the criteria for 'good' participants rather than randomly selected (Morse, 1991).

The nature of the CMP was the first international study of this genre in management accounting with the collaboration of M-ABs, and given its quantitative approach, needed a specific data-collection strategy. The strategy was informed by scholars (Brierley et al., 2007; Drury & Tayles, 2005) using an expected number of quantitative data responses related to the total number of required responses relative to the a priori G*Power analysis result of 92 participants. This strategy was consistent with data analysis for using the quantitative methodology (Black, 2009; Tabachnick & Fidell, 2007, 2012; Vogt, 2007).

Sample

The study sample emanated from all the mentioned M-ABs, and CMAs denoted their affiliation. As such: (a) the data included one population from membership rosters (i.e., all M-ABs), or one set of scores for the population, and primarily examined results of all CMAs from survey items, but secondarily also showed affiliation to the accounting organizations through the demographic data; (b) according to affiliation, the sample belonging to all M-ABs was independent regardless of different occupational positions and levels; (c) the membership rosters needed not to be the same for the groups (i.e., the total certified membership was different for each M-AB); (d) the population from which the single sample was drawn had the same specific characteristics (e.g., CMA designated accountants, M-A background), and; (e) the sample was drawn under certain conditions (e.g., random sample, certified membership only) (Aczel & Sounderpandian, 2006; Black, 2009). Thus, the ordinal data values, based on

absence of normality, was handled through parametric and nonparametric statistical procedures. The sample was obtained from CMAs of M-ABs working for firms at different locations around the world through an electronic survey. The sampling method was random sampling, or the single-stage sampling design approach involving the use of the systematic or probabilistic sample method through a random numbers table with the matching of M-AB membership numbers (Black, 2009; Field, 2009; Keppel, 1991; Vogt, 2007). The sample-test assumptions were a power of 0.80, a generally accepted power or conventional practice with a 0.05 alpha level of significance (two-sided) (Cohen, 1988; Gerstman, 2003), and an effect size of 0.15, which was the medium effect size developed by Cohen (1988). Virtually all M-A scholars have used the medium size effect in their studies (e.g., Al-Omiri & Drury, 2007; Brierley, 2008; Brierley et al., 2001, 2006, 2007; Drury & Tayles, 1995, 2000, 2005). For the a priori sampling-size determination through G*Power software (Faul et al., 2007), the multiple linear regression (Q3) using *F* tests takes precedent over correlation (Q1) using *t* tests for sample-size determination (Gerstman, 2003), and yielded an a priori expected sample size of 92 with the five predictor variables mentioned (Cohen, 1988), a sample number acceptable according to statistical standards (Aczel & Sounderpandian, 2006; Black, 2009; Faul et al., 2007; Keller & Warrack, 2000).

Materials/Instruments

The CMP-research survey (Appendix A) was administered as an online questionnaire, announced through the M-ABs to CMAs. A 7-point Likert-type

scale was used according to the previously-validated survey as the study instrumentation (Al-Omiri & Drury, 2007; Brierley, 2008; Brierley et al., 2001, 2006, 2007; Drury & Tayles, 1995, 2000, 2005). The 7-point scale enabled the collection of a rich set of measurement responses that retained identical validity and reliability obtained from prior research methods, instrumentation, and measurement elements used within prior research (Al-Omiri & Drury, 2007; Brierley, 2008; Brierley et al., 2001, 2006, 2007; Drury & Tayles, 1995, 2000, 2005). The 7-point scale gathered ordinal-level data for analysis as from past research (Al-Omiri & Drury, 2007; Brierley, 2008; Brierley et al., 2001, 2006, 2007; Drury & Tayles, 1995, 2000, 2005).

This design allowed separate survey-data analysis from the researcher's involvement to preserve the researcher's objectivity (Black, 2009; Borrego et al., 2009) through a research survey that drew generalizations about the population (Borrego et al., 2009). The research approach had a genesis in the CTM-A research studies (Drury & Tayles, 2005). Relying on CTM-A and the quantitative methodology of this CMP study, the study's approach was akin to that of several M-A researchers who have used multiple regression models to test hypotheses involving predictor and criterion variables measured on ordinal scales or pseudo interval scales (Drury & Tayles, 2005; Guilding, 1999; Hoque, 2000a; Hoque, 2000b; Shields, 1995).

Many statisticians have argued that ordinal scales provide a suitable approximation to interval scales (Bryman & Cramer, 1999; Norusis, 2000; Miles & Shelvin, 2001). It was then vital that the CTM-A be explicit to illuminate its uses

and methods, thus, enriching cumulative M-A knowledge, which was the case of the CMP study through the strategic alignment of SMAPs and CMPs (Otley, 1980). The quantitative correlation analysis, calculating Spearman (r_s) was used for RQs1-2 to determine the strength of correlation between the predictor variables (CPRM, CS, SCM, and specific SMAPs and SMCs) and the criterion variable (SA). A multiple linear regression analysis was used for RQs1-2 to affirm Hs1-2 and for RQ3 to determine, when all predictor variables were considered together, which one of the predictor variables related the most to the criterion variable.

Because the correlational design did not entail inquiring into the nature and existence of the relationship, the foundation of the research was relational (correlational) versus causal (Black, 2009; Keith, 2006; Vogt, 2007). Nonexperimental (observation) methods were applied rather than the use of more formal experimental methods used to establish causality (Black, 2009;). While this approach eliminated potential issues with extraneous variables, if any, the design allowed some flexibility in assessing the nature of the relationships because there was no need to control such variables (Black, 2009; Keith, 2006; Vogt, 2007).

For the previously-validated survey and published instrument related to costing practices and M-A research (Drury & Tayles, 1994a), see Appendix B. The 1994 survey instrument yielded several studies by the authors (Drury & Tayles, 1994b, 1995, 2000, 2005, 2006b) and other researchers with slight alterations (Al-Omiri & Drury, 2007; Brierley et al., 2001, 2006, 2007;). For

example, in one study (Al-Omiri & Drury, 2007), two independent variables, quality of information technology, and the extent of use of innovative management accounting techniques posted a respective Cronbach's α of 0.77 and 0.76. The first variable is akin to a CMP-survey item called the high level of quality of our overall cost information under the SCM subdimension, and the second variable is similar to an item labeled the adoption of innovative SMAPs, which falls under the costing system subdimension. Such survey's questions pertaining to CMPs were Likert-scaled, have proven reliable and valid through multiple uses (i.e., validated surveys), and have yielded numerical data for quantitative analysis, and thematic, emic, and etic data for qualitative analysis. All answers from similar questionnaires were from CMAs, thus, the CMP-study survey yielded the same level of reliability and validity.

The survey questions were Likert-scaled, and replicated certain questions of the cited validated survey. The characteristics of the quantitative analysis of this survey reproduced the same attributes as the validated questionnaire. The main and detailed research questions corresponded to, and operationalized under the following subdimensions, or predictor variables: SCM, CS, CPRM, and specific SMAPs and SMCs, and the criterion variable, SA.

Questions not pertaining to the CMP study were removed from the instrumentation. The CMP-survey questions pertaining to CMPs, SMAPs, and SM-A have achieved reliability and validity through their use by the mentioned M-A scholars as presented with most scores ranging above 0.90 (see Appendix E). Through the world's three largest M-ABs (CIMA, 2009a; CMAC, 2009a; IMA,

2009a) and other M-ABs, the CMP instrument facilitated the collection of data originating from firms around the globe where CMA-participants work. First, there was one M-AB invitation to participate in the survey. Based on the cumulative number of responses, including useable ones, a second and third invitation were sent.

Operational Definitions of Variables

The five predictor variables of this study were (a) strategic cost management (SCM) (X^1), (b) costing systems (CS) (X^2), (c) customer profitability management (CPRM) (X^3), (d) specific strategic management accounting practices (SMAPs) (X^4), and (e) specific strategic management concepts (SMCs) (X^5). The sole criterion variable was strategic alignment (SA) (Y). To satisfy the lack of current research associated with the predictor and criterion variables (Brierley, 2008; Brierley et al., 2001, 2006, 2007; Drury & Tayles, 1995, 2005), the five predictor variables were operationalized through the SM-A and SM overarching constructs. The first four through CMPs and SMAPs, and the fifth one (SMCs) through SM.

The SMAPs (and SMAs) were seriated into four to six sub-themes depending on the M-AB (i.e., CMAC and IMA), and comprised all mentioned variables. All the study's variables were continuous ordinal variables, and all survey items were measured through a 7-point Likert-type ordinal scale (1=strongly disagree; 7=strongly agree), except that for each main research question the combination of the detailed questions from survey respondents was coded as interval-level variables for analysis (UNESCO, 2012; Yu, 2012). The

possible range of scores included higher aggregate means, which indicated superior performance and costing systems, value creation, data accuracy, freedom from noise, and instant feedback; moderate aggregate means indicated sound performance and costing systems, data free from bias, cost effectiveness, and value creation and addition; while low aggregate means indicated basic performance and costing systems, cost information unsusceptible to positive influence, and only value addition (Merchant & Otley, 2006). All sub-dimensions and survey items included in the predictor and criterion variables listed below were part of the CMP-research survey.

Strategic cost management (SCM). Strategic cost management is the managerial use of CI (Anderson, 2007; Anderson & Dekker, 2009a, 2009b; Shank, 1989; Widener, 2007). Strategic cost management was an interval-level predictor variable measured by a 7-point Likert-type scale (1=strongly disagree; 7=strongly agree). The SCM operationalized under the single, umbrella dimension, or overarching construct of SMAPs, which included MAPs. The scale was used with survey items RQ1-1.31, and aggregate means from such survey questions were averaged to determine composite scores, or a single value to represent this variable.

Costing systems (CS). Costing systems represent the collection of data for decision-making purposes (Al-Omiri & Drury, 2007; Brierley, 2008; CMAC, 2009b, 2009c, 2012b; Widener, 2007). Costing systems was an interval-level predictor variable measured by a 7-point Likert-type scale (1=strongly disagree; 7=strongly agree). The CS operationalized under the single, umbrella dimension,

or overarching construct of SMAPs, including MAPs. The scale was used with survey items RQ1.32-1.38, and aggregate means from such survey questions were averaged to determine composite scores, or a single value to represent this variable.

Customer profitability management (CPRM). Customer profitability management is to increase firms' long-term customer profitability (CIMA, 2005, CMAC, 2000, IMA, 2010). Customer profitability management was an interval-level predictor variable measured by a 7-point Likert-type scale (1=strongly disagree; 7=strongly agree). The CPRM operationalized under the single, umbrella dimension, or overarching construct of SMAPs, including MAPs. The scale was used with survey items RQ1.39, and aggregate means from such survey questions were averaged to determine composite scores, or a single value to represent this variable.

Specific strategic management accounting practices (SMAP). Specific strategic management accounting practices or SMAPs are forward-looking standards that enable SA (Ahrens & Chapman, 2006; Al-Omiri & Drury, 2002; Anderson, 2007; Anderson & Dekker, 2009a, 2009b; Chenhall, 2008; CIMA, 2005, 2009b, 2009c; CMAC, 2000, 2007, 2009b, 2009c; 2009d, 2009e, 2013a; CPAA, 2013a; Drury & Tayles, 2005; IMA, 2009b, 2009c, 2010). The specific SMAPs was an interval-level predictor variable measured by a 7-point Likert-type scale (1=strongly disagree; 7=strongly agree). The specific SMAPs operationalized under the single, umbrella dimension, or overarching construct of SMAPs, including MAPs. The scale was used with survey items RQ1.40-1.55,

and aggregate means from such survey questions were averaged to determine composite scores, or a single value to represent this variable.

Specific strategic management concepts. Strategic management concepts represent a set of strategic-planning constructs (CMAC, 2007; Marr, 2009) helping to evaluate competitive conditions and develop strategy, and to establish a SCA (Porter, 1980, 1985, 1990; Marr, 2009). Strategic management concepts operationalized under the overarching construct of SM. Strategic management concepts were an interval-level predictor variable measured by a 7-point Likert-type scale (1=strongly disagree; 7=strongly agree). The scale was used with survey items RQ2.1-29, specific SMCs, that is, from a SM perspective, and represented the aggregate means from such survey questions to determine composite scores, or a single value to represent this variable.

Strategic alignment (SA). Strategic alignment is the two-prong criterion variable enabled by SM-A and SM (Ahrens & Chapman, 2006; Anderson, 2007; Anderson & Dekker, 2009a, 2009b; CMAC, 2007, 2009b, 2009c; Drury & Tayles, 2005; Sorensen, 2009). There is one part of SA that relates to SM, more specifically strategic management concepts (SMC), while the other part relates to SM-A. Strategic alignment operationalized under the overarching construct of SM and is an interval-level criterion variable measured by a 7-point Likert-type scale (1=strongly disagree; 7=strongly agree) using survey items RQ2.1-29. The scale was also used for RQ3 using survey items RQ3.1-3.4 from a SM-A perspective as an aggregate means of responses from all respondents for multiple linear regression to determine composite scores, or a single value to

represent this criterion variable as to the preference of respondents for specific SMAPs, SCM, CS, and CPRM for the prediction of SA when all such predictor variables were tested simultaneously.

Data Collection, Processing, and Analysis

This section contains the essential captions of data collection, data processing, and data analysis. A sub-caption for data analysis also comprises addressing issues of validity and reliability. Each title provides sufficient details for replication.

Data collection. After gaining approval from the Institutional Review Board of Northcentral University to conduct research, data were collected using the CMP survey (Appendix A), and research-survey notifications and invitations were announced to CMAs. Such electronic requests by the M-ABs were announced through CMA-brand magazines, other CMA media, CMA-website postings, and through LinkedIn accounting groups. Subsequent reminders were posted by and emails sent by the M-ABs and through the groups. Respondents to the CMP study were all CMAs, volunteer-participants, and certified members of one of the three main M-ABs (CIMA, CMAC, and IMA) and other M-ABs (ICMSA, ICAI, ICMAB, and ICMAP), and working in over 200 countries (CIMA, 2009a).

Because of the international nature of this study, the assistance of M-ABs in helping to make the survey available to their membership assured a diversity of participation relative to type of experience, nationality, ethnicity, diversity of people, cultures, and gender. This recruiting strategy also empowered CMAs

from smaller countries and M-ABs to be more eager about participation in a study where CMA colleagues from larger countries were mainly expected to contribute to SM-A research. Women have inundated the management accounting profession in the last two decades, which boded well for gender representation (CIMA, 2009a). Due to the size of the economies of smaller nations, where GDP significantly varies from western economies, this participation also ensured representativeness from an array of sectors, industries, size of firms for whom CMAs work, and numbers of CMAs working for a single firm.

The survey was hosted by Qualtrics, a web-based survey tool, through a survey-specific, uniquely assigned Uniform Resource Locator (URL) that provided a high degree of anonymity and privacy. All data were collected and uploaded into an SPSS file. Respondents chose answers from Likert-type scales for each question within the CMP survey including a set of demographic questions. Respondents had the opportunity to answer survey questions in more than one session, and took approximately 30-35 minutes to complete the survey. Based on information provided by the M-ABs, the certified roster was randomly used to invite CMAs to participate, and yielded approximately 221,150 CMAs and other accounting professionals.

Over the past several years, a series of events has affected the current and future state of the management-accounting profession. Each event has had a positive, indelible impact on CMAs and their participation in research surveys. Such events originated through the international recognition of M-A by IFAC (2013) through the creation of the Professional Accountants in Industry and

Business (PAIB) standing committee in 1977. Other important events among accounting bodies followed through mutual recognition agreement (MRA), memorandum of understanding (MOU), strategic alliance, joint venture (JV), unification, and mergers (CIMA, 2013c, 2013d; CMAC, 2013c, 2013d, CPAA, 2013b; CPA Canada [CPAC], 2013; ICMAP, 2013b; ICAI, 2013b; IMA, 2013c, 2013d). These extraordinary arrangements have emboldened CMAs and heralded a new era for the globalization of M-A and diversity of CMAs that ensured M-A remains forever a distinct, preeminent branch of the accounting profession on a national scale and worldwide (CMAC, 2013c, IFAC, 2013).

Given these developments, the M-A profession around the world has been poised for some time to greater contribute to SM-A field research, capture a larger share of the accounting market, and to empower its certified members to do so. Considering the variety of participation relative to nationality, ethnicity, diversity of people, cultures, and gender, with a recruiting strategy that included the involvement of Southeast Asian M-ABs (ICMASA, ICMAP, ICAI, and ICMAB), the length of the data-collection instrument was mitigated by the representativeness achieved through this strategy. The energized membership of the three main M-ABs and the additional memberships from the Southeast Asian M-ABs, with larger-than-average proportion of participation, have compensated for the length of the CMP survey, and enabled sufficient participation.

The first invitation included a hyperlink to the self-administered CMP-study online survey and was available over a 30-day period. Participants were asked

to complete the survey within two weeks, and on Day 15, each M-AB posted reminders and emailed CMAs to encourage participation. The CMP survey remained active after Day 30, and late respondents were sent a second and third invitation.

Upon entering the survey site, the first screen of the survey contained the CMP-study author's opening remark and stated the name of the author and PhD specializations, and that the research was in SM-A. This screen also included the purpose and focus of the study (CMPs, SMAPs, SMCs, and SA), the duration of the survey, and contact information for the author and the Chair of the dissertation committee for any questions and/or clarifications on this research. Within the first screen, participants read an informed consent statement that participation was voluntary and responses would remain anonymous. Participants were able to withdraw from, or discontinued the survey at any time.

The second screen contained brief instructions for survey participants indicating the number of main research questions, and stated that it was best first to read the study's key definitions provided through a hyperlink. This screen ended with a note that all questions were for all business units and firms and a depiction of the Likert-type scale used. Upon opening the third screen, the survey began with demographic questions. Participants were able to enter, exit, and re-enter the survey to complete the instrument in more than one session.

Data processing. The SPSS file had predetermined columns to assign chronologically respondent numbers, based on survey completion date, for the CMA's M-AB affiliation (CIMA, CMAC, IMA, or any other M-AB) and membership

number, all variables, and acronym for the description of the survey's detailed questions, their item number, and the Likert-type scale previously outlined. All data of research-question items were reviewed to assess internal consistency and reliability using Cronbach's α before statistical analysis (Cronbach, 1951). All response data were also inspected for missing entries, outliers, and overall suitability.

Demographic data of CMAs and firms were examined. Such information included, for example, the CMA M-AB(s) membership, other certified designations, the number of years as a CMA, gender of the CMA, the CMA's Masters degree, and any doctoral degree with the specialization. This information also included data about which sector and industry the CMA's business unit or firm was in; in which state, or province and country the business unit, or firm was located (e.g., NY: U.S.A.; ON: CA; VIC, AU; or Zhejiang, China). In addition, the information also included the business unit's or firm's the total sales (annual sales turnover) in U.S. dollars (million) (translated into U.S$ at year end if another currency is used) for the last fiscal year. Respondents included the planning horizon (in years) of the firm's business strategy, a rating on the accounting organization's effectiveness in implementing SMAPs, and any interest in participating in a case study based on firm's results.

Data analysis. The analysis included raw data capture and transformation, check data for accuracy, and deal with missing data (Aczel & Sounderpandian, 2006; Black, 2009; Faul et al., 2007; Field, 2009; Keith, 2006). Quantitative data analysis began with descriptive data statistics tests conducted

on the demographic data of the participants (e.g., country of practice, M-AB membership, years since CMA graduation, etc.), and included, for example, frequency and percentages for all answers about demographics (Howell, 2010). Such tests also included descriptive analysis for measures of central tendency, tabulated and graphically-displayed bar and line charts to visually examine the data set (Field, 2009). Tests for normality were conducted to ensure employing parametric tests by computing skewness and kurtosis using Kolmogorov-Smirnov (K-S) tests and Shapiro-Wilk tests (Black, 2009; Keith, 2006), and the data revealed that normality was not met. For hypothesis testing, when data was continuous, but not normally distributed, and linearly related, nonparametric analysis, Spearman product moment correlation (Qs1-2), were conducted to assess the associations between the five predictor variables and SA (H1-2) followed by multiple linear regression (MLR) (H1-3) (Black, 2009; Field, 2009; Keith, 2006). Due to failure of the normality test, the Spearman correlation test was conducted.

Variables were evaluated by what they added to the prediction of the criterion variable (strategic alignment), which was different from the predictability afforded by the other predictors in the model (Aczel & Sounderpandian, 2006; Black, 2009; Keller & Warrack, 2000; Tabachnick & Fidell, 2007, 2012; Vogt, 2007; Zikmund et al., 2010). The assumptions of normality and linearity have been assessed through scatterplots (Aczel & Sounderpandian, 2006; Keller & Warrack, 2000; Brierley et al., 2001, 2006; Zikmund et al., 2010). Because normality was not supported for any variable, Spearman *rho*, a non-parametric

test, was used to test all correlation hypotheses. Any absence of multicollinearity assumes that predictor variables were not too related, and were assessed using Variance Inflation Factors (VIF) (Aczel & Sounderpandian, 2006; Field, 2009). The observed VIF values of under 10 suggested the absence of multicollinearity as discussed in the data assumptions subsection (Cohen et al., 2003; Keith, 2006; Myers, 1990; Stevens, 2008; Vogt, 2007).

Validity and reliability. Two independent variables, quality of information technology, and the extent of use of innovative management accounting techniques posted a respective Cronbach's α of 0.77 and 0.76 (Al-Omiri & Drury, 2007). The first variable is akin to a CMP-survey item referred to as the high level of quality of the overall cost information under the SCM subdimension, and the second variable is similar to an item labeled the adoption of innovative SMAPs, embedded within the costing system subdimension. Based on the item citations in the SSCI (Social Science Citation Index) and counts in the SSRN (Social Science Research Network), the item relevance and authoritativeness loaded relatively high (SSRN, 2010; Thomson Reuters, 2010). In most instances, CMAs were participants whether the research was quantitative, qualitative, or mixed methods. This survey-research examination revealed the use of 44 validated instruments with five research questionnaires and one was retained (Drury & Tayles, 1994a) as the foundation for this CMP-study's survey. The CMP-study survey is a version of the retained survey.

Given that the concept of validity connected with the intended research instrument, hypotheses, conclusion, or inference (Vogt, 1997, 2007), the

examination's main criterion for the CMP study depended on the notion that validity must have had research validity of four types: statistical conclusion (relationship), internal (credibility), construct (operationalization), and external (transferability, generalization) validity (Campbell, 1957; Campbell & Fiske, 1959; Cozby, 2009; Shadish, Cook, & Campbell, 2001; Zikmund et al., 2010). The inquiry was focused on the following appropriate M-A studies and their related questionnaires: (Al-Omiri & Drury, 2007; Anderson & Widener, 2007; Brierley, 2008; Brierley et al., 2001, 2006, 2007; Drury & Tayles, 1995, 2005; Dunk, 2004; Ewert & Wagenhofer, 2006; Guilding et al., 2000; Lapsley & Wright, 2004a; Modell, 2005, 2009, 2010; Modell & Lee, 2001). Among such studies, the cited five surveys and their year of formulation are from the following researchers. The number of questions follows each citation: (Brierley et al., 1999), 40; (Drury & Tayles, 1994a), 93; (Drury & Tayles, 2006a), 45; (Lapsley & Wright, 2004b), 15; (Widener, 2004), 61. Validity was legitimized for all the mentioned surveys.

Surveying CMPs included examining SMAP conditions, for example, encompassing internal control framework (CMAC, 1985, 2002d; Gerdin, 2005), and ensuing MAPs (Kennedy & Widener, 2008; Nicolaou, 2003). Such authors revealed the absence of reliability issues by using M-ABs as sources of participants, and relied on the authoritative sources listed within parentheses after their names, each seriated by semi-colons: Brierley et al. (1999), (Miles & Huberman, 1994; Strauss & Corbin, 1998); Drury & Tayles (1994a), (based on 1991 survey); (Ryan, Scapens, & Theobald, 1992; Scapens, 1985); Drury and Tayles (2006a), (Drury & Tayles, 1994a, 2005; Hair, Anderson, Tatham, & Black,

1998); Lapsley and Wright (2004b), (Malmi, 1999; Widener, 2004), Widener (2004) (Cronbach, 1951, 1970; Kline, 1998, 2011; Milgrom & Roberts, 1995; Nunnally, 1978; Simons, 1990, 1994, 1995, 2000). Another source of survey validation for Al-Omiri and Drury (2007) was developing their questionnaire based on the method recommended by De Vaus (1990), and posting a Cronbach's α of 0.77.

Assumptions

In the current study, the use of the quantitative methodology via the CTM-A especially radiated the notion of cautious quantitative research data underpinning methodological assumptions, limitations, and delimitations (Lukka & Modell, 2010). The assumptions caption revealed suppositions about the population. The limitations title informed about potential weaknesses to interpretation and validity. The delimitations description addressed specific choices made to narrow the scope of the study.

Some of the basic assumptions included: (a) a focus population of CMAs from M-ABs, the random samples of which provided significant insights into CMPs; (b) although such samples were limited, the samples captured representative findings generalizable to the population, and; (c) numerical data allowed to determine correlations (Pagano, 2010), multiple linear regression (Lewis-Beck, 1990; Keith, 2006, Vogt, 2007), and difference between population samples (Borrego et al., 2009). There were additional rationales for other assumptions, which were that: (d) the study's results represented different types of business (i.e., manufacturing and non-manufacturing) in various natural

settings (corporate, public sector, and Not For Profit), and from several, but not all countries, and; (e) as such, readers will interpret results as being more representative than the sources they emanated from, including the limitations associated with the use of the Internet to help surveying study participants, for the respondents' truthfulness may have indeed affected survey results (Crotty, 1998; Padgett, 2009).

Other supported assumptions included: (f) that the previously-discussed and scholarly-used SMBCA, as a pillar of the quantitative methodology stipulated, has facilitated this methodology as the method of choice to research, test, and possibly discover SM-A theories, and to implement CMPs and other SMAPs, as certain scholars proffered (Anderson, 2007; Anderson & Dekker, 2009a, 2009b; Anderson & Widener, 2007; Chenhall, 2008); (g) participants-CMAs responded candidly to all research questions, and; (h) respondents have refrained from personal prejudices about their organizations' practices.

Limitations

Several limitations have applied to this CMP study. The limitations involved participants-respondents' truthfulness, including participants: (a) possibly responding with bias; (b) not knowing the answers to certain questions but still responding, and; (c) willfully or involuntarily misrepresenting the truth (Crotty, 1998; Padgett, 2009). While the survey was CMP epi-centric: (d) no interview were conducted to capture costing behaviors related to CMPs; (e) the stated anonymity may not have fully dispelled all fears about data use; (f) the detailed quantitative research questions may not have effusively encapsulated

and captured the dynamic nature of CMPs as interview questions would have with follow-up questions. Another possible limitation may have been (g) the exclusive participation of CMAs in certain regions and countries although mitigated by the common characteristics of participants and assured confidentiality. In addition, (h) survey questions and the duration of the questionnaire may not have restrained participants to exit answering questions as much as interviews would have despite depicting the response rate through a progress bar.

Another potential limitation associated with the methodology was that since the participants were drawn from certified members of CIMA, CMAC, and the IMA, and an unknown number responding to the invitation to participate, thus, there might have been an imperfect random selection from the total worldwide population of CMAs. Consequently, the formed research conclusions based on the groups of participants may not have been representative of the entire population of all CMAs that the results from the study sought to address. Therefore, generalization was limited because the sample population was somewhat restricted.

Among measures taken to mitigate limitations, the study was limited by the total smaller number of 166 responses obtained and 107 useable responses (92 participants was the expected, minimum required number of CMA responses), but also facilitated the analysis of data. The number of responses has been greater than required by a power analysis before beginning the data collection phase. In this study, the participants were CMAs from several, but not

all countries (e.g., U.S.A., Canada, the UK, China, Australia, New Zealand, Germany, South Africa, Vietnam, Pakistan, India, the United Arab Emirates, and in some other countries). As such, the varied expertise and diversity of participation has, in principle, mitigated the risk associated with fixed approaches to choosing CMPs. Participants of countries with states and provinces provided such disclosure potentially revealing differences in underlying corporate cultures. Another limitation of this study was that the research has not gain input from all participants beyond CMAs and other finance professionals, but has gained from the in-depth knowledge in the field of SM-A, thus, mitigated internal and external validity (Campbell & Fiske, 1959; Vogt, 1997, 2007).

Delimitations

In addition to inherent limitations, this study was also subject to the several delimitations. As such, the delimitations addressed and narrowed the scope of the study and population. One restriction was to limit participation to those individuals defined as CMAs and MAs. Other significant delimiters included: (a) samples drawn only from all M-ABs; (b) the exclusive participations of CMAs and MAs may have restricted the knowledge needed for the study; (c) not all dimensions of M-A studies, but only those related to the scope of the chosen dimensions (strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices of CMPs were examined, and; (d) the actual sample size of 107 participants provided sufficient data to generalize results. Other delimitations included: (e) the use of the Internet for the English-only research survey; (f) the

first invite period limit of 15 days with an email reminder toward the end of the 15-day period, and a second and third invitation between day 15 and the end of the survey (72 days after launch); (g) no strategy or action to access designated accountants other than CMAs (but including CGMAs) to potentiate the quality of responses, and; (h) the inability to calculate the expected response rate and true reaction to questions other than a priori perceptions (Zikmund et al., 2010).

Ethical Assurances

After receiving approval from the Institutional Review Board of Northcentral University to proceed with research and data collection, the CMP-study survey was posted on the Internet. Upon entering the online survey, participants read the CMP-study author's introductory remark and the description of the study. Still within the first screen, CMAs who chose whether to participate in the survey read the informed consent statement including a short electronic signature statement, and by clicking on the "Take Survey button, and I agree to participate in the survey", CMAs provided their de facto electronic signature, and were taken to a second screen for instructions and definitions. At the end of the second screen, CMAs clicked "Enter Survey" and were immediately taken to a third screen to the survey. Participants choosing to participate were thanked at the end of the survey. Participants who declined to take the survey, selected the "No, Thank You" button, and in a final screen, those CMAs were thanked for their time. Examples of measures taken to help ensure the integrity of the CMP-research study included SM-A constructs and other key definitions (within survey), specific opening survey remarks, and request to CMAs for reading and

understanding the SMBCA to avoid misguidance, misinterpretation, and deceit to alleviate any participation angst, emotional stress, and psychological harm for an overall informed participant consent (see Appendix C). Organizational information about CMPs and SMAPs, and private personal information were maintained with the utmost confidentiality and respect to protect the anonymity and integrity of research data whether data divulged corporate strategies and personal information. There have been: (a) compliance with legislation, regulations, and ethical principles—protection of human subjects of research namely beneficence, autonomy (respect for persons), and justice (Hicks, 2009)—, and institutional rules; (b) safeguard of organizational and personal data; (c) protection of the identity of CMA-participants, and; (d) respect CMAs' adherence to their association's code of professional ethics. Because the research dealt with practices, no behavioral aspects, obedience, disobedience, group pressure, and action and abuse against a person were at stake in the CMP study (Milgram, 1963, 1964, 1965; Reverby, 2000).

Assuredly, all research work in this CMP study was cited when secured from external sources. Therefore, this is an attestation that this research complied with professional requirements for ethical research: (a) to obey and uphold domestic, local, and international laws and regulations, accounting standards and practices of the M-ABs, and entertained participant complaints with dignity, and; (b) to strive to create and sustain value throughout the research process and study neither manifesting ego, nor malice, and to affirm, to the best of abilities, to endeavor enhancing strategic management accounting research.

In addition, another main ethical concern relative to fellow CMAs is to respect them in their capacity as employees, consultants, and educators; and challenge them, within ethical boundaries. The CMP-research survey was anonymous, and survey questions did not include those that made CMA-participants uncomfortable. The CMP questions did not lead to employability, financial-standing, and personal-reputation problems, and conflicts of interest involving human subjects (Fiore, 2009).

Other authoritative standards such as the Canadian Tri-Council Policy (Hicks & Simmerling, 2009) and international guidelines of the World Health Organization (Fitzgibbons & Wenjin, 2009) were applied and observed. Based on the Code (Office for Human Research Protections [OHRP] Code, 2005), and the work of Fitzgibbons and Wenjin (2009) and Drury and Tayles (1994a), no questions elicited response about private identifiable information of individuals either as survey participants, or for whom (individuals) the prospective CMA-participants work.

Summary

A quantitative methodology, correlational design (Drury & Tayles, 2005) with random sampling (Keppel, 1991) was selected as most appropriate for this CMP study. The quantitative methodology and correlation design facilitated applying the CTM-A (Ahrens & Chapman, 2006; Al-Omiri & Drury, 2007; Brierley, 2008; Brierley et al., 2001, 2006, 2007; Charmaz, 2006). The CMP study was a premiere of CMPs involving the simultaneous use of the five predictor variables,

of SCM, CS, CPRM, and specific SMAPs and SMCs, and the criterion variable, SA.

Despite the survey-dissemination strategy through the MA-Bs (i.e., CMAs), response rates may have been low (CIMA, 2009a; CMAC, 2009a; IMA, 2009a). Given the recruiting strategy, response rate of 107 CMAs, and the a priori expected sample size of 92 CMAs, strategy and results have allowed for statistical significance. Participant commonality existed because of the choice of CMAs as participants, based on their knowledge of SMCs, SMAPs, and CMPs (CIMA, 2009a; CMAC, 2009a; IMA, 2009a). The study instrument was the CMP-research study survey generated from the previously-validated questionnaire with replication of a triage of survey questions used as the study instrumentation (Drury & Tayles, 1994a). The sample-test assumptions were a power of 0.80 with a 0.05 alpha level of significance (two sided) (Cohen, 1988; Gerstman, 2003), and an effect size of 0.15 (Cohen, 1988).

The CMP-survey questions pertaining to CMPs, SMAPs, and SM-A were Likert-type scaled that have achieved reliability and validity through their use with ordinal scale data values, and the use of the CTM-A by many M-A scholars (Brierley, 2008; Brierley et al., 2001, 2006, 2007; Drury & Tayles, 1995, 2000, 2005). Given the delimitations of the study was narrowed through the scope of the study and population; the delimitations mitigated most of the study's limitations. With measures of ethical assurances anchored in anonymity, personal privacy, beneficence, autonomy (respect for persons), justice, freedom from bias, and the absence of conflict of interest, all questions about corporate

practices and policies led to continuous integrity throughout the research process.

Quantitative correlation analysis was conducted through Spearman *rho* and multiple regression analysis, and the SPSS software was used (Cohen et al., 2003; Keith, 2006; Lewis-Beck, 1990; Vogt, 2007). Study results have contributed to closing the well-established gap between practice and education through practitioner-based educational programs (Sorensen, 2009).

Chapter 4: Findings

The purpose of this quantitative, correlational study was to examine whether relationships existed between, and determine the predictive values of the cost management practices (CMP) of (a) strategic cost management (SCM), (b) costing systems (CS), (c) customer profitability management (CPRM), (d) specific strategic management accounting (SM-A) practices (SMAP), and (e) specific strategic management concepts (SMC), and strategic alignment (SA). This examination and determination were to help firms select and implement CMPs and SMAPs that best align (SA) with enterprise goals to optimize sustained competitive advantage (SCA). Using the contingency theory of management accounting (CTM-A) (Otley, 1980) to enable such tasks and objective was mainly attained through an electronic questionnaire announced by the major M-A bodies (M-AB) (Chartered Institute of Management Accountants [CIMA], Certified Management Accountants of Canada [CMAC], Institute of Management Accountants [IMA]) and others (Institute of Cost and Management Accountants of India [ICMAI], Institute of Chartered Management Accountants of Pakistan [ICMAP], Institute of Cost Accountants of New Zealand [ICANZ], 2014) to participating CMAs.

Chapter 4 comprises three sections. Study results include narrative explanations for data collection and preparation, sample demographic characteristics, results of data assumptions tests, and results of hypothesis testing. This section is followed by an evaluation of findings describing whether the results were expected given the literature reviewed, and any potential

explanations for unexpected or conflicting results. Finally, a summary epitomizes the key elements presented in the chapter.

Results

This section includes first a brief description of the data collection and preparation. Then, it comprises demographic characteristics and descriptive and inferential analysis. The section also includes hypothesis testing and an explication of the results.

Data collection and preparation. Approximately 201,000 CMAs were invited to participate in the survey through M-AB CMA websites and media hyperlinks, and multiple accounting LinkedIn groups for CMAs. In addition, approximately 20,000 other professional accountants, finance professionals, and MBAs from around the globe were also invited to participate through non-CMA accounting LinkedIn groups. Approximately 150 CMAs and others received a personal invitation to participate through direct email and a direct link to the online survey. Thus, the sampling frame included approximately 221,150 accounting professionals invited to participate in the survey whether such invitations were read by the recipients.

The study sample was mainly from the M-ABs' membership rosters, resulting in 166 CMAs and other partakers responding to the invitations to participate in this research study. Data were collected via the CMP survey from December 1, 2013 to February 12, 2014 for a total of 73 days. Fifty-nine surveys were excluded for not consenting to participation, not providing demographics, or

for not completing the survey. Thus, the data-collection process resulted in a final sample of 107 useable completed surveys, a response rate of 64.5%.

Demographic characteristics. The majority of the study sample (*N* = 107) reported gender as male (73%) and 61 were Certified Management Accountants with membership in CMAC, IMA, and ICANZ (57%) followed by 24 Chartered Management Accountants with membership in CIMA and ICMAP (22%). Forty-seven participants (44%) held dual accounting designations, and of those, 14 were CPAs (30%), 13 were CGMAs (28%), and five were ACMAs/FCMAs (11%) with all other designations in the single digit in numbers and percentages. Of the 107 participants, the majority (83%) possessed university degrees at the graduate level; 45 (51%) participants held an MBA, 19 (21%) an MSc, 10 (11%) a PhD, and 15 (17%) held some other research or professional degree. One hundred CMAs (93.46%) disclosed their number of years since graduation (certification), and a majority has been a CMA for 10 and more years (70%), and 56 for 15 and more years (56%). Forty-three percent reported holding the CMA certification for 20 and more years, and years as a CMA ranged from 0 (i.e., apprenticeship not completed) to 38 total years. The average number of years (*n* = 100) was 16.40 (*SD* = 10.93). Frequency and mean tables for demographic characteristics can be found in Appendix D.

Of the 107 firms represented, 43 (40%) belonged to the non-manufacturing sector, 27 (25%) to manufacturing, 23 (21%) to the NFP sector, and 14 (13%) to the public sector. Of that number, 47 (44%) businesses were located in Canada, 25 (23%) conducted operations in the United States, while all

other countries were respectively represented by single digit in numbers and percentages. Seventy-nine (73.83%) disclosed total annual sales, which ranged from $200 thousand to $53 billion dollars. Seventy-three firms (92.41%) earned annual sales of $1 million and more, 57 entities (72.15%) had $10 million and more, 47 (59.49%) recorded $25 million and more, 40 firms (50.63%) had $50 million and more, 37 firms (46.84%) posted $100 million and more, 28 firms (35.44%) had $250 million and more, while 21 entities (26.58%) accounted for $500 million and more in annual sales. The average annual sales was $1.64 billion (*SD* = $6.57 billion) (see Appendix D).

The planning horizon for the firm's business strategy ranged from 1 to 20 years (*M* = 4.23, *SD* = 2.69) while the planning horizon for CFO or FD business strategy ranged from 1 to 7 years (*M* = 3.34, *SD* = 1.60). Of the 107 participant-firms, 99 (92.52%) submitted data for the firm's planning horizon. Sixty-six entities (66.67%) planned for 3-5 years while 23 (23.23%) planned for 1-3 years. For the CFO's planning horizon, 90 firms (84.11%) submitted this type of information. Sixty-one firms (67.78%) planned for 3-5 years and 26 (28.89%) for 1-2 years.

