

The Effect of Traditional and Contemporary Management Accounting Practices on Organisational Outcomes and the Moderating Role of Strategy

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Nuraddeen Abubakar Nuhu^a, Kevin Baird^a and Lu Jiao^a

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ABSTRACT

This study examines the association between the use of a package of contemporary and a package of traditional management accounting practices with organisational outcomes (organisational performance and competitive advantage), and the moderating role of Miles and Snow's (1978) strategic typologies on these relationships. Based on the responses from 505 US based financial managers, the Structural Equation Modelling (SEM) results indicate that the extent of use of both contemporary and traditional management accounting practices is positively associated with organisational performance and competitive advantage. Furthermore, the findings indicate that with the exception of the reactor typology, Miles and Snow's (1978) strategy typologies (i.e., defender, prospector, and analyser) moderate the association between the use of management accounting practices with the organisational outcomes. In particular, the findings indicate that the defender (prospector) strategy positively (negatively) moderates the association between the use of a package of traditional (contemporary) management accounting practices with organisational performance. In addition, the results indicate that the defender (analyser) strategy positively (negatively) moderates the association between the use of a package of contemporary management accounting practices with competitive advantage, while the defender (analyser) strategy negatively (positively) moderates the association between the use of a package of traditional management accounting practices with competitive advantage.

KEYWORDS

Contemporary Management Accounting Practices, Traditional Management Accounting Practices, Package of Management Accounting Practices, Miles and Snow Strategy, Organisational Performance, Competitive Advantage

INTRODUCTION

Management accounting practices, as important internal tools and techniques, serve operational and managerial functions as they provide information for planning, controlling and decision making and influence employees to engage in desired and refrain from undesirable behaviour (Adu-Gyamfi & Chipwere, 2020; Ahmad & Zabri, 2015; Langfield-Smith, Thorne, & Hilton, 2018; Oyewo, 2022). Management accounting practices evolved in tandem with the changing operating environment, and are broadly categorised into traditional and contemporary practices, with the former regarded to be more financial, narrower, internal and short term in nature while the latter are broader, more strategic,

^a Macquarie University, Sydney, Australia

Corresponding Author:

Nuhu (nuraddeen.nuhu@mq.edu.au)

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external and long term in nature (Bhimani & Langfield-Smith, 2007; Chenhall, 2003; Oyewo, 2022). While there have been assertions that traditional management accounting practices have lost their relevance (Adler, Everett, & Waldron, 2000; Chenhall & Langfield-Smith, 1998a; Joshi, 2001; Mat, Syafiq Subri, & Mohd Fahmi, 2021; Nimtrakoon & Tayles, 2015; Sulaiman, Nazli Nik Ahmad, & Mohd Alwi, 2005) and contemporary management accounting practices are advocated as a means of meeting the challenges of the contemporary environment (Davila & Foster, 2005; Oyewo, 2022; Roslender & Hart, 2002; Shields, Chow, Kato, & Nakagawa, 1991), both traditional and contemporary management practices are considered to be useful.

There has been a plethora of studies that have examined the effectiveness of individual traditional (including budgeting, standard costing, etc.) and contemporary (including activity-based costing, the balanced scorecard, benchmarking, etc.) management accounting practices in isolation. However, this line of research has reported mixed findings with some studies reporting a positive association (Adler et al., 2000; King, Clarkson, & Wallace, 2010; Maiga & Jacobs, 2003; Modell, 2001) and others reporting a negative or no association (Angelakis, Theriou, & Floropoulos, 2010; Heong, Heang, Said, & Teng, 2013) between contemporary management accounting practices with organisational performance. Similarly, while some studies (Ahmad, 2017; Ashworth, Boyne, & Delbridge, 2009; King et al., 2010) have reported a positive association in respect to the association between traditional management accounting practices with organisational performance others have reported a negative or no association (Awerbuch, Dillard, Mouck, & Preston, 1996; Jensen, 2002).

Further, even when such studies convey evidence of the positive effect of such practices, the findings need to be interpreted with a degree of caution given the observed benefits of practices when considered in isolation, may not be replicated “when analysed as part of the wider set of management control practices that a firm has in place” (Bedford et al., 2016, 12). Consequently, there are calls to examine the effect of management controls based on their use as a package, rather than in isolation, with Bedford (2020) conceptualising the use of a package of management controls in respect to “how all management control practices for a given unit of analysis (e.g., organisation, subunit), irrespective of whether they operate interdependently or independently, combine to resolve one or more control problems” (Bedford, 2020, 1).

However, despite such calls, studies on the use of management accounting practices have typically focused on the impact of specific practices, while the few studies on the use of management accounting practices as a package have mainly been theoretical (Grabner & Moers, 2013; Kennedy & Widener, 2008; Malmi & Brown, 2008). Accordingly, given the dearth of studies on the effect of a package of management accounting practices, this study attempts to fill this void in the literature. Specifically, the study considers the combined use of traditional management accounting practices and contemporary management accounting practices in order to provide a holistic view (Grabner and Moers, 2013) of the impact of management accounting practices. In line with complementarity theory, this approach enables us to consider the combined effectiveness of such practices (Grabner & Moers, 2013; Kennedy & Widener, 2008; Malmi & Brown, 2008) and is more reflective of reality, whereby many management accounting practices are applied at the same time (Malmi and Brown, 2008).

The study has the following two objectives:

1. To examine the impact of the package of traditional management accounting practices and the package of contemporary management accounting practices on both organisational performance and competitive advantage; and
2. To examine the moderating role of strategic pattern (Miles and Snow's (1978) strategic typology) in the association between the package of traditional management accounting practices and the package of contemporary management accounting practices with organisational performance and competitive advantage.

Studies on the effectiveness of management accounting practices have mainly focused on the impact on organisational performance. However, while bottom-line is a plausible determinant of effectiveness and/or success (Ahmad, 2017), there is contention that success or effectiveness is multidimensional, and therefore that leading outcomes are more efficacious than the lagging ones as it's the leading outcomes that drive lagging outcomes and capabilities (Adu-Gyamfi & Chipwere, 2020). Consequently, competitive advantage has been considered as an alternative to organisational performance in assessing effectiveness. However, despite the theoretical assertions of the strategic impact of management accounting practices, particularly contemporary ones (Davila & Foster, 2005; Oyewo, 2022; Roslender & Hart, 2002; Shields et al., 1991), studies on the effectiveness of management accounting practices have largely ignored the impact on competitive advantage. Accordingly, this study extends the existing management accounting practices literature by examining the effect of the package of traditional and contemporary management accounting practices not only on organisational performance but also on competitive advantage. This endeavour, in addition to filling the void in the literature, will also provide practitioners with an understanding of whether and how competitiveness could be derived through the use of management accounting practices.

In addition, while acknowledging that organisations employ different unit level strategies, this study examines the role of strategic pattern, specifically Miles and Snow's (1978) strategic typologies in moderating the effectiveness of both the package of contemporary and traditional management accounting practices on organisational performance and competitive advantage. Our focus on strategy is pertinent as strategy exhibits a significant impact on most aspects of an organisation (Oyewo, 2022) and is an important internal contextual contingency factor that could explain the effectiveness of an organisations' internal systems including management accounting practices.