Instrument reliability. Cronbach's alpha was used to test the reliability of the instrument's six scales (SCM, CS, CPRM, specific SMAPs, specific SMCs, and SA). Two subscales were also created from a smaller portion of questions of Specific SubSCM and Specific SubSMAPs. Reliability results ranged from .69 (SA) to .99 (CS and CPRM), which was an acceptable internal reliability (George & Mallery, 2009). With the exception of SA, all the scales presented a high level

of reliability (> .90). Cronbach alpha reliability results can be found in Appendix E.

Data assumptions. Outliers were examined for throughout the six mentioned scales. Outliers were defined as values that were 3.29 standard deviations from their mean (Stevens, 2008). Five outliers were removed from SA, and two values were removed from SMCs. Skew and kurtosis were also examined (see Appendix F), and a negative skew was found for all variable-subscales. Negative kurtosis was found for SCM, CS, CPRM, and specific SMAPs, while positive kurtosis was found for specific SMCs and SA.

Data assumption tests for parametric correlation and multiple linear regression included considerations for linearity, normality, and homoscedasticity (Miles & Shevlin, 2001), and normality was assessed after absence of multicollinearity was assessed (Miles & Shevlin, 2001). Multicollinearity means there should be no perfect linear relationship between two or more predictor variables, thus, it is argued that predictor variables should not correlate too highly (Field, 2009; Stevens, 2008). The absence of multicollinearity assumes that predictor variables were not too related, and assessed using Variance Inflation Factors (VIF) (Aczel & Sounderpandian, 2006; Field, 2009). Traditionally, VIF values over 10 have suggested the presence of multicollinearity, for example with tolerances of .10 for a VIF of 10, .14 for a VIF of 7, and .17 for a VIF of 6 while VIF values of 6 or 7 may be reasonably flagged for excessive multicollinearity (Cohen et al., 2003; Keith, 2006; Myers, 1990; Stevens, 2008; Vogt, 2007). The SPSS diagnostic tools were used to examine multicollinearity, or absence of

multicollinearity achieved though VIFs (Aczel & Sounderpandian, 2006; Field, 2009), and the associated tolerance results above .10 (.324 to .486), and the related observed VIF values were below 10 (2.04 to 3.09), which suggested the absence of multicollinearity (Cohen et al., 2003; Field, 2009; Keith, 2006; Myers, 1990; Stevens, 2008; Vogt, 2007). Normality was also visually assessed with P-P plots (see Appendix G), and with the Shapiro-Wilk (SW) (SCM, .881; CS, .868; CPRM, .862; SMAP, .863; SMC, .856, and; SA, .834) (Altman & Bland, 1995; Cohen et al., 2003; Field, 2009; Keith, 2006; Myers, 1990; Peat & Barton, 2005; Stevens, 2008); and normality was not met. Because the assumption of normality was not met, the other assumptions tests were not pursued and nonparametric correlation was conducted (Aczel & Sounderpandian, 2006; Cohen et al., 2003; Cooper & Schindler, 2008; Field, 2009; Keith, 2006; Miles & Shevlin, 2001; Myers, 1990; Stevens, 2008; UNESCO, 2012; Yu, 2012).

Descriptive analysis. The data set was analyzed for measures of central tendency (see Table 1), and customer profitability management had the lowest mean score of the six scales (M = 4.69; SD = 1.33) while specific SMAPs had the highest mean score (M = 5.87; SD = 0.74).

Table 1

Descriptive Analysis: Study Variables

Variable/Subscale	*M*	*SD*	Range
Strategic cost management (SCM)	5.05	0.88	2.70-6.09
SubSCM	5.58	0.87	3.33-7.00
Costing systems (CS)	5.46	1.07	2.67-6.66
Customer profitability management (CPRM)	4.69	1.33	2.00-6.84

Variable/Subscale	*M*	*SD*	Range
Specific strategic management accounting practices (SMAP)	5.87	0.74	3.97-6.93
SubSMAPs	6.39	0.97	3.00-7.00
Specific strategic management concepts (SMC)	5.15	0.72	2.62-6.28
Strategic alignment (SA)	5.65	0.47	4.00-7.00

Note. $N = 107$.

Hypothesis testing. The hypotheses of this quantitative study were tested with the Spearman's *rho* correlation non-parametric analysis for SCM, CS, CPRM, and specific SMAPs predicting SA. Spearman's *rho* or r_s was conducted with all variables not meeting the normality assumptions (Cooper & Schindler, 2008).

Question 1. To what extent, if any, do each of the subdimensions of CMPs and SMAPs—strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices—relate to SA across different types of firms and among CMAs of management-accounting bodies worldwide?

$H1_0$. There is no statistically significant relationship between each of the subdimensions of CMPs and SMAPs—strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices—and SA across different types of firms and among CMAs of management-accounting bodies worldwide.

$H1_a$. There is a statistically significant relationship between each of the subdimensions of CMPs and SMAPs—strategic cost management, costing systems, customer profitability management, and specific strategic

management accounting practices—and SA across different types of firms and among CMAs of management-accounting bodies worldwide.

Question 3. What is the predictive value of each subdimension of SM-A (strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices) for SA?

$H3_0$. The subdimensions of SM-A—strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices—are not statistically significant predictors of SA.

$H3_a$. The subdimensions of SM-A—strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices—are statistically significant predictors of SA.

Correlation analysis. Results of the Spearman correlation analysis showed 21 significant relationships between the six study variables ($p < .05$) and two subvariables for hypotheses 1 and 3 (see Table 2). Results showed strong, moderate, and slight positive relationships between, among the predictor variables, and with the criterion variable. A moderate positive relationship between SCM and CS ($r_s = .64$; $p < .05$); a slight positive relationship between CS and SubSCM ($r_s = .21$; $p = .035$); a moderate positive relationship between CPRM and SCM ($r_s = .53$; $p < .05$); a slight positive relationship between CPRM and SubSCM ($r_s = .38$; $p < .05$); a moderate positive relationship between CPRM and CS ($r_s = .55$; $p < .05$); a moderate positive relationship between SMAPs and

SCM (r_s = .57; p < .05); a slight positive relationship between SMAPs and SubSCM (r_s = .27; p = .004); a strong positive relationship between SMAPs and CS (r_s = .84; p < .05); a moderate positive relationship between SMAPs and CPRM (r_s = .45; p < .05); a moderate positive relationship between SubSMAPs and SCM (r_s = .51; p < .05); a slight positive relationship between SubSMAPs and SubSCM (r_s = .28; p = .004); a strong positive relationship between SubSMAPs and CS (r_s = .70; p < .05); a moderate positive relationship between SubSMAPs and CPRM (r_s = .47; p < .05); a slight positive relationship between SMCs and CS (r_s = .29; p = .003); a slight positive relationship between SMCs and SMAPs (r_s = .37; p < .05); a moderate positive relationship between SA and SCM (r_s = .44; p < .05); a strong positive relationship between SA and CS (r_s = .71; p < .05); a slight positive relationship between SA and CPRM (r_s = .37; p < .05); a strong positive relationship between SA and SMAPs (r_s = .71; p < .05); a moderate positive relationship between SA and SubSMAPs (r_s = .42; p < .05), and; a moderate positive relationship between SA and SMCs (r_s = .63; p < .05). Based on the significant associations found and the significant regression model, null hypothesis 1 was rejected, and support existed for the alternate hypothesis.

Table 2

Spearman Correlation Matrix: Study Variables

Variable	V1	V1.1	V2	V3	V4	V4.1	V5	V6
V1. SCM	-							
V1.1 SubSCM	-	-						
V2. CS	.64*	.21*	-					
V3. CPRM	.53*	.38*	.55*	-				
V4. SMAPs	.57*	.27*	.84*	.45*	-			
V4.1 SubSMAPs	.51*	.28*	.70*	.47*	-	-		
V5. SMCs	.18	-.11	.29*	-.02	.37*	-.01	-	
V6. SA	.44*	.12	.71*	.37*	.71*	.42*	.63*	-

Note. $N = 107$; $^*p < .05$.

Regression analysis. Given the absence of normality, the sample size (N = 107) justified the pursuit of multiple regression following nonparametric correlation analysis (Cohen et al., 2003; Elliot & Woodward, 2007; Field, 2009; Keith, 2006; Miles & Shevlin, 2001; Myers, 1990; Nunnally, 1978; Pallant, 2007; Stevens, 2008; Tabachnick & Fidell, 2007, 2012; UNESCO, 2012; Yu, 2012) as in large samples (>100), the distribution of the data can be ignored when approximately normal (Cohen et al., 2003; Elliot & Woodward, 2007; Field, 2009; Keith, 2006; Miles & Shevlin, 2001; Myers, 1990; Nunnally, 1978; Pallant, 2007; Stevens, 2008; Tabachnick & Fidell, 2007, 2012; UNESCO, 2012; Yu, 2012), and means of random samples from any distribution may demonstrate normal

distribution (Aczel & Sounderpandian, 2006; Altman & Bland, 1995; Cohen et al., 2003; Field, 2009; Keith, 2006; Miles & Shevlin, 2001; Myers, 1990; Nunnally, 1978; Stevens, 2008; Tabachnick & Fidell, 2007, 2012; UNESCO, 2012; Yu, 2012). Given the assertive, convergent, salient reasoning of research authorities on the assumptions of multiple regression, assumptions other than normality were not addressed. Therefore, multiple regression analysis was deemed plausible and appropriate for hypothesis testing (Altman & Bland, 1995; Cohen et al., 2003; Elliot & Woodward, 2007; Field, 2009; Keith, 2006; Miles & Shevlin, 2001; Myers, 1990; Nunnally, 1978; Pallant, 2007, Tabachnick & Fidell, 2007, 2012). Regression analysis returned one significant model (see Table 3), which has the same variables for H1 and H3. The model suggested that two predictor variables, CS ($B = 0.18$, $t(97) = 3.43$, $p = .001$) and SMAPs ($B = 0.32$, $t(97) = 4.93$, $p < .05$) were significant predictors of SA. In addition, the regression model was found significant ($R2 = .54$, $F(4, 97) = 28.54$, $p < .05$) and explained 54% of the variance of SA resulting in the predictor equation:

SA = 3.21 + -.03 SCM + .18* CS + -.06 CPRM + .32* SMAPs

Based on the significant associations found and the significant regression model, null hypothesis 3 was rejected, and support existed for the alternate hypothesis.

Table 3

Regression Analysis: SCM, CS, CPRM, SMAPs, and SA

Variable	*B*	*SE*	B	*T*	*p*
SCM	-0.03	0.05	-.05	0.53	.597
CS	0.18*	0.05	.41*	3.95	.001
CPRM	-0.06	0.04	-.18	-1.85	.068
SMAPs	0.32*	0.07	.52*	4.93	.000
R^2 = .54 *F* = 28.54					

Note. *N* = 107; **p* < .05; SMCs was excluded.

Hypothesis 2. To what extent, if any, does the subdimension of SM—specific strategic management concepts—relate to SA across different types of firms and among CMAs of management-accounting bodies worldwide?

$H2_0$. There is no statistically significant relationship between the subdimension of SM—specific strategic management concepts—and SA across different types of firms and among CMAs of management-accounting bodies worldwide.

$H2_a$. There is a statistically significant relationship between the subdimension of SM—specific strategic management concepts—and SA across different types of firms and among CMAs of management-accounting bodies worldwide.

Correlation analysis. Spearman correlation analysis showed a moderate positive significant relationship between SMCs and SA (r_s = .63; p < .01) (see Table 2). Thus, as SMCs increased, SA also increased (Cohen, 1988).

Regression analysis. SMCs was found to be a significant predictor of SA (B = .48, t (98) = 8.53, p < .05) (see Table 4), and one significant regression model was found in analysis (R^2 = .43, F (1, 98) = 72.71, p < .05). SMCs

explained 43% of the variance of SA and resulted in the following predictor equation.

SA = 3.11 + .48* SMCs

Based on the significant association and significant regression model, null hypothesis 2 was rejected, and support existed for the alternate hypothesis.

Table 4

Regression Analysis: SMCs and SA

Variable	*B*	*SE*	B	*T*	*p*
SMCs	0.48*	0.06	.65*	8.53	.000
R^2 = .43 *F* = 72.71					

Note. $N = 107$, $p < .05$.

Evaluation of Findings

Spearman correlation analysis resulted in 21 significant relationships, and regression analysis resulted in one significant model with SCM, CS, CPRM, and specific SMAPs predicting 54% of the variance of SA ($R^2 = .54$, $F(4, 97) = 28.54$, $p < .05$). Following is an evaluation of the hypothesis results as compared and contrasted with current research findings.

Hypotheses 1 and 3. The hypothesis 1 and 3 findings were comparable with previous studies (Al-Omiri & Drury, 2007; Anderson, 2007; Anderson & Dekker, 2009a, 2009b; Anderson, Christ, Dekker, & Sedatole, 2014; Brierley, 2008; Brierley et al., 2007; Chenhall, 2008; Dekker, Sakaguchi, & Kawai, 2013;

Widener, 2007), and the current study results for hypothesis 1 and 3 were comparable with one of the earliest, if not the first use of the CTM-A.

Strategic cost management. Five significant positive associations were found between SCM and predictor variables: CS, CPRM, SMAPs, SubSMAPs, SMCs, and SA, the criterion variable. A previous study of product costing practices (Brierley et al., 2007) found the predictor, product cost structure, an element of SCM, not [*emphasis added*] to be significantly associated with SCM, the chi-square test indicating no significant differences found in the predictor, the level of direct material, direct labour, manufacturing overhead and non-manufacturing overhead costs, such as SCM, across industries comparable to SA. The current study found a significant relationship between SCM and SA (r_s = .44; $p < .05$), which contrasted to Brierley et al. (2007).

In a meta-analysis study of SCM delving into structural cost management (SLCM) and executional cost management (ELCM) through the value chain (Anderson, 2007), the author posited that SCM takes on two forms, SLCM, focused on competitive cost structure (i.e., SCM per se) and ELCM, focused on cost effective execution of the strategy (SA) with the view of inciting the use of SCM and further acquisition of cost management skills by managers and students. Similarly, in the current study a significant relationship was found between SCM and SA (r_s = .44, $p < .05$). This relationship between SCM and SA was also consistent with other prior research. In a study of dynamic use of performance data, an integral component of SCM (Mahama, 2006), a performance management system (PMS), significance was found between PMS

and performance (R^2 = .56) for an overall significant regression model, and compared similarly with the current study.

In an empirical-analysis study of levers of controls, four independent variables—beliefs, boundaries, diagnostics-monitoring, and interactive management—(Widener, 2007) were gathered in a survey of 122 Chief Financial Officers to ascertain whether controls (SMC) had a positive effect on firm performance (SA and SCA), the dependent variable. A significant relationship was found between diagnostic controls (SCM), which was comparable to the H1 and H3 results.

In two additional conjoint studies on SCM (Anderson & Dekker, 2009a, 2009b), the researchers focused on SLCM and ELCM and posited that SLCM and ELCM with the top four measures of on-time delivery, quality, service, and price were irreversible elements of SCM as ascertained by frameworks associated with joint product and process design (SLCM) and augmented ELCM training and teaching. Their findings were comparable to the current study whereby SCM was significantly associated with SA.

Costing systems. Significant positive associations were found between costing systems and six other predictor variables (CS and SCM, CS and SubSCM, CS and CPRM, CS and SMAPs, CS and SubSMAPs, CS and SMCs), and between CS and SA, the criterion variable. H1 and H3 regression analysis found one significant model with SCM, CS, CPRM, and SMAPs that explained 54% of the variance of SA (R^2 = .54, F (4, 97) = 28.54, p < .05). These results were comparable with the results of a study by Al-Omiri and Drury (2007) of

product costing systems (CS design and complexity) (Al-Omiri & Drury, 2007), for example, about certain factors (e.g., the predictor, importance of cost information) measured through two criterion variables: cost pools and cost drivers. The authors also found a significant association existed between quality of information technology (CS) and extent of use of management accounting techniques (SMAPs). Similar to the current study, an overall regression model of nine predictor variables (volume diversity, importance of cost information) explained 24% of cost pools and 27% of cost drivers (Al-Omiri & Drury, 2007).

Customer profitability management. Positive associations were found between and among the predictors, CPRM and SCM, CPRM and SubSCM, CPRM and CS, CPRM and SMAPs, CPRM and SubSMAPs, and between CPRM and SA, the criterion. Regression analysis found one significant model with SCM, CS, CPRM, and SMAPs predicting 54% of the variance of SA, $R^2 = .54$, $F(4, 97) = 28.54$, $p < .05$. Such findings are comparable with the results of studies on customer profitability and CPRM as a sound SMAP. However, regression analysis found a negative association between CPRM and SA ($B = -0.06$, $p = .068$) comparable with a study on CPRM (IMA, 2010) where management executives and managers do not fully perceive the value proposition of CPRM, or are unaware that the best way to augment profitability is to measure and manage customer profitability, thus, improving overall corporate performance (IMA, 2010). Despite the scholarly-documented, worldwide adoption of CPRM by several companies (e.g., First Union Corporation, Fed Ex, Standard Life Assurance, Bank of America, First Chicago Corporation/Bank One, Paging Network, Inc.,

American Express, Intuit/Quicken, Southwest Airlines, Sears, Swedbank, Kanthal, The Co-operative Bank, Mahany Welding Supply) (IMA, 2010), barriers to implementation (e.g., management and employee buy-in, staff involvement with a sense of ownership, significant resources, incentive-system changes) have stifled the proliferation of CPRM (IMA, 2010). All such hindrances have contributed to CPRM *not* [emphasis added] being widely implemented as other SMAPs (IMA, 2010), thus, making this study finding (B = -0.06, p = .068) comparable with such prior research.

Strategic management accounting practices. As noted in the current study results, significant positive associations were found between and among the predictor variables (SMAPs and SCM, SMAPs and CS, SMAPs and SubSCM, SMAPs and CPRM, SMAPs and SMCs), and between SMAPs and SA, the criterion variable. One significant regression model was found that explained 54% of the variance of SA (R^2 = .54, F (4, 97) = 28.54, p < .05). These results were contiguous with prior SMAP research on product costing practices (PCP) (Brierley et al., 2007). Brierley et al. (2007) found the predictor, product cost structure (an element of SCM), was not [*emphasis added*] significantly associated with SCM and no significant differences were found between the predictor variables of the level of direct material, direct labour, manufacturing overhead and non-manufacturing overhead costs (SCM) across industries (SA). As previously noted, in the current study, a significant relationship was found between SCM and SA, which was in contrast to Brierley et al. (2007). However, the current study findings for H1 and H3 were comparable with the findings of

Drury and Tayles (2005) who established that a moderate positive relationship existed between SMAPs (ABC) and CS.

Strategic alignment. The significant relationships found in the current study between SA and the five predictor variables, and the significant regression model that explained 54% of the variance of SA, were supported by prior research. The proliferation of the BSC has been widely accepted globally (Armitage & Scholey, 2007) with estimates of 40-50% of Fortune 500 companies that have adopted the BSC. The BSC alone, as a SMC, was found to enable SA and was comparable to the current study findings for SA. Strategy map, or mapping strategy, is a robust advanced management technique and leading-edge SMC that was reported to enable SA (Armitage & Scholey, 2007). The relationships between SM-A (SMAPs and SMCs) and strategy (SA) have been hypothesized as testable propositions in extant literature (e.g., Ahrens & Chapman, 2006). Similarly, in studies of SCM, governance and management control practices have abounded whether the transaction cost economics (TCE) was used (Anderson & Dekker, 2009a, 2009b; Anderson et al., 2014; Dekker et al., 2013), indicating support for the need for SA.

In a recent field-based study (open-ended interviews, $N = 37$; and survey, $N = 56$) of strategic alliances, Anderson et al. (2014) examined management control practices (i.e., MCPs) and alliance risk as a criterion variable with predictor variables of performance risk, relational risk, and compliance and regulatory risk-predictors, and found performance risk and relational risk were significantly correlated ($r = 0.47$; $p < 0.01$), as were performance risk and

compliance and regulatory risk (r = 0.24; $p < 0.01$). In addition, a significant regression model explained 19% of the variance of partner selection and management (similar to SA). These results were comparable with the current study H1 and H3 findings.

Hypothesis 2. Hypothesis 2 results were comparable with previous studies (Ansari et al., 2007; Davila & Wouters, 2007). Following is an evaluation of hypothesis-2 results as they compared and contrasted with current-research findings.

Strategic management concepts. The SMCs used in the study were a de facto scholarly and professional endorsement representing a set of strategic-planning constructs and techniques (Armitage & Scholey, 2007). Two researchers previously enabled the advancement of managing product development and sound cost management, and posited that such practices enabled SCA (SA) (Davila & Wouters, 2007). A trio of scholars have demonstrated the contribution of target costing (TC) to M-A and SCM, and posited that TC provided SA and a SCA (Ansari et al., 2007), as much as SMCs enabled SA and SCA. For example, SCA was found to enable performance management, new product development (NPD), ABC, total quality management (TQM), Kaizen costing (Guay & Shao, 2001), and just-in-time (JIT), all of which interconnected with TC and offered insights into TC for successful implementation in different and more hostile marketplaces (Ansari et al., 2007). Thus, prior research indicated that the practice of the mentioned SMAPs, including the use of strategy maps and evidence-based decision making,

validated and enabled SMCs; thus, SMCs enabled SA (Armitage & Scholey, 2007; Marr, 2009, 2012a, 2012b, 2012c).

Given the broad scope of the research of MAPs in German-speaking countries (i.e., Austria, Germany, and part of Switzerland), two investigators (Ewert & Wagenhofer, 2006) provided sources that indicated that MAs and software engineers had developed GPK or Grenzplankostenrechnung hand-in-hand with software that could manage the necessary mass of cost data through the integration of GPK into the enterprise resource planning (ERP) software SAP R/3. This result corroborated the use of SAP with the balanced scorecard for SMCs to enable SA (Ewert & Wagenhofer, 2006; Sorensen, 2009). In other prior research, the judicious choice of qualitative and quantitative controls underlies the premise of financial risk management (FRM) to assist controlling organizational objectives and risks (CMAC, 2008). According to accounting institutes (e.g., the CMAC-2008 research was joint with CIMA and AICPA), FRM has become a SMC of choice among management executives and management accountants to preserve an organization's resources. Whether for example, due to entity failure (e.g., Arthur Andersen, the accounting firm; Barings Bank in the UK; Enron; Germany's Metallgesellschaft AG; UK's Northern Rock Bank; US municipality, Orange County, CA; Swisscom AG), or the success stories of using FRM (e.g., Cadbury Schweppes, Amazon, Bank of America), such events were linked to government control of governance in an overall effort by firms to surmount financial disaster and scandal and enable SA though such SMCs (FRM) (CMAC, 2008). With government responses related to governance and

internal control (Canada's National Instruments, National Policy, and Multilateral Instruments; Combined Code in the UK, the King Report in South Africa, the Sarbanes Oxley Act [SOX] in the U.S.A.), now, all public (numbered in the tens of millions, Securities and Exchange Commission-SEC) and some private companies are obligated to maintain an adequate internal control structure for financial reporting, accountability, and governance. As a result, it is now commonplace for virtually all entities to consider FRM, or the risk implications of many business decision-making problems, such as (a) making budgetary choices, (b) choosing between alternative operating plans, and (c) considering investment proposals. Risk reporting and risk disclosure have become increasingly important as stakeholders wish to know more about the risks that their organizations are taking (CMAC, 2008). Thus, the H2 findings were comparable to past research of SA.

Because enterprise risk management (ERM) is a structured, disciplined, and holistic approach that aligns strategy, processes, technology, and knowledge through managing uncertainties to create value, it is a SMC that maximizes shareholder value and enables SA (IMA, 2011). The worldwide acceptance of ERM as a value-creating SMC and SMAP echoes the view of 261 financial executives surveyed (Financial Executive Report on Risk Management) (IMA, 2011). In a study of 178 (68%) financial executives, CEOs were reported to place superior emphasis on all types of risks on a holistic basis for greater SA and SCA. While 151 (58%) reported their company had an ERM approach that considered various risk category interactions, 107 (41%) said the definition of

"risk" across the enterprise was consistent and well communicated (IMA, 2011). Likewise, the current study H2 findings were consistent with the cited research, which validated that SCMs (ERM) enabled SA, and SMAPs enabled SCMs.

Summary

The purpose of this quantitative, correlational study was to examine whether relationships exist between, and determine the predictive values of the cost management practices (CMP) of (a) strategic cost management (SCM), (b) costing systems (CS), (c) customer profitability management (CPRM), (d) specific strategic management accounting (SM-A) practices (SMAP), and (e) specific strategic management concepts (SMC), and strategic alignment (SA). The findings indicated 21statiscally-significant relationships existed between, among the mentioned predictors, and with SA (see Table 2) in a purposeful sample of 107 CMAs, other professional accountants, and finance professionals. Analysis was conducted using SPSS. Because the assumption of normality was not met, nonparametric correlation was conducted, followed by regression analysis. Thus, caution should be exercised in the interpretation of the results of the regression analysis (Cohen et al., 2003; Field, 2009). In summary, null hypotheses 1, 2, and 3 were rejected, and support existed for the three alternate hypotheses.

Regression analysis for hypothesis 2 revealed a predictor model that explained 43% of the variance of SA (see Table 4). Based on the results, null hypothesis 2 was rejected, and support existed for the alternate hypothesis. Past researchers of SCM, CS, CPRM, SMAPs, SMCs, and SA revealed similar, as

well as contrasting findings with the current study results (Ahrens & Chapman, 2006; Anderson, 2007; Anderson & Dekker, 2009a, 2009b; Anderson et al., 2014; Ansari et al., 2007; Davila & Wouters, 2007; Dekker et al., 2013; Ewert & Wagenhofer, 2006; IMA, 2009a, 2010, Marr, 2009, 2012a, 2012b, 2012c; Sorensen, 2009). Paralleling the results of the current study, past researchers also reported significant relationships and predictive values between the current study predictor and criterion variables (Al-Omiri & Drury, 2007; Anderson et al., 2014; Armitage & Scholey, 2007; Brierley et al., 2007; Drury & Tayles, 2005; IMA, 2011; Mahama, 2006; Widener, 2007).

Chapter 5: Implications, Recommendations, and Conclusions

The problem denoted in past research was that poor SCM, CSs, CMPs, SMAPs, and SMCs engendered the lack of SA across industries, thus, inhibited firm performance (Brierley, 2008; CMAC, 2009c, 2013a; Drury & Tayles, 2005, 2006b; Marr, 2009, 2012a; Porter, 1980; Shank, 1989). More specifically, inadequate SCM with scarce cost information (Shank, 1989; Widener, 2007); insufficient costing systems (Al-Omiri & Drury, 2007; Brierley, 2008), and; poor organizational fit of CMPs, SMAPs, and SMCs (Ahrens & Chapman, 2006; Anderson, 2007; CMAC, 2007; Drury & Tayles, 2005; Galbraith, 2005) with the absence of value-creating SMAPs (CMAC, 2013a; Guilding et al., 2000) had been found to contribute to the lack of SA. The purpose of this correlational, quantitative study was to examine whether relationships existed between and the predictive values of the CMPs of SCM, CS, CPRM, SMAPs, and SMCs, and SA.

The study was correlational and quantitative, used an online research survey, incorporated questions for each predictor variable (SCM, CS, CPRM, SMAPs, SMCs) and the criterion variable (SA), and sought insights on whether associations existed between such variables from 107 CMAs, other designated accountants, and finance professionals from around the world, for a response rate of 64.5%. Although statistically rigorous, a larger study sample size may have supported stronger generalization. Given the scope of the study and its survey, limitations of the results have been observed, which limitations may have affected study results as follow. The rather small number of nine SCM practices examined versus a total of at least 30 scholarly, globally-acclaimed SCM

practices (CMAC, 2014; IMA, 2014), and the explicit narrow coverage of contextual economic (FRB, 2013), organizational, political, social, and cultural factors (Al-Omiri & Drury, 2007; Brierley, 2008; Drury & Tayles, 2000, 2005), explained that the SCM result would have been different with more SMC practices and detailed statements (subquestions) about the mentioned factors. Another limitation was using one umbrella definition of costing-system complexity and sophistication in lieu of the 16 definitions found in scholarly literature (Brierley, 2008; Drury & Tayles, 2005), which restricted the understanding of MAs of CS complexity and accompanying result. Employing one central question and related subquestions with a constrained examination of customer satisfaction, loyalty, and value, products, and service lines with different customers and customer segments fell short of the full scope and requirements of CPRM (CMAC, 2000, IMA, 2010; Tatikonda, 2013), and confined the result to the topic areas researched.

Whereas approximately 525 scholarly-fabricated SMAPs, MAPs, and SM-A research reports and studies existed (CIMA, 2013a; CMAC, 2009c, 2009d; 2013a, 2013b, 2014; IMA, 2013b, 2014), respondents reported to what extent in general and specifically about 40 specific SMAPs that facilitated the implementation of their firm's strategy, and named and rated the 10 SMAPs most associated with SA; thus, restricting result to the investigated SMAPs. The study reported on 29 of the most used and contemporary SMCs enabling SA, thus, respondents were confined to a pre-determined scope of SMCs, which result showed ample support to enable SA, but conversely, that scope limited yielding

higher positive associations with other predictor variables. Whereas the current study involved all types of firm across the public sector, NFP sector, and manufacturing and non-manufacturing sectors, a more detailed application (construct definition) in another important study of some predictor variables—the level of direct material, direct labour, manufacturing overhead and non-manufacturing overhead costs—, and; a reduced study scope of only four industries (chemical products, industrial machinery, electrical and electronic equipment, and animal feed, confectionery, alcohol and tobacco products) (Brierley et al., 2007), the study variables and subdimensions may have caused different responses and outcomes.

Ethical assurances were provided to protect participants from harm, to provide participants with clear instructions regarding their rights and willingness to participate in the study, and to protect participant rights to anonymity and confidentiality. Additionally, ethical assurances were provided that indicated a commitment to integrity and honesty with all study participants and collaborating organizations. This research was carried out in accordance with the guidelines of the U.S. National Research Act: Code of the Office for Human Research Protections; the Canadian Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans; the UK Data Protection Act and the Research Councils UK Policy and Code of Conduct on the Governance of Good Research Conduct; the research guidelines for international studies under the oversight of the World Health Organization; the American Psychological Association Ethics

Code; NCU policies and requirements, and; the involved accounting institutes' policies and codes of ethics.

Chapter 5 is organized in three sections. First, the chapter includes a discussion of the implications of the study findings. Second, recommendations for practice and future research are discussed. Third, the chapter includes conclusions.

Implications

The problem of SA addressed in the current study, particularly in the field of SM-A research, has not received the same degree of thought leadership as in SM research. There has been a small number of M-A scholars professing their insights of SM-A research in an effort to bolster the connectedness between SMAPs and SA (Ahrens & Chapman, 2006; Al-Omiri & Drury, 2007; Anderson, 2007; Armitage & Scholey, 2007; Kaplan & Norton, 2000; Brierley, 2008; Drury & Tayles, 2005; Merchant & Otley, 2006; Widener, 2007). Altogether, past research studies have focused narrowly on certain aspects of costing—product and service, overhead allocation, cost structure, control systems—while the current study had a broader scope of research and practice. The implications of the findings serves to bridge the evaluation of findings and the recommendations found in this chapter. This study's three hypotheses results are restated, followed by the implications of the key findings.

$H1_0$. There is no statistically significant relationship between each of the subdimensions of CMPs and SMAPs—strategic cost management, costing systems, customer profitability management, and specific strategic

management accounting practices—and SA across different types of firms and among CMAs of management-accounting bodies worldwide.

$H1_a$. There is a statistically significant relationship between each of the subdimensions of CMPs and SMAPs—strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices—and SA across different types of firms and among CMAs of management-accounting bodies worldwide.

$H3_0$. The subdimensions of SM-A—strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices—are not statistically significant predictors of SA.

$H3_a$. The subdimensions of SM-A—strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices—are statistically significant predictors of SA.

Hypotheses 1 and 3. Null hypotheses 1 and 3 were rejected and support existed for the alternate hypotheses for significant findings that emerged in correlation analysis and confirmed in regression analysis. Correlation analysis identified 21 significant positive relationships between the study predictor variables (SCM, CS, CPRM, SMAPs) and SA, the criterion variable. Among the 21 significant pairs, there were four strong positive relationships between: SMAPs and CS (r_s = .84; p < .05); SubSMAPs and CS (r_s = .70; p < .05); CS and SA (r_s = .71; p < .05), and; between SMAPs and SA (r_s = .71; p < .05), and one

significant regression model explained 54% of the variance of SA. These hypothesis 1 and 3 findings implied the choice of the CTM-A was a robust and appropriate foundational framework for this study, which is supported by the majority of prior SM-A research studies (Al-Omiri & Drury, 2007; Anderson, 2007; Anderson & Dekker, 2009a, 2009b; Anderson et al., 2014; Brierley, 2008; Brierley et al., 2001, 2006, 2007; Chenhall, 2003, 2008; Dekker et al., 2013; Drury & Tayles, 1995, 2000, 2005, 2006b; Langfield-Smith, 1997; Shank, 1989; Widener, 2007).

Correlated pairs. The current study result between SCM and SA implied a greater focus on the ELCM (i.e. operational, transactional) rather than on the SLCM (i.e., strategic) aspect of SCM (Anderson, 2007; Anderson & Dekker, 2009a, 2009b) that established, through the supply and value chains (VC), a cost effective execution of the strategy (ELCM) rather than a competitive cost structure (SLCM), but still implied a need to reexamine the boundaries of the firm that delivered greater profits to VC stakeholders (SLCM), all of which improved performance of the supply chain and enabled SA. The current result between CS and SA implied that most firms' CSs had the components of hardware, software IT infrastructure, and cost classification structure, enough levels of cost objects (centers) and activities, and design criteria that satisfied CS enhancement of new costing applications that enabled SA (Brierley, 2008; Brierley et al., 2007; CMAC, 2002b; Drury & Tayles, 2005; Dunk, 2004). The significant relationship between CPRM and SA implied better-defined product, service, and distribution channels, improved handling of accounting issues, and

management of CPRM systems (Tatikonda, 2013) by MAs that led to better SA. The current result between SMAPs and SA implied the global use of the BSC (Armitage & Scholey, 2007) and the practice of ABC/ABM by large firms enabled SA (Drury & Tayles, 2005), but also, the non-prevalence of value-creating SMAPs such as evidence-based decision making (Marr, 2009), JIT and LCC (Dunk, 2004), SCM (Anderson, 2007), and other exogenous SMAPs for example, quality costing, strategic costing, and strategic pricing (Guilding et al., 2000). The significant relationship between SMCs and SA implied the use of enterprise resource planning (ERP) (Ewert & Wagenhofer, 2006; Sorensen, 2009) by large firms for SMCs to function efficiently and to enable SA. Given that, over time, FRM and ERM have emerged as SMCs that required the use of rather-expensive ERP systems, the study reported FRM (CMAC, 2008) and ERM (IMA, 2011) to be in the early- or mid-stage of adoption despite positive feedback from the financial community (IMA, 2011).

Regression results. Hypotheses 1 and 3 regression analysis resulted in one significant regression model whereby SCM, CS, CPRM, and SMAPs, when combined, explained 54% of the variance of SA. The recurrent regression result implied that for CSs to satisfy SM-A exigencies, CSs had sophisticated M-A modules rather than simple accounting systems (Brierley, 2008; Ewert & Wagenhofer, 2006; Mahama, 2006; Sorensen, 2009), thus, characteristics that enabled SA. The regression result implied that CSs had low level of complexity in the form of some volume-based, transaction, duration, intensity, and weighted cost drivers and different cost pools (Al-Omiri & Drury, 2007; Brierley, 2008;

Drury & Tayles, 2005); thus, cost data that enabled some but not all strategic decision making (Shank, 1989; Simmonds, 1981a). The result also implied that specific product and service costing systems (Al-Omiri & Drury, 2007) maximized the use of certain SMAPs such as ABC, ABM, and TQM (Al-Omiri & Drury, 2007; Brierley, 2008; Brierley et al., 2001, 2006, 2007; Brown et al., 2004; Drury & Tayles, 2006b). The result also implied that the CS factors of product and volume diversity, intensity of the competitive environment, degree of automation, competitive strategy, and organizational structure enabled SA (Al-Omiri & Drury, 2007; Bjornenak, 1997; Chenhall, 2003; Brierley et al., 2007; Drury & Tayles, 2000, 2005, 2006b; Krumwiede, 1998; Shank, 1989) and SCA (Porter, 1980).

The current regression result between SMAPs and SA implied the use of value-creating SMAPs for example, quality costing, strategic costing, and strategic pricing (Guilding et al., 2000; Marr, 2009), which all led to better SA (CMAC, 2009c, 2009d; Simmonds, 1981a), and the management of internal control (Kennedy & Widener, 2008; Merchant & Otley, 2006; Widener, 2007), which also led to greater SA and SCA. The result implied that, whether as MAs, an accounting organization, and as a whole entity (Drury & Tayles, 2006b), such parties had not [*emphasis added*] kept abreast of best SMAPs for immediate implementation as no substitute for a greater execution of a firm's strategy had previously been found in the elements of organizational structure of decentralization, formalization, complexity, and administrative intensity (Govindarajan, 1986; Govindarajan & Gupta, 1985; Gupta & Govindarajan, 1984, 1986; Shank, 1989). The current study predictor equation as reported implied

that the SM-based costing approach (SMBCA) (Anderson, 2007; Chenhall, 2008) entrenched in the current study survey had not been overwhelming used by MAs to establish the connectedness between SMAPs and SA, and other variables may explain the unknown 46% of SA.

$H2_0$. There is no statistically significant relationship between the subdimension of SM—specific strategic management concepts—and SA across different types of firms and among CMAs of management-accounting bodies worldwide.

$H2_a$. There is a statistically significant relationship between the subdimension of SM—specific strategic management concepts—and SA across different types of firms and among CMAs of management-accounting bodies worldwide.

Hypothesis 2. Null hypothesis 2 was rejected and support existed for the alternate hypothesis as significant findings emerged in correlation analysis and were confirmed by regression analysis. There were two significant positive relationships between and among the predictor variables of SMCs and CS (r_s = .29; $p < .05$) and SMCs and SMAPs (r_s = .37; $p < .05$), and one between SMCs and SA (r_s = .63; $p < .05$), the criterion variable. One significant regression model explained 43% of the variance of SA. The H2 findings from the current study implied the choice of the CTM-A was a robust and appropriate foundational framework for this study, as noted previously under hypotheses 1 and 3.

Regression result. The hypothesis 2 regression model implied that the 29 investigated SMCs had a significant effect on MAs' experience with and

success in implementing and monitoring strategy, that is for example the BSC (Kaplan & Norton, 1992, 1996, 2001), and stimulated SMCs (Johnson & Kaplan, 1987; Kaplan, 2006) that enabled SA and SCA (Anderson, 2007; Armitage & Scholey, 2007; Marr, 2009; Sorensen, 2009). The regression model also implied that some form of CPRM (CMAC, 2000, IMA, 2010; Tatikonda, 2013) when combined with CS and SMAPs, led to strategic decision making to explain 43% of SA (Atkinson et al., 1997, 2007; Seigel, 1996; Shields, 1997). The current result also implied that value-based management (CMAC, 1997; Ittner & Larcker, 2001) was found to be an effective SMC that enabled SA (Simmonds, 1981a; Ittner & Larcker, 2001; Sorensen, 2009); however, other unknown variables need to be examined for the unknown 57% of SA.

Hypothesis 2 findings implied the choice of the CTM-A was a robust and appropriate foundational framework for this study, which is supported by the majority of prior SM-A research studies (Al-Omiri & Drury, 2007; Anderson, 2007; Anderson & Dekker, 2009a, 2009b; Anderson et al., 2014; Armitage & Scholey, 2007; Brierley, 2008; Brierley et al., 2001, 2006, 2007; Chenhall, 2003, 2008; Dekker et al., 2013; Drury & Tayles, 1995, 2000, 2005, 2006b; Ewert & Wagenhofer, 2006; Langfield-Smith, 1997; Marr, 2009; Shank, 1989; Sorensen, 2009; Widener, 2007). Through the contingency stream of research and the CTM-A, the purpose of theoretical framework has always been to formulate new concepts and engineer new practices for MAs and business managers to improve SA and SCA (Kaplan, 2006; Porter, 1980). Through the CTM-A, this study has enabled the author to further contribute to theory and identify and

recommend leading edge and better-matching SMCs and SMAPs that continually promoted enhanced performance management, and potentiated greater SA. Because SM-A has always embodied the fabrication of SMCs (Kaplan & Norton, 1992, 1996, 2001) and the use of CTM-A's specific concepts, principles, and assumptions, this study has extended the research tradition to new realms of practice and research, for example, the study of regional and new SMCs to promote greater diversity and national culture (Armitage & Scholey, 2007); the immediate attention to and implementation of the important SLCM aspect of SCM to deliver greater value to stakeholders (Anderson & Dekker, 2009a, 2009b); the adoption of CPRM and BI and BA to allow live access to influenceable, understandable, and cost-effective information (Tatikonda, 2013); the superior use of ERPSs and non-subservient M-A modules (Ewert & Wagenhofer, 2006), and; to revisit the constructs of EbM (Marr, 2009) and VBM (CMAC, 1997; Ittner & Larcker, 2001) and implement such practices. All such contribution represented departures from SM-A strategic and tactical baselines.

Recommendations

Researchers have highlighted the need for many SM-A topic areas to align with organizational goals to create SA (Ahrens & Chapman, 2006; Al-Omiri & Drury, 2007; Anderson, 2007; Armitage & Scholey, 2007; Brierley, 2008; Drury & Tayles, 2005; Merchant & Otley, 2006; Widener, 2007). As such, through the CTM-A, the examination of CSs and subordinate systems, MCSs (Merchant & Otley, 2006; Widener, 2007) system design and associated factors (Brierley, 2008; Drury & Tayles, 2005), SCM practices (Anderson, 2007; Anderson &

Dekker, 2009a, 2009b) and contextual economic and other factors (Brierley, 2008; Drury & Tayles, 2005), CPRM and related business analytics (Tatikonda, 2013), and several SMAPs (Guilding et al., 2000), researchers have focused narrowly on certain aspects of costing and M-A, thus, an approach that incited a broader scope of research and practice for the current study. The results of this study suggested the appropriateness of the CTM-A and scope of the study with significant positive associations found between and among the predictor variables (SCM, CS, CPRM, SMAPs, and SMCs) and for their predictive values with the lone criterion variable, SA, thus, adding to the SM-A body of literature. Recommendations are founded on, but not limited to the evaluations of findings presented in chapter 4 and the implications of such findings discussed in this chapter, for the linkages between these two sections coalesce to anchor the concepts, practices, and education elements of this study into an enlarged framework of reference for the accounting profession both in the field and in academia.

Recommendations for practice. The study findings provided evidence that suggested enhancements for leadership in professional practice in the topic areas of SCM and related activities of interest, CSs and M-A modules affecting their design, CPRM, JIT, LCC, and LCCA, and a SMAP-monitoring, assessment and reporting system. There are four recommendations for practice related to hypotheses 1 and 3 results. The study findings also provided evidence that suggested enhancements in the areas of financial risk management (FRM) enterprise risk management (ERM), CPRM, and for BI and BA modules within M-

A systems (MAS). There are three recommendations for practice related to the hypothesis 2 result.

First, while SCM is a SM-A tool that proved capable of assisting in the management of cost, the study findings reported a negative bias toward SLCM (strategic), thus, a mitigated application of SCM among firms through the supply and value chains (Anderson, 2007; Anderson & Dekker, 2009a, 2009b). Not only the ELCM and SLCM aspects have emerged unequally practiced (Anderson, 2007; Anderson & Dekker, 2009a, 2009b), but the basic defined SCM practices of value chain analysis (VCA), strategic positioning analysis (SPA), and cost driver analysis (CDA) (Shank, 1989) were reported lagging, for such practices improved performance of the supply chain and enabled SA. Specially combined with JIT, and an efficient SCM framework of fundamental applications (e.g., SPA, CDA), VCA, all value-creating SMAPs, yield a significantly distinctive outcome than just the value added concept (Shank, 1989).

Second, the study results reported firms that used CSs had M-A modules rather than simple accounting systems (Ewert & Wagenhofer, 2006). However, the low rather than the high level of CS complexity, as defined (Brierley, 2008) and reported, explained an important deficiency in the use of enterprise resource planning (ERP) systems that served as a framework for CSs and the general accounting system based on a GAAP chart of accounts, which tended to make CSs subservient to accounting systems predominantly in North America (Ewert & Wagenhofer, 2006). Thus, to reduce dependency and focus autonomously on SM-A, CSs should be reinforced with significant independent M-A modules in the

areas of costing, customer pricing, charging, transfer pricing, and ABC resource-based cost allocation to support management reporting and decision making that proved to enable SA.

Third, despite the successful SMAP application of the BSC (Armitage & Scholey, 2007) and ABC/ABM (Drury & Tayles, 2005), the study reported on other SMAPs falling behind in implementation, thus, study results have indicated that other value-creating SMAPs have lagged, for example evidence-based management (EbM) (Marr, 2009), JIT, LCC, and LCCA (Dunk, 2004) that enabled SA. Thus, this recommendation is for the execution of such SMAPs with matching MASs because MASs make these practices operational and organizational structure have an inextricable inseparability and interdependency (Horngren, 1972). It is intimated that such SMAPs, along with supporting MASs, be adopted early on through the ongoing redesign of the Finance function with the use of business intelligence (BI) and business analytics (BA) (Tatikonda, 2013) and ERPs (Ewert & Wagenhofer, 2006) to improve functionality, cost management, and to enable SA.

Fourth, SMAPs have proliferated significantly over the last several years (CIMA, 2013a; CMAC, 2009c, 2009d; Guilding et al., 2000; IMA, 2013b), for this proliferation has been mainly observed by M-ABs, their research foundations, and under the oversight of the International Federation of Accountants (IFAC) (2013). The study report implied, not only the growth of MCSs (Kennedy & Widener, 2008; Merchant & Otley, 2006; Widener, 2007), but also that the large number of SMAPs has made it extremely difficult to keep abreast of SMAPs

either as individual MAs, an accounting organization, and as a whole entity (Drury & Tayles, 2006b), and implementing best SMAPs. Thus, due to this inherent limitation, it is recommended that CEOs mandate the CFO or FD (Finance Director) and, in turn, MAs in Finance be accountable to develop and implement a SMAP-monitoring, assessment and reporting system for SMAPs issued by M-ABs and adopted by the firm. This recommendation applies also to heads of central agencies and departmental heads of sovereign, state, and provincial governments. The role of responsible MAs would involve assessing the firm's or organization's current state affair of SMAPs deployment versus all the latest unimplemented SMAPs and reporting to the CFO or FD. Given the diversity of SMAPs and scholarly SM-A research, it is also recommended that firm MAs, subject to senior management support, seek appointments on M-AB committees and panels accountable for specific SMAP research and development, review current scholarly SM-A research, the current framework for global management accounting principles (GMAP) (CIMA, 2014), and the upcoming preparation and release of GMAPs (CIMA, 2014) under the oversight of the IFAC.

Fifth, given the study results reported on the use of financial risk management (FRM) (CMAC, 2008; Das & Teng, 2001) and enterprise risk management (ERM) (Anderson et al., 2014; CIMA, 2011, 2014; Dekker et al., 2013; IMA, 2011) as strong SMCs, but with restricted use, it is recommended that MAs preferentially implement FRM and ERM that recognize the elements of such risks to mitigate economic failure, reduce fraud, increase performance, and

achieve greater SA. The more recent SMCs of FRM (CMAC, 2008) and ERM (IMA, 2011) should be funded because of their use of expensive ERPSs and implemented as soon as possible given the wide approval rate by the financial community (IMA, 2011). The implementation of these two concepts would help achieve greater governance and accountability, and reduce risks exponentially particularly to counter, but not limited to, asset misappropriation, corruption, manipulation of data, and financial statement fraud (CMAC, 2008; Institute of Internal Auditors [IIA], 2014; IMA, 2011). Other than implementing a risk management framework, and quantifying risks through regression analysis, value-at-risk, and scenario analyses (CMAC, 2008; IMA, 2011), other risk and anti-fraud measures should be considered. Such measures would include, but not be limited to, for example, external audit of financial statements, an internal audit department or appointment of a chief audit officer (CAO), management review of operations, policies, practices, and systems, risk management and anti-fraud policy, risk management and fraud training for management and employees, dedicated risk and fraud department, proactive data monitoring and analysis using BI and BA, job rotations, and whistleblowing rewards (IIA, 2014).

Sixth, it is recommended that the practice of CPRM be widely implemented by MAs because of the benefits derived from its use. As the study report indicated, CPRM has been adopted with respect to only certain requirements (CMAC, 2000, IMA, 2010; Tatikonda, 2013), thus, limiting the management of CPRM systems that led to SA. The regression analysis reported a negative *B* result (-.06) and explained this limitation. The current study result

reported that tracing, causalling, and assigning costs was confined, thus, a restrictive recognition and application of different drivers of customer costs by MAs, including hidden costs (CMAC, 2000, IMA, 2010; Tatikonda, 2013). The implementation of CPRM should include the full scope of pre- and post-sale requirements (Tatikonda, 2013), as outlined in this current study and make extensive use of BI and BA through an ERPS (Tatikonda, 2013) to maximize CS efficiency, optimize customer satisfaction, and to increase profitability and SA.

Seventh, the current study reported that the leading-edge SMC of business intelligence (BI) and analytics (BA) (CMAC, 2000, IMA, 2010; Marr, 2009, 2012a, 2012b, 2012c; Tatikonda, 2013) had not [*emphasis added*] been used with regularity in surveyed firms. Thus, crucial data was not available to lead to robust strategic decision making (Atkinson et al., 1997, 2007; Seigel, 1996; Shields, 1997) and enable SA (Porter, 1980; Sorensen, 2009). It is therefore recommended that MAs incorporate BI and BA software modules (i.e., SAS, Cognos-IBM, Business Object-SAP, and Oracle) to the main M-A module of existing or modified ERPSs (Ewert & Wagenhofer, 2006) with a live-query feature, and as soon as conveniently possible.

Recommendations for future research. The results of this study revealed considerations for future research in the areas of SCM: contextual economic, organizational, political, social, and cultural factors affecting SMAPs; the use, proliferation, rate of adoption, and efficiency of SMAPs, and; the further study of evidence-based management (EbM). Future research should also, in principle, provide insights into other variables that may explain the unknown 46%

of SA from hypotheses 1 and 3. There are four recommendations related to these hypotheses. The study findings also provided evidence that also suggested further research in the areas of SMCs with a view to replicate the existing study with additional and regional SMCs, in VBM, and in the development of new SMCs. Future research should also, in principle, provide insights into other unknown variables that may explain the unknown 57% of SA from hypothesis 2. There are three recommendations related to this hypothesis.

First, further research in SCM is suggested through grounded theory with a constant comparative analysis design. This research would be an extension of the work of Anderson and Dekker (2009a, 2009b) drawn from extant literature review and three frameworks: the model of strategic investment and cost driver as the catalyst (Tomkins & Carr, 1996a), an integrated performance management process (Kaplan & Norton, 1996, 2004), and applied risk management (DeLoach, 2000). This time, the study would deal with entire value chain in lieu of the more limited supply chain and would include linkages with FRM and ERM as factors influencing SCM.

Second, research into contextual factors is recommended through a quantitative methodology with a correlation and regression design and a qualitative element. The study results revealed that many insights had been acquired on the contextual economic (FRB, 2013), organizational, political, social, and cultural factors (Al-Omiri & Drury, 2007; Brierley, 2008; Drury & Tayles, 2000, 2005), and national culture (Chenhall, 2003; Chow et al., 1999) that affected SMAPs given the specific definitions and statements provided to

participants of this study and their responses. With the CTM-A as the study's theoretical framework, this second endeavor would be an extension of the current study results with a qualitative component. This element includes the proviso that an ex ante weighted factor index be tentatively developed through extant literature review, thus, an extended taxonomy, would lend support to the CTM-A, especially if the factors include but are not necessarily limited to Hofstede's material (1980, 1991).

Third, research into SMAPs is suggested through a quantitative methodology with a quasi-experimental design and causal test of difference. The study of SMAPs would include statements on management accounting (i.e., IMA), and research studies and reports (i.e., CIMA) and MAPs (CIMA, 2013a; CMAC, 2013a; IMA, 2013a), and eventually, GMAPs (CIMA, 2014). The proposed study would be under the guidance of the CTM-A and either separately or jointly conducted by M-A scholars and the main M-ABs (CIMA, 2009a; CMAC, 2009a; IMA, 2009a). The new research focus would be on the use, proliferation, rate of adoption, and efficiency of such individual practices, as an ensemble, with the continued objective of further determining to what extent and how the practices enable SA. The current study reported: participants' familiarity with SMAPs may have mitigated their use, the elective application in different sectors, and adoption by firms, thus, suggesting further research to illuminate such realities. Unlike the mandatory application of GAAPs and IRFSs, the elective use of SMAPs has elicited different reactions among accounting professionals (CIMA, 2013a; CMAC, 2013a; IMA, 2013a) and academia (Guilding et al., 2000). Other

than this current study, this type of research would be a major initiative telling the storyline about the SMAPs used by MAs, M-A scholars, and business managers.

Fourth, further scholarly and M-AB EbM research is recommended through a quantitative methodology with a regression design. The culmination of evidence-based decision making or EbM, as a SMAP, has come to the theater of SM-A within the last few years and has used business intelligence (BI) and business analytics (BA) to drive value and performance (Marr, 2009, 2012a, 2012b, 2012c). Past studies and this current study have indicated that most organizations have struggled with mass of data and a myriad of databases, thus, having made difficult the transition to EbM (Marr, 2009, 2012a, 2012b, 2012c). While, well known and respected, study results indicated that EbM has not earned the reputation and accolade of its sister-SMAPs, for example the BSC (Kaplan & Norton, 1992, 1996) and ABC/ABM (Drury & Tayles, 2005; Kaplan, 2006). The further development of EbM constructs within the realm of SM-A would enable greater SA. Unlike evidenced-based medicine (EBM), which is founded on a compendium of diseases, conditions, symptoms, treatments, and related empirical studies, EbM lacks basic constructs on which the practice should rest. As regression analysis for hypothesis 2 explained only 43% of the variance of SA, the objective of M-ABs sanctioning the practice of EbM as a best practice would heighten its use.

Fifth, a study of SMCs is recommended through a quantitative methodology with a correlation and regression design. Although the study reported the use of some of the 29 investigated SMCs, the diversity of

participants, firm type, and geographical disparity reflected SMCs, virtually all of them North-American style SMCs, were not necessarily known and used across the world (Anderson, 2007; Armitage & Scholey, 2007; Marr, 2009; Sorensen, 2009) as the regression analysis for hypothesis 2 explained only 43% of the variance of SA. Under the overarching construct of strategic management (SM), such delimitations suggested that the current study be replicated with a larger and more diverse sample with a view of expanding to include regional SMCs while restricting the new research exclusively to SMCs. With this research anchored in the CTM-A, the new study would garner further knowledge on the study constructs for the SM-A body of literature to expose professional and corporate preferences as applied in the field (Sorensen, 2009).

Sixth, a study of value-based management (VBM) is recommended through a quantitative methodology with a regression design. The research would be anchored in the CTM-A theoretical framework. While the current study reported that firms have used VBM, VBM was not [*emphasis added*] a practice that proliferated across the corporate world given the regression analysis for hypothesis 2 explained only 43% of the variance of SA. It is postulated that, over time, VBM may not have had enough traction or available intellectual capital to raise awareness about the use of this SMC (CMAC, 1997; Ittner & Larcker, 2001). Based on the work Ittner and Larcker and CMAC, it is recommended that M-A scholars and M-ABs answer the concerted call to engage in VBM research to clarify its constructs, practice, possibly dispel conceptual myths, and re-launch a research effort that will satisfy MAs as champions of so many SMCs (CMAC,

1997, 2008, 2009b, 2009c; IMA, 1999; Ittner & Larcker, 2001; Kaplan, 2006; Simmonds, 1981a) to enable SA (Sorensen, 2009).

Seventh, a study developing new SMCs is recommended through a quantitative methodology with a structural equation model (SEM) design. Because SEM is a natural extension of multiple regression, albeit a more complex analysis, the important caveat is that that several SMC competing models should be considered as SMC frameworks and paths. Given such strategic environment, to analyze and determine the best nonrecursive causal model, a SEM program software such as AMOS 21 would be used to conduct path analysis (Keith, 2006). This approach would ensure the most judicial choice of framework prior to and for the development of several SCMs. Management-accounting scholars, and MAs through M-ABs, are asked to answer the call for further research to develop new SMCs with a SM-A emphasis (Horngren, 1972) given the regression analysis for hypothesis 2 explained only 43% of the variance of SA. In spite of the tall order, the current study reported that newer SMCs, for example EbM, BI and BA, ERM, governance, and corporate sustainability have emerged from the pen of creative M-A scholars and the research foundations of M-ABs. Thus, new-SMC research, although admittedly more complex than other types, is viable given the creativity of M-A scholars, MAs, the unification of the accounting profession (e.g., CPA Canada), and the continued expansion among accounting bodies of mutual reciprocity agreements and strategic alliances (CIMA, 2013d; CMAC, 2013c, 2013d; ICAI, 2013b; IMA, 2013c, 2013d), and the increased influence of IFAC (2012, 2013). Potential

SMCs could include, for example live data mining, the strategic management based costing approach (SMBCA) (Anderson, 2007), and the impact of national culture (Chow et al., 2007; Chenhall, 2008; Mahama, 2006) on SMCs and SMAPs. The new research would be anchored in the CTM-A theoretical framework.

Conclusions

The problem denoted in past research was that poor SCM, CSs, CMPs, SMAPs, and SMCs engendered the lack of SA across industries, thus, inhibited firm performance (Brierley, 2008; Drury & Tayles, 2005, 2006b; Marr, 2009, 2012a). The purpose of this quantitative, correlational study was to examine whether relationships existed between, and determine the predictive values of the CMPs of SCM, CS, CPRM, specific SMAPS, and specific SMCs, and SA. The study findings were aligned with the purpose of the study and determined there were significant predictor variables that enabled SA, and contributed to the SM-A body of knowledge about SMAPs, cost management, and SA. Chapter 5 implications and recommendations were drawn from quantitative analyses and evaluation of the findings, and the recommendations were presented for professional practice and future scholarly and M-AB research.

One significant regression model for hypotheses 1 and 3 explained 54% of the variance of SA and led to four leadership-practice recommendations for MAs and finance professionals. First, the adoption of SCM and associated tools of VCA, SPA, and CDA (Anderson & Dekker, 2009a, 2009b). Second, the implementation of independent M-A modules not subservient to the general

accounting system (Ewert & Wagenhofer, 2006). Third, the execution of EbM (Marr, 2009), JIT, LCC, and LCCA (Dunk, 2004). Fourth, the adoption of a SMAP-monitoring system (Drury & Tayles, 2006b) by firms. One significant regression model for hypothesis 2 explained 43% of the variance of SA and resulted in three additional recommendations. Thus, fifth, the immediate implementation of FRM (CMAC, 2008; Das & Teng, 2001) and ERM (Anderson et al., 2014; CIMA, 2011; Dekker et al., 2013; IMA, 2011). Sixth, the adoption of CPRM (CMAC, 2000, IMA, 2010; Tatikonda, 2013). Seventh, the implementation of BI and BA (Marr, 2009; Tatikonda, 2013).

The significant regression model for hypotheses 1 and 3 led to four recommendations for future research by M-A scholars, M-ABs, and MAs. First, further research in SCM through grounded theory with a constant comparative analysis design and specific study of SCM (Anderson, 2007) with the integration of FRM and ERM. Second, the further examination of contextual factors (economic, organizational, political, social, and cultural) (Al-Omiri & Drury, 2007) and national culture (Chenhall, 2003) through a quantitative methodology with a structural equation model (SEM) design. Third, a comprehensive study of SMAPs by M-A scholars, M-ABs, (CIMA, 2009a; CMAC, 2009a; IMA, 2009a) and MAs through a quantitative methodology with a quasi-experimental design and causal test of difference. Fourth, the further study of EbM (Marr, 2009, 2012a, 2012b, 2012c) through a quantitative methodology with a regression design. The significant regression model for hypothesis 2 led to three additional recommendations all through a quantitative methodology with correlation and

regression design. Thus, fifth, the replication of the current study with more SMCs and regional SMCs (Armitage & Scholey, 2007) through a quantitative methodology with a structural equation model (SEM) design. Sixth, the further study of VBM (Ittner & Larcker, 2001; Kaplan, 2006) through a quantitative methodology with a regression design with the BSC value-creation model. Seventh, a comprehensive study to develop new SMCs with a SM-A emphasis (Horngren, 1972) through a quantitative methodology with a structural equation model (SEM) design.

This current research study will serve as a benchmark for other researchers to follow the CTM-A stream of research in SMAPs and SA. The current study will signal the validation of constructs and variables never simultaneously studied. This study will have bridged the gap between practice and education as SM-A guidelines were formulated for educators, MAs, and business managers through a practitioner-based educational perspective. Give a medicine graduate physician tools, and everyone looks like a prospective patient. Give a new lawyer unseen authorative court cases and new legislations, and everything looks like a prosecution or defense situation. Give a management accountant SM-A concepts, tools, techniques, and best practices, and everything looks like solving business problems and creating value.

References

Aberdeen Group (2005). Center-led procurement: organizing resources and technology for sustained supply value. Boston, MA: Aberdeen Group.

Abernethy, M. A., Lillis, A. M., Brownell, P., & Carter, P. (2001). Product diversity and costing system design: Field study evidence. *Management Accounting Research, 12*(3), 261-279. doi:10.1006/mare.2001.0168

Aczel, A. D., & Sounderpandian, J. (2006). *Complete business statistics*, (6th ed.). New York, NY: McGraw-Hill Irwin.

Adler. N. J. (1991). *International dimensions of organizational behavior*, (2nd ed.) Boston, MA: PWS-Kent.

Ahrens, T. (2008). Overcoming the subjective-objective divide in interpretive management accounting research. *Accounting, Organizations and Society, 33*(2-3), 292-297. doi:10.1016/j.aos.2007.03.002

Ahrens, T., & Chapman, C. S. (2006). Doing qualitative field research in management accounting: Positioning data to contribute to theory. *Accounting, Organizations and Society, 31*(8), 819-841. doi:10.1016/j.aos.2006.03.007

Allen, D. (2013). Strategic financial management and … corporate failure. *Insight, The eMagazine for management accountants*. Retrieved from http://www.cimaglobal.com/Thought-leadership/Newsletters/Insight-e-magazine/Insight-2013/Insight-February-2013/Strategic-financial-management-and--corporate-failure/

Al-Omiri, M., Drury, C. (2002). The diffusion of management accounting innovations: A study of the factors influencing the adoption, implementation levels and success of ABC in UK companies. Paper presented at the European Accounting Association Annual Congress, Copenhagen, Denmark.

Al-Omiri, M., & Drury, C. (2007). A survey of factors influencing the choice of product costing systems in UK organizations. *Management Accounting Research, 18*(4), 399-424. doi: 10.1016/j.mar.2007.02.002

Altman, D. G., & Bland, J. M (1995). Statistic notes: The normal distribution. *BMJ, 310*, p. 298.

American Accounting Association (2005). The AAA's *Supply and Demand for Accounting PhDs.* Sarasota, FL. Retrieved from http://aaahq.org/temp/phd/shortagecfm

American Accounting Association (2010). General disclosure of the AAA's Journal of Management Accounting Research–JMAR as the premier American management-accounting research journal. Retrieved from http://aaahq.org/MAS/JMAR/JMAR.cfm

American Institute of Certified Public Accountants (2013). General disclosure of the AICPA as the premier financial-accounting and auditing body in the United States and of other general information. Retrieved from http://www.aicpa.org/

Anderson, S. W. (2007). Managing costs and cost structure throughout the value chain: Research on strategic cost management. In: C. S. Chapman, A. G. Hopwood, & M. D. Shields (Eds.), *Handbooks of Management Accounting Research*, *2*, 481-506. doi: 10.1016/S1751-3243(06)02001-3

Anderson S. W., & Dekker, H. C. (2009a). Strategic cost management in supply chains, part 1: Structural cost management. *Accounting Horizons*, *23*(2), 201-220. doi: 10.2308/acch.2009.23.2.201

Anderson S. W., & Dekker, H. C. (2009b). Strategic cost management in supply chains, part 2: Executional cost management. *Accounting Horizons*, *23*(3), 289-305. doi: 10.2308/acch.2009.23.3.289

Anderson, S.W., & Young, M. S. (1999). The impact of contextual and process factors on the evaluation of activity-based costing systems. *Accounting Organizations and Society, 24*(7), 525-559. http://dx.doi.org/10.1016/S0361-3682(99)00018-5

Anderson, S. W., & Widener, S. K. (2007). Doing quantitative field research in management accounting. In: C. S. Chapman, A. G. Hopwood, & M. D. Shields (Eds.), *Handbooks of Management Accounting Research, 1*, 319-341. doi:10.1016/S1751-3243(06)01012-1

Anderson, S. W., Christ, M. H., Dekker, H. C., & Sedatole, K. L. (2014). The use of management controls to mitigate risk in strategic alliances: field and survey evidence. *Journal of Management Accounting Research, 26*(1), pp. 1-32. doi: 10.2308/jmar-50621

Ansari, S., Bell, T., & Okano, H. (2007). Target costing: Uncharted research territory. In: C. S. Chapman, A. G. Hopwood, & M. D. Shields (Eds.), *Handbooks of Management Accounting Research 2*, 507-530. doi: 10.1016/S1751-3243(06)02002-5

Anthony, R. (1956). *Management Accounting.* New York, NY: Richard D. Irwin.

Anthony, R. N. (1965). *Planning and control systems: A framework for analysis*. Boston, MA: Harvard U.P.

Anthony, R., & Reece, J. (1988). *Management Accounting: Text* and *Cases* (8th ed.). New York, NY: Richard D. Irwin.

Armitage, H. M., & Scholey, C. (2007). Using strategy maps to drive performance. A joint CMAC's (and AICPA/CIMA) *Management accounting guideline*. Retrieved from http://www.cma-canada.org/index.cfm/ci_id/7490/la_id/1/document/1/re_id/0

Atkinson, A., Balakrishnan, R., Booth, P., Cote, J., Groot, T., Malmi, T., . . . Wu, A. (1997). New directions in management accounting research. *Journal of Management Accounting Research, 9*, 79-108. Retrieved from http://aaahq.org/MAS/JMAR/JMAR.cfm

Atkinson, A. A., Kaplan, R. S., Matsumura, E. M., & Young, S. M. (2007). *Management Accounting*, *(*5th ed.). Upper Saddle River, NJ: Pearson Education.

Ballantine, J., Brignall, S., & Modell, S. (1998). Performance measurement and management in public health services: A comparison of U.K. and Swedish practice. *Management Accounting Research, 9*(1), 71-94. doi:10.1006/mare.1997.0067

Baumol, W. J. (1982). Contestable markets: An uprising in the theory of industry structures. *American Economic Review, 72*(1), 1-15. Retrieved from http://www.aeaweb.org/aer/index.php

Baumol, W.J., Panzar, C., & Willig, R. D. (1988), *Contestable markets and the theory of industry structure*, (2nd ed.). San Diego, CA: Harcourt Brace & Jovanovich.

Bhimani, A. (1996). 'Management accounting in the UK: Reflections on research, practice and the profession'. In A. Bhimani, (Ed.) *Management Accounting: European Perspectives*, 218-41. Oxford, UK: Oxford University Press.

Bjornenak, T. (1997). Diffusion and accounting: the case of ABC in Norway. *Management Accounting Research 8*(1), 3–17. doi.org/10.1006/mare.1996.0031

Black, T. R. (2009). *Doing quantitative research in the social sciences. An integrated approach to research design, measurement and statistics*, (4th ed.). Thousand Oaks, CA: Sage Publication Ltd.

Borrego, M., Douglas, E. P., & Amelink, C. T. (2009). Quantitative, qualitative, and mixed research methods in engineering education. *Journal of Engineering Education, 98*(1), 53-66. Retrieved from http://www.asee.org/papers-and-publications/publications/jee

Brierley, J. (2008). Toward an understanding of the sophistication of product costing systems. *Journal of Management Accounting Research*, *20,* Special Issue, 61-78. Retrieved from http://aaahq.org/MAS/JMAR/JMAR.cfm

Brierley, J. A., Cowton, C. J., & Drury, C. (1999). *Research questionnaire: Product costs: How are they calculated and how are they used in decision making? £ 1999*. Unpublished manuscript.

Brierley, J. A., Cowton, C. J., & Drury, C. (2001). Research into product costing practice: A European perspective. *European Accounting Review, 10*(2), 215-256. doi: 10.1080/09638180126635

Brierley, J. A., Cowton, C. J., & Drury, C. (2006). A comparison of product costing practices in discrete-part and assembly manufacturing and continuous production process manufacturing. In: C. S. Chapman, A. G. Hopwood, & M. D. Shields (Eds.), *International Journal of Production Economics, 100*(2), 314-321. doi: 10.1016/j.ijpe.2004.12.020

Brierley, J. A., Cowton, C., & Drury, C. (2007). Product costing practices in different manufacturing industries: A British survey. *International Journal of Management, 24*(4), 667-675. Retrieved from http://www.internationaljournalofmanagement.co.uk/

Brignall, S., & Modell, S. (2000). An institutional perspective on performance measurement and management in the 'new public sector'. *Management Accounting Research, 11*(3), 281-306. doi:10.1006/mare.2000.0136

Bromwich, M. (1988). Managerial accounting definition and scope—from a managerial view. *Management Accounting, 66*(8), 26-27.

Bromwich, M. (1990). The case for strategic management accounting: The role of accounting information for strategy in competitive markets. *Accounting, Organizations and Society, 1.5*(1/2), 27-46. doi:10.1016/0361-3682(90)90011-I

Bromwich, M., & Bhimani, A. (1989). *Management Accounting: Evolution Not Revolution*. London, U.K.: CIMA Publications.

Bromwich, M., & Lapsley, I. (1997). Decentralization and management accounting in central government: Recycling old ideas? *Financial*

Accountability and Management, 13(2), 181-201. http://dx.doi.org/10.1111/1468-0408.00033

Brown, D. A., Booth, P., & Giacobbe, F. (2004). Technological and organizational influences on the adoption of activity-based costing in Australia. *Accounting and Finance 44*(3): 329–356. doi: 10.1111/j.1467-629x.2004.00118.x

Brown, R., & Brignall, S. (2007). Reflections on the use of a dual-methodology research design to evaluate accounting and management practice in UK university central administrative services. *Management Accounting Research, 18*(1), 32-48. doi:10.1016/j.mar.2006.07.001

Bryman, A., & Cramer, D. (1999). *Quantitative data analysis: A guide for social scientists*. London, UK: Routledge.

Campbell, D. T. (1957). Factors relevant to the validity of experiments in social settings. *Psychological Bulletins, 54*(4), 297-312. doi:10.1037/h0040950

Campbell, D. T, & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin, 56*, 81-105. doi:10.1037/h0046016

Campbell, D. T., & Stanley, J. (1963). Experimental and quasi-experimental designs for research. In N. L. Gage (Ed.), *Handbook of Research Teaching*, 1-76. Chicago Rand McNally.

Certified Management Accountants of Canada (1985). The CMAC's *Management accounting guideline, Framework for internal control.* Retrieved from http://www.cma-canada.org/index.cfm/ci_id/5191/la_id/1/document/1/re_id/0

Certified Management Accountants of Canada (1994). The CMAC's *Emerging issue paper–Agile competition: The emergence of a new industrial order*. Retrieved from http://www.cma-canada.org/index.cfm/ci_id/7490/la_id/1/document/1/re_id/0

Certified Management Accountants of Canada (1997). The CMAC's *Management accounting guideline, Measuring and managing shareholder value creation*. Retrieved from http://www.cma-canada.org/index.cfm/ci_id/5171/la_id/1/document/1/re_id/0

Certified Management Accountants of Canada (1999a). The CMAC's *Management accounting guideline, Redesigning the finance function*. Retrieved from http://www.cma-canada.org/index.cfm/ci_id/5147/la_id/1/document/1/re_id/0

Certified Management Accountants of Canada (1999b). The CMAC's *Management accounting guideline, Implementing target costing*. Retrieved from http://www.cma-canada.org/index.cfm/ci_id/4776/la_id/1/document/1/re_id/0

Certified Management Accountants of Canada (2000). The CMAC's *Management accounting guideline, Customer profitability analysis*. Retrieved from http://www.cma-canada.org/index.cfm/ci_id/4779/la_id/1/document/1/re_id/0

Certified Management Accountants of Canada (2001). The CMAC's *Emerging issue paper–Next generation enterprise*. Retrieved from http://www.cma-canada.org/index.cfm/ci_id/5150/la_id/1/document/1/re_id/0

Certified Management Accountants of Canada (2002a). The CMAC's *Management accounting practices, Strategic cost management, section 3300*. Retrieved from http://www.cma-canada.org/index.cfm/ci_id/5215/la_id/1/document/1/re_id/0

Certified Management Accountants of Canada (2002b). The CMAC's *Management accounting practices, Cost concepts and classifications, section 2100*. Retrieved from http://www.cma-canada.org/index.cfm/ci_id/5236/la_id/1/document/1/re_id/0

Certified Management Accountants of Canada (2002c). The CMAC's *Management accounting practices, Kaizen costing, section 3700*. Retrieved from http://www.cma-canada.org/index.cfm/ci_id/5211/la_id/1/document/1/re_id/0

Certified Management Accountants of Canada (2002d). The CMAC's *Management accounting practices, Internal control, section 6600.* Retrieved from http://www.cma-canada.org/index.cfm/ci_id/5197/la_id/1/document/1/re_id/0

Certified Management Accountants of Canada (2007). The CMAC's *Management accounting guideline–Using strategy maps to drive performance.* Retrieved from http://www.cma-canada.org/index.cfm/ci_id/7490/la_id/1/document/1/re_id/0

Certified Management Accountants of Canada (2008). The CMAC's *Management accounting guideline–Financial Risk Management for Management Accountants.* Retrieved from http://www.cma-canada.org/index.cfm/ci_id/13628/la_id/1/document/1/re_id/0

Certified Management Accountants of Canada (2009a). The CMAC is a research-survey participating management-accounting body providing

general disclosure, total membership, and other information. Retrieved from http://www.cma-canada.org/index.cfm/ci_id/18481/la_id/1/document/1/re_id/0

Certified Management Accountants of Canada (2009b). The CMAC's *Definition of terms: Strategic management accounting.* Retrieved from http://www.cma-canada.org/index.cfm?ci_id=4614&la_id=1

Certified Management Accountants of Canada (2009c). The CMAC's *Management accounting practices*. Retrieved from http://www.cma-canada.org/index.cfm/ci_id/5236/la_id/1/document/1/re_id/0

Certified Management Accountants of Canada (2009d). The CMAC's *Management accounting guidelines* and *strategic management accounting practices.* Retrieved from http://www.cma-canada.org/index.cfm?ci_id=4614&la_id=1

Certified Management Accountants of Canada (2009e). The CMAC's *Management accounting guideline –Evidence-based decision making: Using business intelligence to drive value*. Retrieved from http://www.cma-canada.org/index.cfm/ci_id/15436/la_id/1/document/1/re_id/0

Certified Management Accountants of Canada (2009f). The CMAC's *Management accounting practices, Life-cycle costing, section 3500*. Retrieved from http://www.cma-canada.org/index.cfm?ci_id=4616&la_id=1

Certified Management Accountants of Canada (2009g). The CMAC's *Management accounting practices, Indirect costs, section 2400*. Retrieved from http://www.cma-canada.org/index.cfm?ci_id=4616&la_id=1

Certified Management Accountants of Canada (2009h). The CMAC's *Management accounting practices, Cost concepts and classifications, section 2100.* Retrieved from http://www.cma-canada.org/index.cfm/ci_id/5236/la_id/1/document/1/re_id/0

Certified Management Accountants of Canada (2012a). The CMAC's *Management accounting practices, Strategic cost management techniques.* Retrieved from http://www.managementaccounting.org/en/sitecore/content/Documents/MAP/PMAN-Strategic%20Cost%20Management%20Techniques.aspx

Certified Management Accountants of Canada (2012b). The CMAC's *Management accounting practices, Costing systems.* Retrieved from http://www.managementaccounting.org/en/sitecore/content/Documents/MAP/PMAN-Costing%20Systems.aspx

Certified Management Accountants of Canada (2013a). The CMAC's Home page for *Strategic management accounting media.* Retrieved from http://www.cma-canada.org/index.cfm?ci_id=1885&la_id=1

Certified Management Accountants of Canada (2013b). The CMAC's Home page for *Management accounting practices*. Retrieved from http://www.cma-canada.org/index.cfm/ci_id/4616/la_id/1.htm

Certified Management Accountants of Canada (2013c). The CMAC's Home page for *Mutual recognition agreements*. Retrieved from http://www.cma-canada.org/index.cfm?ci_id=17431&la_id=1

Certified Management Accountants of Canada (2013d). Mergers not just in Canada, eh? Merger discussions between the New Zealand Institute of Chartered Accountants (NZICA) and the Institute of Chartered Accountants of Australia (ICAA), and the three-way UK merger discussions between the Institute of Chartered Accountants of England and Wales (ICAEW), CIMA, and the Chartered Institute of Public Finance and Accountancy (CIPFA). The CMAC's *CMA Magazine, 19*(5), p. 11. Retrieved from http://cmamagazine.dgtlpub.com/issues/2013-10-31/pdf/cma_2013-10-31.pdf

Certified Management Accountants of Canada (2014). The CMAC's *31 Strategic management accounting practices on strategic cost management.* Retrieved from http://www.cma-canada.org/index.cfm?ci_id=4617&la_id=1

Chandler, A. D., Jr. (1962). *Strategy and structure: Chapters on the history of the industrial enterprise*. Cambridge, MA: M.I.T. Press.

Chandler, A. D., Jr. (1977). *The visible hand: The managerial revolution in American business*, (15th ed.). Boston, MA: Harvard University Press.

Chandler, A. D., Jr. (1990). *Scale and scope: The dynamics of capitalism*. Cambridge, MA: Harvard University Press.

Chapman, C. S. (1998). Accountants in organisational networks. *Accounting, Organizations and Society, 23*(8), 737–766. doi:10.1016/S0361-3682(98)00033-6

Charmaz, K. (2006). *Constructing grounded theory*. Thousand Oaks, CA: Sage.

Chartered Institute of Management Accountants (2005). The CIMA's *Official Terminology, 2005*. Chartered Institute of Management Accountants, London, UK: Elsevier.