Whilst there are various dimensions of strategy, we focus on the moderating role of Miles and Snow's (1978) strategic typology including defenders, prospectors, analysers, and reactors. The few previous studies which have examined the relationship between Miles and Snow strategic typologies with management accounting practices have mainly examined the impact of Miles and Snow's strategies on the adoption of management accounting practices (Mat et al., 2021; Nimtrakoon & Tayles, 2015), without considering whether and/or how the effectiveness of management accounting practices differs across different strategies. Further, there are no existing studies to date that have examined Miles and Snow's strategies in respect to the effectiveness of a package of management accounting practices. Hence, this study will contribute to the management accounting literature by informing practitioners as to how the effectiveness of the package of traditional and contemporary management accounting practices varies across Miles and Snow's strategies. The empirical findings will provide an insight into the effectiveness of using traditional and contemporary management accounting practices as a package for each strategy.

Based on a survey of 505 Financial Managers from US based organisations, the Structural Equation Modelling (SEM) indicates positive associations between the use of both a package of traditional and a package of contemporary management accounting practices with both organisational outcomes (i.e., organisational performance and competitive advantage). Furthermore, we also found that with the exception of the reactor typology, Miles and Snow's (1978) strategy typologies (i.e., defender, prospector, and analyser) moderate the association between the use of management accounting practices with the organisational outcomes. Specifically, a defender typology strategy positively moderates the association between the use of the package of contemporary management accounting practices with competitive advantage and between the use of the package of traditional management accounting practices with organisational performance. However, the defender strategy negatively moderates the association between the use of the package of traditional management accounting practices with competitive advantage, while the prospector typology strategy negatively moderates the association between the use of a package of contemporary management accounting practices

with organisational performance. In addition, the analyser typology strategy positively (negatively) moderates the association between the use of the package of traditional (contemporary) management accounting practices with competitive advantage.

The remainder of the paper is organised as follows. The next section provides an overview of the key constructs of the study and develops the hypotheses. The following section provides an overview of the method employed in the study. The results section then reports the findings of the study and the final section reports the conclusion, implications and the limitations of the study.

LITERATURE REVIEW

MANAGEMENT ACCOUNTING PRACTICES

Management accounting practices, as part of the organisational information systems, provide organisations with information to enable planning, controlling, and decision-making (Adu-Gyamfi & Chipwere, 2020; Ahmad & Zabri, 2015; Langfield-Smith et al., 2018; Oyewo, 2022), thereby promoting intended behaviour (Axelsson, Laage-Hellman, & Nilsson, 2002; (Nuhu, Baird, & Appuhami, 2016) and adding value to customers and organisations (Langfield-Smith et al., 2018). While management accounting practices can be classified based on their functions or intended outcomes, the typical categorisation of management accounting practices is based on the period in which they were developed i.e., traditional (pre-1930s) or contemporary (post 1980s) management accounting practices (Chenhall & Langfield-Smith, 1998a; Nimtrakoon & Tayles, 2015).

Management accounting practices evolved over time, prompted by the changes in the business environment, with traditional management accounting practices considered to be narrower, more internally focused and financial in nature, while contemporary management accounting practices are much broader, externally focused, and multi-dimensional in nature (Bhimani & Langfield-Smith, 2007; Chenhall, 2003; Oyewo, 2022). Traditional management accounting practices including capital budgeting, standard costing, variance analysis and return on investment (ROI) are regarded as those practices that were developed dating back to the industrial revolution era up until just before the 1980s (Johnson & Kaplan, 1987; Nimtrakoon & Tayles, 2015). Some of their distinguishing characteristics are that they are considered to be mainly financial in nature; internally oriented; narrower in scope; short-term in focus; and have a time horizon of a financial accounting period (Nimtrakoon & Tayles, 2015). Traditional management accounting practices are considered to be useful in serving managerial and other organisational functions including planning, controlling, decision making, performance measurement, and costing functions (Chenhall & Langfield-Smith, 1998a; Nuhu et al., 2016).

Alternatively, contemporary management accounting practices, often referred to as newly developed, modern, innovative, and/or advanced management accounting practices, are those practices that have been developed since the 1980s (Chenhall & Langfield-Smith, 1998a; Kaplan, 1984). Contemporary management accounting practices are more strategic in nature, and are hence, often referred to as strategic management accounting practices (Chenhall & Langfield-Smith, 1999; Kaplan & Norton, 2001; Oyewo, 2022) due to their ability to integrate operations, activities and/or processes with strategic outcomes and provide information for strategic use (Chenhall & Langfield-Smith, 1998b). Compared to traditional practices, contemporary management accounting practices have a longer-term horizon; are more external incorporating information about competitors, customers, suppliers, and communities (Oyewo, 2022); are inter-organisational in nature (Abdel-Kader & Luther, 2006); and are broader in scope, incorporating both financial and non-financial information (Bhimani & Langfield-Smith, 2007; Cadez & Guilding, 2012; Rashid, Ali, & Hossain, 2020; Roslender & Hart, 2003). Contemporary management practices also serve a number of organisational functions including

costing and cost management, and performance measurement and management (Langfield-Smith et al., 2018). This study focuses on eight contemporary management accounting practices including strategic cost management, value chain analysis, activity based management, activity based costing, key performance indicators, the balanced scorecard, total quality management, and benchmarking (e.g. quality, cost practices and procedures), and six traditional management accounting practices including cost benefit analysis, standard costing, variance analysis, return on investment, capital budgeting, and budgeting for planning and control.

The evolution of contemporary management accounting practices was accelerated by the classical work, “Relevance Lost”, by Johnson and Kaplan (1987) which contended that traditional practices had lost their relevance due to the ever changing and uncertain business environment (Kaplan, 1984; Nimtrakoon & Tayles, 2015). However, decades later the traditional management accounting practices are still frequently used (Adler et al., 2000; Chenhall & Langfield-Smith, 1998a; Joshi, 2001; Mat et al., 2021; Nimtrakoon & Tayles, 2015; Sulaiman et al., 2005) and continue to serve the information needs of organisations and drive intended behaviour (Mat et al., 2021). Accordingly, this study focuses on examining the effectiveness of both traditional and contemporary management accounting practices.

As previously mentioned, the study focuses on the use of a package of contemporary management accounting practices and a package of traditional management accounting practices. A package of management accounting practices here refers to the set or collection of management accounting practices in place. The practices can be interdependent, but this is not necessary (Grabner and Moers, 2013; Malmi and Brown, 2008), with the focus being on how the combined set of practices affects organisational outcomes i.e., competitive advantage and organisational performance. Confirmatory factor analysis will be performed to determine the specific practices that are compatible in respect to the package of contemporary and traditional management accounting practices (i.e., combine together to influence organisational outcomes) with Bedford et al. (2016, 13) noting that “not all MC practices within a package are relevant for achieving effective control outcomes”.

THE ASSOCIATION BETWEEN CONTEMPORARY MANAGEMENT ACCOUNTING PRACTICES WITH ORGANISATIONAL PERFORMANCE AND COMPETITIVE ADVANTAGE

Due to the relatedness and complementarity between specific practices and given “organisations tend to gain greater benefits by using a set of practices together” (Nuhu et al., 2016, 76), in determining the effectiveness of contemporary management accounting practices we consider the use of contemporary management accounting practices as a package (Grabner & Moers, 2013; Kennedy & Widener, 2008; Malmi & Brown, 2008).