Chartered Institute of Management Accountants (2008). The CIMA's *Research report, Don't blame the tools: The adoption and implementation of managerial innovations*. Retrieved from http://www.cimaglobal.com/Documents/Thought_leadership_docs/cid_ressum_dont_blame_the_tools_aug2008.pdf

Chartered Institute of Management Accountants (2009a). The CIMA is a research-survey participating management-accounting body providing disclosure of total membership and general information. Retrieved from http://www.cimaglobal.com/About-us/

Chartered Institute of Management Accountants (2009b). The CIMA's *International encyclopedia of the social & behavioral sciences.* London, UK: CIMA, 9166-9170. doi:10.1016/B0-08-043076-7/04258-3

Chartered Institute of Management Accountants (2009c). The CIMA's *Definitions of terms: Management accounting*. Retrieved from http://www.cimaglobal.com/Thought-leadership/Newsletters/Insight-e-magazine/Insight-2009/Insight-June-2009/What-is-CIMAs-definition-of-management-accounting/

Chartered Institute of Management Accountants (2011). The *CIMA's Enterprise risk management and budgetary control: a management challenge. Research executive summary series, 7*(6), 1-8. Retrieved from http://www.cimaglobal.com/en-gb/Thought-leadership/Research-topics/Budgeting-and-planning/Enterprise-risk-management-and-budgetary-control-a-management-challenge/

Chartered Institute of Management Accountants (2013a). The CIMA's Home page for *Strategic management accounting media.* Retrieved from http://www.cimaglobal.com/Thought-leadership/

Chartered Institute of Management Accountants (2013b). The CIMA's *Definitions of terms: Strategic management accounting practices*. Retrieved from http://www.cimaglobal.com/Thought-leadership/

Chartered Institute of Management Accountants (2013c). The CIMA's Home page for *Mutual recognition agreements*. Retrieved from http://www.cimaglobal.com/Members/Fees-benefits-and-career-support/Global-alliances/

Chartered Institute of Management Accountants (2013d). The CIMA's Home page for the *CIMA-AICPA JV*. Retrieved from http://www.cimaglobal.com/About-us/Press-office/Press-releases/2011/March-2011/cima-aicpa-jv/

Chartered Institute of Management Accountants (2014). The CIMA's *Global management accounting principles* - Consultation draft by CIMA and AICPA. Retrieved from http://www.cimaglobal.com/Site-search/?q=Global%2520Management%2520Accounting%2520Principles%2520web%2520ready%2520pdf.pdf

Chen, Z., & Wang, L. (2007). A generic activity-dictionary-based method for product costing in mass customization. *Journal of Manufacturing Technology Management, 18*(6), 678-700. doi:10.1108/17410380710763859

Chenhall, R.H. (2003). Management control system design within its organizational context: Findings from contingency-based research and directions for the future. *Accounting, Organizations and Society 28*(2-3), 127-168. http://dx.doi.org/10.1016/S0361-3682(01)00027-7

Chenhall, R. H. (2008). Accounting for the horizontal organization. *Handbooks of Management Accounting Research, 3*, 1207-1233. doi: 10.1016/S1751-3243(07)03001-5

Chenhall, R. H., & Langfield-Smith, K. (1998). Adoption and benefits of management accounting practices: An Australian study. *Management Accounting Research, 9*(1), 1-19. http://dx.doi.org/10.1006/mare.1997.0060

Chow, C. W., Duh, R-R., & Xiao, J. Z. (2007). Management accounting practices in the People's Republic of China. In: C. S. Chapman, A. G. Hopwood, & M. D. Shields (Eds.), *Handbook of Management Accounting Research, 2,* 923-967. doi:10.1016/S1751-3243(06)02019-0

Chow, C. W., Shields, M. D, & Wu, A. (1999). The importance of national culture in the design of and preference for management controls for multi-national operations. *Accounting, Organizations and Society, 24*(5-6), 441-461. http://dx.doi.org.proxy1.ncu.edu/10.1016/S0361-3682(99)00047-1

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*, (2nd ed.). St. Paul, MN: West Publishing Company.

Cohen, J., Cohen, P., West, S. G, & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences*, (3rd ed.). Hillsdale, NJ: Erlbaum.

Cooper, D. R., & Schindler, P. S. (2008). *Business research methods*, (10th ed.). New York, NY. McGraw-Hill Higher Education.

Cooper, R., & Slagmulder, R. (1999). Develop profitable products with target costing. *Sloan Management Review, 40*, 23-34. Retrieved from http://sloanreview.mit.edu/

Cozby, P. C. (2009). *Methods in behavioral research*, (10th ed.). New York, NY: McGraw-Hill.

CPA Australia (2013a). The CPAA's *Definition of SM-A*. Retrieved from http://www.cpaaustralia.com.au/cps/rde/xchg/cpa/hs.xsl/801_7598_ENA_HTML.htm

CPA Australia (2013b). The CPAA's Home page for *Mutual recognition agreements*. Retrieved from http://www.cpaaustralia.com.au/become-a-cpa/steps-to-become-a-cpa/international-affiliations

CPA Canada (2013). The CPAC Home page for the *Unification of CMAC, CICA, and CGAC*. Retrieved from http://cpacanada.ca/

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 13, 297-334. doi:10.1007/BF02310555

Cronbach, L. J. (1970). *Essentials of psychological testing*, (3rd ed.). New York, NY: Harper & Row.

Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. London, UK: Sage.

Das, T. K., & Teng, B. S. (2001). Trust, control, and risk in strategic alliances: An integrated framework. *Organization Studies (22)*2, 251-283. http://dx.doi.org/10.1177/0170840601222004

Davidson, S. (1963). "Old wine into new bottles." *The Accounting Review, 38*(2), 278-284. Retrieved from http://aaahq.org/pubs/acctrev.htm

Davila, T., & Wouters, M. (2004). Designing cost-competitive technology products through cost management. *Accounting Horizons, 18*, 13-26. doi:10.2308/acch.2004.18.1.13

Davila, T., & Wouters, M. (2007). Management accounting in the manufacturing sector: Managing costs at the design and production stages. *Handbooks of Management Accounting Research, 2*, 831-858. doi: 10.1016/S1751-3243(06)02015-3

de Bono, E. (1982). *Thinking course*. London, UK: British Broadcasting Corporation.

DeCoster, J. (1998). *Overview of factor analysis*. Retrieved from http://www.stat-help.com/notes.html

Dekker, H. C., Sakaguchi, J., & Kawai, T. (2013). Beyond the contract: Managing risk in supply chain relations. *Management Accounting Research 24*(2): 122–139. DOI: 10.1016/j.mar.2013.04.010

DeLoach, J. W. (2000). *Enterprise-wide risk management*. London, UK: Pearson Education Ltd.

De Vaus, D.A. (1990). *Surveys in social research*, (4th ed.). London, UK: UCL Press.

Dermer, J. (1977). *Management planning and control systems*. Homewood, IL: R. D. Irwin.

Dhavale, D. G., (2007). Product costing for decision making in certain variable-proportion technologies. *Journal of Management Accounting Research, 19*, 51-70. Retrieved from http://aaahq.org/MAS/JMAR/JMAR.cfm

DiMaggio. P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review, 48*(2), 147-160. http://dx.doi.org/10.2307/2095101

Drazin, R., & Van de Ven, A. (1985). An examination of the alternative forms of contingency theory. *Administrative Sciences Quarterly, 30*(4), 514–539. http://dx.doi.org/10.2307/2392695

Drury, C., Braund, S., Osborne, P., & Tayles, M. (1993). *A survey of management accounting practice in UK manufacturing companies*. London, UK. Chartered Association of Certified Accountants.

Drury, C., & Tayles, M. (1994a). *Research into cost system design and product profitability analysis questionnaire*. Unpublished manuscript.

Drury, C., & Tayles, M. (1994b). Product costing in UK manufacturing organisations. *European Accounting Review, 3*(3), 443-469. http://dx.doi.org/10.1080/09638189400000031

Drury, C., & Tayles, M. (1995). Issues arising from surveys of management accounting practice. *Management Accounting Research*, *6*(3), 267-280. doi:10.1006/mare.1995.1018

Drury, C., & Tayles, M. (2000). *Cost system design and profitability analysis in UK companies*. London, UK: CIMA Publishing, Elsevier.

Drury, C., & Tayles, M. (2005). Explicating the design of overhead absorption procedures in UK organizations. *The British Accounting Review, 37*(1), 47-84. doi:10.1016/j.bar.2004.08.003

Drury, C., & Tayles, M. (2006a). *Management accounting research-questionnaire*. Unpublished manuscript.

Drury, C., & Tayles, M. (2006b). Profitability analysis in UK organizations: An exploratory study. *The British Accounting Review 38*(4), 405-425. doi:10.1016/j.bar.2006.05.003

Dunk, A. S. (2004). Product life cycle cost analysis: The impact of customer profiling, competitive advantage, and quality of IS information. *Management Accounting Research, 15*(4), 401-414. doi: 10.1016/j.mar.2004.04.001

Elliott, A. C., & Woodward, W. A. (2007). *Statistical analysis quick reference guidebook with SPSS examples,* (1st ed.). London, UK: Sage Publications.

Evans, L. (2005). Editorial: Accounting history in the German language arena. *Accounting, Business & Financial History, 15*(3), 229-233. doi:10.1080/09585200500284146

Ewert, R., & Wagenhofer, A. (2006). Management accounting theory and practice in German-speaking countries. In: C. S. Chapman, A. G. Hopwood, & M. D. Shields (Eds.), *Handbooks of Management Accounting Research, 2,* 1035-1069. doi:10.1016/S1751-3243(06)02021-9

Farlow, D., Schmidt, G., & Tsay, A. (1996). *Supplier management at Sun Microsystems (A): Managing the supplier relationship.* Case OIT-16A. Stanford, CA: Stanford University Graduate School of Business.

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavioral Research Methods*, *39*(2), 175-191. doi:10.3758/BF03193146

Federal Reserve Board (2013). The Federal Reserve Board's (FDR) monetary policy. Retrieved from http://www.federalreserve.gov/monetarypolicy/default.htm

Field, A. (2009). *Discovering statistics using SPSS*, (3rd ed.). Thousand Oaks, CA: SAGE Publications inc.

Financial Accounting Standards Board (2013a). The FASB is the financial-accounting standard setter since 1973 under the statutory authority of the Securities and Exchange Commission. Retrieved from http://www.fasb.org/jsp/FASB/Page/SectionPage&cid=1176154526495

Financial Accounting Standards Board (2013b). The FASB's *Statement of financial accounting concepts No. 1, Objectives of financial reporting by business enterprises*. Retrieved from http://www.fasb.org/jsp/FASB/Page/PreCodSectionPage&cid=1218220137031

Fiore, R. N. (2009). *Financial conflicts of interest in research involving human subjects module*. CITI, Collaborative Institutional Training Initiative. Retrieved from https://www.citiprogram.org/members/learnersII/moduletext.asp?strKeyID=95748321-FC91-4482-B115-1BBAAF9EDB2C-5049056&module=488

Fitzgibbons, E. D., & Wenjin, L. (2009). *International studies module*. CITI, Collaborative Institutional Training Initiative. Retrieved from https://www.citiprogram.org/members/learnersII/moduletext.asp?strKeyID=0C79E396-7A41-4E4F-A112-C9C529B3FDC0-5049056&module=971

Flynn, B.B., Schroeder, R.G., & Sakakibara, S. (1995). The impact of quality management practices on performance and competitive advantage. *Decision Sciences, 26*(5), 659–691. Retrieved from http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1540-5915

Flyvbjerg, B. (2001). *Making social science matter*. Cambridge, UK: Cambridge University Press.

Ford, J. D., & Slocum Jr., J. W. (1977). Size, technology, environment and the structure of organizations. *Academy Of Management Review*, *2*(4), 561-575. doi:10.5465/AMR.1977.4406731

Fry, J. N., & Killing, J. P. (2000). *Strategic analysis and action*. Scarborough, ON: Prentice Hall Canada Inc.

Galbraith, J. K. (1973). *Designing complex organisations*. New York, NY: Addison-Wesley.

Galbraith, J. (2005). *Designing the customer-centric organization, a guide to strategy, structure, and process*. San Francisco, CA: Jossey-Bass.

Garrison, R. H., Noreen, E. W, & Brewer, P. C. (2006). *Managerial accounting*, (6th ed.). New York, NY: McGraw-Hill Irwin.

George, D., & Mallery, P. (2009). *SPSS for Windows step by step: A simple guide and reference 16.0 update* (9th ed.). Boston, MA: Pearson Education, Inc.

Gerdin, J. (2005). Management accounting system design in manufacturing departments: An empirical investigation using a multiple contingencies approach. *Accounting, Organization and Society, 30*(2), 99-126. doi:10.1016/j.aos.2003.11.003

Gerstman, B. B. (2003). *StatPrimer*. San Jose, CA: San Jose State University.

Goddard, A. (1997). Organizational culture and budget related behavior: A comparative contingency study of three local government organizations. *The International Journal of Accounting, 32*(1), 79-97. http://dx.doi.org/10.1016/S0020-7063(97)90006-6

Gordon, L. A., & Miller, D., A (1976). Contingency framework for the design of accounting information systems. *Accounting, Organisations and Society, 1*(1), 59-69. doi.org/10.1016/0361-3682(76)90007-6

Govindarajan, V. (1986). Decentralization, strategy, and effectiveness of strategic business units in multibusiness organizations. *Academy of Management Review, (11)*4, 844-856. http://dx.doi.org/10.2307/258401

Govindarajan, V. V., & Gupta, A. K. (1985). Linking control system to business unit strategy: Impact on performance. *Accounting, Organizations & Society*, *10*(1), 51-66. http://dx.doi.org/10.1016/0361-3682(85)90031-5

Govindarajan, V., & Shank, J. (1992). Strategic cost management: Tailoring controls to strategies. *Journal of Cost Management*, Fall, 14-24. Retrieved from http://maaw.info/JournalofCostManagement.htm

Granlund, M., & Lukka, K. (1998a) 'It's a small world of management accounting practices'. *Journal of Management Accounting Research, 10*, 153-179. Retrieved from http://aaahq.org/MAS/JMAR/JMAR.cfm

Granlund, M., & Lukka, K. (1998b). Towards increasing business orientation: Finnish management accountants in a changing cultural context. *Management Accounting Research 9*(2), 185-211. http://dx.doi.org/10.1006/mare.1998.0076

Guay, R., & Shao, W. (2001). DaniaPM Inc., or Dania Performance Management Inc., & Sino Waypoint Consulting Inc. *Provision of LEAN services such as TPS, JIT, Kaizen, value stream mapping, and other LEAN practices; and benchmarking services* since 2001. Available from the DaniaPM Website, and retrieved from www.daniapm.com under the tab, Services – LEAN.

Guilding, C. (1999). Competitor-focused accounting: An explanatory note. *Accounting, Organizations and Society 24*(7), 583-596. doi.org/10.1016/S0361-3682(99)00007-0

Guilding, C., Cravens, K. S., & Tayles, M. (2000). An international comparison of strategic management accounting practices. *Management Accounting Research, 11*(1), 113-135. doi:10.1006/mare.1999.0120

Gupta, A. K., & Govindarajan, V. (1984). Business unit strategy, managerial characteristics, and business unit effectiveness in strategy implementation. *Academy of Management Review, 27*(1), 25-41. doi: 10.2307/255955

Gupta, A. K., & Govindarajan, V. (1986) Resource sharing among SBUs: Strategic antecedents and administrative implications. *Academy of Management Journal, 29*(4), 695-714. doi: 10.2307/255940

Hair, J.F., Anderson, R.E., Tatham, R.L., & Black, W.G. (1998). *Multivariate data analysis*, (5th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Hicks, L. (2009). *Defining research with human subjects module*. CITI, Collaborative Institutional Training Initiative. Retrieved from https://www.citiprogram.org/members/learnersII/exam.asp?strKeyID=F5954C5E-FC82-4993-9C54-3A32608B04BC-5043212

Hicks, L., & Simmerling, M. (2009). *International research module*. CITI, Collaborative Institutional Training Initiative. Retrieved from https://www.citiprogram.org/members/learnersII/moduletext.asp?strKeyID=E998F5C3-860E-45B3-A6D1-9C2EA466180D-5048137&module=509

Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage Publications.

Hofstede, G. (1991). *Cultures and organizations: software of the mind*. London, UK: McGraw-Hill.

Hoque, Z. (2000a). Just-in-time production, automation, cost allocation practices, and importance of cost information: An empirical investigation in New Zealand-based manufacturing organizations. *British Accounting Review 32*(2), 133–159. doi.org/10.1006/bare.1999.0125

Hoque, Z. (2000b). Linking balanced-scorecard measures to size and market factors: impact on organizational performance. *Journal of Management Accounting Research 12*, 1-17. Retrieved from http://aaahq.org/MAS/JMAR/JMAR.cfm

Horngren, C. T. (1972). *Cost accounting: A managerial emphasis,* (3rd ed.). Upper Saddle River, NJ: Prentice-Hall.

Horngren, C. T., Foster, G., & Datar, S. M. (2006). *Cost accounting: A managerial emphasis*, (12th ed.). Upper Saddle River, NJ: Prentice Hall.

Horngren, C. T., Foster, G., Datar, S. M., & Gowing, M. P. (2010). *Cost accounting: A managerial emphasis*, (5th ed.). Toronto, ON: Pearson Canada.

Howell, D. C. (2010). *Statistical methods for psychology*, (7th ed.). Belmont, CA: Wadsworth Cengage Learning.

Innes, J., Mitchell, F., Sinclair, D. (2000). Activity-based costing in the UK's largest companies: a comparison of 1994 and 1999 survey results. *Management Accounting Research, 11*(3), 349-362. http://dx.doi.org/10.1006/mare.2000.0135

Institute of Certified Management Accountants (Australia) (2013). The ICMAA is a research-survey participating management-accounting body providing disclosure of total membership and general information. Retrieved from http://shopping.netsuite.com/s.nl/c.92299/sc.2/category.4/ctype.SS/SS.4/.f?range=2651%2C2655%2C2655

Institute of Certified Management Accountants of Sri Lanka (2013). The ICMASL is a research-survey participating management-accounting body providing disclosure of total membership and general information. Retrieved from http://www.cma-srilanka.org/

Institute of Chartered Management Accountants of Pakistan (2013a). The ICMAP is a research-survey participating management-accounting body providing disclosure of total membership and general information. Retrieved from http://www.icmap.com.pk/about_us.aspx

Institute of Chartered Management Accountants of Pakistan (2013b). The ICMAP Home page for *MOUs*. Retrieved from http://www.icmap.com.pk/exemptions_granted.aspx

Institute of Cost Accountants of India (2013a). The ICMAI is a research-survey participating management-accounting body providing disclosure of total membership and general information. Retrieved from http://icmai.in/featured-links/Annual_Report_2011_12/files/assets/basic-html/page44.html

Institute of Cost Accountants of India (2013b). The ICAI Home page for *MOUs*. Retrieved from http://icmai.in/aboutus/1

Institute of Cost Accountants of New Zealand (2014). The ICANZ is a research-survey participating management-accounting body, which authorizes the use of the CMA in New Zealand. Because of a merger, all ICANZ members became members of the New Zealand Institute of Chartered Accountants (NZICA). Retrieved from http://www.nzica.com/

Institute of Cost and Management Accountants of Bangladesh (2013). The ICMAB is a research-survey participating management-accounting body providing disclosure of total membership and general information. Retrieved from http://www.icmab.org.bd/index.php?option=com_content&task=view&id=741&Itemid=259

Institute of Internal Auditors (2014). The IIA's *Compliance Week*, the leading information service on corporate governance, risk and compliance. Retrieved from http://www.complianceweek.com/report-fraud-loss-at-37-trillion-globally/article/348568/

Institute of Management Accountants (1999). The IMA's *Statement on management accounting –Tools and techniques for redesigning the finance function*. Retrieved from http://www.imanet.org/PDFs/Secure/Member/SMA/SMA_5F_ToolsRedesignFinanceFunc.pdf

Institute of Management Accountants (2000). The IMA's *Statement on management accounting–Designing and integrating cost management system for driving profit and organizational performance*. Retrieved from http://www.imanet.org/PDFs/Secure/Member/SMA/SMA%204MM%20FINAL-DesigingIntergrated.pdfInstitute of Management Accountants (2006).

Institute of Management Accountants (2003). *The state of management accounting Ernst & Young and IMA survey (2003)*. Retrieved from http://www.imanet.org/PDFs/Secure/Member/Research/IMA_Sponsored_Studies/2003_Survey_of_Mgt_Accting_EandY.pdf

Institute of Management Accountants (2006). The IMA's *Statement on management accounting –Lean enterprise fundamentals.* Retrieved from http://www.imanet.org/PDFs/Secure/Member/SMA/SMA%204KK%20FINAL-LeanEnterprise.pdf

Institute of Management Accountants (2009a). The IMA is a research-survey participating management-accounting body providing disclosure of total membership and general information. Retrieved from http://www.imanet.org/about_ima.aspx

Institute of Management Accountants (2009b). The IMA's *Definitions of terms: Management accounting*. Retrieved from https://www.imanet.org/secure/SMA_DefinManAcct_0408_2.pdf

Institute of Management Accountants (2010). The IMA's *Statement on management accounting–Customer profitability management*. Retrieved from http://www.imanet.org/PDFs/Secure/Member/SMA/Customer_Profitability_Management_2010.pdf

Institute of Management Accountants (2011). The IMA's *Statements on management accounting:* Enterprise *risk management: frameworks, elements, and integration.* Retrieved from http://www.imanet.org/PDFs/Public/Research/SMA/ERM_Frameworks,%20Elements,%20and%20Integration.pdf

Institute of Management Accountants (2013a). The IMA's Home page for *Strategic management accounting media.* Retrieved from http://www.imanet.org/resources_and_publications.aspx

Institute of Management Accountants (2013b). The IMA's *Statements on management accounting*. Retrieved from https://www.imanet.org/publications_statements.asp

Institute of Management Accountants (2013c). The IMA Home page for *CMA resource center-MRA with ICAI*. Retrieved from http://www.imanet.org/cma_certification/cma_resource_center/icwai.aspx

Institute of Management Accountants (2013d). The IMA Home page for the *Strategic partnership with the Association of Chartered Certified Accountants ACCA*. Retrieved from http://www.imanet.org/about_ima/news/press_release_detail/13-08-13/ACCA_and_IMA_Strongly_Committed_to_Strategic_Partnership_But_Decide_Not_to_Proceed_with_Mutual_Recognition_Agreement.aspx

Institute of Management Accountants (2014). The IMA's *26 Statements on management accounting on strategic cost management*. Retrieved from http://www.imanet.org/resources_and_publications/research_studies_and_statements/statements_on_management_accounting.aspx

International Federation of Accountants (2012). The IFAC membership data. Retrieved from http://www.ifac.org/about-ifac/membership

International Federation of Accountants (2013). The IFAC's Home page for *PAIB committee*. Retrieved from http://www.ifac.org/about-ifac/professional-accountants-business

Ittner, C.D., Lanen, W.N., & Larcker, D.F. (2002). The association between activity-based costing and manufacturing performance. *Journal of Accounting Research, 40*(3), 711-726. http://dx.doi.org/10.1111/1475-679X.00068

Ittner, C. D, & Larcker, D. F. (2001). Assessing empirical research in management accounting: A value-based management perspective. *Journal of Accounting Economics, 32*(1-3), 349-410. doi:10.1016/S0165-4101(01)00026-X

Ittner, C. D., Larcker, D. F. & Randall, T. (1997). The activity-based cost hierarchy, production policies and firm profitability. *Journal of Management Accounting Research 9*: 143-162. Retrieved from http://aaahq.org/MAS/JMAR/JMAR.cfm

Johnson, H. T., & Kaplan, R. S. (1987). *Relevance lost: The rise and fall of management accounting*. Boston, MA: The Harvard Business School Press.

Jones, T., & Udvare, F. (1986). Just in time challenges for U.S. auto suppliers. Booz, Allen, and Hamilton's *Manufacturing issues*.

Kaplan, R. S. (2006). The competitive advantage of management accounting. *Journal of Management Accounting Research 18*, 127-135. Retrieved from http://aaahq.org/MAS/JMAR/JMAR.cfm

Kaplan, R. S., & Anderson S. R. (2007a). The innovation of time-driven activity-based costing. *Cost Management, 21*(2), (March-April 2007): 5-15. Retrieved from http://maaw.info/JournalofCostManagement.htm

Kaplan, R. S., & Anderson S. R. (2007b). *Time-driven activity-based costing: A simpler and more powerful path to higher profits*. Boston, MA: Harvard Business School Press.

Kaplan, R. S., & Cooper, R. (1998). *Cost & effect: Using integrated cost systems to drive profitability and performance*. Boston, MA: Harvard Business School Press.

Kaplan, R. S., & Norton, D. P. (1992). The balanced scorecard—measures that drive performance. *Harvard Business Review*, *72*, January-February, 71-79.

Kaplan, R. S., & Norton, D. P. (1996). *The balanced scorecard: Translating strategy into action*. Boston, MA: Harvard Business School Press.

Kaplan, R. S., & Norton, D. P. (2000). Having trouble with your strategy? Then map it. *Harvard Business Review*, September-October, 167-176.

Kaplan, R. S., & Norton, D. P. (2001). *The strategy-focused organization*. Boston, MA: Business School Press, Harvard.

Kaplan, R. S., & Norton, D. P. (2004). *Strategy maps: Converting intangible assets into tangible outcomes*. Boston, MA: Harvard Business School Press.

Keith, T. Z. (2006). *Multiple regression and beyond*. Boston, MA: Pearson Publication, Inc.

Keller, G., & Warrack, B. (2000). *Statistics for management and economics*, (5th ed.). Pacific Grove, CA: Duxbury Thompson Learning.

Kennedy, F. A., & Widener, S. K. (2008). A control framework: Insights from evidence on lean accounting. *Management Accounting Research, 19*(4), 301-323. doi:10.1016/j.mar.2008.01.001

Keppel, G. (1991). *Design and analysis: A researcher's handbook*, (3rd ed.). Englewood Cliffs, NJ: Prentice Hall.

Keppel, G., & Zedeck, S. (1989). *Data analysis for research designs: Analysis of variance and multiple regression/correlation approaches*. New York, NY: W. H. Freeman.

Kim, W. C., & Mauborgne, R. (2004). Blue ocean strategy. *Harvard Business Review*, Oct. Issue, 1-10. Retrieved from http://hbr.org/2004/10/blue-ocean-strategy/ar/1

Kline, R. B. (1998). *Principles and practice of structural equation modeling*. New York, NY: Guilford Press.

Kline, R. B. (2011). *Principals and practice of structural equation modeling*, (3rd ed.). New York, NY: The Guildford Press.

Krumwiede, K.R. (1998). The implementation stages of activity-based costing and the impact of contextual and organizational factors. *Journal of Management Accounting Research, 10*, 239–278. Retrieved from http://aaahq.org/MAS/JMAR/JMAR.cfm

Kupper, H.-U., & Mattessich, R. (2005). Twentieth century accounting research in the German language area. *Accounting, Business & Financial History, 15*, 345-410. Retrieved from http://www.tandfonline.com/loi/rabf20

Lancaster, K. J. (1966). A new approach to consumer theory. *Journal of Political Economy*, 132-157. http://dx.doi.org/10.1086/259131

Lancaster, K. J. (1979). *Variety, equity and efficiency: Product variety in an industrial society*. New York, NY: Columbia University Press.

Langfield-Smith, K. (1997). Management control systems and strategy: A critical review. *Accounting, Organizations and Society, 22*(2), 207–232. http://dx.doi.org/10.1016/S0361-3682(95)00040-2

Lapsley, I., & Wright, E. (2004a). The diffusion of management accounting innovations in the public sector: A research agenda. *Management Accounting Research*, *Management accounting in the new public sector, 15*(3), 355-374. doi: 10.1016/j.mar.2003.12.007

Lapsley, I., & Wright, E. (2004b). *The diffusion of management accounting innovations - diffusion questionnaire*. Unpublished manuscript.

Larreche, J., & Srinivasan, V. (1982) Stratport: A model for the evaluation and formulation of business portfolio strategies. *Management Science, 28*(9), 979-1001. http://dx.doi.org/10.1287/mnsc.28.9.979

Lewis-Beck, M.S. (1990). *Applied regression: an introduction*. Newbury Park, CA: Sage.

Lincoln, J., & Kalleberg, A. (1990). *Culture, control, and commitment*. Cambridge, UK: Cambridge University Press.

Lukka, K., & Granlund, M. (1996). Cost accounting in Finland: Current practice and trends of development. *The European Accounting Review 5*(1), 1–28. http://dx.doi.org/10.1080/09638189600000001

Lukka, K., & Modell, S. (2010). Validation in interpretive management accounting research. *Accounting, Organizations and Society, 35*(4), 462-477. doi:10.1016/j.aos.2009.10.004

Mahama, H. (2006). Management control systems, cooperation and performance in strategic supply relationships: A survey in the mines. *Management Accounting Research 17*(3), 315-339. http://dx.doi.org/10.1016/j.mar.2006.03.002

Malmi, T. (1997). 'Towards explaining activity-based costing failure: accounting control in a decentralized organization'. *Management Accounting Research, 8*(4), 459-80. http://dx.doi.org/10.1006/mare.1997.0057

Malmi, T. (1999). Activity-based costing diffusion across organisations: An exploratory empirical analysis of Finnish firms. *Accounting, Organizations and Society, 24*(8), 649-672. doi:10.1016/S0361-3682(99)00011-2

Manes, R. P., Chen, K. C. W., & Greenberg, R. (1985). Economics of scope, and cost-volume-profit analysis for the multi-product firm. *Journal of Accounting Literature,* 77-111. Retrieved from http://www.journals.elsevier.com/journal-of-accounting-literature/

Marr, B. (2009). Evidence-based decision making: Using business intelligence to drive value. A joint CMAC's (and AICPA/CIMA) *Management accounting guideline*. Retrieved from http://www.cma-canada.org/index.cfm/ci_id/15436/la_id/1/document/1/re_id/0

Marr, B. (2012a). FROM DATA TO DECISIONS: Five steps to evidence-based management. A CMAC *Management accounting guideline*. Retrieved from http://www.managementaccounting.org/en/sitecore/content/Documents/MAG/From%20Data%20to%20Decisions.aspx

Marr, B. (2012b). FROM DATA TO DECISIONS: Using evidence-based management. A CMAC *Management accounting guideline* concept overview of evidence-based management. Retrieved from http://www.managementaccounting.org/~/media/Files/ENGLISH/Documents/Concept%20Overviews/MAG-06E-OV-WEB.ashx

Marr, B. (2012c). FROM DATA TO DECISIONS: Lessons from the field. A CMAC *Case study* of evidence-based management. Retrieved from http://www.managementaccounting.org/en/Case%20Studies/From%20Data%20to%20Decisions.aspx

McKelvey, B., & Andriani, P. (2005). Why Gaussian statistics are mostly wrong for strategic orientation. *Strategic Organization, 3*(2), 219–228. doi: 10.1177/1476127005052700

McKinsey & Company (1982). *The McKinsey 7S framework*. Developed for McKinsey by Thomas J. Peters and Robert H. Waterman. New York, NY: McKinsey & Company.

McKinsey & Company (2008). Managing global supply chains. *The McKinsey Quarterly,* July, 2-9. Retrieved from http://www.mckinsey.com/insights/mckinsey_quarterly/digital_newsstand

Merchant, K. A. (2010). Paradigms in accounting research: A view from North America. *Management Accounting Research, 21*(2), 116-120. doi:10.1016/j.mar.2010.02.004

Merchant, K. A., & Otley, D. T. (2006). A review of the literature on control and accountability. In C. Chapman, A. Hopwood, & M. Shield (Eds.), *The Handbooks of management accounting research*. Elsevier Press. Retrieved from http://www.elsevier.com/books/book-series/handbooks-of-management-accounting-research

Merchant, K. A., & Van der Stede, W. A. (2006). Field-based research in accounting: Accomplishments and prospects. *Behavioral Research in Accounting*, 18, 117-134. Retrieved from https://aaahq.org/abo/bria/briahome.htm

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*, (2nd ed.). Thousand Oaks, CA: Sage.

Miles, J., & Shelvin, M. (2001). *Applying regression and correlation*. Beverly Hills, CA: Sage.

Miles, R. E., & Snow, C. C. (1979) *Organizational strategy, structure and process.* New York, NY: McGraw-Hill.

Milgram, S. (1963). Behavioral study of obedience. *Journal of Abnormal and social Psychology, 69*, 137-143. doi:10.1037/h0047759

Milgram, S. (1964). Group pressure and action against a person. *Journal of Abnormal and social Psychology, 67*, 371-378. doi:10.1037/h0040525

Milgram, S. (1965). Some conditions of obedience and disobedience to authority. *Human Relations, 18*, 57-76. doi:10.1177/001872676501800105

Milgrom, P., & Roberts, J. (1995). Complementarities and fit: Strategy, structure and organizational change in manufacturing. *Journal of Accounting and Economics, 19*, 179–208. doi:10.1016/0165-4101(94)00382-F

Modell, S. (2001). Performance measurement and institutional processes: A study of managerial responses to public sector reform. *Management Accounting Research, 12*(4), 437-464. doi:10.1006/mare.2001.0164

Modell, S. (2005). Triangulation between case study and survey methods in management accounting research: An assessment of validity implications. *Management Accounting Research 16*(2), 231-254. doi:10.1016/j.mar.2005.03.001

Modell, S. (2007). Mixed methods research in management accounting: Opportunities and obstacles. In: Granlund, M. (Ed.), *Total Quality in Academic Accounting*. Essays in Honour of Kari Lukka. Publications of Turku School of Economics and Business Administration, Turku.

Modell, S. (2009). In defence of triangulation: A critical realist approach to mixed methods research in management accounting. *Management Accounting Research, 20*(3), 208-221. doi:10.1016/j.mar.2009.04.001

Modell, S. (2010). Bridging the paradigm divide in management accounting research: The role of mixed methods approaches. *Management Accounting Research, 21*(2), 124-129. doi:10.1016/j.mar.2010.02.005

Modell, S., Jacobs, K., & Wiesel, F. (2007). A process (re)turn?: Path dependencies, institutions and performance management in Swedish central government. *Management Accounting Research, 18*(4), 453-475. doi:10.1016/j.mar.2006.12.001

Modell, S., & Lee, A. (2001). Decentralization and reliance on the controllability principle in the public sector. *Financial Accountability and Management, 17*(3), 191-218. Retrieved from http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1468-0408

Moores, K., & Yuen, S. (2001). Management accounting systems and organizational configuration: A life-cycle perspective. *Accounting, Organizations and Society, 26*(4-5), 351–389. doi:10.1016/S0361-3682(00)00040-4

Morse, J. M. (1991). Approaches to qualitative-quantitative methodological triangulation. *Nursing Research, 40*, 120-123. doi:10.1097/00006199-199103000-00014

Myers, R. (1990). *Classical and modern regression with applications*, (2nd ed.). Boston, MA: Duxbury.

Nicolaou, A.I., (2003). Manufacturing strategy implementation and cost management systems effectiveness. *European Accounting Review, 12*(1), 175–199. doi:10.1080/0963818031000087871

Norusis, M.J. (2000). *SPSS® 10.0 Guide to data analysis*. Englewood Cliffs, NJ: Prentice-Hall.

Nunnally, J. C. (1978). *Psychometric theory*, (2nd ed.). New York, NY: McGraw Hill.

Office for Human Research Protections (2005). OHRP's Code of federal regulations, title 45, public welfare, department of health and human services, part 46, protection of human subjects, 5 U.S.C. 301; 42 U.S.C. 289(a); 42 U.S.C. 300v-1(b). Retrieved from http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm

O'Keefe, P. (2004). *High value supply chain: internal audit assessments*. White paper of APICS and Protiviti independent risk consulting. Chicago, IL: Protiviti.

Otley, D. T. (1980). The contingency theory of management accounting: Achievement and prognosis. *Accounting, Organizations and Society, 5*(4), 413-428. doi: 10.1016/0361-3682(80)90040-9

Otley, D. T., & Berry, A. J. (1980). Control, organisation and accounting. *Accounting, Organisations and Society, 5*(2), 231-244. doi.org/10.1016%2F0361-3682%2880%2990012-4

Padgett, D. K. (2009). Qualitative and mixed methods in social work knowledge development. *Social Work, 54*(2), 101-125. Retrieved from http://bjsw.oxfordjournals.org/

Pagano, R. (2010). *Understanding statistics in the behavioral sciences*, (9th ed.). Belmont, CA: Wadsworth Cengage Learning.

Pallant, J. (2007). *SPSS Survival Manual*, (3rd ed.). New York, NY: McGraw-Hill.

Peat, J., & Barton, B. (2005). *Medical statistics: A guide to data analysis and critical appraisal*. New York, NY: Blackwell Publishing.

Pfeffer, J. (1997). *New directions for organization theory: Problems and prospects*. London, UK: Oxford University Press.

Phillips, D. C., & Burbules, N. C. (2000). *Postpositivism and educational research*. Lanham, NY: Rowman & Littlefield.

Porter, M. E. (1980). *Competitive strategy: Techniques for analyzing industries and competitors*. New York, NY: Free Press.

Porter, M. E. (1985). *Competitive advantage*. New York, NY: Free Press.

Porter, M. E. (1990). *The competitive advantage of nations*. New York, NY: Free Press.

Public Company Accounting Oversight Board (2013). The PCAOB is the auditing standard setter for the auditing profession after passage of the Sarbanes-Oxley legislation. Retrieved from http://pcaobus.org/Pages/default.aspx

Reeve, J. M. (1991). Cost management in continuous-process environments. *Journal of Cost Management for the Manufacturing Industry, 5*, 22-34.

Reverby, S. M. (Ed.) (2000). *Tuskegee's truths: Rethinking the Tuskegee syphilis study*. Chapel Hill, NC: University of North Carolina Press.

Roslender, R., & Hart, S. (2003). *Marketing and management interfaces in the enactment of strategic management accounting practices: An exploratory investigation*. London, UK: Chartered Institute of Management Accountants.

Rowe, A. J., Mason, R. O., Dickel, K. E., Mann, R. B., & Mocker, R. J. (1999). *Strategic management, a methodological approach*, (4th ed.). Indianapolis, IN: Pearson Education, Addison-Wesley.

Rummel, R. J. (1970). *Applied factor analysis*. Evanston, IL: Northwestern University Press.

Ryan, B, Scapens, R. W., & Theobald, M. (1992). *Research in finance and accounting*. London, England: Academic Press.

Salipante, P., Notz, W., & Bigelow, J. (1982). A matrix approach to literature reviews. In: M. S. Barry, & L. L. Cummings (Eds.), *Research in Organizational Behavior, 4*, 321–348. Retrieved from http://www.journals.elsevier.com/research-in-organizational-behavior/

Scapens, R. W. (1985). *Management accounting: A review of contemporary developments*. Basingstoke, UK: Macmillan.

Schaffer, U., & Steiners, D. (2005). Wie nutzen Gescha-ftsfuhrer und Vorstande in deutschen ndustrieunternehmen ihre Kostenrechnung? *Controlling, 17*, 321–325. Retrieved from Ewert, R., & Wagenhofer, A. (2006).

Schermerhon, J. R., Hunt, J. G, & Osborn, R. N. (2000). *Organizational behavior*, (7th ed.). New York, NY: John Wiley & Sons, Inc.

Selznick, P. (1957). *Leadership in administration: A sociological interpretation*. Evanston IL: Row, Peterson, Evanston.

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2001). *Experimental and quasi-experimental designs for generalized causal inference*. Boston, MA: Houghton Mifflin.

Shank, J. K. (1989). Strategic cost management: New wine, or just new bottles? *Journal of Management Accounting Research, 1*, Fall, 47-65. Retrieved from http://aaahq.org/MAS/JMAR/JMAR.cfm

Shank, J. K., & Govindarajan, V. (1992). Strategic cost management: The value chain perspective. *Journal of Management Accounting Research, 4,* 741-781. Retrieved from http://aaahq.org/MAS/JMAR/JMAR.cfm

Shank, J. K., & Govindarajan, V. (1994). *Strategic cost management.* New York, NY: The Free Press.

Shields, M.D. (1995). An empirical analysis of firms implementation experiences with activity-based costing. *Journal of Management Accounting Research 7*, 148–166. Retrieved from http://aaahq.org/MAS/JMAR/JMAR.cfm

Shields, M. D. (1997). Research in management accounting by North Americans in the 1990s. *Journal of Management Accounting Research, 9*, 3-61. Retrieved from http://aaahq.org/MAS/JMAR/JMAR.cfm

Shields, M. D., Deng, F. J., & Kato, Y. (2000). The design and effects of control systems: tests of direct and indirect-effects models. *Accounting, Organizations and Society, 25*(2), 185-202. http://dx.doi.org/10.1016/S0361-3682(99)00041-0

Siegel, G. (1996). *The practice analysis of management accounting*. Montvale, NJ: Institute of Management Accountants.

Silverman, D. (1993). *Interpreting qualitative data*. London, England: Sage Publications.

Simmonds, K. (1981a). Strategic management accounting. *Management Accounting, 59*(4), 26-29.

Simons, R. (1990). The role of management control systems in creating competitive advantage: new perspectives. *Accounting, Organizations and Society, 15*, 127-143.

Simons, R. (1994). How new top managers use control systems as levers of strategic renewal. *Strategic Management Journal,15*(3), 169–189. doi:10.1002/smj.4250150301

Simons, R. (1995). *Levers of control*. Boston, MA: Harvard Business School Press.

Simons, R. (2000). *Performance measurement and control systems for implementing strategy*. Upper Saddle River, NJ: Prentice Hall.

Social Science Research Network (2010). SSRN and its subordinate, the Accounting Research Network. Retrieved from http://www.ssrn.com/arn/index.html

Sorensen, J. E. (2009). Management accountants in the United States: Practitioner and academic views of recent developments. In: C. S. Chapman, A. G. Hopwood, & M. D. Shields (Eds.), *Handbooks of management accounting research, 2*, 1271-1296. Retrieved from http://www.elsevier.com/books/book-series/handbooks-of-management-accounting-research

Stevens, J. P. (2008). *Applied multivariate statistics for the social sciences*, (5th ed.). Mahwah, NJ: Routledge Academic.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Grounded theory procedures and techniques*, (2nd ed.). Newbury Park, CA: Sage.

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics*, (5th ed.). Boston, MA: Allyn & Bacon.

Tabachnick, B. G., & Fidell, L. S. (2012). *Using multivariate statistics*, (6th ed.). Boston, MA: Pearson.

Tatikonda, L. (2013). The hidden costs of customer dissatisfaction. *Management Accounting Quarterly, 14*(3), 33-43. Retrieved from http://www.imanet.org/PDFs/Secure/MAQ/2013_Q2/MAQ2013_Spring_Tatikonda_r.pdf

Teng, J. T. C., Cheon, M. J., & Grover, V. (1995). Decisions to outsource information systems functions: Testing a strategy-theoretic discrepancy model. *Decision Sciences, 26*(1), 75–103. Retrieved from http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1540-5915

Thomson Reuters (2010). The SSCI or Social science citation index, a database of citations. Retrieved from http://thomsonreuters.com/products_services/science/science_products/a-z/social_sciences_citation_index/

Tomkins, C., & Carr, C. (1996a). Editorial: Strategic management accounting. *Management Accounting Research, 7*(2), 165-167. http://dx.doi.org/10.1006/mare.1996.0009

Tomkins, C., & Carr, C. (1996b). Reflections on the papers in this issue and a commentary on the state of strategic management accounting. *Management Accounting Research*, *7*(2), 271-280. http://dx.doi.org/10.1006/mare.1996.0015

UNESCO (2012). *UNESCO's advisory guide on statistics*. Retrieved from http://www.unesco.org/webworld/idams/advguide/Chapt1_3.htm

United States Environmental Protection Agency (1995). The EPA's *An introduction to environmental accounting as a business management tool: Key concepts and terms*. Washington, DC: Environmental Protection Agency.

U.S. Department of the Treasury (2013). The Treasury Department's general policy statements. Retrieved from http://www.treasury.gov/Pages/default.aspx

Van Veen, E. A. (1992). *Modeling product structure by generic bills-of-materials*. New York, NY: Elsevier.

Vogt, W. P. (1997). *Tolerance & education: Learning to live with diversity and difference*. Thousand Oaks, CA: Sage Publications, Inc.

Vogt, W. P. (2007). *Quantitative research methods for professionals*. Boston, MA: Pearson Education, Inc.

Widener, S. K. (2004). *Organizational factors that may influence the use of management control systems as well as several types of control systems-research survey*. Unpublished manuscript.

Widener, S. K. (2007). An empirical analysis of the levers of control framework. *Accounting, Organizations and Society, 32*(7-8), 757-788. doi:10.1016/j.aos.2007.01.001

Williamson, O. E. (1985). *The economic institutions of capitalism*. New York, NY: Free Press.

Wilson, R. M. S. (1995). Strategic management accounting, in D. J. Ashton, T. M. Hopper, & R. W. Scapens (Eds.). *Issues in Management Accounting*, (2nd ed.). London, England: Prentice-Hall, 159-190.

Yoshikawa, T., Innes, J., & Mitchell, F. (1989). 'Japanese management accounting: A comparative survey', *Management Accounting* (UK), November: 20-23.

Yu, Chong-ho (2012). Chong-ho (Alex) Yu's personal and scientific website. Retrieved from http://www.creative-wisdom.com/teaching/WBI/parametric_test.shtml

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2010). *Business research methods*, (8th ed.). Mason, OH: South-Western Cengage Learning.

Appendixes

Appendix A: Cost Management Practices Research Survey

For Certified/Chartered/Management Accountants and Cost and Management Accountants, and CPAs/CGMAs Only

Research Survey Cover Email – Opening Remark

This research is being carried out in accordance with the U.S. National Research Act: Code of the Office for Human Research Protections, the Canadian Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans, the UK Data Protection Act and the Research Councils UK Policy and Code of Conduct on the Governance of Good Research Conduct, the research guidelines for international studies under the oversight of the World Health Organization, the American Psychological Association Ethics Code, and the participating university's Institutional Review Board and accounting institutes' policies.

I am a PhD candidate with dual specializations in accounting and finance in the School of Business and Technology Management with Northcentral University currently conducting research in strategic management accounting. The focus is on cost management practices (CMP) and strategic management accounting practices (SMAP) with a related emphasis on strategic cost management (SCM), costing systems (CS), customer profitability management (CPRM), specific strategic management accounting practices (SMAP), specific strategic management concepts (SMC), and the relevance of management-accounting characteristics and contextual economic, organizational, political, and social and cultural factors (phenomena) of firms implementing CMPs and SMAPs across firms and countries. This CMA and PhD candidate seeks to examine various aspects of MAPs and CPMs assessing the correlation between SCM, CS, CPRM, and specific SMAPs and SMCs (predictor variables)—and strategic alignment (SA) (criterion variable), and how such predictor variables regress with SA. While costing practices have been studied, there have been no simultaneous studies involving the variables and phenomena mentioned. Thus, the study should increase the high probability of: (a) an important addition to scholarly literature and the SM-A body of knowledge; (b) an improvement to (i) curriculum and (ii) strategic cost management policy formulation for educators, CMAs, and business managers, and; (c) an enhancement of SMAPs for all concerned stakeholders helping to determine the effect of CMPs on the sustained competitive advantage of firms. Your participation in this survey is critical to assess the mentioned relationship, and to formulate conclusions and research recommendations.

The Certified Management Accountants of Canada and the Chartered Institute of Management Accountants have enabled the electronic dissemination of this survey. Other certified members of the following institutes have been solicited through social media: the Institute of Management Accountants, the American Institute of Certified Public Accountants (i.e., CPAs/CGMAs only), the Institute of Certified Management Accountants of Sri Lanka, the Institute of Chartered Management Accountants of Pakistan, the Institute of Cost and Management Accountants of India, and the Institute of Cost and Management Accountants of Bangladesh have enabled the electronic dissemination of this survey. Only certified and chartered management accountants, cost and management accountants, and CPAs/CGMAs may fill out this survey. Completion of the questionnaire should take approximately 30/35 minutes. Please complete this online survey at the URL address that your management-accounting body has provided or, as mentioned in the social media.

You may contact me directly (email: rguay1@att.net, or rguay@rogers.com, phone: 954-929-0209, or 613-424-3991), or my dissertation chair, Dr Robin Throne (email: rthrone@.ncu.edu; phone: 888.327.2877, Ext. 6029, or 1-641-781-0128 for any questions and/or clarifications on this research.

Thank you for your much needed and appreciated participation.
Best Regards,

Ron Guay, MBA (EQUIS, AACSB, AMBA), CPA, FCMA, CMA, ACMA (UK), CGMA, DABFE, PhD(C) (NCACS, ACBSP)
CPA (AU)

Instructions for Survey Participants

For a robust grasp of the survey, please read the definitions of constructs and key terms first, and note their acronyms. Definitions are crucial to provide context and prevent misinterpretation of questions. Respondents are requested to reflect on the strategic management-based costing approach (SMBCA) definition to potentiate answers to survey questions. Listed further down, are the alphabetically-listed Management-Accounting Bodies (M-AB) that have enabled the dissemination of this research survey. The purpose of this research study is to assess CMPs and specific SMAPs, and which one of the predictor variables (SCM, CS, CPRM, and specific SMAPs), more closely relates to the criterion variable (SA) within the same regression formula to see how they react when present at the same time.

This survey has three parts with the word "Part" as a hyperlink. Part 1 is about the demographic characteristics of CMAs and firms. Please answer the demographic questions first. Part 2 includes the main, specific, and detailed questions about Cost Management Practices, specific Strategic Management Accounting Practices, and specific Strategic Management Concepts as they relate to SCM, CS, CPRM, specific SMAPs, and specific SMCs. Part 3 includes essential definitions. Participants who sign the Informed Consent Form will be able to access definitions and other Parts of the Survey by clicking on the hyperlink named "Definitions and other Parts of Survey" at the end of the Instructions and Demographic Characteristics pages, and throughout the survey questions at the end of each main construct, usually a series of questions.

The Certified Management Accountants of Canada (CMAC, Canada), the Chartered Institute of Management Accountants (CIMA, UK), and the Institute of Management Accountants (IMA, U.S.A.) are the three main M-ABs worldwide. CMAC and CIMA have helped announcing the research survey through CMA media to their respective membership while the IMA certified members are solicited through social media. Other certified members of the following institutes have been solicited through social media. These institutes include: the American Institute of Certified Public Accountants (i.e., CPAs/CGMAs only), the Southeast Asian bodies of the Institute of Certified Management Accountants of Sri Lanka (ICMASL), the Institute of Chartered Management Accountants of Pakistan (ICMAP), the Institute of Cost and Management Accountants of India (ICMAI), and the Institute of Cost and Management Accountants of Bangladesh (ICMAB). Only Certified Management Accountants, Chartered Management Accountants, and Cost and Management Accountants, all CMAs, and CPAs/CGMAs must answer the questions at the business-unit level, or firm level. General members and student members *cannot* [emphasis added] answer them. The dual purpose of this international survey is to explain and explore the use of CMPs and SMAPs from CMAs around the world, and to assess and determine to what extent SCM, CS, CPRM, and specific SMAPs and SMCs influence positively and negatively the SA of firms from participating CMAs practicing in the U.S.A., Canada, the UK, China, Australia, New Zealand, South Korea, Vietnam, Malaysia, Thailand, Singapore, the United Arab Emirates, several Southeast Asian countries, and other countries in the Middle East, and in some other countries. All participants and responses will remain anonymous and all data held in strict confidence. The aggregate results produced will not make it possible to distinguish specific individuals, or companies. The results of this survey may be used for doctoral dissertation, or subsequently, in academic, and trade publications. No individual responses will be revealed. Your response represents your agreement to participate in this study.

Some questions and statements include the names of specific SMAPs or their equivalent topical description, or conversely, to which category certain SMAPs pertain to, if not disclosed by their name. The three main M-ABs have attributed different terms to SMAPs such as: Management Accounting Guideline (MAG), Management Accounting Practice (MAP), Statement on Management Accounting (SMA), Emerging Issue Paper (EIP), Research Report (RR), Research Study (RS), Research Paper (RP), Technical Report (TR), Technical Guide (TG), Technical Briefing (TB), Executive Briefing (EB), Position Paper (PP), Discussion Paper (DP),

and Case Studies (CST). Each M-AB's taxonomy has been retained to maintain media-name integrity. For access to SM-A media by the three main M-ABs, please click on the name of each institute, CIMA located under the Innovation tab, CMAC located under the Business Resources tab and here for CMAC Research and Innovation, and the IMA under the Resources and Publications tab and the Research Studies and Resources rubric.

Respond to each section of the survey beginning with Part 1 the demographic characteristics of CMAs and firms, then, Part 2 specific and detailed questions, by clicking on the appropriate number 1 to 7 with the nomenclature disclosed below, and finally Part 3 to access and read essential definitions. All questions and statements generally apply to all business units and firms since management-accounting practices are universal in their application to all sectors and industries. Answer all questions and statements unless they are sector specific (e.g., public sector, healthcare sector), or industry specific, and do not apply to your firm. To mitigate response bias, CMA-participants must answer all main RQs, or sub-questions as CMAs employed by their business unit, or firm as they relate to the application of practices, or to particular areas of management accounting (M-A) under questioning, according to their professional preference for such practice area of M-A, and not their personal preference under another context. If the questions relate to M-A either in general, or do not apply to any business unit, or firm, CMA-participants must answer by stating their professional preference (based on empirical evidence), which may be different than would the application within their business unit, or firm otherwise based on their personal preference (not based on empirical evidence). Please ensure you answer all questions in the section entitled "Demographic Characteristics" as these data are as critical as answers to the research questions. The basic wording of the scale reads.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

Part 1

Demographic Characteristics

1. Indicate if you are a Certified Management Accountant with membership in CMAC, IMA, ICMAA, or ICMASL ____, a Chartered Management Accountant with membership in CIMA, or the ICMAP_____, or a Cost and Management Accountant with membership in ICMAI, or the ICMAB _____. If you have more than one certified membership, choose only one affiliation. Also indicate if you are also a CPA (with the country named here, e.g., U.S., CA, AU, China, etc.), a CA, CCA, CGA, CGMA, and CPFA; (country):_____.
2. Number of years you have been a CMA: _____, and your gender_____ (i.e., M. F).
3. Indicate if you possess a MBA (including EMBA), or other Masters' degree (e.g., MSc, MACC, MPA, etc): _____, and/or a research, or professional doctorate, and which one (e.g., PhD, DBA, DM, DEd, EdD, etc): _____.
4. Indicate in which sector your firm or business unit belong to? Public sector_____; NFP sector_____; Manufacturing sector_____, and; Non-manufacturing sector_____. If non-manufacturing, indicate if it belongs to: Retail_____; Service_____; Financial and commercial_____ (e.g., banking, investment banking, insurance); Conglomerate_____; Other_____. If manufacturing, indicate which industry_____ (e.g., automotive, resources [steel, wood, energy, etc.], computer, etc.). Indicate in which state, province, and country your business unit, or firm is located (e.g., NY: U.S.A.; ON: CA; VIC, AU; or Zhejiang, China): _____.
5. What are the total sales (annual sales turnover) in U.S. dollars (million) (translate into U.S$ at year end if another currency is used) for the last fiscal year? _____.
6. Provide the title of your position by stating its name: _____.
7. What is the planning horizon (in years) of the firm's business strategy _____, and the CFO's, or FD's Office _____?
8. How would you rate your accounting organization' effectiveness in deploying, and implementing new strategic management accounting practices? (1 = very low; 7 = very high): deploying _____; implementing _____.
9. Would you be interested in participating in a case study based on your firm's results (indicate Y or N)? _____.
10. As all CMAs are required to indicate the name of your accounting institute whether CIMA, CMAC, ICMAA, ICMAP, ICAI, ICMAB, IMA, or AICPA with your certified membership number (e.g., CIMA 123456), but not your name.

A summary of the results of this survey will be made available. Indicate by a Y or N whether you want to receive the summary_____. To maintain anonymity, do not provide an email at this point. If you indicated yes for receipt of the summary, the research-survey results will be made available later after publication.

Additional comments: please provide them here:

Part 2

Cost Management Practices and Specific Management Accounting Practices Research Survey

RQ1: The following statements and questions are about the extent of your organization's level of strategic cost management (SCM), costing systems (CS), customer profitability management (CPRM), and specific management accounting practices (SMAPs) that relates to the level of strategic alignment (SA). Please click on the appropriate number reflecting the extent to which you strongly agree, or strongly disagree with each statement, or question as each relates to your business unit's, or firm's SCM, CS, CPRM, and specific SMAPs relation with SA.

RQs: Respond to all questions from RQ1 to RQ1.55. Enter a specific choice (e.g., insert the number 7 in the 7-column) to rate your assessment of each question. The acronyms SCM, CS, CPRM, and SMAP(s) are used respectively in the statements and questions in lieu of strategic cost management, costing systems, customer profitability management, and strategic management-accounting practices. Other acronyms are spelled out.

Cost Management Practices and Specific Management Accounting Practices Research Survey, Detailed Questions

#	Cost Management Practices (CMP) and Strategic Management Accounting Practices (SMAP)	na	Disagree 1	2	3	Neutral 4	5	6	Agree 7
RQ1	To what extent, if any, do each of the subdimensions of CMPs and SMAPs—strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices—relate to SA across different types of firms and among CMAs of management-accounting bodies worldwide? Indicate here your implementation continuum range (see SCM definition first) for SCM in months(m), or years(y). _____.	na	na	na	na	na	na	na	na
	Strategic Cost Management - SCM	na	na	na	na	na	na	na	na
RQ1.1.	Our CMPs are sufficiently flexible that they are used also for tactical purposes (i.e., executional cost management).								
RQ1.2.	To what extent, if any, do your CMPs and does your business unit, or firm, or public-sector , or NFP organization only use allocations of manufacturing overhead, or non-manufacturing overhead through traditional costing approaches (TCAP) cost drivers that vary directly with the volume of units produced, labor hours, cost of labor, COGS, or days occupied by the customer. This answer requires reverse rating (R)[1]. If your CMPs and business unit, or firm only uses such TCAP cost drivers, rate from the lowest (Disagree, as it is best to use non-TCAP). If not used at all, or just a little, rate from the highest (Agree, as it is best to use non-TCAP).								
RQ1.3.	Through CMPs and strategic cost management (SCM), to what extent, if any, does your business unit, or firm, or public-sector, or NFP organization use the following SCM practices of:	na	na	na	na	na	na	na	na
RQ1.3.1.	Value chain analysis (VCA);								
RQ1.3.2.	Strategic positioning analysis (SPA);								
RQ1.3.3.	Cost driver analysis (CDA);								

#	Cost Management Practices (CMP) and Strategic Management Accounting Practices (SMAP)	na	Disagree 1	2	3 Neutral	4	5	6	Agree 7
RQ1.3.4.	Activity-Based Costing (ABC) (operational);								
RQ1.3.5.	Activity-Based Costing (ABC) (strategic);								
RQ1.3.6.	Activity-Based Management (ABM) (Operational);								
RQ1.3.7.	Activity-Based Management (ABM) (Strategic);								
RQ1.3.8.	Supply Chain Management (SUCM) including total cost of ownership (TCO), general nonfinancial performance measurement, supplier balance scorecard (BSC) (i.e., at least related to on-time delivery, quality, service, and price), and specific supplier performance measurement (i.e., compliance with contract terms, responsiveness, lead time, technical capability, environmental and safety performance, and innovation); and								
RQ1.3.9.	Supply Chain Management (SUCM) including the consideration of two types of risk underlying transaction cost economics (TCE) concerns: relational risk and performance risk (supply chain disruption—caused by supplier failure, logistics failure, natural disaster, or geopolitical event—; weak senior leadership in supply chain management, and; the absence of accurate, timely, supplier performance measures)?								
RQ1.4.	Through CMPs and structural cost management (SLCM), to what extent, if any, does your business unit, or firm, or public-sector, or NFP organization use the SLCM value-chain elements of and decisions of sourcing, supplier selection, and design of supply relationships; and examine SLCM issues of joint product design and joint process design (inventory and logistics management; information system integration [e.g., EDI], and; reverse logistics: reclaim, recondition, recycle, and reuse) between buyers and sellers)?								
RQ1.5.	To what extent, if any, do your business unit's, or firm's, or public-sector, or NFP organization's current CMPs have strategic alignment (SA) with the strategy elements of:	na	na	na	na	na	na	na	na
RQ1.5.1	Value chain management (VCM);								
RQ1.5.2	Organizational design; and								
RQ1.5.3	Corporate sustainability (CS)?								
RQ1.6.	The difference between our business unit's, or firm's, or public-sector, or NFP organization's strategic goals, needs, and critical functions—and our SMAP-orientation implementation is insignificant.								
RQ1.7.	To what extent, if any, do the following contextual factors affect your CMPs, SMAPs, and strategic alignment?	na	na	na	na	na	na	na	na
RQ1.7.1	Economic (e.g., the monetary policy of the Federal Reserve Board for U.S. firms investing abroad, or the monetary policy of the host nation, for example, considering certain factors such as money supply, level of prices, minimum lending rate, and exchange rate of the host country. For example, other factors would include the monetary policies of the host country such as prime interest rates, economic stability, inflation rate, unemployment rate, GDP growth, export/import surplus/deficit, financial regulations, and general oversight corporate governance rules. Another set of factors would include the host-nation's fiscal policy, for example, fiscal accountability, level of national debt, national government investment, expansion, and downsizing levels and plans, national energy policy, overall firms' profitability, government-debt reduction policy, government-deficit elimination strategy, tax-code overhaul plans,								

#	Cost Management Practices (CMP) and Strategic Management Accounting Practices (SMAP)	na	Disagree 1	2	3 Neutral	4	5	6	Agree 7
	legislative amendments, and overall corporate sustainability [e.g., the equivalent of the U.S. auto industry bailout of GM and Chrysler, the comparable bank investment banking rescue, and nation rescue]), Mention the various economic factors here, and rate them as a set:								
RQ1.7.2	Organizational (e.g., organizational power, organizational culture, a thorough understanding of MAPs, CMPs, and SMAPs, and; the management of the economy), Mention the various organizational factors here, and rate them as a set:								
RQ1.7.3	Political (e.g., institutional factors, politics) Mention the various political factors here, and rate them as a set:								
RQ1.7.4	Social (e.g., social controls, education, inter-organizational relationships), and Mention the various social factors here, but rate them as a set:								
RQ1.7.5	Cultural factors (e.g., cultural differences such as gender, masculinity as such, individualism, power distance, and uncertainty avoidance) Mention the various cultural factors here, and rate them as a set:								
RQ1.7.6	National culture is associated with CMPs, and MAPs in general (e.g., how manager react to management controls such as decentralization, structuring of activities, participative budgeting, standard tightness, participative performance evaluation, controllability filters, performance-contingent financial rewards, and coercive and mimetic processes, i.e., are linked to the cognitive and socially constructed a side of human behavior. In addition, national cultures emanate from education, networks [e.g., membership in accounting organizations), economic systems, overall culture, and the lack of trust and failure in the old costing system]) Mention the various national factors here, and rate them as a set:								
RQ1.8.	To what extent, if any, do your business unit's, or firm's, or public sector, or NFP organization's current CMPs and SMAPs hinder your organizations' sustained competitive advantage (SCA)?								
RQ1.9.	In determining the underpinning economic structure that drives cost position, to what extent (how important), if any, do you, or does your business unit, or firm, or public-sector, or NFP organization consider the following structural cost drivers (SLCD) reflecting organizational structure, investment decisions, and the operating leverage of the firm?	na	na	na	na	na	na	na	na
RQ1.9.1.	Scale—size of investment in manufacturing, R&D, and marketing, or horizontal integration.								
RQ1.9.2.	Scope—degree of vertical integration.								
RQ1.9.3.	Experience—the number of times the firm has done what it is about to do again.								
RQ1.9.4.	Technology—process technologies used throughout the value chain.								
RQ1.9.5.	Complexity—diversity of line of products, or services.								
RQ1.10.	Through our CPMs, our business unit, or firm, or public-sector, or NFP organization uses non-TCAPs such as LEAN accounting, which does not require allocation of overhead costs, but uses distribution of actual costs.								
RQ1.11.	To what extent, if any, does your firm, or business unit use the following overhead cost assignment type (next eight). Enter na where needed:								

#	Cost Management Practices (CMP) and Strategic Management Accounting Practices (SMAP)	na	Disagree 1	2	3	Neutral 4	5	6	Agree 7
RQ1.11.1.	Volume of units produced								
RQ1.11.2.	Labor hours								
RQ1.11.3.	Labor cost								
RQ1.11.4.	Machine hours								
RQ1.11.5.	Machine operating cost								
RQ1.11.6.	COGS								
RQ1.11.7.	Days occupied by the customer								
RQ1.11.8.	Activity and sub-activity								
RQ1.12.	To what extent, does your business unit, or firm, or public-sector, or NFP organization assign overhead costs (OH) (indirect costs):								
RQ1.12.1.	First-stage allocation to cost centers (cost pools). Indicate the number of cost centers;								
RQ1.12.2.	Second-stage allocation to products and services through OH allocation rates. Indicate the number of OH allocation rates, or OH recovery methods; and								
RQ1.12.3.	Or otherwise? For example, LEAN accounting, etc.								
RQ1.13.	To enable further sustained competitive advantage (SCA), and help strategically align our CMPs, our business unit, or firm, or public-sector, or NFP organization has significantly invested in (rate one of the following three, and indicate NA in two of the following choices):	na	na	na	na	na	na	na	na
RQ1.13.1.	(a) Advanced manufacturing technology (AMT), if a manufacturing firm;								
RQ1.13.2.	(b) Advanced industry-based technology, if a financial, or commercial firm; or in								
RQ1.13.3.	(c) Advanced e-solutions and ERPs, if a public-sector, or NFP organization (NFPO).								
RQ1.14.	Our CMPs, or business unit or firm, or public-sector, or NFP organization makes use of only a few accounting systems. Rate on the scale, and indicate the number here: _____.								
RQ1.15.	Our CMPs, or business unit, or firm, or public-sector, or NFP organization has only a few product cost structures, or service cost bases. Rate on the scale, and indicate the number here: _____.								
RQ1.16.	Our CMPs, or business unit, or firm, or public-sector, or NFP organization uses different bases to calculate overhead cost rates.								
RQ1.17.	Our business unit, or firm, or public-sector, or NFP organization uses the application of product costs and service costs (SC) in:	na	na	na	na	na	na	na	na
RQ1.17.1.	Strategic management (SM) and decision making in general; and								
RQ1.17.2.	Product and service pricing.								
RQ1.18.	To sustain the competitive market position (funding power for public-sector, or NFP organization) of our business unit, or firm, or public-sector, or NFP organization, the following elements produce accurate cost data for decision-making purposes:	na	na	na	na	na	na	na	na
RQ1.18.1.	Our CMPs (i.e., their successful design & implementation);								
RQ1.18.2.	The appropriateness of our overhead (OH) (indirect costs) cost-allocation methods;								
RQ1.18.3.	Product/service costs;								
RQ1.18.4.	A cost leadership strategy through cost-reduction and cost-avoidance efforts;								
RQ1.18.5.	The high level of quality of our overall cost information is one of								

#	Cost Management Practices (CMP) and Strategic Management Accounting Practices (SMAP)	na	Disagree 1	2	3 Neutral	4	5	6	Agree 7
	the most crucial characteristics of our costing systems; and								
RQ1.18.6.	Through performing several studies related to R&D, product and service development, deployment, redesign, discontinuity, and sustainability.								
RQ1.19.	Through CMPs and executional cost management (ELCM), to what extent, if any, does your business unit, or firm, or public-sector, or NFP organization use executional cost drivers (ELCD) (i.e., strategic cost management definition).								
RQ1.20.	Our CMPs are sufficiently effective to allocate business-sustaining costs (infrastructure costs, or facility-sustaining costs - FSC) committed costs, or discretionary fixed costs such as the costs of certain facilities, equipment, ERPs, and other *e* systems.								
RQ1.21.	Our CMPs and implemented SMAPs enable measuring cost performance through a formal Corporate Performance Management (CPM) framework and system.								
RQ1.22.	In measuring cost performance in relation to competitive benchmarks for continued improvement opportunities and initiatives, to what extent (how important), if any, do you, or does your business unit, or firm, or public-sector, or NFP organization consider the following M-A tools, or executional cost drivers (ELCD) reflecting the efficacy and efficiency of executing the strategy:	na	na	na	na	na	na	na	na
RQ1.22.1.	Workforce involvement,								
RQ1.22.2.	TQM, TQA, and Six Sigma,								
RQ1.22.3.	Capacity utilization,								
RQ1.22.4.	Plant layout efficiency (as does LEAN with value stream mapping [VSM]),								
RQ1.22.5.	Product configuration, and								
RQ1.22.6.	Exploiting linkages with suppliers and customers.								
RQ1.23.	Relative to sustaining activities, our business, or firm, or public-sector, or NFP organization has excluded from the cost of individual products, services, or customers:	na	na	na	na	na	na	na	na
RQ1.23.1.	Brand- or product/service-line sustaining costs (e.g., product development, branding, advertizing),								
RQ1.23.2.	Order-related costs (e.g., pricing, billing),								
RQ1.23.3.	Business-sustaining costs, or facility-sustaining costs (FSC) (e.g., plant manager & administrative staff), and								
RQ1.23.4.	Channel-sustaining costs (e.g., trade shows, fairs, industry conferences, catalogs).								
RQ1.24.	Our business unit, or firm, or public-sector, or NFP organization makes extensive use of Life-Cycle Costing (LCC).								
RQ1.25.	Our business unit, or firm, or public-sector, or NFP organization makes extensive use of Target Costing (TC) to manage product design (e.g., help define customers' product requirements, prices that fit with market conditions, and establish firm's target profit), and Just-In-Time (JIT) to eliminate waste and improve productivity (e.g., realized through customer response time, product quality, scrap and rework, production costs, lead times, setup times, space requirements, buyer and supplier co-locations, and vendor-managed inventory [VMI] systems).								
RQ1.26.	When conducting research for new product development (service), our business unit, or firm, or public-sector, or NFP organization monitors the cost of quality and makes use of leading-edge practices such as:	na	na	na	na	na	na	na	na

#	Cost Management Practices (CMP) and Strategic Management Accounting Practices (SMAP)	na	Disagree 1	2	3 Neutral	4	5	6	Agree 7
RQ1.26.1.	ABM (operational),								
RQ1.26.2.	ABM (strategic),								
RQ1.26.3.	Quality function development (QFD), and								
RQ1.26.4.	Value stream mapping (VSM).								
RQ1.27.	To achieve a sustained competitive advantage (SCA) and market positioning (funding power for public-sector, or NFP organization), our business unit, or firm, or public-sector, or NFP organization:	na	na	na	na	na	na	na	na
RQ1.27.1.	Must deal with fierce competition, and increased degree of competition;								
RQ1.27.2.	Since the beginning of the 21st century, competition for our products and services has dramatically increased even more; and								
RQ1.27.3.	Price and service competition in our industry, or industry segment affect our SCA.								
RQ1.28.	We have to maintain a strong competitive position in the design, fabrication, and distribution of our products and services (P&S), many, if not most of our P&Ss:	na	na	na	na	na	na	na	na
RQ1.28.1.	Demand divergent resources.								
RQ1.28.2.	Significant difference exists in the sales volume between the bottom 20% of the lowest selling items and the top 20% of the best selling items.								
RQ1.28.3.	There are major differences in the sale volumes between different products/services.								
RQ1.28.4.	The resources consumed (i.e., the costs of support departments, e.g., procurement, HR, accounting, marketing, information technology) by each product/service line are different.								
RQ1.29.	Our governmental organization's, or agency's reliance, or NFP firm's reliance on private-sector accounting and management practices potentiates the application of SCM (i.e., definition) and CMPs.								
RQ1.30.	Our governmental organization's, or agency's reliance, or NFP firm's reliance on private-sector accounting and management practices enhances:	na	na	na	na	na	na	na	na
RQ1.30.1.	Accountability,								
RQ1.30.2.	Corporate Governance (CG),								
RQ1.30.3.	Organizational Performance, and								
RQ1.30.4.	Constituent oversight.								
RQ1.31.	To what extent, if any, do (a) the following management-accounting characteristics, or conditions make management accounting subservient to financial accounting (including publication of financial statements), and (b) contribute to the proper selection of CMPs and determination of product costs (service costs):	na	na	na	na	na	na	na	na
RQ1.31.1.	Cost accounting systems,								
RQ1.31.2.	Product cost structures,								
RQ1.31.3.	Service cost (SC) structures, and								
RQ1.31.4.	Management accounting systems in general.								
	Costing Systems - CS	na	na	na	na	na	na	na	na

#	Cost Management Practices (CMP) and Strategic Management Accounting Practices (SMAP)	na	Disagree 1	2	3 Neutral	4	5	6	Agree 7
RQ1.32.	Relative to costing-system complexity (CSC) and the use of information technology, indicate to which extent you agree, or disagree with the following statements:	na	na	na	na	na	na	na	na
RQ1.32.1.	Our ERP and associated management-accounting modules significantly support the functionally of our CMPs and SMAPs for financial and non-financial information.								
RQ1.32.2.	Our ERP and associated management-accounting modules have live-query, real-time, and instant report capabilities;								
RQ1.32.3.	Our ERP and associated management-accounting modules not only provide cost data, but also a variety of performance-management information, and the quality of our ERP is a function of:								
RQ1.32.4.	The importance of cost information, and;								
RQ1.32.5.	The adoption of innovative SMAPs.								
RQ1.33.	The following organizational variables affect cost-system design, and the development of more complex/sophisticated systems:	na	na	na	na	na	na	na	na
RQ1.33.1.	Top management support for improving the costing system,								
RQ1.33.2.	Resistance to change from the accounting staff,								
RQ1.33.3.	Resistance to change from the users of accounting information,								
RQ1.33.4.	Lack of relevant employee skills,								
RQ1.33.5.	Lack of relevant information technology,								
RQ1.33.6.	Lack of a perceived need by senior managers,								
RQ1.33.7.	Lack of a perceived need by the CFO,								
RQ1.33.8.	Lack of a perceived need by the head of the management-accounting function, and								
RQ1.33.9.	The need of examining the costs and benefits from investing in increments of increasing levels of costing-system complexity/sophistication (CSC/CSS).								
RQ1.34.	Relative to our costing-system redesign strategy, we, as CMAs, or our business unit, or firm, or our organization consider improving our costing systems:	na	na	na	na	na	na	na	na
RQ1.34.1.	Even in hard economic times, or in an economic downturn, and in times of declined profitability;								
RQ1.34.2.	From a contingency theory perspective of management accounting, and the contingent variables including, for example, the firm's environment, its technology, and its organizational structure, a more sophisticated system is likely to be affected by the extent to which a person who can influence the design and use of the costing system such as a member of top management, the CEO, or financial director, or the management accountant who has the characteristics and authority of a good champion.								
RQ1.34.3.	Even as a public-service organization, or NFPO, we, or our department, or agency, or organization pursues changes to our costing systems in the same manner (i.e., mission insufficiency) as commented in the last two previous statements.								
RQ1.34.4.	Having worked in manufacturing and in financial/commercial and service organizations, we, as CMAs, recognize that the latter organizations' costing systems are more complex than those operated by manufacturing firms are.								