Relating to the effect on organisational performance, the use of a range of contemporary management accounting practices has the potential to combine to yield improved organisational performance, transpiring through customer retention, cost containment, and quality improvement. Specifically, the use of the package of contemporary management accounting practices could lead to higher organisational performance through improving the attainment of higher customer retention relative to competitors. In particular, most contemporary management accounting practices can assist an organisation in integrating customer requirements into operations and product offerings. For instance, through the use of activity-based management, an organisation will be able to identify profitable customers and their preferences, which can then be used in setting key performance indicators (KPIs) and integrated into the strategy map through the Balanced Scorecard. Thus, this harmonised interplay between contemporary management accounting practices will enable an organisation to integrate features valued by customers, leading to increased customer retention and ultimately increased overall performance (Kaynak & Kara, 2004).

In addition, contemporary management accounting practices also facilitate the cost management function (Chenhall & Langfield-Smith, 1998a) which is an important determinant of the profit margin and ROI i.e., key predictors of high performance (Kaynak & Kara, 2004). For example, activity-based management and activity-based costing can be used to identify non-value-added activities, thereby enabling organisations to reduce their costs. Such information can also serve as valuable input information which supports another contemporary management accounting practice, value chain analysis, with organisations required to eliminate such non-value adding activities without disrupting the overall value chain.

Furthermore, practices such as benchmarking, which facilitates quality improvement (Chen, 2002); the balanced scorecard which emphasises quality in the learning and growth dimension (Khan, Halabi, & Sartorius, 2011); KPIs that can direct organisational attention to quality efforts; and total quality management (TQM) which embeds quality as an overall organisational philosophy (Prajogo & Sohal, 2006) will all support each other to provide an organisation with the capacity to offer products/services of higher quality than their competitors. As all of these practices serve and promote the underlying goal of quality, they will complement each other in providing information and driving behaviour which attains improved quality. In addition, as Ferreira and Otley (2009) contend that the effective implementation of new strategies and other changes requires the deployment of a package of practices and/or techniques and given that quality improvement efforts and initiatives involve changes and deviation from the status quo, the use of contemporary management accounting practices as a package will support such endeavours. Consequently, given customers are increasingly becoming more quality conscious (Nkundabanyanga, Muhwezi, & Tauringana, 2018), the increased product/service quality emanating from the concurrent use of contemporary management accounting practices, will lead to increased organisational performance through enhanced customer satisfaction and increased sales (Kaynak & Kara, 2004).

H1: There is a positive association between the extent of use of a package of contemporary management accounting practices and organisational performance.

The use of contemporary management accounting practices is also expected to lead to enhanced competitive advantage given their strategic focus and the synergy resulting from their combined use (Bhimani & Langfield-Smith, 2007; Oyewo, 2022). More specifically, through facilitating cost reduction and/or increased quality, the use of contemporary management accounting practices will lead to an increased market share, a vital source of competitive advantage (Schilke, 2014). In particular, contemporary management accounting practices including TQM, BSC, and KPIs assist in identifying and integrating improved quality features in the organisation's product/service offerings which will increase their market share. In addition, the external and market-oriented nature of contemporary management accounting practices "will cause organisations intensely utilising the techniques to be concerned about satisfying and exceeding customers' expectation, which may result in increased patronage and repeat business" (Oyewo, 2022, 8). The combination of a number of contemporary management accounting practices such as benchmarking, the balanced scorecard, and activity-based management will also assist in achieving a higher return on sales (ROS), a source of competitive advantage (Schilke, 2014). Finally, the combined use of cost related contemporary management accounting practices such as strategic cost management, activity-based costing, activity-based management, and value chain analysis will assist in attaining a higher ROI, which is a predictor of competitive advantage (Schilke, 2014).

H2: There is a positive association between the extent of use of a package of contemporary management accounting practices and competitive advantage.

THE ASSOCIATION BETWEEN TRADITIONAL MANAGEMENT ACCOUNTING PRACTICES WITH ORGANISATIONAL PERFORMANCE AND COMPETITIVE ADVANTAGE

Traditional management practices are also not expected to be used in isolation, but rather as a package. In particular as “traditional management accounting practices represent an established part of organisational systems, organisations are likely to use a number of traditional management accounting practices at the same time” (Nuhu et al., 2016, 79). This claim is supported by a number of previous studies (Chenhall & Langfield-Smith, 1998a; Sulaiman et al., 2005) which report a high usage of traditional management accounting practices.

While previous studies have reported mixed findings in respect to the effect of individual traditional management accounting practices, consistent with complementarity theory (Kauppi, Longoni, Caniato, & Kuula, 2016), the synergy among practices is expected to enhance their effectiveness, thereby leading to improved organisational performance and competitive advantage. Specifically, the combination of practices is regarded as a more comprehensive behaviour enhancing mechanism, when compared to the use of individual practices in isolation.

In relation to the effect on organisational performance, the use of certain traditional management accounting practices such as ROI, standard costing and variance analysis will support each other to aid in setting financial and cost targets, and monitoring and ensuring the targets are achieved, thereby resulting in increased financial outcomes.

Similarly, the use of a package of traditional management accounting practices has the capacity to improve performance in the form of increased sales goals and higher customer retention (Kaynak & Kara, 2004), both directly and indirectly through increased product quality. For instance, the use of capital budgeting has been proven to aid in the evaluation of and investment in projects that could enhance product quality (Partovi, 1999). Similarly, budgeting for planning and control will assist in managing projects to attain higher quality, which will translate into increased sales and customer retention.

Further, given the financial orientation of many traditional management accounting practices and their cost control function (King et al., 2010), they are congruent and not in conflict with each other when used together. Thus, consistent with goal congruence theory (Bouillon, Ferrier, Stuebs Jr, & West, 2006), the use of such practices including cost benefit analysis, standard costing, variance analysis, and budgeting for planning and control will support the cost control function, thereby leading to the achievement of higher profit goals.

H3: There is a positive association between the extent of use of a package of traditional management accounting practices and organisational performance.

The use of a package of traditional management accounting practices is also expected to enhance competitive advantage. In particular, the long-time horizon of such traditional management accounting practices such as capital budgeting is assisted by the short-term focus of other traditional practices including budgeting for planning and control, standard costing and variance analysis. Hence, these practices work in tandem to enable an organisation to successfully invest and complete projects, thereby developing capabilities to gain a strategic advantage over competitors. In particular, as the ability of an organisation to be more successful than its competitors and to gain a strategic advantage over them is an ultimate measure of competitive advantage (Schilke, 2014), the use of a package of traditional management accounting practices is expected to enhance competitive advantage.

Furthermore, as the use of the ROI technique coupled with other cost related traditional management accounting practices aid cost control efforts, leading to higher earnings before interest

and taxes (EBIT) and a higher ROI (Schilke, 2014), such practices can facilitate competitive advantage (Schilke, 2014).

H4: There is a positive association between the extent of use of a package of traditional management accounting practices and competitive advantage.