#	Cost Management Practices (CMP) and Strategic Management Accounting Practices (SMAP)	na	Disagree 1	2	3 Neutral	4	5	6	Agree 7
RQ1.35.	Our CMPs and implemented SMAPs embody the concept of Value-Based Management -VBM- (creating, managing for, and measuring value) whether economic (Shareholder value), or directly-constituent aimed (Stakeholder value).								
RQ1.36.	Whether large organizations are associated with more diversified operations, divisionalized organizational structures, and with an emphasis on and participation in budgets and sophisticated controls and costing systems.								
RQ1.37.	Given greater costing-system complexity (CSC), or sophistication (CSS) (i.e., definition), and your business unit's, or firm's choice of CMPs, the level of satisfaction with your firm's costing systems increases according to their complexity ranging from low to high complexity by rating each of the following characteristics (i.e., cost driver definition):	na	na	na	na	na	na	na	na
RQ1.37.1.	Low complexity: single plant-wide cost pool,								
RQ1.37.2.	Low complexity: single volume-based cost driver,								
RQ1.37.3.	High complexity: many first-stage cost pools,								
RQ1.37.4.	High complexity: many different types of volume,								
RQ1.37.5.	High complexity: many different types of non-volume based second-stage cost drivers,								
RQ1.37.6.	High complexity: use of transaction cost drivers,								
RQ1.37.7.	High complexity: duration cost drivers,								
RQ1.37.8.	High complexity: intensity cost drivers, and								
RQ1.37.9.	High complexity: weighted cost drivers.								
RQ1.38.	Several factors influence the choice of product costing systems and enable strategic alignment. Rate the following factors as to what extent each factor enable strategic alignment:								
RQ1.38.1.	Importance of cost information,								
RQ1.38.2.	Product diversity,								
RQ1.38.3.	Cost structure,								
RQ1.38.4.	Intensity of the competitive environment,								
RQ1.38.5.	Size of the organization,								
RQ1.38.6.	Level of competition,								
RQ1.38.7.	Degree of customization,								
RQ1.38.8.	Lean production per se,								
RQ1.38.9.	Total quality management,								
RQ1.38.10.	Automation,								
RQ1.38.11.	Competitive strategy,								
RQ1.38.12.	Organizational structure,								
RQ1.38.13.	Quality of information technology,								
RQ1.38.14.	Costing systems in general and related control systems affect the costs and benefits of management attention and organizational learning, and both (attention & learning) are positively associated with such costs, and ultimately with firm performance,								
RQ1.38.15.	Advanced technologies (e.g., management control systems [MCS], flexible manufacturing systems [FMS], Toyota production system [TPS], advanced manufacturing technology [AMT]),								
RQ1.38.16.	Extent of the use of innovative management accounting techniques,								

#	Cost Management Practices (CMP) and Strategic Management Accounting Practices (SMAP)	na	Disagree 1	2	3 Neutral	4	5	6	Agree 7
RQ1.38.17.	Extent of use of lean production techniques (including JIT techniques, TQM, TQA, CQI, Six Sigma, lean accounting, and ISO certification),								
RQ1.38.18.	Business sector of the firm,								
RQ1.38.19.	Manufacturing industry type,								
RQ1.38.20.	Number of cost pools, and								
RQ1.38.21.	Number of allocation bases.								
	Customer Profitability Management - CPRM	na	na	na	na	na	na	na	na
RQ1.39.	Using Customer Profitability Management (CPRM) to focus on a cause-and-effect costing system for long-term corporate viability (or mission sustainability in the pubic and NFP sectors), to what extent, if any, does your business unit, or firm, or public-sector, or NFP organization, or you as CMAs agree with the following statements:	na	na	na	na	na	na	na	na
RQ1.39.1.	Have implemented lifecycle costing (LCC);								
RQ1.39.2.	Have defined profitable (P) customers (i.e., definition for Customers);								
RQ1.39.3.	Have defined breakeven (B) customers (i.e., definition for Customers);								
RQ1.39.4.	Have defined loss (L) customers (L) (i.e., definition for Customers);								
RQ1.39.5.	Our products, or service lines are different, customers, or customer segments are heterogeneous, and pre-sale, or post-sale customer service requirements vary:								
RQ1.39.6.	Use CPRM for analysis by products,								
RQ1.39.7.	Use CPRM for analysis by services,								
RQ1.39.8.	Use CPRM for analysis by customer categories,								
RQ1.39.9.	Use CPRM for analysis by accounts,								
RQ1.39.10.	Use CPRM for analysis by specific customers,								
RQ1.39.11.	Use CPRM for analysis by operating or business unit,								
RQ1.39.12.	Use CPRM for analysis at the firm level,								
RQ1.39.13.	Use CPRM for analysis by geographical areas,								
RQ1.39.14.	Benefited from CPRM because our business unit, or firm, or public-sector, or NFP organization relies on demand-pull strategies rather than supply-push strategies;								
RQ1.39.15.	The application of CPRM is easier because of the availability of CPRM data (in-house, or outsourced, and collected cost-driver data). Indicate here the way data is accumulated (e.g., in-house). _____								
RQ1.39.16.	Incremental investment, efforts, and costs of implementing CPRM are justified by increased profitability and enhanced lifetime customer value. (reduced costs and enhanced mission accomplishment in the pubic and NFP sectors);								
RQ1.39.17.	Have enabled P customer retention and acquisition, rendering B customers profitable, and reducing, or eliminating L customers who have eroded profit and destroyed shareholder value (reduced costs and enhanced mission accomplishment in the pubic and NFP sectors);								
RQ1.39.18.	Have formulated CPRM system specifications and requirements—foundation basics, customer costs, and								

#	Cost Management Practices (CMP) and Strategic Management Accounting Practices (SMAP)	na	Disagree 1	2	3 Neutral	4	5	6	Agree 7
	transaction data phases—and ensured that the IT team, or CIO Office selected databases, calculation engines, and hardware that met our requirements;								
RQ1.39.19.	Have pro-actively assisted the CIO team designing the sourcing of data from the core application systems;								
RQ1.39.20.	Have ensured with the IT team that the relational database—defining various database tables (or files) fields (or columns), field names, type and length of data in each field, and order of the fields—that the structure of every table had been documented, and that the database met our accounting and SMAP requirements;								
RQ1.39.21.	Have ensured with the IT team of the proper sequencing of business algorithms whether using rule-scheduling software, or linear execution depending on the size of the systems;								
RQ1.39.22.	Have precisely defined not only customer, but also product, service, and channel;								
RQ1.39.23.	Have established all cost objects, the specific roles of CPRM data, and obtained senior-management buy-in to maximize the functionality, or our CPRM systems;								
RQ1.39.24.	Have provided to the IT team and other strategic and operations stakeholders case studies (examples) on how to calculate customer profitability, and on how to handle various accounting issues;								
RQ1.39.25.	Have delivered greater value to customers;								
RQ1.39.26.	Have created comparable value at a lower cost; or								
RQ1.39.27.	Have accomplished both;								
RQ1.39.28.	Have explored the drivers of profit and success (reduced costs and enhanced mission accomplishment in the pubic and NFP sectors) using the balanced scorecard (BSC) to identify and measure the drivers of future performance through KSFs, and then developed KPIs to link to corporate, business unit, or firm, or public-sector, or NFP organization strategies—and functional strategies;								
RQ1.39.29.	Have identified how to recognize different drivers of customer costs, and how to recognize future downstream costs of customers including hidden customer costs (HCC) (i.e., HCC definition);								
RQ1.39.30.	Through our CPRM data, there are indications that enable us to demonstrate that a causal relationship exists between customer satisfaction and customer loyalty, and specific, measurable causal linkages exist in the relationship of employees to customers that have led to increased profitability (reduced costs and enhanced mission accomplishment in the pubic and NFP sectors);								
RQ1.39.31.	Adopting CPRM, measuring customer profitability, and understanding the drivers of customer and corporate value has led to the improvement of overall corporate performance (enhanced mission accomplishment in the public and NFP sectors);								
RQ1.39.32.	Whether business-sustaining costs (BSSC), or facility-sustaining costs (FSC) are small, or large, and whether your business unit, or firm, or governmental, or NFP organization does not treat BSSCs, or FSCs as fixed and unavoidable for most decisions, what is the level of their future cash-flow impact (i.e., from negligible,1 to very important, 7).								
	Specific Strategic Management Accounting Practices - SMAPs	na	na	na	na	na	na	na	na

#	Cost Management Practices (CMP) and Strategic Management Accounting Practices (SMAP)	na	Disagree 1	2	3	Neutral 4	5	6	Agree 7
RQ1.40.	To what extent, if any, as CMAs can you advance that specific events affected SMAPs to the point that these events:								
RQ1.40.1.	Triggered their introduction, and name the event(s) here:								
RQ1.40.2.	Caused their discontinuity,								
RQ1.40.3.	Caused the creation of a SMAP-monitoring system, and								
RQ1.40.4.	Triggered the contribution of non-financial managers to the implementation of SMAPs?								
RQ1.41.	Name the 10 SMAPs most associated with strategic alignment, and indicate for each one, to what extent the named SMAP has enabled strategic alignment?	na	na	na	na	na	na	na	na
RQ1.41.1.	Name SMAP and rate								
RQ1.41.2.	Name SMAP and rate								
RQ1.41.3.	Name SMAP and rate								
RQ1.41.4.	Name SMAP and rate								
RQ1.41.5.	Name SMAP and rate								
RQ1.41.6.	Name SMAP and rate								
RQ1.41.7.	Name SMAP and rate								
RQ1.41.8.	Name SMAP and rate								
RQ1.41.9.	Name SMAP and rate								
RQ1.41.10	Name SMAP and rate								
RQ1.42.	To what extent defender orientations and cost leadership are more associated with formal, traditional MCS focused on cost control, than entrepreneurial, build and product differentiation strategies?								
RQ1.43.	To what extent competitor focused strategies (product differentiation) are associated with broad scope MCS for planning purposes?								
RQ1.44.	To what extent customization strategies are associated with aggregated, integrated, and timely MCS for operational decisions?								
RQ1.45.	To what extent the more uncertain the external environment the more open and externally focused are the MCS?								
RQ1.46.	To what extent defender and harvest orientations with related cost leadership strategy are associated with formal performance measurement systems?								
RQ1.47.	To what extent is it likely for your firm, or business unit (or your NFP or public-sector organization, if applicable) to implement a build mission with low-cost competitive strategy?								
RQ1.48.	To what extent do you use value-adding SMAPs (tactical tools used within the constraints of traditional M-A and low-cost strategy, for example, features that are associated with the use of certain confined cost elements such as direct material, direct labor, related cost drivers, and cost centers leaning towards traditional costing approaches and M-A accounting systems) for the implementation of your firm's strategy?								
RQ1.49.	To what extent do you use value-creating SMAPs (i.e., enable appropriate structures, or the environment to implement strategy, especially differentiation strategy, for example, SCM, SUCM, VCM, VCA, SPA, CDA, JIT, LCC, TC, ABC, ABM, CPRM, attribute analysis and costing, brand value budgeting and monitoring, competitor cost assessment, competitive position monitoring, quality costing, strategic costing, strategic pricing, evidence-based decision making, TQM, economics-								

#	Cost Management Practices (CMP) and Strategic Management Accounting Practices (SMAP)	na	Disagree 1	2	3 Neutral	4	5	6	Agree 7
	based transfer pricing, management of internal control, benchmarking management, distribution channels management, value chain costing, customer value management, customer profitability analysis, strategic partnering, SUCM accounting, financial and enterprise risk management, cost of capacity measurement, product lifecycle management, environmental accounting, accounting for sustainability, and evidence-based decision making) for the implementation of your firm's strategy?								
RQ1.50.	To what extent different elements of organizational structure, such as decentralization, formalization, complexity, and administrative intensity, could be substituted for greater execution of the firm's strategy?								
RQ1.51.	To what extent the more hostile and turbulent the external environment the greater the reliance on formal controls.								
RQ1.52.	To what extent, if any, as CMAs do you consider all SMAPs (even if implemented in other firms, and not yours) as current enablers of strategic alignment (SA)?								
RQ1.53.	To what extent, if any, do you believe that a better understanding of the logic of existing management-accounting practice gained through acquiring more knowledge of the process of development of new strategic management accounting practices (SMAPs) enables greater SA?								
RQ1.54.	To what extent, if any, as CMAs do you consider that by studying management accounting at a micro level, within the context in which it occurs, that we can improve our awareness of the forces of management-accounting change?								
RQ1.55.	To what extent, if any, whether a manufacturing, or non-manufacturing firm, or a public-sector, or NFP organization, do you keep abreast implementing the best SMAPs for your business unit, or firm, or organization as:								
RQ1.55.1.	A CMA,								
RQ1.55.2.	As an accounting organization, and								
RQ1.55.3.	As a whole entity.								

1 RQ1.2. Reverse rating. Scoring method is explained within question.

Part 2, Continued

Strategic Management Concepts - Survey Instrument

RQ2: The following statements and questions are about the extent of your organization's level of SMCs in relation to your organization's level of strategic alignment (SA). Please click on the appropriate number reflecting the extent to which you strongly agree, or strongly disagree with each statement, or question as each pertains to your business unit's, or firm's SMCs relation with SA.

RQ2: Strategic Management Concepts questions. Respond to questions RQ2.1 to 2.29 by entering a choice (e.g., insert the number 7 in the 7-column) to rate each question. If your firm does not use some of the mentioned concepts and techniques, please enter na. Remember that, as CMAs, you answer questions on behalf of your firm, and not according to your personal, professional preference.

Strategic Management – Strategic Management Concepts, Detailed Questions

#	Strategic Management – Strategic Management Concepts	na	Disagree 1	2	3 Neutral	4	5	6	Agree 7

#	Strategic Management – Strategic Management Concepts	na	Disagree 1	2	3 Neutral	4	5	6	Agree 7
RQ2	To what extent, if any, does the subdimension of SM—specific strategic management concepts—relate to SA across different types of firms and among CMAs of management-accounting bodies worldwide?	na	na	na	na	na	na	na	na
RQ2.1	To what extent, if any, do total sales (whatever the amount) relate to strategic alignment (SA)?								
RQ2.2	To what extent, if any, does company size (number of employees) relate to strategic alignment (SA)?								
RQ2.3	To what extent, if any, does Chandler's structure-support-strategy theory (at the strategy-development & strategy-execution stages) relate to strategic alignment (SA)?								
RQ2.4	To what extent, if any, does Selznick's SWOT (Strength, Weakness, Opportunity, Threat) analysis relate to strategic alignment (SA)?								
RQ2.5	To what extent, if any, does Selznick's PEST (Political, Economic, Social, and Technological) relate to strategic alignment (SA)?								
RQ2.6	To what extent, if any, does Porter's Five-Forces Model (Firm Rivalry, New Competitors, Substitute Products, Suppliers' Bargaining Power, and Consumers' Bargaining Power), or competitive analysis relate to strategic alignment (SA)?								
RQ2.7	To what extent, if any, does Porter's STEEP (Social, Technological, Economic, Environmental and Political) analysis relate to strategic alignment (SA)?								
RQ2.8	To what extent, if any, does Porter's Value Chain Analysis (VCA) (Supplier, Production, Distribution, Sales & Marketing, Customer Service, and Management Costs) relate to strategic alignment (SA)?								
RQ2.9	To what extent, if any, does Porter's Industry Analysis: The External Factor Evaluation (EFE) Matrix (Opportunities & Threats) relate to strategic alignment (SA)?								
RQ2.10	To what extent, if any, does Porter's Competitive Profile Matrix (CPMX) (Weighted & Rated Critical Success Factors) relate to strategic alignment (SA)?								
RQ2.11	To what extent, if any, does Porter's Internal Factor Evaluation (IFE) Matrix (Strengths & Weaknesses) relate to strategic alignment (SA)?								
RQ2.12	To what extent, if any, do Miles & Snow's (& Rowe et al.) Strategic Position and Action Evaluation (SPACE) Matrix (Aggressive, Conservative, Defensive, or Competitive Strategies) and Chart relate to strategic alignment (SA)?								
RQ2.13	To what extent, if any, does the Grand Strategy Matrix (GSM) (Rapid Growth Market, i.e., Quadrants I–Strong Competitive Position, & II–Weak Competitive Position; and Slow Growth Market, i.e., Quadrants III–Weak Competitive Position, and IV–Strong Competitive Position) relate to strategic alignment (SA)?								
RQ2.14	To what extent, if any, does the Quantitative Strategic Planning Matrix (QSPM) (Strategic Alternatives in terms of External Factors–Opportunities & Threats, and Internal Factors–Strengths & Weaknesses yielding Attractiveness Scores) relate to strategic alignment (SA)?								
RQ2.15	To what extent, if any, does the HBS's Profit Impact of Market Strategy (PIMS) (Competitive Position, Business Environment, Structure of the Production Process, & Discretionary Budget Allocations) relate to strategic alignment (SA)?								

#	Strategic Management – Strategic Management Concepts	na	Disagree 1	2	3 Neutral	4	5	6	Agree 7
RQ2.16	To what extent, if any, do Porter's Five Generic Strategies (T1-Cost Leadership–Low Cost; T2-Cost Leadership–Best Value; T3-Differentiation; T4-Focus–Low Cost; T5-Focus–Best Value) relate to strategic alignment (SA)?								
RQ2.17	To what extent, if any, does McKinsey's 7 S Framework (Shared Values, Strategy, Style, Skills, Systems, Structure, & Staff) relate to strategic alignment (SA)?								
RQ2.18	To what extent, if any, does Rowe et al.'s Strategic Four-Factor Model (SFFM) (Strategic Planning, Organizational Structure, Strategic Control, & Resource Allocation) relate to strategic alignment (SA)?								
RQ2.19	To what extent, if any, does de Bono Plus, Minus, Interesting (PMI) Concept relate to strategic alignment (SA)?								
RQ2.20	To what extent, if any, does Fry and Killing's Diamond-E Framework (Resources, Organization, Management Preferences, Strategy, & Environment) relate to strategic alignment (SA)?								
RQ2.21	To what extent, if any, do Fry and Killing's three leverage points of Organization Structure, Management Processes, and Leadership Behavior relate to strategic alignment (SA)?								
RQ2.22	To what extent, if any, does CMAC's, CIMA's, and the AICPA's Using Strategy Maps to Drive Performance relate to strategic alignment (SA)?								
RQ2.23	To what extent, if any, does Kaplan and Norton's Strategy-Focused Organization Concept relate to strategic alignment (SA)?								
RQ2.24	To what extent, if any, does Kaplan and Norton's Balanced Scorecard relate to strategic alignment (SA)?								
RQ2.25	To what extent, if any, do Kim and Mauborgne's Red and Blue Ocean strategies relate to strategic alignment (SA)?								
RQ2.26	To what extent, if any, does CIMA's and IMA's Enterprise Risk Management SM-A Media, and CIMA's Strategic Enterprise Management (SEM) Initiative relate to strategic alignment (SA)?								
RQ2.27	To what extent, if any, does the Institute of Internal Auditors–IIA's Global technology audit guide (GTAG), continuous auditing: Implications for assurance, monitoring, and risk assessment–Continuous Audit (CA) component (Internal Audit), and Continuous Monitoring (CM) component (Management)–relate to strategic alignment (SA)?								
RQ2.28	To what extent, if any, do Business Intelligence and Business Analytics (Business Solutions, Data Management, Analytics, & Reporting) (e.g., SAS, IBM-Cognos, SAP-Business Object, & Oracle) relate to strategic alignment (SA)?								
RQ2.29	To what extent, if any, do any other strategic management concepts and techniques (SMCT) relate to strategic alignment (SA)? Name it (them) here, and rate individually.								

Part 2, Continued

Cost Management Practices and Specific Strategic Management

Accounting Practices Research Survey, Prediction of Strategic

Alignment - SM-A Perspective

RQ3: The following question is about assessing your organization's level of SCM, CS, CPRM, and specific SMAPs that relate to the level of Strategic Alignment (SA).

RQ3 : Respond RQ3.1-3.4 by entering a choice (e.g., insert the number 7 in the 7-column) to rate your assessment for each of the subdimensions of SM-A question. The above-mentioned acronyms are: SCM (strategic cost management), CS (costing systems), CPRM (customer profitability management), and specific SMAPs (strategic management accounting practices), and SA (strategic alignment).

Cost Management Practices and Specific Strategic Management Accounting Practices Research Survey, Prediction of Strategic Alignment - SM-A Perspective

#	Prediction of Strategic Alignment - SM-A Perspective	Disagree 1	2	3 Neutral	4	5	6	Agree 7
RQ3	What is the predictive value of each of the subdimensions of SM-A (strategic cost management, costing systems, customer profitability management, and specific strategic management accounting practices) for SA?	na	na	na	na	na	na	na
RQ3.1	Strategic cost management							
RQ3.2	Costing systems							
RQ3.3	Customer profitability management							
RQ3.4	Specific strategic management accounting practices							

Part 3

Definitions

Definitions of overarching constructs. The definitions of this study's constructs provide a scholarly, professional, and trustworthy source conducive to enhance understanding of SM-A, and mitigate the risks of misinterpreting concepts, even for the most trained CMAs. The definitions are theoretical and embedded with practical insights that cohere in the field of M-A. Each definition is crafted with details crucial for the participants of the study, most of which will be practitioners, some academics, and its readers. Such constructs include CMPs, SA, SM, and SMAPs.

Cost management practices (CMP). An important characteristic of SM-A is the notion that organizations can develop different cost information for different decisions (CMAC, 2009c). Cost management practices are the practices that MAs use to find cost, use cost, and to establish strategic-management control (i.e., anchors) to provide the appropriate structure, or environment in which to implement strategy, and to monitor its results (CMAC, 2009b, 2009c). By enabling cost finding (CMAC, 2009c), CMPs allow MAs making the right decisions the first time (CMAC, 2009b, 2009c). By facilitating cost using (CMAC, 2009c), CMPs allows choosing the best possible practices (e.g., target costing -TC, activity-based budgeting -ABB) the organization should adopt, determining which SMAP characteristics (e.g., strategic plans and strategy monitoring) best enable SA (CMAC, 2009c; Drury & Tayles, 2005), and deciding on which contextual economic, organizational, political, social, and cultural factors affect most and best CMPs (CMAC, 2009b; CMAC, 2009c). By enabling strategic-management control (CMAC, 2009a), and the analysis of M-A data, CMPs aid MAs develop and monitor the business strategy (Simmonds, 1981a). All CMPs have two main attributes. Effectiveness is tactical while efficiency is strategic (CMAC, 2009b; CMAC, 2009c). Effectiveness originates in the features of the CMPs that provide the most appropriate type and quality of data, and allow for rapid deployment of the CMPs (CMAC, 2009b; CMAC, 2009c). Flexibility is about cost using, hence, choosing the best possible CMPs the organization should adopt, choosing which SMAP conditions and contextual factors affect most and best CMPs (CMAC, 2009b; CMAC, 2009c), and selecting the best SMAPs that enable strategic choices concerning its underpinning economic structure (Shank, 1989). As such, the costing of products and services is part of CMPs, and CMPs are part of MAPs (i.e., MAP definition) (CMAC, 2009c), and part of the larger SMAPs (i.e., SMAP definition) family. In this research study, CMPs are a dimension and overarching construct of the study. All CMPs have refuge into the three mentioned anchors that enable SA (CMAC, 2009c), and although not predictor variables, such distinguishing anchors encapsulate the predictor variables of strategic cost management, costing systems, customer profitability management, and specific SMAPs.

Strategic alignment (SA). There are two parts to this definition. The first part relates to SM-A while the second part connects with SM. Part one is about SM-A, and how SA is related to strategic-management approaches and SCM, including value chain management (VCM) and analysis (VCA), purporting to align the firm's cost structure with its strategy (Porter, 1980). Strategic alignment pertains to M-A as well, or when MAs and executives pursue cost management decisions to deploy the strategy where SA is measured by the difference between business-unit strategic goals, needs, and critical functions, and—SM-A orientation (flexibility), that is, supporting the hypothesis that SA is affected directly by CMPs and SMAPs (Anderson, 2007; Kaplan & Norton, 1996, 2004; Shank, 1989; Shank & Govindarajan, 1992, 1994; Sorensen, 2009; Tomkins & Carr, 1996a, 1996b). Strategic alignment is also about the external perspective of profits stemming from the firm's competitive positioning in its market (Simmonds, 1981a), which is one of the foundations of part two. Strategic alignment also means the emphasis MAs place on decision support, planning, and control from a transactions-based focus (Siegel, 1996). For example, there exists a relationship between SM-A and SA (Ahrens & Chapman, 2006; Silverman, 1993), and one relationship between the flexibility of CMPs and SMAPs and SA (CMAC, 2009c, 2009d; IMA, 2013b; Shank, 1989; Shank & Govindarajan, 1992, 1994). For this

study, SA is the only criterion variable, which is also an overarching construct that requires surveying CMPs, including product costing practices (PCP), service costing practices (SCP), and other practices. The second part is about SM that represents a set of SMCs, or set of strategic-planning concepts and techniques (CMAC, 2007), which originates from a contemporary SMP (Porter, 1980, 1985, 1990) rooted in VCM and VCA. Together with the theory that organizational structure supports strategy (SSS) (Chandler, 1962, 1977, 1990), such concepts help to evaluate competitive conditions, develop, deploy, and monitor strategy (Kaplan & Norton, 1996, 2001), and to establish SA and SCA (Porter, 1980, 1985, 1990). Such concepts affect SA and include, for example, the Five-Forces Model and STEEP (Social, Technological, Economic, Environmental, and Political) analysis (Porter, 1980, 1985, 1990), the McKinsey 7S framework (McKinsey & Company, 1982), the Strategic Four-Factor Model (Rowe, Mason, Dickel, Mann, & Mocker, 1999), the Diamond-E Framework (Fry & Killing, 2000), the SWOT (Strength, Weakness, Opportunity, Threat) and PEST analyses (Selznick, 1957), PMI (Plus, Minus, Interesting) (de Bono, 1982) Red and Blue Ocean strategies (Kim & Mauborgne, 2004), the Balanced Scorecard (Kaplan & Norton, 1992, 1996), and the Strategy-Focused Organization (Kaplan & Norton, 2001). Except for Chandler's and Selznick's works, all such concepts are derivatives of Porter's seminal work, but all are major enablers of strategy development, implementation, monitoring, and execution, and SA (Porter, 1980). Through alignment and coherence of the entity's restricted resources, Kaplan and Norton (2001) argued that a robust strategy can produce a nonlinear performance breakthrough positing the creation of a new culture (Schermerhon, Hunt, & Osborn, 2000), based on the requirements of the strategy, thus, facilitating strategy execution and alignment. In this research study, SA is a foundational dimension and overarching construct of the study, and the lone criterion variable.

Strategic management (SM). Briefly, SM represents SMCs, or strategic-planning concepts and techniques (CMAC, 2007) that originate from a contemporary SMP (Porter, 1980, 1985, 1990) based in VCM and VCA for SCA. Together with the theory that organizational SSS (Chandler, 1962, 1977, 1990), the concepts that arise from SM help to evaluate competitive conditions and develop, deploy, and monitor strategy (Kaplan & Norton, 1996, 2001), and to establish a SCA (Porter, 1980, 1985, 1990) (i.e., strategic alignment has a broader definition). As such, SM is the pillar of SM-A, a foundational dimension, and overarching construct of the study for SMCs.

Strategic management accounting practices (SMAP). Strategic management accounting practices have attributes exhibiting one, or more of the following elements: environmental or marketing orientation; focus on competitors, and; long-term, forward-looking orientation (Guilding et al., 2000). This perspective represents a confluence of the ideas of earlier writings on SM-A from a number of scholars (Bromwich, 1990)—competitor focus, derived primarily from the model of competitive positioning (Porter, 1980)—, (Simmonds, 1981a)—marketing focus—, and (Wilson, 1995)—future focus—, all enablers of SCA. All MAGs are SMAPs, and all SMAPs are part of the contemporary definition of SM-A. For example, SMAPs include, but are not limited to, attribute costing, brand value budgeting, brand value monitoring, competitor cost assessment, competitive position monitoring, competitor appraisal based on published financial statements, lifecycle costing (LCC) (Dunk, 2004), quality costing, strategic costing, strategic pricing, target costing (TC), value chain costing, and evidence-based decision making with a strong IT role (CIMA, 2009b; CMAC, 2009c, 2009d, 2009e; Guilding et al., 2000; IMA, 2013b; Marr, 2009, 2012a, 2012b, 2012c). The SMAPs also comprise financial simulation, cash flow management, target costing, activity-based management, ABC, budget and pro-forma management financial statements, strategic cost management, Kaizen costing, product mix decisions, uncertainty and capital budgeting, and time-driven activity-based costing (TDABC), the balanced scorecard (BSC), total quality management (TQM), total quality assurance (TQA), continuous quality improvement (CQI), just in time (JIT), and costing system improvements integrated into ERPs (CMAC, 2009d; Kaplan & Anderson, 2007a, 2007b; Kaplan & Norton, 1992, 1996). In this research study, SMAPs are a foundational dimension and overarching construct of the study, and specific SMAPs are one of its five predictor variables.

Definitions of other key terms. The definitions of the following key terms are vital to capture the meaning of certain SM-A terms used in this research study and its potential survey. Such terms include business-sustaining costs, Certified/Chartered/Management Accountant, Cost and Management Accountant, cost driver, costing systems, costing-system complexity, or sophistication, customers, customer profitability management, hidden customer costs, management accounting, management accounting guidelines, management accounting practices, product costing practices, service costing practices, statements on management accounting, strategic cost management, strategic management, strategic management accounting techniques, strategic management-based costing approach, and SCA. Through such authoritative definitions, survey participants and study readers will acquire an appreciation of the study's context and make an informed judgment about the nature and requirements of each main research question, their accompanying detailed survey questions, and the study's potential findings and conclusions. The definitions address the subdimensions and predictor variables of the study's detailed questions: costing systems, customer profitability management, strategic cost management, and specific strategic management accounting practices, all under the generic umbrellas of SMAPs, or SM-A, and SM.

Business-sustaining costs (BSSC). Sometime called committed costs, or referred to as, or long-term costs, such costs are oftentimes also labeled as facility-sustaining costs, or capacity-related costs that provide resources for the organization with the capacity to make goods, or services with their cost depending on the amount of the resource acquired, not the amount used. Capacity-related costs or business-sustaining costs are the costs of resources that sustain the organization's broad operations. There are two types of business-sustaining costs: a) those that would exist irrespective of the level of operations as long as the entity exists, these being costs not usually allocated to any cost object, and; (b) those that change over time to reflect changes in the organization's activity level, these costs being indirect costs. As such, BSSCs represent investment in plant, or factory, building and warehouse, machinery, equipment, advanced-manufacturing technologies, R&D and IT/IM assets, and long-term capital-asset financing costs (including those for capital leases) essential to achieve the purpose of the enterprise, or the mission of a governmental organization (CMAC, 2002a; 2002b; Drury & Tayles, 2005).

Certified/Chartered Management Accountant/Cost and Management Accountant (CMA). All management accountants are identified as CMAs, and there is only one type of management accountants. The designation CMA has three different full names; Certified Management Accountant in Canada (CMA Canada, or CMAC) recognized by legislation, and in the U.S. (IMA) and Australia (ICMAA) incorporated by companies' laws, and using a registered trademark, and the Institute of Certified Management Accountants of Sri Lanka (ICMASL, 2013) founded by an act of Parliament. The UK-based CIMA issues the Chartered Management Accountant (CMA) designation under a royal charter, and the Institute of Chartered Management Accountants of Pakistan (ICMAP, 2013a) has been established by an act of Parliament. Other bodies use Cost and Management Accountant such as the Southeast Asian M-ABs (Institute of Cost and Management Accountants of India [ICMAI], 2013a; Institute of Cost and Management Accountants of Bangladesh [ICMAB], 2013), and all have been established by acts of Parliament. Regardless of their affiliation, all CMAs possess the same characteristics, training, or body of knowledge, which includes strategy, management accounting, financial planning and analysis, financial management, corporate finance, operations management, internal control, risk management, cost management, performance management, decision analysis, financial accounting, statistics, economics, and ethics. Other accountants are referred to as financial accountants, public accountants, and auditors when working in a practice that offers public accounting services while CMAs do more than just measure value—they create it. As the leaders in management accounting, CMAs are trained in business management, capable of advising on business strategy and enterprise risk management, and actively apply a unique mix of financial expertise, strategic insight, innovative thinking, and a collaborative approach to help grow successful businesses (CIMA, 2009a; CMAC, 2009a; IMA, 2009a).

Cost driver. First-stage cost drivers are cost drivers, or activity measures being an allocation base in an ABC system. Resources consumed by products are first allocated to cost pools. The following types of activity, or activity cost pools (with the level in parenthesis) are examples followed by their respective first-stage cost drivers: customer orders (batch-level pool) with the number of customer orders; product design (batch-level pool) with the number of product designs; order size (unit-level pool) with machine hours; customer relations (customer-level pool) with the number of active customers, and; support existing products (batch-level pool) with the number of products (Garrison, Noreen, & Brewer, 2006; Kaplan & Cooper, 1998). Second-stage cost drivers are cost drivers, or activity measures being an allocation base in an ABC system. In the second-stage allocation process, activity rates are used to apply costs to products (Van Veen, 1992), customers, and other cost objects. The activity rate is a function of the cost driver. The cost driver rate is a function of a number, the denominator representing the cost driver (e.g., the number of orders). The following example reveals a total cost for a cost pool and the cost allocated by product: resources consumed by the customer-order cost pool = $315,000 ÷ 1000 orders = activity rate = $315; resources consumed by three orders = $945 (Garrison et al., 2006, Kaplan & Cooper, 1998).

Costing systems (CS). Costing systems are designed to collect and generate cost data. Most CSs are components of a management accounting system, or the broader accounting system. In virtually all situations, the functionality of the CS is to track incurred costs, and analyze them for planning, decision making, SA, and SCA (CIMA, 2005; CMAC, 2012b; Horngren et al., 2006; Horngren et al., 2010). Costing systems are known to service all types of cost accounting methods including absorption, direct, full, variable, marginal, and uniform costing (CIMA, 2005). Many CSs also use several cost pools and types of cost drivers (Brierley, 2008; Drury & Tayles, 2005), and have several core elements (Shank, 1989). In general, CSs cater to organization's strategy and objectives, transactions, cost profiles, volatility, and availability of data (CMAC, 2012b). There are several factors that influence the choice of product costing systems with all factors rooted in the CTM-A literature and a slant towards enabling SA. Such factors include product diversity, cost structure, size, level of competition, degree of customization, lean production, total quality management, automation, competitive strategy, organizational structure, quality of information technology, manufacturing industry type, the number of cost pools, and the number of allocation bases (Bjornenak, 1997; Chenhall, 2003; Drury & Tayles, 2005; Krumwiede, 1998; Malmi, 1999). In this study, CS is a subdimension of the SMAPs overarching construct and dimension, and one of five predictor variables.

Costing-system complexity, or sophistication (CSC & CSS). Complexity, or sophistication ranges from low complexity; single plant-wide cost pool and single volume-based cost driver to high complexity; many first-stage cost pools, many different types of volume and non-volume based second-stage cost drivers; and the use of transaction, duration, and intensity cost drivers (Brierley, 2008; Drury & Tayles, 2005).

Customers. *Profitable (P) Customers* [emphasis added] represent typically about 20% (but occasionally also between 15% and 25%) of all customers, generating anywhere from 150% to 300% (occasionally from 100% to over 300%) of firm profits (50% to 200% to what is referred to as above sea level) (i.e., full cost recovery including incremental costs in the public and NFP sectors) (IMA, 2010). *Breakeven (B) Customers* [emphasis added] represent typically about 70% (although percentages may vary between 55% and 80%) of all customers (full cost recovery excluding incremental costs in the public and NFP sectors) (IMA, 2010). *Loss (L) Customers* [emphasis added] represent typically about 10% (although percentages may vary between 5% and 15%), who destroy, erode, or reduce firm profits anywhere from 50% to 200% of firm profits, bringing cumulative profit to sea level loss (not covering full cost recovery in the public and NFP sectors) (IMA, 2010).

Customer profitability management (CPRM). To identify profitable, breakeven, and unprofitable customers, firms use the strategy-based linkage CPRM to devise strategies that add value to most-profitable customers, stop or reduce erosion of unprofitable customers, and

increase long-term customer profitability (IMA, 2010). The CPRM subordinate function, customer profitability analysis (CPA) is the analysis of the revenue streams and service costs associated with specific customers or customer groups, and oftentimes, provides data on customer segments, and geographical areas (CMAC, 2000). More than otherwise, CPRM and CPA reside into two important facts, or areas: expanding global competition, and attaining greater shareholder value. Through a backbone CPRM costing system tracing and causalling, assigning costs, turning such facts into realities, not only increase in customer satisfaction, loyalty, and value, but also, more importantly, achieving these realities enable SA and SCA (CIMA, 2005, CMAC, 2000, IMA, 2010). In this study, CPRM is a subdimension of SMAPs, and one of five predictor variables.

Hidden customer costs (HCC). Such HCCs include: inventory carrying costs; stocking and handling costs; quality control and inspection costs; customer order processing; order picking and order fulfillment; billing, collection, and payment processing costs; accounts receivable and carrying costs; customer service costs; wholesale service and quality assurance costs, and; selling and marketing costs (CMAC, 2000).

Management accounting (M-A). Management accounting is an integral part of management concerned with identifying, generating, presenting, and interpreting information used for (a) formulating strategy, (b) planning and controlling activities, (c) decision taking, (d) efficient resource usage, (e) performance improvement and value enhancement, (f) corporate governance (CG) internal control (IC), and (g) safeguarding tangible and intangible assets (CIMA, 2009c). Management accounting is the practical science of value creation within organizations in both the private and public sectors (CIMA, 2009c). It combines accounting, finance, and management with the leading edge techniques needed to drive successful businesses (CIMA, 2009c). Management accountants operate in financial and non-financial roles throughout organizations, and carry out all their training and experience requirements within the business itself, providing them with a unique insight into how their organizations operate (CIMA, 2009b, 2009c). The research team at the IMA (2009b) provides a newer definition of M-A relative to the profession of M-A. Management accounting is a profession that involves partnering in management decision making, devising planning and performance management systems, and providing expertise in financial reporting and control to assist management in the formulation and implementation of an organization's strategy (IMA, 2009b). In this study, M-A is the discipline and science at hand.

Management accounting guidelines (MAG). Management accounting guidelines, oftentimes called the Strategic Management Series is an indispensable key resource for the latest in scholarly M-A and SM-A concepts and techniques to gain a competitive advantage in the global marketplace (CMAC, 2009d). The scholarly, strategic MAGs feature action-oriented management guidelines to help MAs and others implement industry-recognized best practices and see how M-A and SM-A cohere in the field. The series includes also emerging issues papers (EIP), research studies and reports, and case studies on specific topics and industries to stimulate awareness and discussion on groundbreaking management techniques (CIMA, 2013a; CMAC, 2009d, 2013a; IMA, 2013a, 2013b). Many of the MAGs feature case studies and practical examples; the Series is international in scope, applicable to any organization worldwide, and; major accounting bodies have endorsed CMAC's strategic-management publications, and sell them in their jurisdictions (CMAC, 2009d). Akin to MAGs, the IMA publishes SMAs, many of which were developed jointly with CMAC. The SMAs present the views of the IMA regarding M-A and financial management issues, and in their development, SMAs are subjected to a rigorous exposure process (IMA, 2013b). Individual SMAPs are in fact MAGs, which is the name of the SM-A media. Research studies and reports are similar to MAGs (CIMA, 2013a). The MAG definition is akin to the SMAP and SMAT definitions. In this research study, MAGs, through SMAPs, are an essential part of the study.

Management accounting practices (MAP). Management accounting practices, or MA standards (MAS) are tactical and strategic tools and techniques needed to develop, evaluate

internal operations, and make decisions within individual organizations. Management accounting bodies stratify MAPs into three categories: cost finding, cost using, and strategic-management control (CMAC, 2009c, 2009h, 2013b). The MAPs are also presented under six captions: strategic management, risk management and governance, performance management, performance measurement, financial management, and financial reporting (CMAC, 2009c). The applicability of a MAP will depend on the circumstances that each organization faces at any particular time (CMAC, 2009c, 2009h, 2013b). In this research study, MAPs are an essential part of the study.

Product costing practices (PCP). Cost management practices involve traditional (e.g., absorption, variable, throughput) and non-traditional (e.g., activity based costing -ABC-, time-driven ABC, or TDABC, target costing, or TC, and net TC) costing approaches that a firm's executives and MAs use (CMAC, 2009c). Whether MAs use any of the approaches mentioned, PCPs are the practices encompassing the computation of the cost of products using normally either job order costing, or process costing. The calculation of product costs includes direct and indirect costs. Indirect costs comprise the segregation of flexible and committed costs (or capacity-related costs) during the allocation process. Whether FIFO, WA, or SC is used, the conventional practice sets a standard for what is deemed normal spoilage that is part of product costs, whereas abnormal spoilage is treated as a cost of current operations (period cost), not as a product cost (CMAC, 2009c). In this research study, PCPs are an essential part of the study.

Service costing practices (SCP). Whether SCPs results from the accumulation of costs by organizational, or responsibility unit, or by activity, a primary activity can be substituted for an operating department, and the secondary activity can be substituted for a support department. Operating or productions departments perform primary activities. The process that creates the organization's goods, or services consumes such activities (CMAC, 2009c). The costs of such activities may be direct costs attributed to the cost of goods, or services of the producing department, or attributed to other operating or productions departments when readily attributable directly to other organizational units, or to the activities of such units. If a direct cost is a common cost, or the cost of operating a facility shared by two, or more users, the common cost becomes allocatable whether it is the cost of an operating or support department. In all cases, where a support or service department cannot attribute indirect costs directly, the department must allocate such costs to cost objects (e.g., organizational unit, activity, and project). Thus, SCPs constitute the set of practices that attribute costs directly, or allocate indirect costs using various allocation methods (CMAC, 2009c). In this research study, SCPs are an essential part of the study.

Statements on management accounting (SMA). The definition of SMA is similar to that of MAGs (IMA, 2013b).

Strategic cost management (SCM). Determining SCM requires an a priori consideration of the central roles of accounting information to facilitate developing and implementing business strategies (Shank, 1989). The role CI plays is in the four stages of SM, strategy formulation, strategy communication, strategy implementation, and strategic control (Shank, 1989; Govindarajan & Shank, 1992). From this role perspective, succinctly, SCM is the managerial use of CI aimed at one, or more of the four stages of the strategic management cycle (Shank, 1989). To this role, the first named scholar (Shank, 1989) applied three themes: Value Chain Analysis (VCA), Strategic Positioning Analysis (SPA), and Cost Driver Analysis (CDA), and the cited duo (Govindarajan & Shank, 1992) reiterated the themes to formulate a framework concerned with the relationship between strategy and M-A. The cited authors (Shank, 1989; Govindarajan & Shank, 1992) refer to this framework as 'Strategic Cost Management', which, at the time represented a new paradigm, and now, is defined similarly still with the three themes. Informed by the named duo (Govindarajan & Shank, 1992), SCM does not have anymore an internal-operations focus adopted in M-A in the eighties stemming from value added analysis—starting with payments to suppliers (purchases), and stopping with charges to customers (sales)—, but rather a value chain concept guided by a contemporary SMP (Porter, 1980, 1985,

1990) endorsed by the named team (Govindarajan & Shank, 1992). The value chain framework highlights how a firm's products fit into the buyer's value chain, and has an external perspective (Govindarajan & Shank, 1992). Remaining true to its core strategic concept, SCM takes two forms, *structural* [emphasis added] and *executional* [emphasis added] cost management (SLCM, ELCM) (Anderson, 2007; Shank, 1989; Govindarajan & Shank, 1992). First, firm executives and MAs consider at least five strategic choices (Shank, 1989) concerning its underpinning economic structure that drive cost position for any given product group, and is succinctly described as follows. Scale is the size of investment in manufacturing, R&D, marketing, and horizontal integration; scope is the degree of vertical integration; experience is the number of times the firm has done what it is about to do again; technology is process technologies used throughout the value chain, and; complexity is the diversity of line of products, or services. From such structural cost drivers (SLCD) (the five choices) (Shank, 1989), through SLCM, executives and MAs employ tools of organizational design—e.g., determination of firm boundaries, scale, and governance structures—, product design and process design (product, services, corporate and infrastructure services) to build an organizational and cost structure that supports strategy (Chandler, 1962, 1977, 1990). Securing flexibility is about cost using (CMAC, 2009b, 2009c) relative to SLCM and SLCDs (Shank, 1989). Through cost using, executives and MAs leverage flexibility for example, with various SMAPs (e.g., target costing, activity-based management, Kaizen costing, and time-driven activity-based costing [TDABC]) (CMAC, 2009d; Kaplan & Anderson, 2007a, 2007b). In addition, flexibility also includes for example, the balanced scorecard (BSC), and total quality management (TQM), total quality assurance (TQA), continuous quality improvement (CQI), just in time (JIT), and costing system improvements integrated into ERPs—enabling the implementation of the best M-A tools to attain strategic objectives (CMAC, 2009c). For such reasons, flexibility attracts CMP elasticity, and also helps MAs achieve SA, and meet business' demands (Shank, 1989; Govindarajan & Shank, 1992, Shank & Govindarajan, 1992, 1994). Second, in ELCM, executives and MAs employ common M-A tools, or executional cost drivers (ELCD) (Shank, 1989), not limited to, but including—workforce involvement, TQM, capacity utilization, plant layout efficiency (as does LEAN with value stream mapping [VSM]), product configuration, and exploiting linkages with suppliers and customers—to measure cost performance in relation to competitive benchmarks for continued improvement opportunities and initiatives. Leveraging effectiveness is about cost finding—developing cost information used to inform strategic planning, and monitoring the financial results of implemented strategies (CMAC, 2009c)—where executives and MAs employ ELCDs in ELCM (Shank, 1989), and measure cost performance in relation to competitive benchmarks for continued improvement opportunities and initiatives (Shank, 1989). The effectiveness of CMPs, notable in implementing requirements for existing systems through its main function, cost using—formulating broad costing principles and classification, determining cost structures, joint costs, indirect costs, support-department costs, and OH costs, including as well, creating cost pools, attributing direct costs to cost objects, determining indirect-cost and OH-cost allocation rates, cost drivers, cost centers, performing job order costing and process costing (product & service), and designing a costing system—is an enabler of strategic management and of internal control and monitoring (CMAC, 2009b, 2009c; Widener, 2007). Strategic cost management is a foundational subdimension of the study and one of its five predictor variables.