THE MODERATING ROLE OF STRATEGY ON THE ASSOCIATION BETWEEN MANAGEMENT ACCOUNTING PRACTICES WITH ORGANISATIONAL PERFORMANCE AND COMPETITIVE ADVANTAGE

Consistent with contingency theory, strategy, referred to as “the set of actions that organisation managers take to outperform the company’s competitors and achieve superior performance” (Akingbade, 2020, 58) and “to develop distinctive competencies to gain a competitive advantage over rivals” (Mat et al., 2021, 240), has the potential to enhance the effectiveness of management accounting practices, specifically in respect to their impact on organisational outcomes (Chenhall, 2003). Management accounting practices and business strategies coexist, with the business strategy playing a key role in influencing the success of management accounting practices in respect to achieving organisational outcomes (Mat et al., 2021) including competitive advantage. In particular, given different types of strategies have a different strategic focus (Cadez & Guilding, 2012; Chenhall, 2003; Mat et al., 2021) and different information requirements, the efficacy of the management accounting practices hinges on the fit between the information provided and the requirements of the given strategy adopted by an organisation.

Accordingly, as certain management accounting practices “will be more suited to particular strategies” (Chenhall, 2003, 150), we consider the moderating role of strategy on the association between the package of contemporary and the package of traditional management accounting practices with the organisational outcomes (organisational performance and competitive advantage). Such analysis will provide us with an insight into the efficacy of the package of contemporary and traditional management accounting practices for specific strategies, thereby supporting the premise that organisations need to tailor their management accounting practices to support their strategy (Langfield-Smith, 1997; Mat et al., 2021).

While previous studies have examined various strategy dimensions including Porter’s generic strategies (i.e. cost leadership vs differentiation); Mintzberg’s typology; and Miles and Snow’s (1978) typology (Chenhall, 2003; Ingram, Kraśnicka, Wronka-Pośpiech, Głód, & Głód, 2016; Oyewo, 2022)¹ this study focuses on Miles and Snow’s (1978) dimensions of strategy (Cadez & Guilding, 2012), which consist of four typologies including defenders, prospectors, analysers and reactors. We focus on the moderating role of Miles and Snow’s (1978) strategy typologies, as this framework has received significant attention and been utilised extensively across a variety of disciplines (Hu & Hafsi, 2010; Ingram et al., 2016; Pittino & Visintin, 2009). Further, Miles and Snow’s (1978) strategy typology is often regarded as the best strategy framework by many researchers (Mat et al., 2021) as it provides organisations with a range of typologies to adjust/align with the nature of and/or changes in their environment (DeSarbo, Anthony Di Benedetto, Song, & Sinha, 2005; Ingram et al., 2016).

Miles and Snow’s strategic typology assumes “that organisations act to create their own environments through a series of choices regarding markets, products, technologies, desired scale of operations” (Parnell & Wright, 1993, 29), thereby enabling an organisation to co-align (its behaviours)

¹ Porter’s generic strategies are alternative strategies that could allow an organisation to develop competitive advantage to outperform its competitors in the industry. While on the one hand cost leadership entails pursuing efficiency in operations so as to be among the lowest cost operators in the industry, differentiation entails competing by developing features that set an organisation apart from its competitors (Porter, 1997). Mintzberg’s dimensions of strategy, which have three strategy making modes including entrepreneurial, adaptive and planning, emphasise the processes based on which strategies emerge against the content of the strategy (Segev, 1987).

with the nature of the environment (Parnell & Wright, 1993). The four typologies are conceptualised based on the rate and responses to changes in products and/or markets (Cinquini & Tenucci, 2010; Nimtrakoon & Tayles, 2015). Although it is considered that none of the three proactive typologies (i.e., defender, prospector and analyser) are better than the other, the efficacy of each is determined by the nature of the environmental dynamics and configurations faced by an organisation (Cadez & Guilding, 2012; DeSarbo et al., 2005).

For example, the prospector typology is more suitable when the environment is uncertain and dynamic, and hence involves adopting a flexible and market opportunity seeking orientation to generate changes in an industry, as a way of competing, gaining strategic advantage and/or adapting with the environment (Parnell & Wright, 1993). Prospector organisations are “first in,” and “respond to early signals” or opportunities and are therefore characterised by a more outward orientation which focuses on research and development and marketing rather than the finance and production functions, as efficiency is not a priority compared to innovation and maintaining market leadership (Nimtrakoon & Tayles, 2015). They are also typified by a loose organisational structure, with less centralisation, formalisation, and division of labour (Parnell & Wright, 1993). Organisations adopting the prospector typology have the strength of “identification and exploitation of new product and market opportunities” (Parnell & Wright, 1993, 30), and they compete by being pioneers in the market/product. They therefore offer a wider range of new products, facilitated by their innovation capability, significant investments, and priority on the marketing and research and development functions (Cinquini & Tenucci, 2010).

Defenders operate in an environment which is considered to be relatively stable and certain, and hence aspire to attain stability and control operations to maximise efficiency (Parnell & Wright, 1993). This typology is accompanied by the offering of a narrow product range and a greater focus on the engineering and production functions (Cinquini & Tenucci, 2010), with little involvement in market and product development as the focus is on defending the existing domain (Nimtrakoon & Tayles, 2015). Defender organisations are typified with a unique structure that emphasises high centralisation, formalisation and the division of labour (Parnell & Wright, 1993).

Analysers combine the strengths of both the prospector and defender typologies, by emphasising flexibility and stability respectively (Nimtrakoon & Tayles, 2015). Analyser firms aspire to compete in a two-type product and/or market domain, one that is more stable and certain (similar to a defender) by emphasising tight control, stability and concentrating on efficiency, and the other which is more uncertain and dynamic (similar to a prospector) where they compete through emphasising innovation and a loose structure (Cinquini & Tenucci, 2010; Parnell & Wright, 1993).

The reactor strategy is reactionary in nature and is employed by those organisations that “ineffectively respond to the changes in the business environment” (Mat et al., 2021, 238). Consequently, the other typologies are usually considered to outperform reactor-type firms, due to the lack of an appropriate response to the changes in the business environment exhibited by reactors (DeSarbo et al., 2005). Organisations with reactor characteristics are not considered to employ a consistent strategy in operating their business (Mat et al., 2021).

This study explores the suitability of traditional and contemporary management accounting practices for organisations employing the different strategies by assessing the moderating effect of each of Miles and Snow’s (1978) four typologies in the relationship between the package of contemporary and traditional management accounting practices with organisational performance and competitive advantage.

THE MODERATING ROLE OF MILES AND SNOW'S (1978) TYPOLOGIES ON THE ASSOCIATION BETWEEN THE PACKAGE OF CONTEMPORARY AND TRADITIONAL MANAGEMENT ACCOUNTING PRACTICES WITH ORGANISATIONAL PERFORMANCE AND COMPETITIVE ADVANTAGE

The three proactive strategy typologies (i.e., defender, prospector, and analyser) will facilitate high performance and competitiveness, especially when properly aligned with organisational systems and processes (Akingbade, 2020) including information processing and provision mechanisms such as management accounting practices. Therefore, it is expected that the extent to which the use of management accounting practices yields higher (or lower) organisational outcomes will be influenced by the type of strategy typology adopted by an organisation.

First, given the information provided by traditional and contemporary management accounting practices focus on cost control and cost management respectively (Bromwich & Bhimani, 2005; Nimtrakoon & Tayles, 2015), the effect of these practices on organisational outcomes is likely to be magnified when organisations employ a defender strategy, as this strategy places emphasis on efficiency, centralisation of control, and economies of scale (Mat et al., 2021). In addition, given the focus of contemporary management accounting practices on quality and customers (Chenhall & Langfield-Smith, 1998b), the impact of such practices on organisational performance and competitive advantage will be exacerbated when organisations employ a defender strategy, where the emphasis is on maintaining market position through serving quality products and providing excellent customer service (Mat et al., 2021).

Finally, as traditional management accounting practices are conducive to the achievement of efficiency and cost control, which are critical to defenders as a means of sustaining their existing markets (Mat et al., 2021), such practices are expected to yield higher performance and competitiveness when a defender strategy is employed. Specifically, as the defender strategy is considered suitable for an organisation with robust control systems and processes (Miles & Snow, 1978; Chenhall, 2003), traditional management practices will be more effective when combined with a defender strategy.

H5: The association between the use of a package of traditional and a package of contemporary management accounting practices with both organisational performance and competitive advantage will be positively moderated by the defender strategy. i.e. the practices will be more effective in influencing these organisational outcomes for those organisations employing a defender strategy.

Contemporary management accounting practices have an external focus (Oyewo, 2022) and hence, the information provided by such practices will facilitate a prospector strategy which values environmental scanning in a bid to develop new markets and products (Mat et al., 2021). Further, as contemporary management accounting practices provide broad information covering various critical success factors (Oyewo, 2022), it will facilitate “the prospector strategy [which] is usually associated with a broad range of information, affecting its performance” (Mat et al., 2021, 241). Hence, the effectiveness of a package of contemporary management accounting practices, in respect to organisational performance and competitive advantage, is expected to be higher when a prospector strategy is employed.

Alternatively, the information provided by traditional management accounting practices is more constraining with the focus on internal, narrow and financial orientations (Nimtrakoon & Tayles, 2015). Hence, there will be a misfit between the use of traditional management accounting practices in an organisation employing a prospector typology. In particular, such information will not assist with decision making for those organisations employing a prospector strategy where broader information

is required to assist with their focus on new product and market development through emphasising flexibility and innovation (Chenhall, 2003). Hence, as “the information supplied by traditional management accounting is not sufficient to cope with its strategic needs and is considered counterproductive” (Mat et al., 2021, 241) to a prospector strategy, we therefore expect that the association between the use of traditional management accounting practices and the organisational outcomes (organisational performance and competitive advantage) will be weaker when a prospector strategy is employed.

H6: The association between the use of a package of contemporary (traditional) management accounting practices with both organisational performance and competitive advantage will be positively (negatively) moderated by the prospector strategy. i.e. the practices will be more (less) effective in influencing these organisational outcomes for those organisations employing a prospector strategy.

The moderating role of the analyser strategy is more difficult to predict given this strategy represents a hybrid of the defender and prospector (Mat et al., 2021) strategies. Given this complexity, we refrain from developing any new theoretical arguments here. Rather we rely on the above discussion to assert that the effect of contemporary management accounting practices on organisational outcomes (organisational performance and competitive advantage) will be positively moderated by the use of the analyser strategy, given both the defender and prospectors strategies are expected to positively moderate such associations. However, we do not hypothesise any association in respect to the moderating role of analysers on the effect of the use of traditional management accounting practices given the mixed moderating effects hypothesised in respect to defenders (positive) and prospectors (negative).

H7: The association between the use of a package of contemporary management accounting practices with both organisational performance and competitive advantage will be positively moderated by the analyser strategy. i.e. the contemporary practices will be more effective in influencing these organisational outcomes for those organisations employing an analyser strategy.

Finally, given organisations employing a reactor strategy don't employ a consistent strategy and the overall low performance associated with the reactor strategy typology, we do not hypothesise a moderating role in respect to the reactor strategy.

METHOD

SAMPLE SELECTION AND DATA COLLECTION

The data for this study was collected using the survey method, the method most commonly used in management accounting research, due to its ability to collect data of interest and to generalise the findings (Chenhall, 2012). The survey was administered through Qualtrics², a reputable data collection company with a global outreach. The questionnaire was distributed to US based organisations with 100 employees or more, given large organisations are more likely to have formalised strategies and practices. The questionnaire was distributed to Financial Managers (employees classified as 11 3031), based on the U.S. Bureau of Labour Statistics' Standard Occupational Classification (SOC) system codes. These respondents were targeted, due to their knowledge of management accounting

² The data was collected in 2021.

practices and their organisation's performance. Qualtrics identified and randomly selected the Financial Managers from its database of U.S. respondents. The first two questions in the questionnaire were aimed at confirming that the respondents were from organisations with 100 or more employees and held a financial manager or equivalent position in their organisation. Respondents who did not identify as a financial manager or equivalent and/or who worked in an organisation with less than 100 employees were immediately eliminated and did not continue completing any other question. Out of the 1,600 questionnaires distributed, 505 valid responses were received, representing a 31.56% response rate, which is considered quite sufficient compared to recent management accounting research.

To test for non-response bias, the mean scores of the study's variables (i.e. package of contemporary and package of traditional management accounting practices, organisational performance and competitive advantage) were compared between the early (253) and late (252) responses. As the results indicated no significant differences between early and late responses, non-response bias was not considered to be an issue (Anderson & Young, 1999).

As can be seen in Table 1, in line with the Standard Industrial Classification (SIC) primary codes the data was collected from respondents working in various U.S. industries including wholesale trade (7.5%), manufacturing (12.7%), agriculture, forestry and fishing (1.8%), finance, insurance and real estate (37%), construction (6.7%), mining (3.2%), services (14.9%), public administration (4.2%), and retail trade (6.3%). The table also shows that over 50% of the respondents had operated for between 5-10 years, while 14.3% of the organisations had been operating for less than 5 years, and 10.2%, 7.6% and 16.5% had been operating for between 10-15 years, 16-20 years and over 20 years respectively. Relating to the size of the organisations, 52.9% of the organisations had between 100 to 499 employees, followed by 26.8% with 500-999 employees; 15.5% with 1,000-5,000 employees; and 4.8% with over 5,000 employees.

COMMON METHOD BIAS (CMB)

As the study entails collecting cross-sectional data, two recommended procedures, including procedural and statistical strategies, were employed to assess and minimise common method bias (CMB). First, in respect to the procedural method, the survey questionnaire was accompanied by an information sheet detailing the purpose of the study and providing clear instructions on how to complete the questionnaire. Second, the questionnaire was designed in such a way to avoid respondents' initial responses influencing their subsequent responses, by forcing every single question to appear on a separate page. Finally, the questionnaire was pilot tested, with an initial data set of 50 respondents collected, to ascertain whether refinement was needed to improve the online questionnaire design or if there was any ambiguity in the wording of the questionnaire.