Strategic management accounting (SM-A). Originally, one scholar (Simmonds, 1981a) defined SM-A as the provision and analysis of M-A data about a business and its competitors for use in developing and monitoring the business strategy. The scholar saw profits stemming *not* from internal efficiencies, but from the firm's competitive positioning in its market. Strategic M-A is that part of the management process that develops and uses both financial and non-financial information for adding long-term value for customers, shareholders, and other stakeholders in dynamic and competitive environments (CMAC, 2009b). Therefore, the purpose of SM-A is to inform the process of strategic planning, guide the implementation of strategic plans, and monitor the results of implemented strategies (CMAC, 2009b). Strategic M-A is also a form of M-A in which emphasis is placed on information, which relates to factors external to the entity, as well as non-financial information, and internally-generated information (CIMA, 2005). In SM-A, the management accountant engages with the organization's top management team, contributes to strategy development and implementation with the aim of creating customer value and a strong

competitive position for the organization, and enables enhancing business performance (CMAC, 2009b). This segment (SM-A) highlights techniques of VCM and VCA and project management, which have become increasingly important in contemporary operational environments (CPAA, 2013a). Simply stated, contemporary SM-A is also a set of scholarly SMAPs (i.e., SMAPs definition) that the three main M-ABs have developed (CIMA, 2009c; CMAC, 2009b; IMA, 2013a) allowing the firm to retain a SCA (Porter, 1980). Because SM-A is grounded in SCA, the most important characteristic of SM-A stems from strategic-management control, which provides the appropriate structure, or environment to implement strategy and monitoring its results **(**CMAC, 2009c)**.** Akin to developing and implementing other best management practice frameworks, through its main characteristics, executives and MAs draw on SM-A (SMAPs)—strategic performance measurement (SPME) process control, cycle time management, standard cost and variance analysis, statistical process control/business analytics (BA), productivity measurement, activity-based management (ABM), transfer pricing, ethics control systems, and operation control systems. In addition, SM-A also includes—objectives alignment and incentive compensation, transfer pricing in regulated environments, reporting organizational unit profit responsibility control, creating and improving customer value, value-chain costing, LEAN and Six Sigma, enterprise risk management, CPRM, project management, value-based management (VBM), corporate governance (CG), and environmental sustainability (ES)—to create the best context for the firm's strongest competitive positioning and external monitoring (Simmonds, 1981a; CMAC, 2009b, 2009c), and organizational design (Shank, 1989). In this research study, SM-A is an important foundation of the study, and within this context, it is also the use of the best current and most appropriate CMPs, MAPs, and SMAPs; the advancement of SM-A per se (CMAC, 2009a, 2009c), and; an enabler of business strategy, strategic management, and strategic alignment (Simmonds, 1981a). In this research, SM-A represent the study's foundation and nature.

Strategic management accounting techniques (SMAT). Strategic management accounting techniques and SMAPs are different terms with the same meaning. For example, SMATs also include, but are not limited to, activity-based management (ABM), ABC, TDABC, Kaizen Costing (KC), activity-based budgeting (ABB), enterprise risk management (ERM) and financial risk management (FRM), strategy mapping, business continuity management (BCM), organizational restructuring, strategic performance management and measurement (SPM) (Ballantine, Brignall, & Modell, 1998), developing comprehensive performance indicators, customer profitability analysis (CPA), measuring customer value, and monitoring customer value (CIMA, 2009b; CMAC, 2009c, 2009d; IMA, 2013b; Roslender & Hart, 2003). In this research study, SMATs are an essential part of the study.

Strategic management-based costing approach (SMBCA). This costing approach rests on the notion SCM. The approach is informed by the use of strategic-management theories through VCM and VCA (Porter, 1980, 1985, 1990), thus the latter's Five Forces Competition Theory Model (FFCTM), and guided by the works (mostly SCM frameworks) of several scholars (Anderson, 2007; Anderson & Dekker, 2009a, 2009b; Bromwich, 1990; Chenhall, 2008; Galbraith, 2005; Govindarajan & Shank, 1992; Kaplan & Norton, 1996, 2004; Shank, 1989; Shank & Govindarajan, 1992, 1994; Simmonds, 1981a; Sorensen, 2009; Tomkins & Carr, 1996a, 1996b; Wilson, 1995). Management accountants and M-A scholars use the approach (always descriptively, but without a name) relating SCM to strategy development. The SMBCA enables connecting market and competitive analysis that informs strategy development, thus the name SMBCA. Because the foci of value proposition and organizational design define long-term cost structure, the SMBCA has emerged, enabling MAs to engage in SCM of the activated value chain with its contributing stakeholders (Anderson, 2007; Anderson & Dekker, 2009a, 2009b). Through this deployment, MAs require two levels of ongoing analysis: (1) analysis of the sustainability of the value chain, and; (2) analysis of the performance of the value chain, indicating inadequacies in executing the strategy rather than inadequacies of the strategy (Anderson, 2007). The researcher will ask Certified/Chartered/Management Accountants and Cost Management Accountants-respondents through the study-survey's instructions to reflect on the SMBCA to potentiate answers to survey questions. In this research study, the SMBCA is one of its important components.

Strategic management concepts (SMC). Strategic management concepts represent a set of strategic-planning constructs and techniques (CMAC, 2007) that originate from a contemporary SMP (Porter, 1980) and the organizational SSS theory (Chandler, 1962, 1977, 1990), and where the concepts help to evaluate competitive conditions and develop strategy, and to establish a SCA (Porter, 1980, 1985, 1990). Other than accounting constructs, SMCs affect strategic alignment independently from the accounting constructs, and include, for example, the Five-Forces Model and STEEP (Social, Technological, Economic, Environmental, and Political) analysis (Porter, 1980, 1985, 1990), the McKinsey 7S framework (McKinsey & Company, 1982), the Strategic Four-Factor Model (Rowe et al., 1999), the Diamond-E Framework (Fry & Killing, 2000), the SWOT (Strength, Weakness, Opportunity, Threat) and PEST analyses (Selznick, 1957), PMI (Plus, Minus, Interesting) (de Bono, 1982) Red and Blue Ocean strategies (Kim & Mauborgne, 2004), the Balanced Scorecard (Kaplan & Norton, 1992, 1996), and the Strategy-Focused Organization (Kaplan & Norton, 2001). Except for Chandler's and Selznick's works, all such concepts are derivatives of Porter's and Chandler's works, but all are major enablers of strategy development, implementation, monitoring, execution, and strategic alignment (Kaplan & Norton, 2001). Through alignment and coherence of the entity's restricted resources, the cited M-A scholars argued that a robust strategy can produce a nonlinear performance breakthrough positing that the creation of a new culture (Schermerhon et al., 2000), based on the requirements of the strategy, facilitates strategy execution and alignment (Kaplan & Norton, 2001). In this research study, SMCs are a foundational subdimension of the study and one of the predictor variables of SA.

Sustained competitive advantage (SCA). Linked to SM-A, SCA represents two types of competitive advantage, cost leadership and product differentiation, which leads to three basic strategies, cost leadership, differentiation, and focus (Porter, 1985).

Appendix B: Permissions to Use Survey Instrument

From: Michael E Tayles [mailto:M.E.Tayles@hull.ac.uk]
Sent: Wednesday, January 12, 2011 10:06 PM
To: Ron Guay
Subject: RE: MANAGEMENT ACCOUNTING RESEARCH STUDIES

Dear Ron

Thanks for your nice comments about our work, your research sounds very comprehensive. It is good though surprising that in North America you have looked at UK work. I have an ecopy of the questionnaire we used for the latter 'cost system' research. I am not sure I have the material from the 1990s on MAPs generally. It will be in other archives if at all.

The Cost System Design Questionaire (CSDQ) was long but we did get a couple of publications from it and some useful insights. I hope you find it helpful. See attached.

Mike Tayles
Emeritus Professor of Accounting and Finance
m.e.tayles@hull.ac.uk
Tel (0)7796465152

From: Ron Guay [mailto:rguay1@comcast.net]
Sent: 10 January 2011 20:52
To: Michael E Tayles
Subject: RE: MANAGEMENT ACCOUNTING RESEARCH STUDIES

Hello Mike,

This is the remainder you asked for before Christmas. I hope you will be able to provide the requested information. Thank you, sincerely, Ron.
Best Regards,
Thanks Very Much,
Ron
Ron Guay, MBA (EQUIS, AACSB, AMBA), CMA, FCMA, ACMA, CPA, DABFE
Ron Guay, MBA (EQUIS, AACSB, AMBA), CMA, FCMA, ACMA, CPA, DABFE
Member, Delta Mu Delta, International Honor Society in Business

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From: Michael E Tayles [mailto:M.E.Tayles@hull.ac.uk]
Sent: Wednesday, December 22, 2010 5:13 AM
To: Ron Guay
Subject: RE: MANAGEMENT ACCOUNTING RESEARCH STUDIES

Hi Ron

I am in the process of retirement, moving office from Uni to home. I might have some questionnaire e-copies. I will look them out but it will be after our Christmas/ New Year break. You are welcome to nudge me then.

Mike Tayles
Professor of Accounting and Finance
m.e.tayles@hull.ac.uk
Tel (0)1482 463094

From: Ron Guay [mailto:rguay@rogers.com]
Sent: 21 December 2010 22:34
To: Michael E Tayles
Subject: FW: MANAGEMENT ACCOUNTING RESEARCH STUDIES

Hi Dr Tayles,

Colin Drury informed me that you may have all the research files that he once also had, but in his retirement since taking care of his aging parents, he discarded all research files. He also mentioned that you might have been on the verge of retirement too.

Could you please respond to the email below, or ask someone to respond on your behalf. This would be very much appreciated. Thanks, Regards, Ron.

Best Regards,

Thanks Very Much,

Ron

Ron Guay, MBA (EQUIS, AACSB, AMBA), CMA, FCMA, ACMA, CPA, DABFE
Ron Guay, MBA (EQUIS, AACSB, AMBA), CMA, FCMA, ACMA, CPA, DABFE
Member, Delta Mu Delta, International Honor Society in Business

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Appendix C: Informed Consent Form

A Correlation Study of Cost Management Practices and Strategic Management Accounting Practices and Strategic Alignment

Organizational approval has been obtained from the following accounting institutes for CMAs to participate in this research study and fill out its survey. You are invited to participate in a research study being conducted for a doctoral dissertation at Northcentral University in Prescott Valley, Arizona. Only Certified Management Accountants, Chartered Management Accountants, and Cost and Management Accountants can participate in the study. The study's research survey is disseminated through the Certified Management Accountants of Canada (CMAC), the Chartered Institute of Management Accountants (CIMA), and the Institute of Management Accountants (IMA). In addition, the survey is disseminated through the Southeast Asian management-accounting bodies of the Institute of Certified Management Accountants of Sri Lanka (ICMASL), the Institute of Chartered Management Accountants of Pakistan (ICMAP), the Institute of Cost Accountants of India (ICAI), and the Institute of Cost and Management Accountants of Bangladesh (ICMAB).

Purpose. The appropriate selection and implementation of strategic management accounting practices (SMAP), management accounting practices (MAP), and cost management practices (CMP) originate from the necessity to alleviate problems of strategic alignment (SA), or fit of organizational needs and goals (CMAC, 2009a, 2009c, 2009d; Guilding, Cravens, & Tayles, 2000) to achieve a firm's sustained competitive advantage (SCA) (Porter, 1980). The purpose of this quantitative methodology, and correlation design research study is to determine if CMPs and SMAPs relate to strategic alignment (SA) for greater SCA. The purpose is to analyze, evaluate, and determine if each of the predictor variables, strategic cost management, costing systems (CS), customer profitability management (CPRM), specific strategic management accounting practices (SMAPs), and specific strategic management (SMCs) is related to the lone criterion variable, strategic alignment (SA); and to inquire into the correlation between the mentioned predictor variables and criterion variable through Pearson's *r*. A multiple linear regression analysis (Tabachnick & Fidell, 2007) will be conducted to identify which predictor variable more closely relates to the criterion variable.

Participation Requirements. To participate in this study, you must be certified members in good standing of the CIMA, CMAC, IMA, and of the ICMASL, ICMAP, ICMAI, and the ICMAB. You will be asked to complete an electronic questionnaire about CMPs, SMAPs, and strategic cost management and related practices. The session is expected to last 30-35 minutes. You can fill out the survey in the convenience of your own home, at work, or at a library, on your personal computer, laptop, or other device allowing access to the survey. You will have the choice to preferably complete the survey in one session, or access the survey later to complete it.

Research Personnel. The following people are involved in this research project and may be contacted at any time, as indicated in the opening remark to this research questionnaire: Ron Guay, MBA (EQUIS, AACSB, AMBA), CPA, FCMA, CMA, ACMA (UK), CGMA, CPA (AU), DABFE, PhD(C) (NCACS, ACBSP), PhD candidate, Northcentral University, under the direction of Dr Robin Throne, PhD, Graduate School Dissertation Committee Chair, Northcentral University, and approval of the Northcentral University's Institutional Review

Board.

Research-Participant Rights and Complaints. If you have questions about your rights as a research participant, any complaints about your participation in the research study, or any problems that occurred in the study, please contact the researchers identified in the consent form. Or, if you prefer to talk to someone outside the study team, you can contact Northcentral University's Institutional Review Board at irb@ncu.edu or 1-888-327-2877 ext. 8014.

Research Procedures. To potentiate answers, you will be expected to read the study-survey definitions before you answer the survey questions. When answering questions, should there be a need to return to the definitions, you will be able to do so. Your accounting body name and certified membership number must be provided within the survey to validate authenticity.

Potential Risk/Discomfort. Although there are no known or anticipated risks in this study, some of the information involves sharing organizational strategies and practices, which may be distressing to some people. Your unwillingness to respond to certain questions may be dependent on the sensitive nature of the information you provide. You may choose not to answer any question to which you feel uncomfortable giving a response. Given this study is about your organization's practices, and all responses will remain strictly confidential, all questions are structured to avoid or minimize angst and maximize disclosure without fear of reprisal. No entity name is required to be disclosed. However, you may withdraw at any time or you may choose not to answer any question.

Potential Benefit. The results of this study will have scientific interest that will eventually be beneficial to CMAs, firm executives, and the entire management-accounting community involved in any firm's strategic decisions; and management-accounting bodies and strategic-management and management-accounting scholars in formulating educational policies and developing syllabi to close the known gap between education, and practice and workplace demands. No monetary incentives per se for answering the survey will be offered.

Anonymity/Confidentiality. The data collected in this study are confidential and anonymous. All data will be coded such that your name and the name of your organization or firm are not associated with your responses. The coded data will be made available only to the researchers associated with this project. The information provided will be entirely confidential and shown only as aggregate data for analysis and interpretation during the study. The data will be stored in a secure location.

Right to Withdraw. Participation in this study is voluntary. Refusal to participate or withdraw from the study at any time will involve no penalty or intimidation. You may refrain from answering questions that make you uncomfortable. I will be happy to answer any questions or concerns about this consent. Please contact me at rguay@rogers.com or rguay1@att.net, if necessary.

It will be a pleasure to provide an Executive Summary at the conclusion of the study to interested parties upon request. If you have any additional questions about the survey, this study, Northcentral University, or any of the guidelines that ensure that this

research is being conducted in an appropriate and scholarly manner, please do not hesitate to contact me.

We would be happy to answer any questions that may arise about the study. Please direct your questions, comments, or requests for a copy of the research summary and conclusions to:

Ron Guay, MBA, CPA, FCMA, CMA, ACMA (UK), CGMA, DABFE, PhD(C) (NCACS, ACBSP), CPA (AU)
rguay@rogers.com
rguay1@att.net

Dr Robin Throne, PhD
rthrone@ncu.edu

Northcentral University
Attention: Institutional Review Board
10000 E. University Drive
Prescott Valley, Arizona 86314
irb@ncu.edu

Electronic signature
I have read the description of the study, "A Correlation Study of Cost Management Practices and Strategic Management Accounting Practices and Strategic Alignment," and understand the conditions of participation. I agree to participate in the research by clicking the "I Agree" link below and I will be taken to the electronic survey.

[Participants will choose between an "I agree" link as well as a "No, Thank You" link.

The "I agree" link will take participants to another section to continue with the survey. If

the "No, Thank You" link is selected, a screen will thank participants for their time.

Those participants who do not accept the informed consent acknowledgement will exit

the survey. Informed consent forms will be stored electronically and independently.]

Appendix D: Frequency Tables for Sample Demographic Characteristics

Table D1

Gender

Gender	Frequency	Percent	Valid Percent
Male	78	73	73
Female	29	27	27

Note. $N = 107$.

Table D2

Designation and Membership

Characteristic	Frequency	Percent	Valid Percent
Certified Management Accountant in CMAC, IMA and ICMANZ	61	57	57
Chartered Management Accountant in CIMA and ICMAP	24	22	22
Cost and Management Accountant in ICMAI	7	7	7
Other Designations: CGA, CPA, MBA, PhD, MBA, MSC	15	14	14

Note. $N = 107$.

Table D3

Certification

Certification - Dual	Frequency	Percent	Valid Percent
ACCA	1	2	2
ACMA/FCMA	5	11	11
APA	1	2	2
CA/ACA/FCA	4	9	9
C. Dir.	1	2	2
CFA	1	2	2
CFM	1	2	2
CGMA	13	28	28
CHRP	1	2	2
CMC	2	4	4
CPA	14	30	30
CPFA	3	6	6

Note. $N = 107$.

Table D4

Degree Level

Degree	Frequency	Percent	Valid Percent
1. MBA (including EMBA)	45	42	42
2. MSc	19	18	18
3. MAC	1	1	1
4. MPA	1	1	1
5. Other Masters	6	6	6
6. PhD	10	9	9
7. DBA	0	0	0
8. DM	0	0	0
9. DEd	0	0	0
10. Ed. D	0	0	0
11. Other research or professional degree	7	7	7
12. No degree	18	17	17

Note. $N = 107$.

Table D5

Firm Sector

Sector	Frequency	Percent	Valid Percent
Public	14	13	13
NFP	23	21	21
Manufacturing	27	25	25
Non-manufacturing	43	40	40

Note. $N = 107$.

Table D6

Country Location of Business

Country Location	Frequency	Percent	Valid Percent
Australia	1	1	1
Botswana	1	1	1
Canada	44	41	41
China	2	2	2
Germany	1	1	1
Ghana	1	1	1
India	6	6	6
Iraq	2	2	2
Namibia	1	1	1
Nigeria	1	1	1
Pakistan	2	2	2
Philippines	1	1	1
Saudi Arabia	1	1	1
Singapore	1	1	1
South Africa	1	1	1
Spain	1	1	1
Ukraine	1	1	1
United Arab Emirates	1	1	1
United Kingdom	7	7	7
USA	22	21	21
Vietnam	1	1	1

Note. $N = 107$.

Table D7

Continuous Demographic Characteristics

Demographic	*n*	*M*	*SD*
Years as CMA	100	16.40	10.93
Total annual sales ($millions)	79	1,638.56	6,573.03
Planning horizon of firm's business strategy (years)	99	4.23	2.69
Planning horizon of CFO/FD's business strategy (years)	90	3.34	1.60

Note. $N = 107$.

Appendix E: Cronbach Alpha Reliability

Table E1

Survey Instrument Reliability: Cronbach's Alpha

Subscale	α	No. of Items
Strategic cost management (SCM)	.93	88
SubSCM	.73	6
Costing systems (CS)	.99	50
Customer profitability management (CPRM)	.99	32
Specific strategic management accounting practices (SMAP)	.95	30
SubSMAPs	.93	10
Specific strategic management concepts (SMC)	.98	29
Strategic alignment (SA)	.69	4

Note. $N = 107$.

Appendix F: Skew and Kurtosis for Variables and Subscales

Table F1

Skew and Kurtosis for Variables and Subscales

Variable/Subscale	*Skew*	*Kurtosis*
Strategic cost management (SCM)	-0.84	-0.10
SubSCM	-0.61	-0.12
Costing systems (CS)	-0.58	-0.87
Customer profitability management (CPRM)	-0.57	-1.04
Specific strategic management accounting practices (SMAP)	-0.76	-0.38
SubSMAPs	-1.90	3.41
Specific strategic management concepts (SMC)	-1.49	2.76
Strategic alignment (SA)	-1.01	1.77

Note. $N = 107$.

Appendix G: Normal P-P Plot of Regression Standardized Residual for all Variables

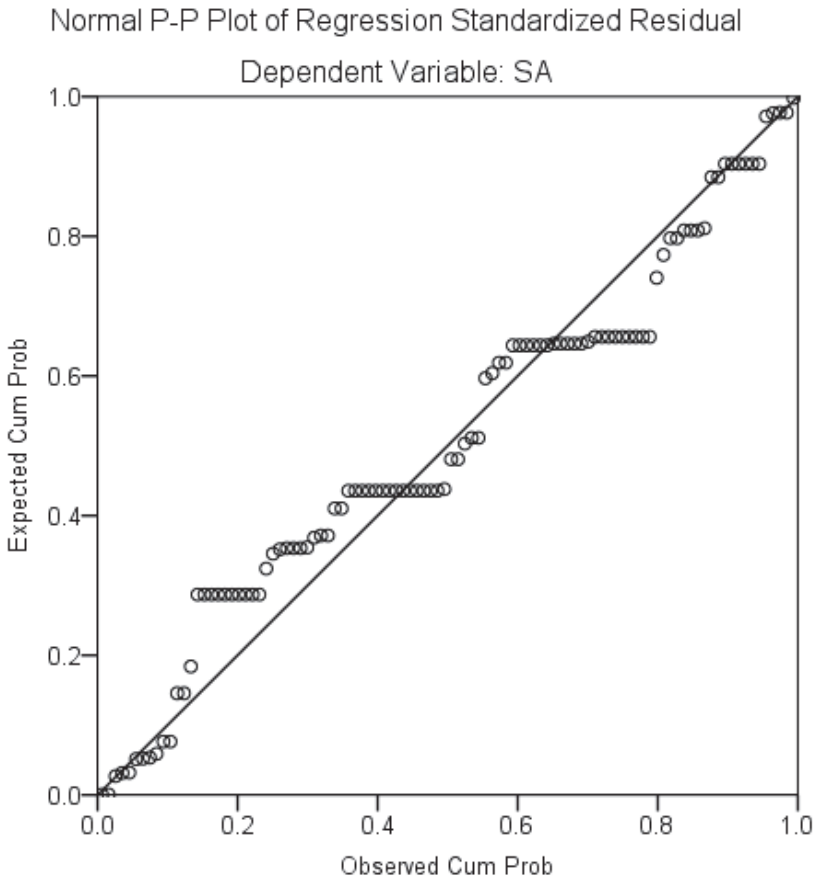

Figure G1. Normal P-P scatterplot between for residuals for SCM correlated with SA.

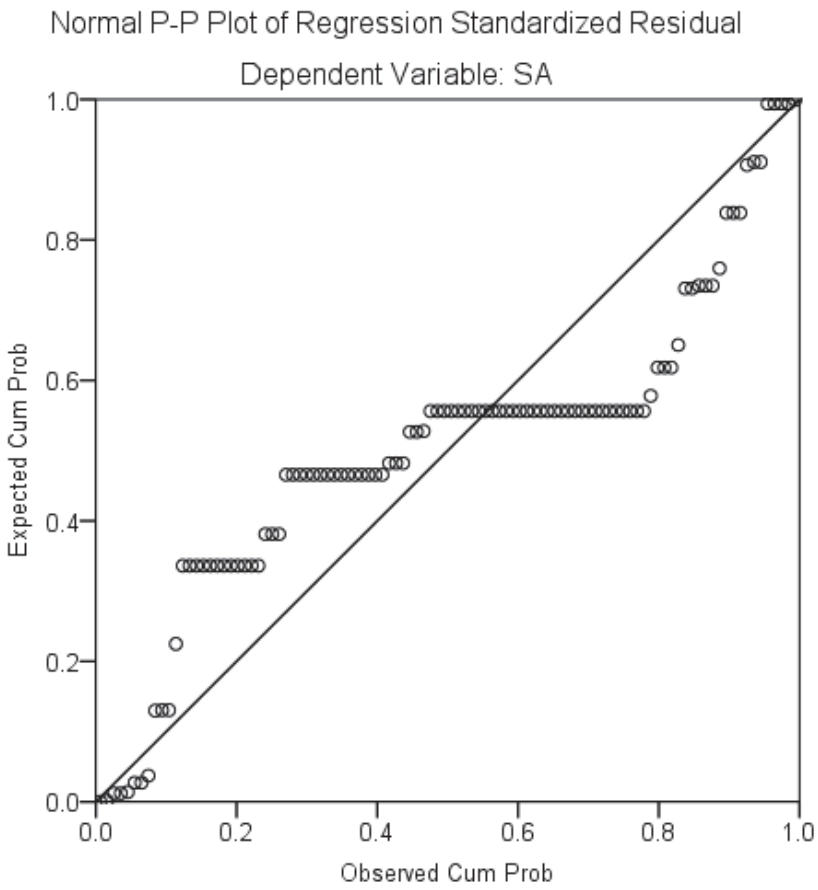

Figure G2. Normal P-P scatterplot between for residuals for CS correlated with SA.

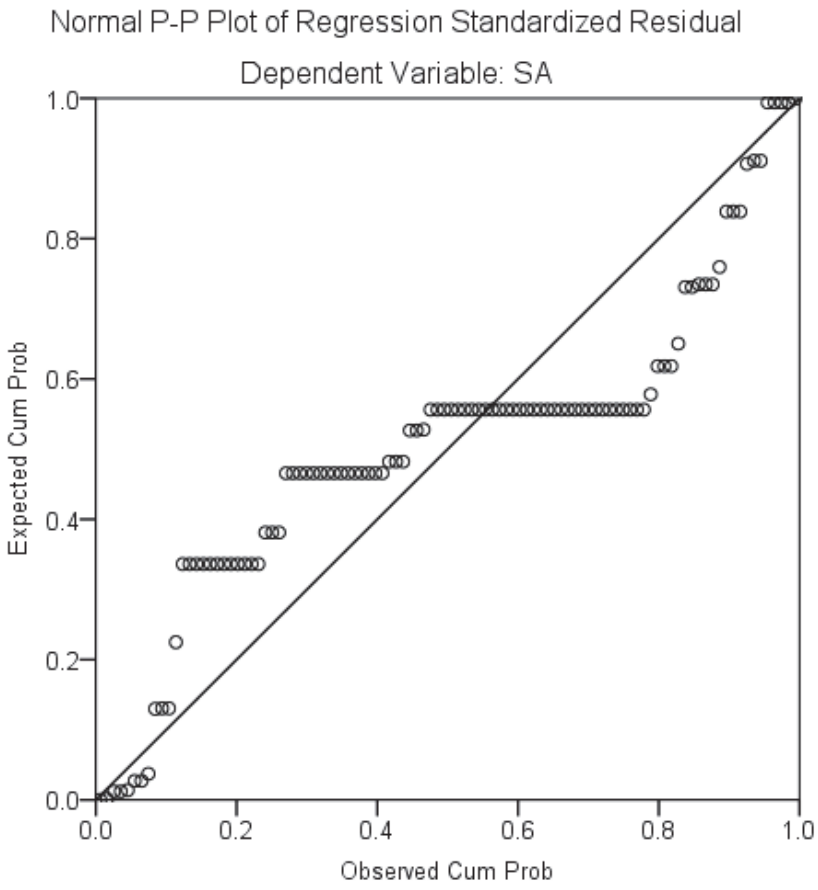

Figure G3. Normal P-P scatterplot between for residuals for CPRM correlated with SA.

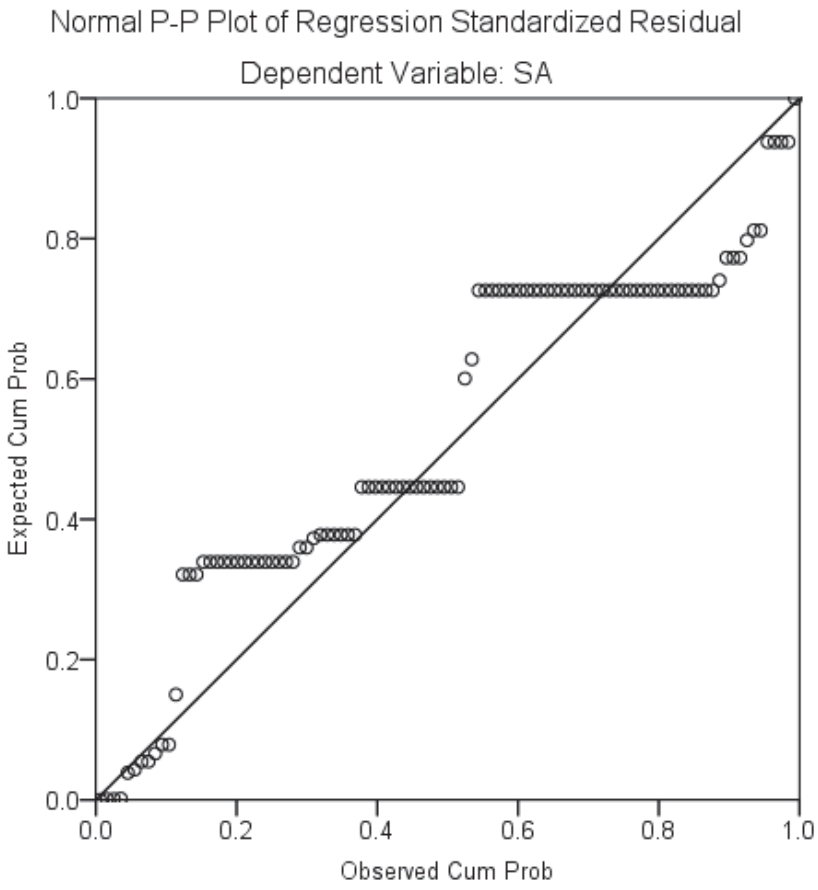

Figure G4. Normal P-P scatterplot between for residuals for Specific SMAPs correlated with SA.

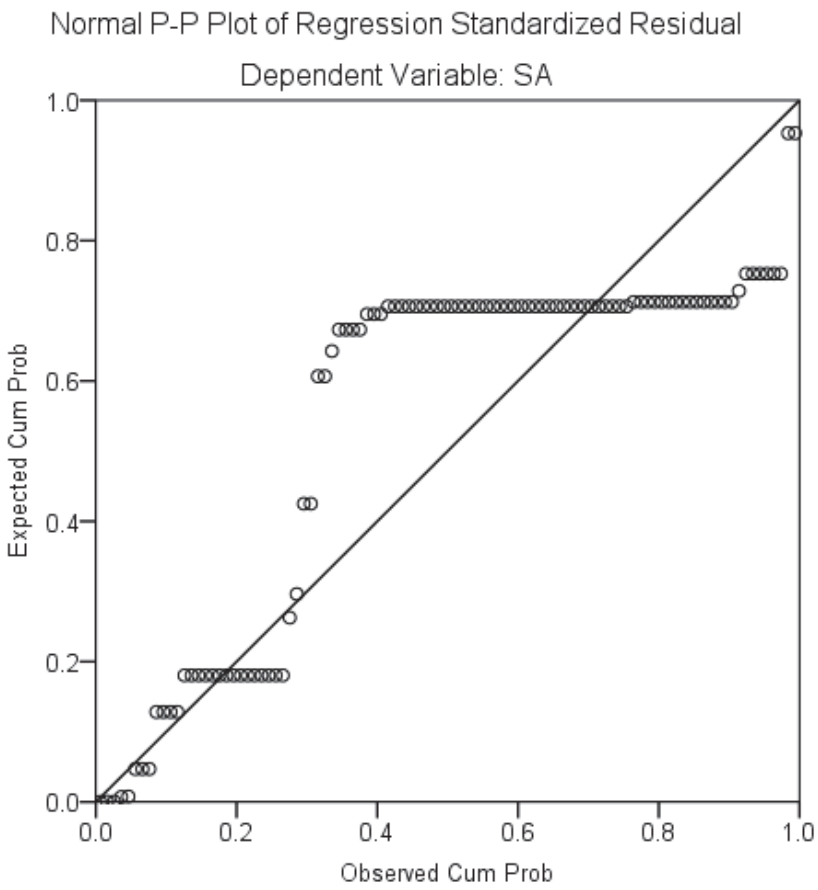

Figure G5. Normal P-P scatterplot between for residuals for Specific SMCs correlated with SA.

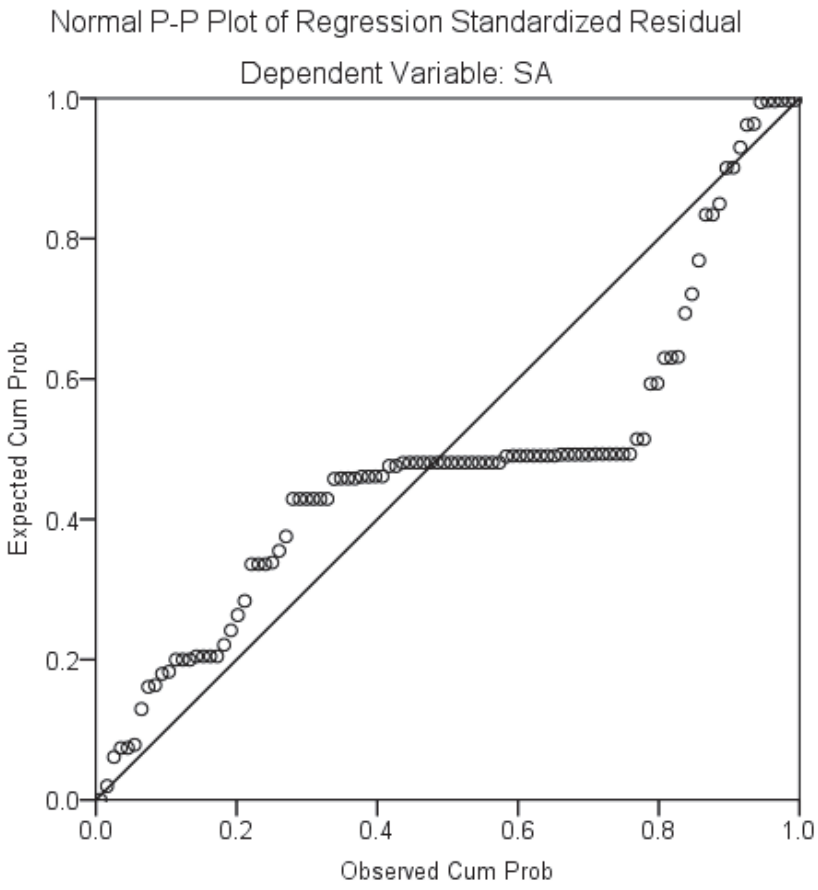

Figure G6. Normal P-P scatterplot between for residuals for SCM, CS, CPRM, and Specific SMAPs, predicting SA.

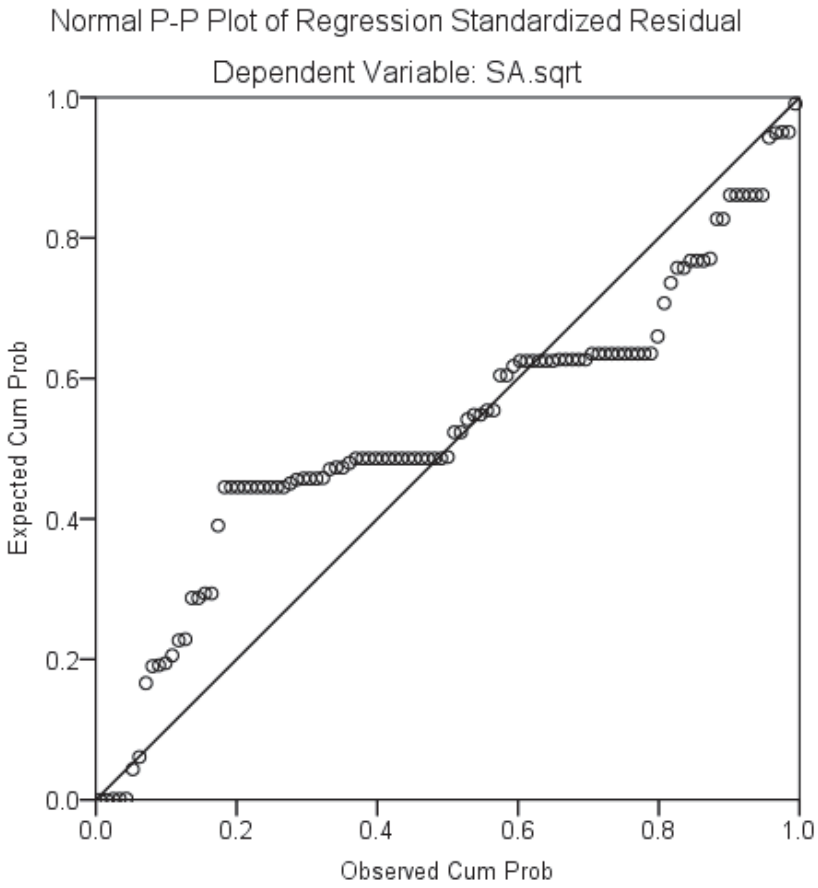

Figure G7. Normal P-P scatterplot between for residuals for SCM correlated with SA.sqrt.

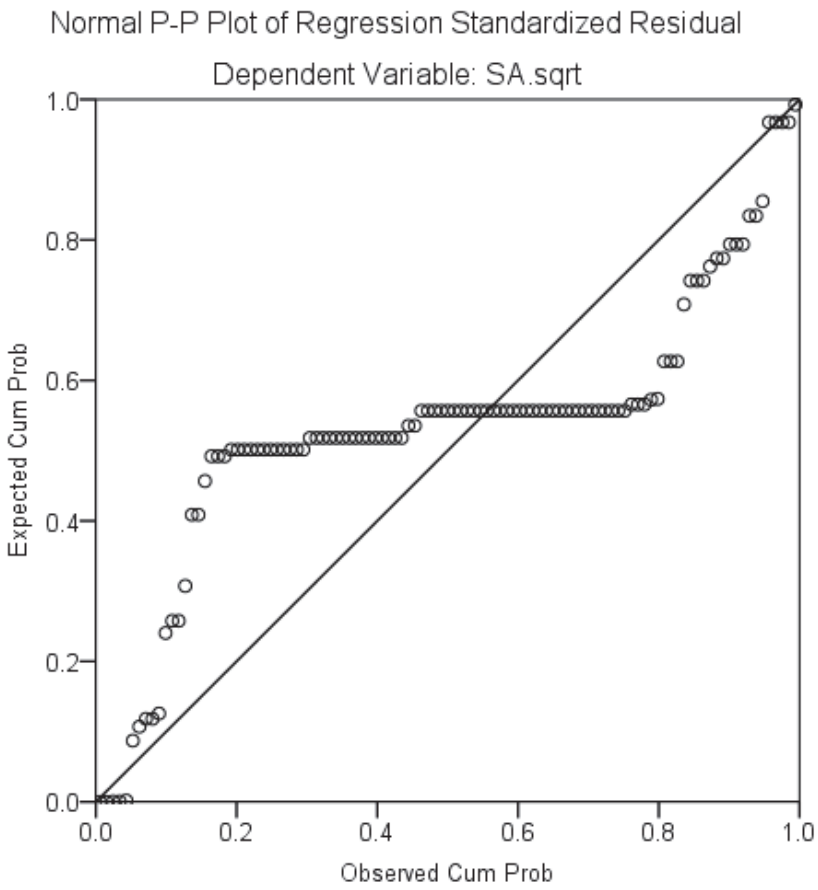

Figure G8. Normal P-P scatterplot between for residuals for SCM correlated with SA.sqrt.