Secondly, a statistical test was undertaken to assess CMB using one of the most widely suggested method, Harman's (1976) single factor test. The results show that the factor with the highest total variance explained (33.09%) is less than 50%, thereby indicating that the data set had no issue in respect to CMB (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Table 1. Profile of Responding Organisations

Organisational Age (Years of Operation)	Number of Responses	Valid Percentage
Less than 5 years	72	14.3
5-10 years	258	51.4
10-15 years	51	10.2
16-20 years	38	7.6
Over 20 years	83	16.5
Total	502	100
Organisational Size (Number of employees)		
Between 100 and 499	266	52.9
Between 500 and 999	135	26.8
Between 1,000 and 5,000	78	15.5
Over 5,000	24	4.8
Total	503	100%
Industry		
Wholesale trade	38	7.5
Manufacturing	64	12.7
Agriculture, Forestry and Fishing	9	1.8
Finance, Insurance and Real Estate	187	37.0
Construction	34	6.7
Mining	16	3.2
Services	75	14.9
Public Administration	21	4.2
Retail Trade	32	6.3
Other	29	5.7
Total	505	100%

VARIABLE MEASUREMENT

THE EXTENT OF USE OF MANAGEMENT ACCOUNTING PRACTICES

The extent of use of management accounting practices was measured using an adapted version of the Nuhu et al. (2016) scale which was based on the practices identified in Chenhall and Langfield-Smith (1998a). Eight contemporary and six traditional management accounting practices were identified (see appendix) with respondents required to indicate the extent to which each practice was used in their organisation over the past three years, on a five-point scale with anchors of “1 Not at all” and “5 To a great extent”. Given the study aims to examine the use of management accounting practices as a package, confirmatory factor analysis (CFA), using AMOS, was used to ascertain the unidimensionality (compatibility) of the 8 and 6 contemporary and traditional management accounting practices respectively. Based on the result of the CFA, four of the contemporary management accounting practices measures (items 4, 5, 7 and 8) were removed due to low factor loadings, with the average of the remaining 4 items used to determine the extent of use of the package of contemporary management accounting practices. Similarly, due to low factor loadings, 2 items

were removed from the traditional management accounting measure (items 1 and 6) with the average of the remaining 4 items used to measure the extent of use of the package of traditional management accounting practices. The Cronbach's alpha scores (0.716, 0.693) and the composite reliability (0.824, 0.812) scores support the reliability of the measures for both the package of contemporary and the package of traditional management accounting practices. Further, the average variance extracted (AVEs) scores for the package of contemporary (0.540) and traditional (0.520) management accounting practices are above 0.50 and the square roots of the AVEs are more than their correlations with any other variables (see Table 2), thereby assuring the convergent and discriminant validity of the constructs (Chin, 1998; Fornell & Larcker, 1981).

ORGANISATIONAL PERFORMANCE

Organisational performance was assessed using a 6-item measure (see appendix) adapted from Kaynak and Kara (2004). Using a 5-point Likert scale with anchors of 1 "Strongly disagree" and 5 "Strongly agree", the respondents were asked to indicate the extent to which they agreed that each of the six performance related outcomes were achieved over the last three years. Confirmatory factor analysis (CFA) indicated that three of these items (items 1, 3 and 5) had low factor loadings, and therefore they were removed. Accordingly, the remaining 3 items were used to measure the extent of organisational performance. The Cronbach's alpha of the retained items 0.636 is slightly below Nunnally's (1978) 0.7 cut-off but is still considered to exceed the acceptable Cronbach's alpha value of 0.6 (Churchill Jr, 1979). Also, the composite reliability score of 0.804 provides further support for the reliability of the measure (Yoon, Hostler, Guo, & Guimaraes, 2013). Finally, the square root of the AVE score of 0.760 exceeds the correlation with all of the other constructs, thereby providing support for convergent and discriminant validity respectively (Chin, 1998; Fornell & Larcker, 1981).

COMPETITIVE ADVANTAGE

A six-item measure (see appendix), adapted from Schilke (2014), was used to measure competitive advantage, with the respondents required to indicate, on a 5-point Likert scale with anchors of 1 "Strongly disagree" and 5 "Strongly agree", the extent to which the six outcomes had been achieved in their organisation over the last three years. Based on the CFA result, two items (items 1 and 3) were removed due to low factor loadings, with the remaining four items used to measure the extent of competitive advantage. Based on both the Cronbach's alpha score (0.717) and the composite reliability score (0.825) shown in Table 2, the reliability of the measure was assured. Also, as the square root of the AVE score (0.736) exceeds the correlation with all of the other constructs, convergent and discriminant validity was assured (Chin, 1998; Fornell & Larcker, 1981).

STRATEGIC PATTERN (MILES AND SNOW STRATEGY)

A scale developed by Miles and Snow (1978) was used to measure strategy. The respondents were asked to indicate, using a categorical scale, which of Miles and Snow's (1978) four typologies [(1) defender, (2) prospector, (3) analyser, and (4) reactor] most closely described their organisation (see the Appendix for the descriptions). Given this measure is a categorical scale, with each typology measured using a single item which is also categorical, CFA is not applicable (Wirth & Edwards, 2007), and hence the reliability and validity scores cannot be reported.

RESULTS

DESCRIPTIVE STATISTICS

The descriptive statistics are reported in Table 3. Table 3 indicates that while the extent of use of the package of contemporary management accounting practices (4.00) is considered to be moderate, the remaining three variables, including the extent of organisational performance (4.13), competitive advantage (4.10), and the extent of use of the package of traditional management accounting practices (4.07) are considered to be high³. The mean score for the strategy variable is not relevant as the variable was measured based on a categorial scale.

Table 2. Correlations and Reliability and Validity Measures

Correlations	1.	2.	3.	4.	Cronbach's Alpha	Composite Reliability	AVE
Competitive advantage	0.736^a				0.717	0.825	0.541
Package of contemporary management accounting practices	0.630	0.735^a			0.716	0.824	0.540
Organisational performance	0.681	0.577	0.760^a		0.636	0.804	0.578
Package of traditional management accounting practices	0.604	0.685	0.570	0.721^a	0.693	0.812	0.520

NB: Strategy is not included as the four Miles and Snow typologies were measured using single items.

^a The diagonal figures in bold represent the square roots of the AVE scores for each construct.

Table 3. Descriptive Statistics and VIF

	Mean	Standard deviation	Theoretical (actual) Minimum	Theoretical (actual) Maximum	VIF
Organisational performance	4.13	0.67	1.00 (1.00)	5.00 (5.00)	1.689
Competitive advantage	4.10	0.62	1.00 (1.00)	5.00 (5.00)	2.203
Package of contemporary MAPs	4.00	0.68	1.50 (1.00)	5.00 (5.00)	-
Package of traditional MAPs	4.07	0.61	1.25 (1.00)	5.00 (5.00)	2.201

To check if there was a problem with multicollinearity, variance inflation factors (VIF) were calculated. As table 3 shows, the VIF values for all of the variables in the model are low, with all of the VIF values less than 10. Hence, multicollinearity was not an issue.

³ An average score above 4 is considered to represent a high level, an average score between 3 to 4 is considered to be a moderate level, and a score below 3 represents a low level.

STRUCTURAL MODEL

THE ASSOCIATION BETWEEN MANAGEMENT ACCOUNTING PRACTICES WITH ORGANISATIONAL PERFORMANCE AND COMPETITIVE ADVANTAGE

Covariance Based Structural Equation Modelling (SEM) was used to examine the association between the use of the management accounting practices (traditional and contemporary) and the organisational outcomes, competitive advantage and organisational performance. In order to examine the moderating role of strategic pattern on these associations, four separate models were tested, one for each of Miles and Snow’s four strategic typologies (see Table 4). In addition, in line with the literature alluding to the positive association between competitive advantage and organisational performance (Saeidi et al., 2015; Majeed, 2011), an additional path was included in each model (see Figure 1).

Non-significant paths were removed one-by-one until all remaining paths were statistically significant (Anderson & Gerbing, 1988) with the final models shown in Table 4 demonstrating a good model fit. All four models show a significant positive association between the package of contemporary management accounting practices with both competitive advantage and organisational performance, thereby providing support for H1 and H2. Similarly, Table 4 shows a significant positive association between the package of traditional management accounting practices with both organisational performance and competitive advantage in each of the four models. Hence, H3 and H4 are also fully supported.

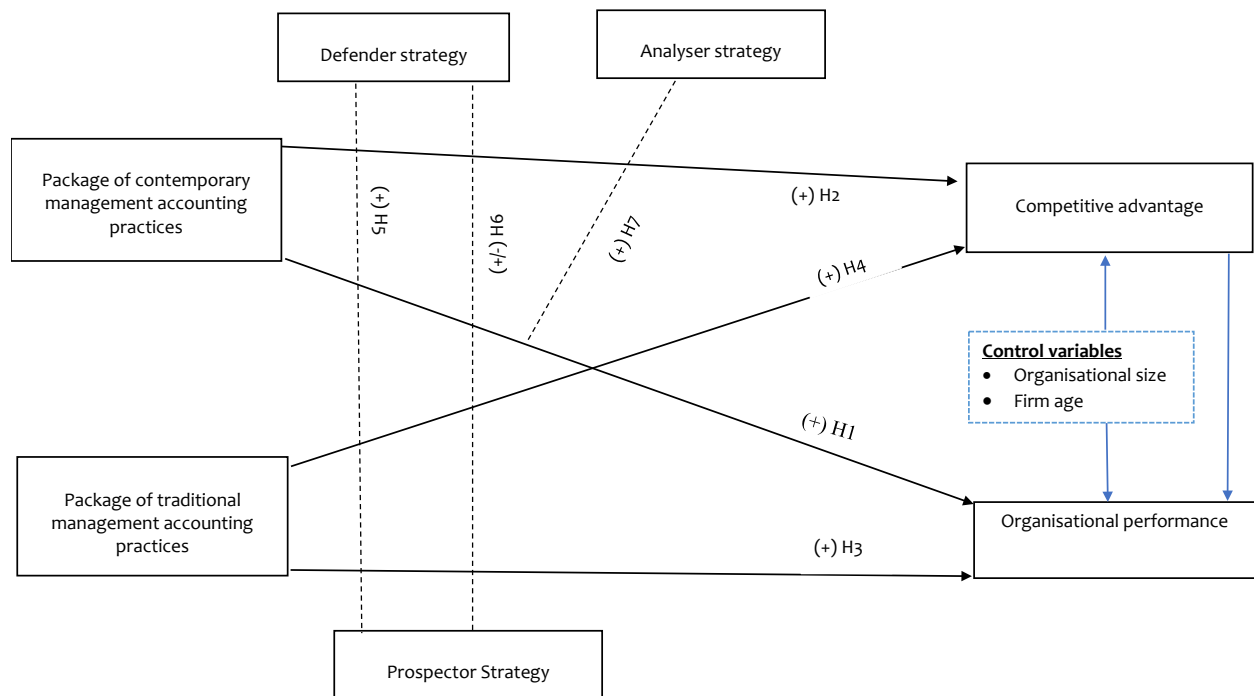


Figure 1. Conceptual Framework of the Study

THE MODERATING ROLE OF STRATEGIC PATTERN (MILES AND SNOW STRATEGY) ON THE ASSOCIATION BETWEEN MANAGEMENT ACCOUNTING PRACTICES WITH ORGANISATIONAL PERFORMANCE AND COMPETITIVE ADVANTAGE

The study also aimed to examine how Miles and Snow's (1978) strategy typologies moderated the effect of the package of contemporary and traditional management accounting practices on organisational performance and competitive advantage. Table 4 shows that three of the four strategies (all except the reactor strategy) moderate the association between the use of management accounting practices with the organisational outcomes. First, in respect to the defender strategy, this strategy positively moderates the association between the use of the package of contemporary management accounting practices and competitive advantage ($\beta = 0.223$, $p = 0.007$) and between the use of the package of traditional management accounting practices and organisational performance ($\beta = 0.042$, $p = 0.000$). Such findings indicate that the effectiveness of these management accounting practices, in terms of their effect on the respective organisational outcomes, is enhanced when organisations are employing a defender strategy, thereby providing partial support for H5. Alternatively, Table 4 shows that the defender strategy negatively moderates the association between the use of the package of traditional management accounting practices and competitive advantage ($\beta = -0.213$, $p = 0.008$). Hence, in contrast to H5 which hypothesises that the defender strategy positively moderates the association between the use of the package of management accounting practices and organisational outcomes, the association between traditional management accounting practices and competitive advantage is weaker for those organisations employing a defender strategy.

Table 4 shows that the prospector strategy negatively moderates the association between the use of a package of contemporary management accounting practices with organisational performance ($\beta = -0.035$, $p = 0.003$). Hence, contemporary management accounting practices are less effective in enhancing organisational performance for those organisations employing a prospector strategy. This negative moderation is in the opposite direction to that predicted, while no moderation is found in respect to the association between the use of the package of contemporary management accounting practices with competitive advantage, or in respect to the impact of the traditional package of management accounting practices with either of the two organisational outcomes. Hence, H6 is rejected.

Table 4. Regression Analysis of the Association Between the Package of Contemporary and Traditional Management Accounting Practices with Organisational Outcomes

	Strategy Type ^d							
	Defender		Prospector		Analyser		Reactor	
	Coeff.	t-value (p value)	Coeff.	t-value (p value)	Coeff.	t-value (p value)	Coeff.	t-value (p value)
Traditional MAPs^a → CA^b	0.397	7.535 (0.000)	0.326	7.186 (0.000)	0.256	4.834 (0.000)	0.326	7.185 (0.000)
Contemporary MAPs → CA	0.267	4.968 (0.000)	0.363	8.796 (0.000)	0.424	8.874 (0.000)	0.363	8.797 (0.000)
Traditional MAPs → OP^c	0.171	3.549 (0.000)	0.192	3.981 (0.000)	0.188	3.865 (0.000)	0.188	3.865 (0.000)
Contemporary MAPs → OP	0.118	2.614 (0.009)	0.137	3.054 (0.002)	0.144	3.179 (0.001)	0.144	3.179 (0.001)
CA → OP	0.520	11.676 (0.000)	0.527	11.748 (0.000)	0.523	11.566 (0.000)	0.523	11.566 (0.000)
Interactions								
Traditional MAPs x Strategy Type^d → CA	-0.213	-2.634 (0.008)	NS ^e		0.211	2.481 (0.013)	NS ^e	
Contemporary MAPs x Strategy Type^d → CA	0.223	2.718 (0.007)	NS ^e		-0.222	-2.560 (0.010)	NS ^e	
Traditional MAPs x Strategy Type^d → OP	0.042	4.118 (0.000)	NS ^e		NS ^e		NS ^e	
Contemporary MAPs x Strategy Type^d → OP	NS ^e		-0.035	-2.954 (0.003)	NS ^e		NS ^e	
Control Variables								
Size → CA	0.000	-2.767 (0.006)	0.000	-2.684 (0.007)	0.000	-2.679 (0.007)	0.000	-2.684 (0.007)
Size → OP	NS ^e		NS ^e		NS ^e		NS ^e	
Firm Age → CA	NS ^e		NS ^e		NS ^e		NS ^e	
Firm Age → OP	NS ^e		NS ^e		NS ^e		NS ^e	
Goodness of fit								
CMIN/DF	0.537		0.361		1.160		0.968	
CFI	1.000		1.000		1.000		1.000	
RMSEA	0.000		0.000		0.018		0.000	

NB: There were 241 defenders, 130 prospectors, 108 analysers and 26 reactors.