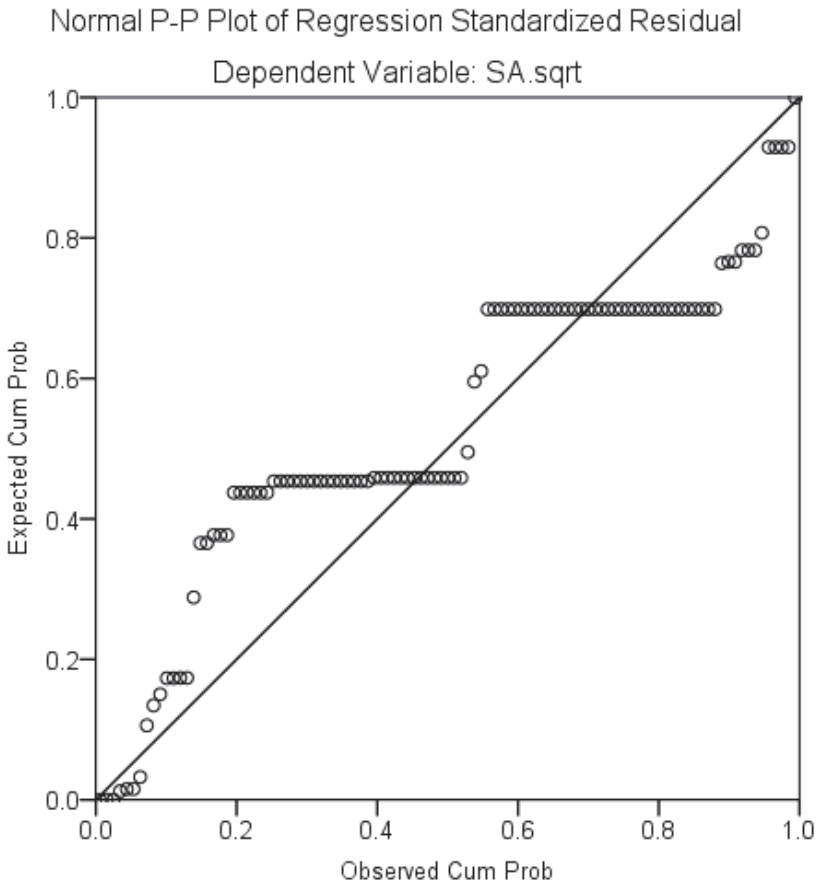

Figure G9. Normal P-P scatterplot between for residuals for CPRM correlated with SA.sqrt.

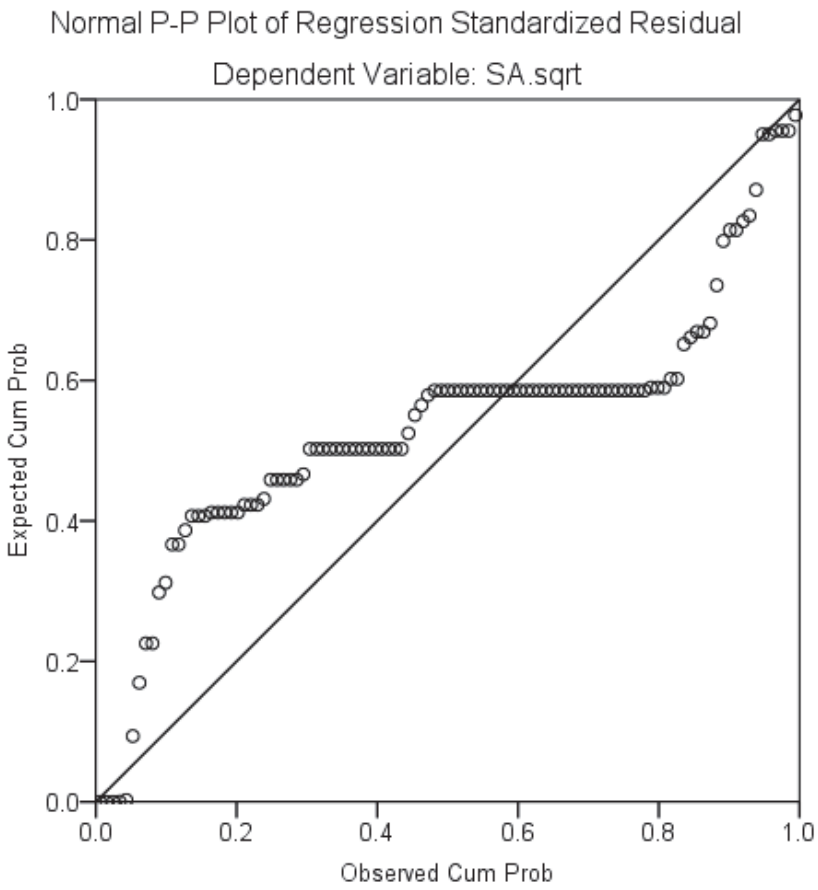

Figure G10. Normal P-P scatterplot between for residuals for SMAP correlated with SA.sqrt.

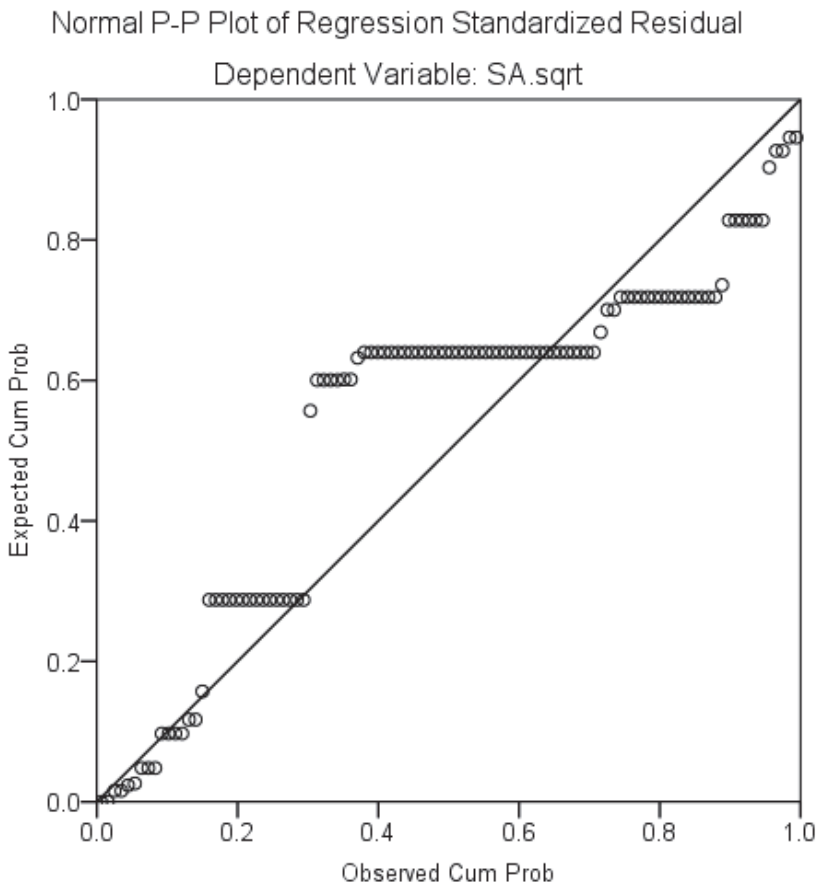

Figure G11. Normal P-P scatterplot between for residuals for SMC correlated with SA.sqrt.

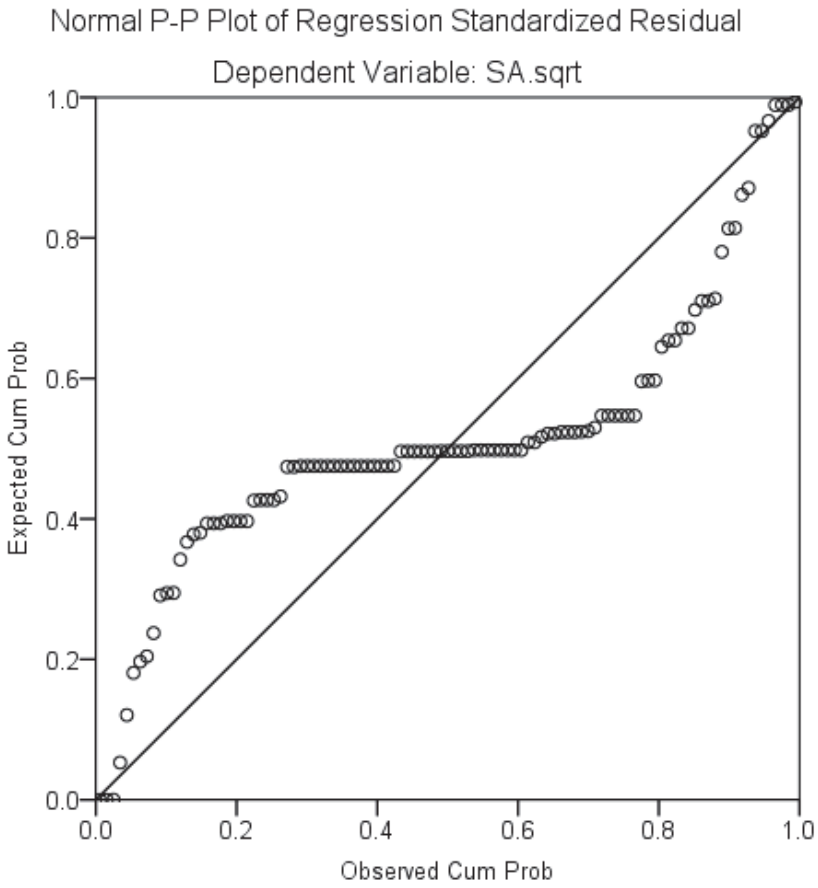

Figure G12. Normal P-P scatterplot between for residuals for SCM, SCM, CS, and CPRM predicting SA.sqrt.

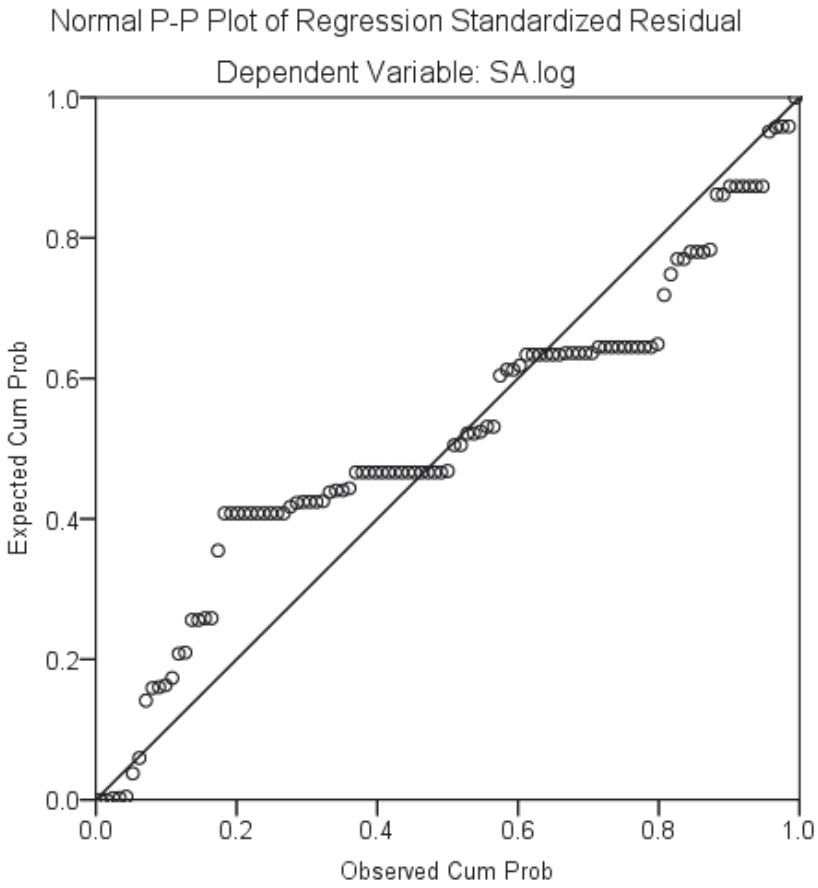

Figure G13. Normal P-P scatterplot between for residuals for SCM correlated with SA.log.

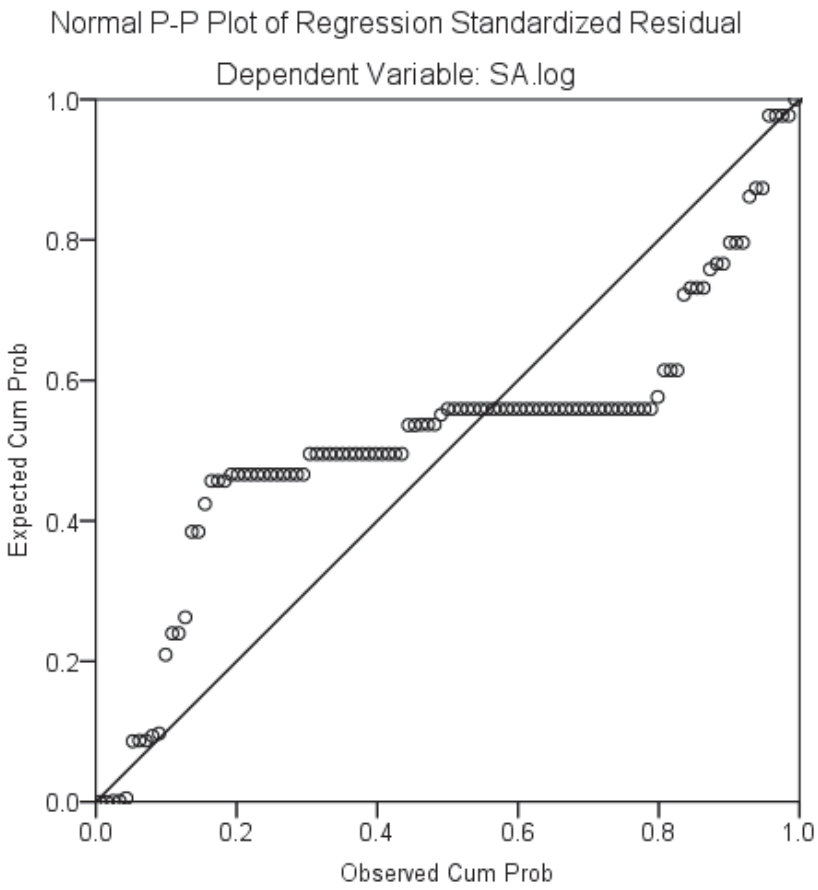

Figure G14. Normal P-P scatterplot between for residuals for CS correlated with SA.log.

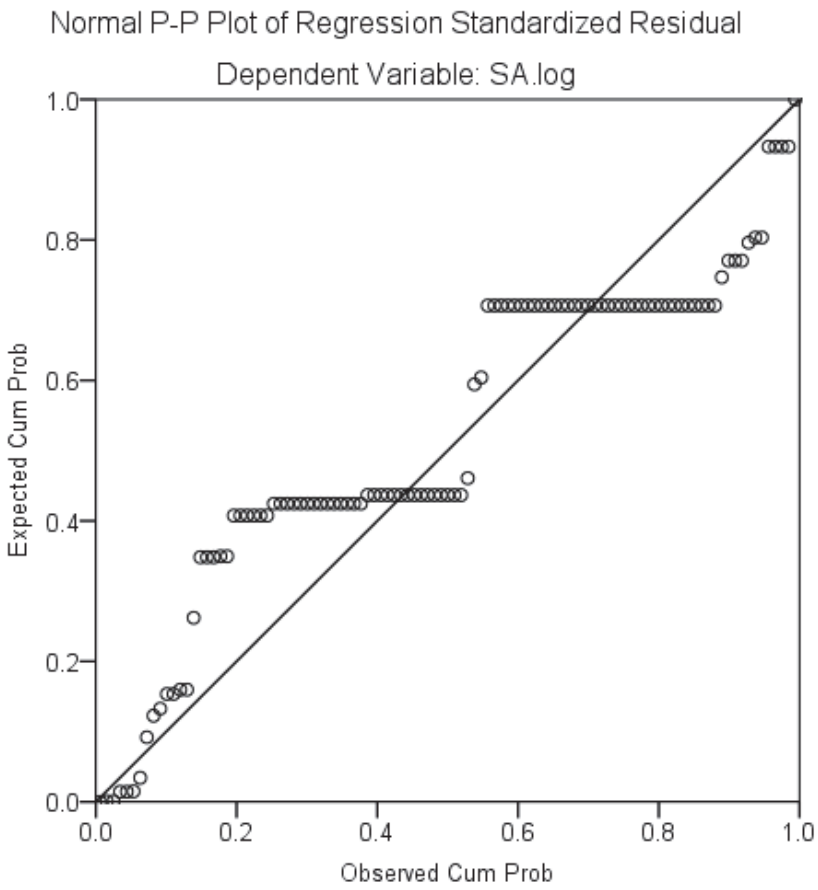

Figure G15. Normal P-P scatterplot between for residuals for CPRM correlated with SA.log.

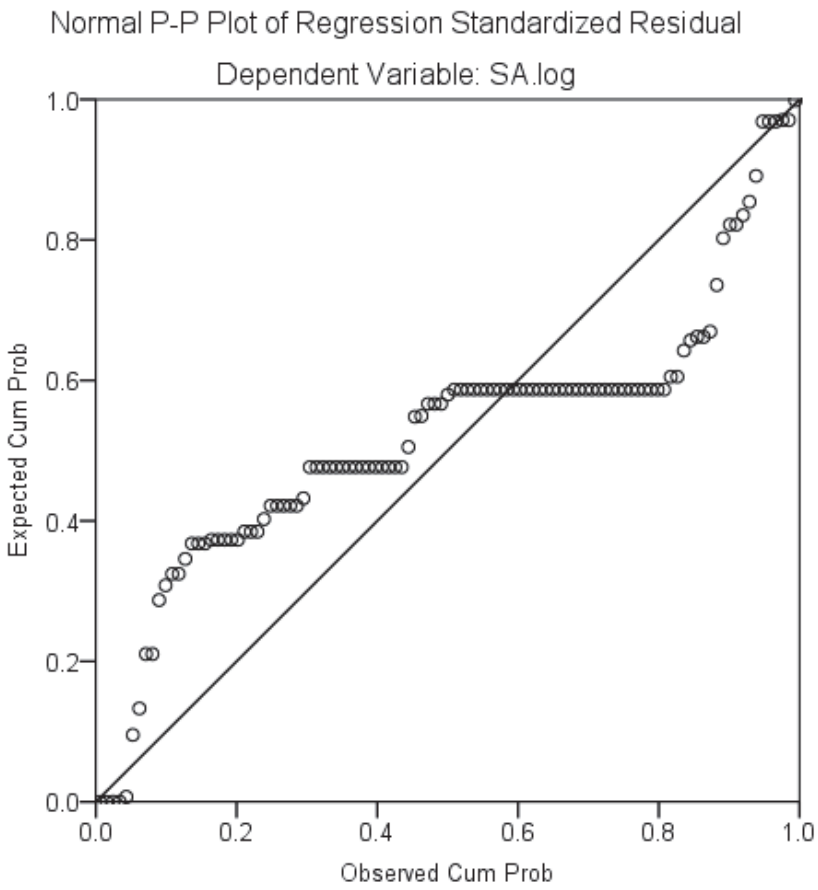

Figure G16. Normal P-P scatterplot between for residuals for Specific SMAP correlated with SA.log.

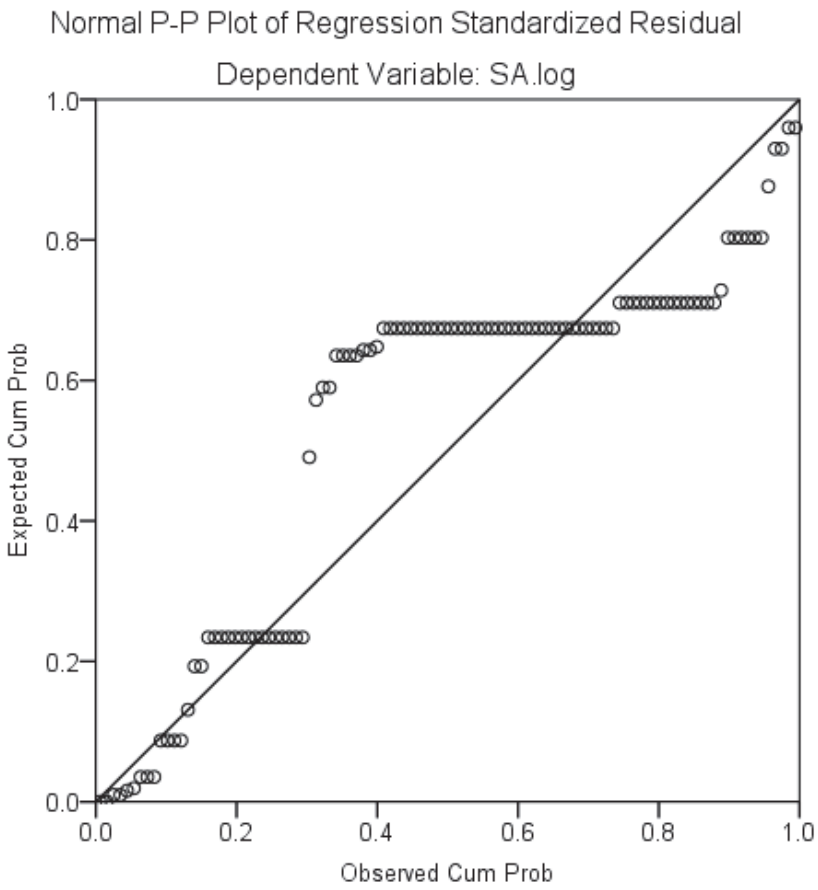

Figure G17. Normal P-P scatterplot between for residuals for Specific SMCs correlated with SA.log.

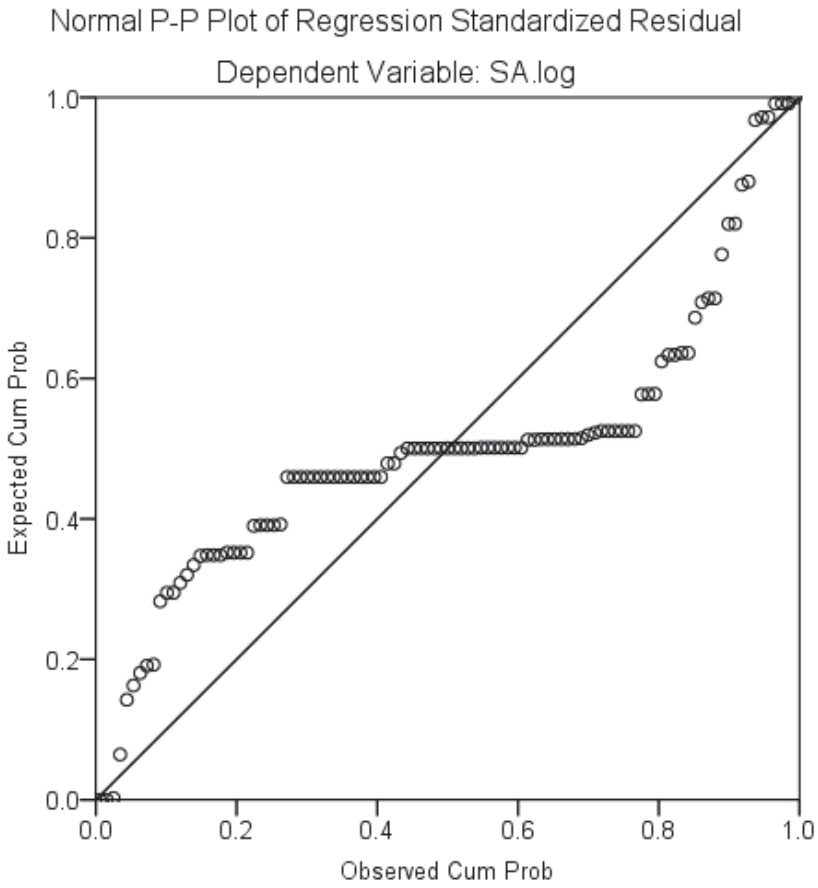

Figure G18. Normal P-P scatterplot between for residuals for SCM, CS, CPRM, and Specific SMAPs, predicting SA.log.

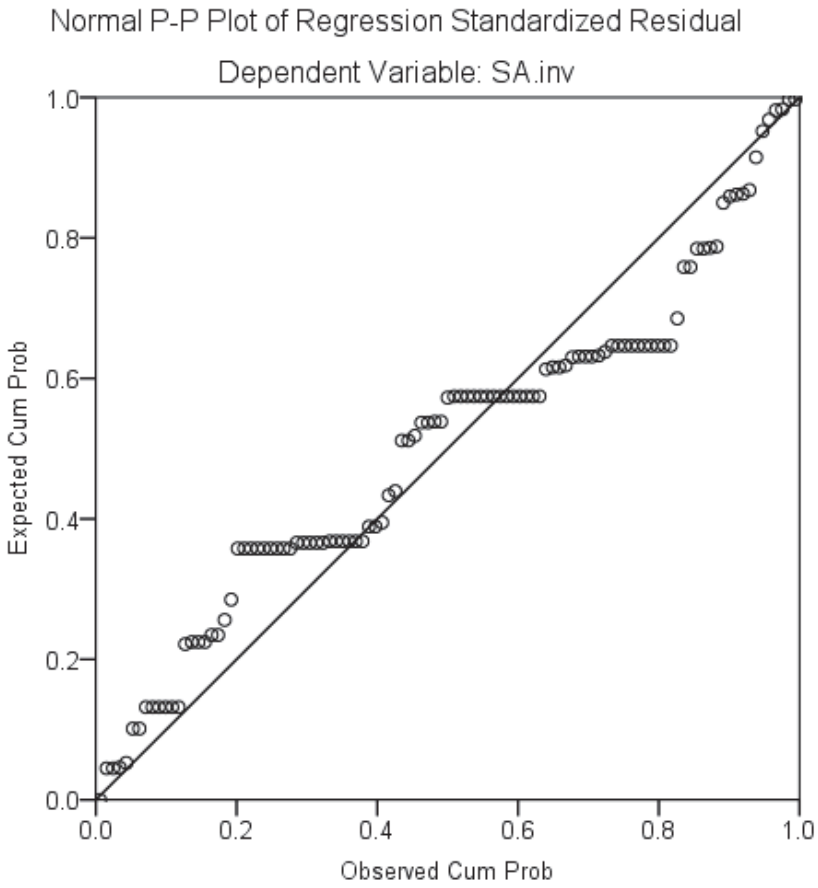

Figure G19. Normal P-P scatterplot between for residuals for SCM correlated with SA.inv.

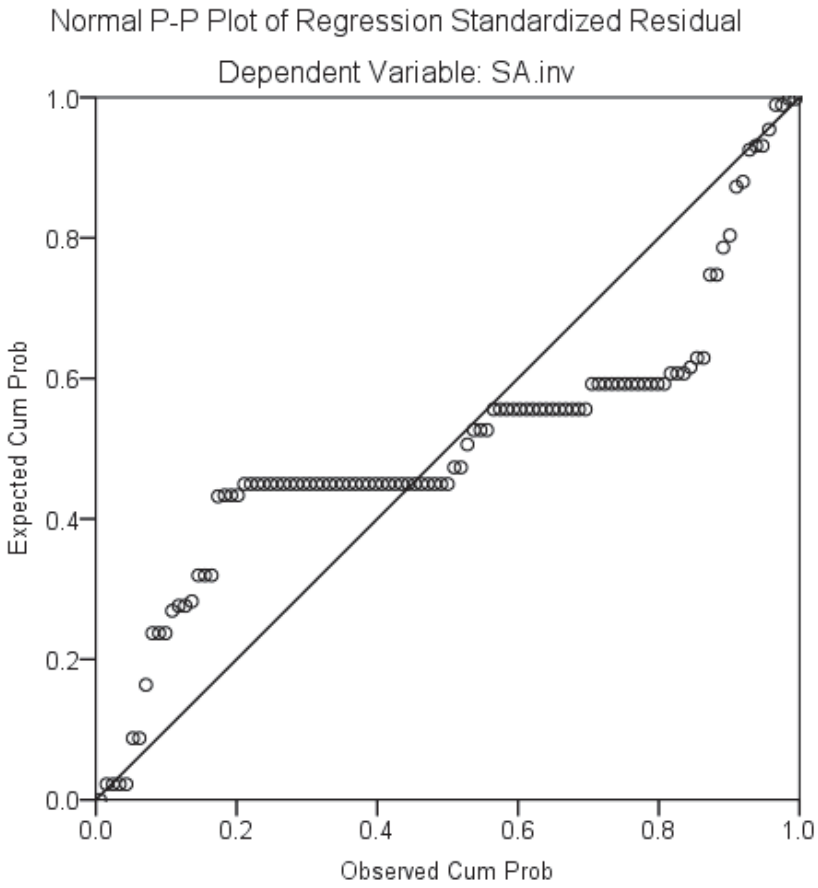

Figure G20. Normal P-P scatterplot between for residuals for CS correlated with SA.inv.

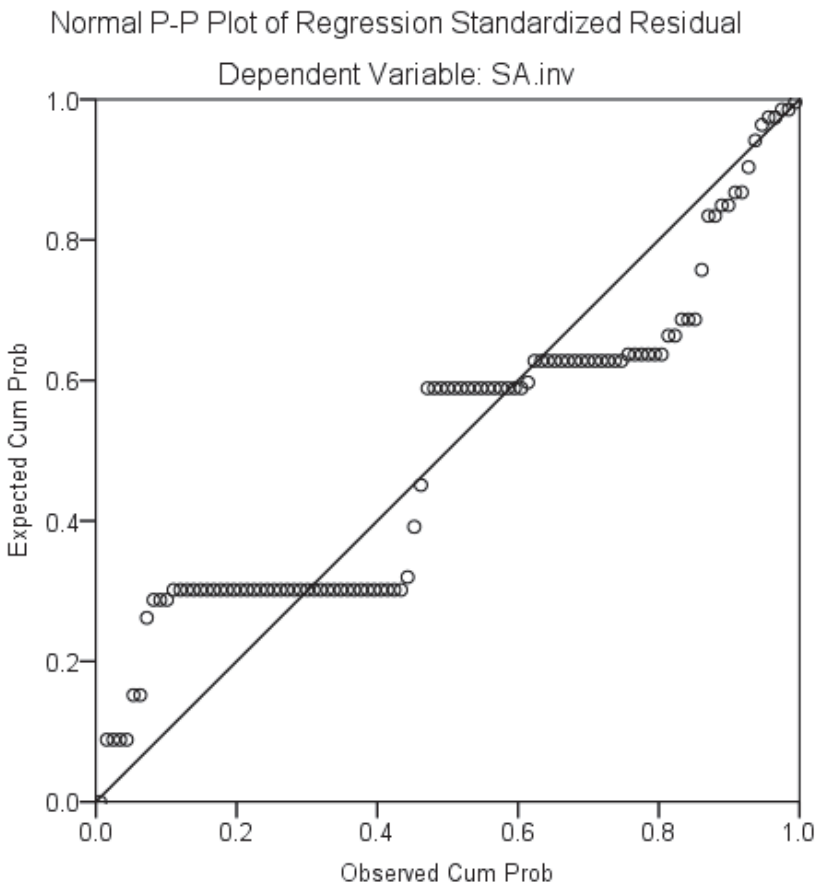

Figure G21. Normal P-P scatterplot between for residuals for CPRM correlated with SA.inv.

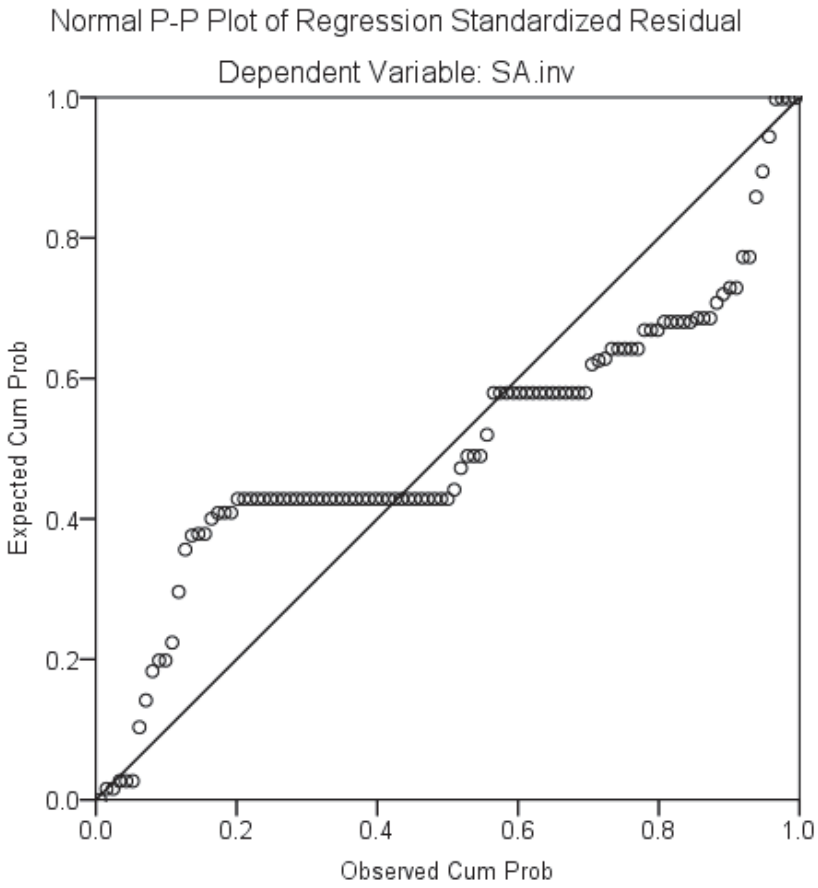

Figure G22. Normal P-P scatterplot between for residuals for Specific SMAP correlated with SA.inv.

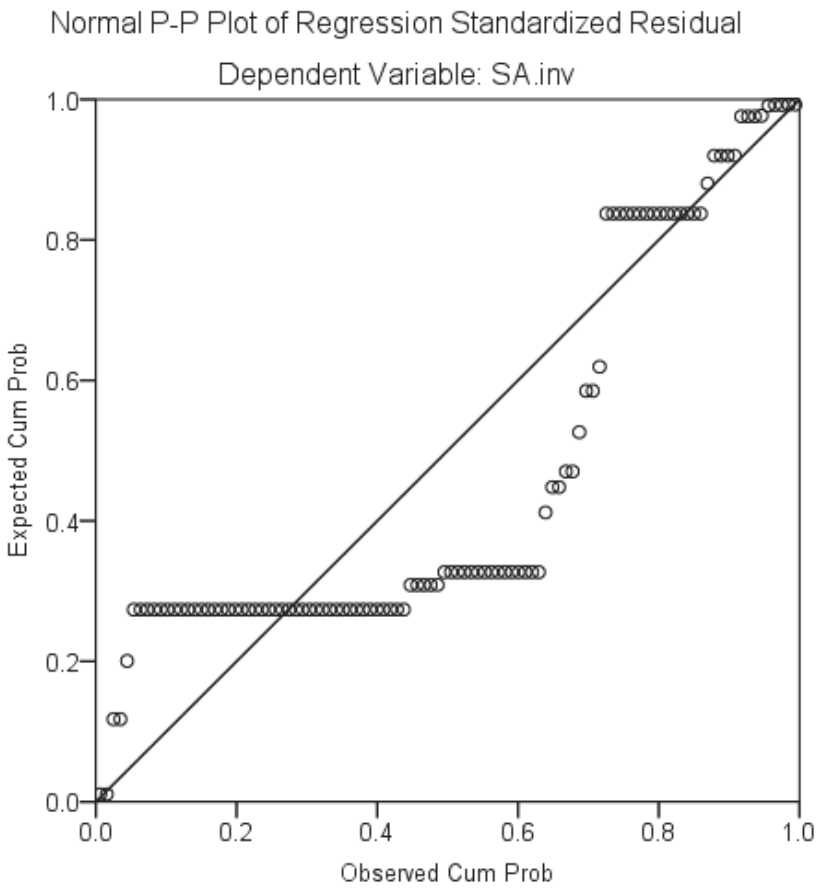

Figure G23. Normal P-P scatterplot between for residuals for Specific SMCs correlated with SA.inv.

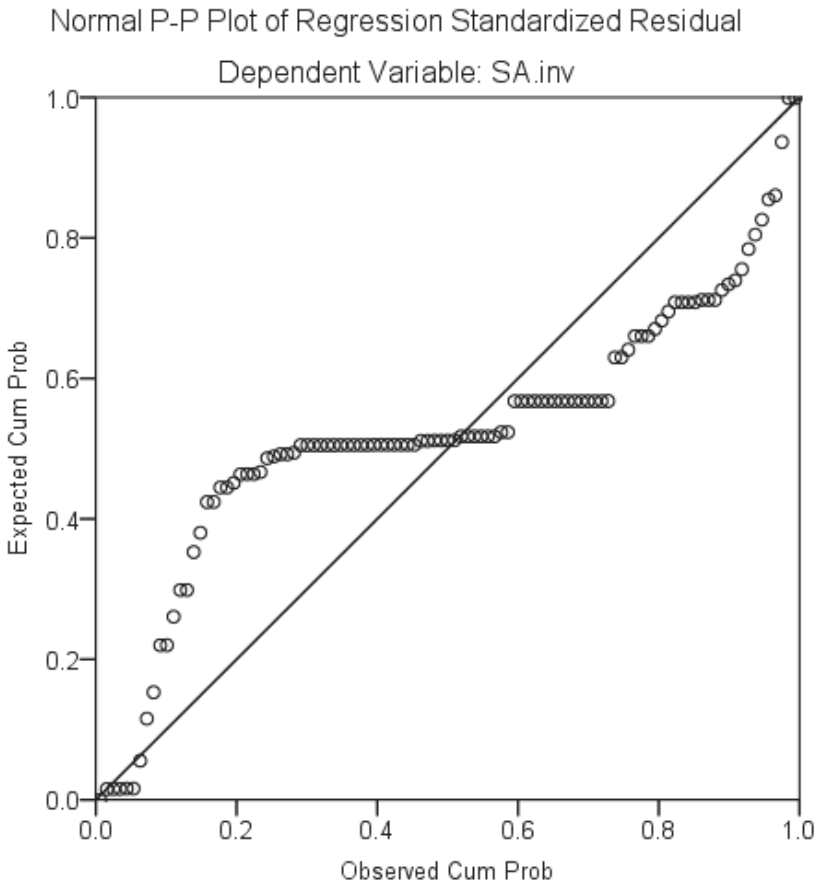

Figure G24. Normal P-P scatterplot between for residuals for SCM, CS, CPRM, and Specific SMAPs, predicting SA.inv.