^a Management Accounting Practices

^b Competitive Advantage

^c Organisational Performance

^d Strategy Type

^e Not Significant

Finally, in respect to the analyser strategy, Table 4 shows that this strategy positively (negatively) moderates the association between the use of the package of traditional (contemporary) management accounting practices with competitive advantage. Such findings indicate that the effect of traditional (contemporary) management accounting practices on competitive advantage is stronger (weaker) for those organisations using an analyser strategy. While the findings here in respect to the association between the package of contemporary management accounting practices are in the opposite direction to that hypothesised, the findings highlight the relevance of the package of traditional management accounting practices in enhancing competitive advantage for those organisations employing an analyser strategy. Hence, while H7 is rejected, the analysis provides practitioners with an insight into the relevance of the management accounting practices when using an analyser strategy.

DISCUSSION AND CONCLUSION

The purpose of this study was to examine the association between the extent of use of a package of contemporary management accounting practices and a package of traditional management accounting practices with organisational performance and competitive advantage, and the moderating role of Miles and Snow (1978) strategy typologies on such relationships. The findings indicate that the package of contemporary management accounting practices and the package of traditional management accounting practices are both positively associated with organisational performance and competitive advantage. Further, there is evidence of the moderating role of three of the four strategy typologies (all except the reactor strategy) on these associations. Specifically, in respect to organisational performance, we find that the defender (prospector) strategy positively (negatively) moderates the association between the use of the package of traditional (contemporary) management accounting practices with organisational performance. In addition, in respect to competitive advantage, there is evidence that the defender (analyser) strategy positively (negatively) moderates the association between the use of a package of contemporary management accounting practices with competitive advantage, while alternatively the defender (analyser) strategy negatively (positively) moderates the association between the use of a package of traditional management accounting practices with competitive advantage.

These findings offer significant practical implications to management accounting practitioners, managers and their organisations. First, in finding that management accounting practices, both traditional and contemporary, are effective in promoting organisational performance and competitive advantage, practitioners are informed of the importance of using a package of such practices. In particular, our focus on the use of a package of traditional and contemporary management accounting practices highlights that their benefits are reaped when used collectively which can be attributed to the synergy, support and relatedness emanating from their combined use (Grabner & Moers, 2013; Kennedy & Widener, 2008; Malmi & Brown, 2008). In addition, our finding in respect to the effectiveness of the package of traditional management accounting practices supports the practical trend to continue to use traditional management accounting practices (Adler et al., 2000; Chenhall & Langfield-Smith, 1998a; Joshi, 2001; Mat et al., 2021; Nimtrakoon & Tayles, 2015; Sulaiman et al., 2005) despite the criticism that their “their relevance is lost” (Mat et al., 2021). Hence, the findings support the assertion that traditional management accounting practices are still useful, specifically when used as a package.

In addition, the findings in respect to the moderating role of strategy provide an interesting insight into the relevance of the management accounting practices for organisations employing specific strategies. Specifically, in respect to the defender strategy, we find that while the effectiveness of the use of a package of traditional management accounting practices is weaker in enhancing competitive

advantage, the effectiveness of such practices is stronger in enhancing organisational performance for organisations employing this strategy. Further, the effectiveness of the package of contemporary management accounting practices, in respect to their influence on competitive advantage, is also stronger for defenders. Accordingly, practitioners in organisations using a defender strategy should endeavour to enhance their focus on the use of both the package of traditional and the package of contemporary management accounting practices.

For prospectors, there was evidence of a negative moderating role in respect to the association between the use of a package of contemporary management accounting practices with organisational performance. Hence, while overall contemporary management accounting practices exhibit a positive impact on organisational performance, this association is weaker for those employing a prospector strategy. Accordingly, practitioners in organisations using a prospector strategy should carefully consider the relevance of contemporary management accounting practices.

For analysers, we find that the effectiveness of the package of traditional (contemporary) management accounting practices is stronger (weaker) in enhancing competitive advantage for those organisations employing this strategy. This implies that practitioners in organisations employing an analyser strategy should place greater emphasis on the use of traditional management accounting practices in order to enhance competitive advantage.

The findings contribute to society through informing organisations of the role of management accounting practices, both traditional and contemporary, in enhancing organisational outcomes (organisational performance and competitive advantage), thereby enabling organisations to enhance their performance in respect to the economic aspect of corporate sustainability. Specifically, through highlighting the importance of such practices and their relevance for organisations deploying specific strategies, it is anticipated that organisations will be able to enhance their productivity and performance, placing them in a better position to provide a greater return to investors and better serve customers and the general community.

The study contributes to the literature in three main ways. First, the study contributes to the management accounting literature which has reported inconsistent findings (Adler et al., 2000; Ahmad, 2017; Angelakis et al., 2010; Ashworth et al., 2009; Awerbuch et al., 1996; Heong et al., 2013; Jensen, 2002; King et al., 2010; Maiga & Jacobs, 2003; Modell, 2001) with respect to the effectiveness of both contemporary and traditional management accounting practices, by examining the use of management accounting practices as a package, a line of research that is widely neglected by the extant studies. Hence, the findings provide additional empirical support and extend the few existing empirical studies (Nuhu et al., 2016) examining the effectiveness of management accounting practices, suggesting that the inconsistent findings reported by previous studies might be attributed to the failure to consider the use of practices as a package.

Secondly, in contributing to the few emerging studies on the use of management accounting practices as a package, this study also provides the first empirical insight into the effect of the use of a package of management accounting practices on competitive advantage. Therefore, in addition to understanding the benefits of using such practices in respect to organisational performance, we gain an insight into the strategic benefits of using management accounting practices, i.e., their effect on competitive advantage.

Finally, the study adds to the contingency-based management accounting line of research (Gerdin & Greve, 2004; Nimtrakoon & Tayles, 2015) by providing the first empirical insight into the role of a contextual factor (i.e. Miles and Snow's dimension of strategy) in explaining the effectiveness of the use of management accounting practices as a package. In particular, this contributes to the existing literature reporting inconsistent findings in respect to the effectiveness of management accounting practices, by highlighting how the effectiveness of management accounting practices differs based on the type of strategy employed by an organisation.

The study suffers from limitations typical with all survey-based research including the lack of causality. However, while only associations can be claimed in this type of study, the study's hypotheses have been grounded based on theoretical foundations. Notwithstanding, future studies could adopt alternative approaches including the experimental and longitudinal methods to replicate the study. Secondly, while the study contributes to the contingency management accounting research, future studies could consider the role of additional contextual variables such as alternative strategy dimensions, organisational culture and organisational structure in moderating or mediating the effect of the package of management accounting practices. Finally, while there are significant findings in respect to the positive effect of the package of contemporary management accounting practices on organisational outcomes, we acknowledge that the findings are limited to the four specific contemporary management accounting practices loading on this construct. Accordingly, given the importance of specific contemporary management accounting practices is continuously evolving, future studies may focus on developing an up-to-date package of contemporary management accounting practices which considers the ongoing relevance of the identified practices and/or incorporates alternative practices.

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APPENDIX

MEASUREMENT OF CONSTRUCTS

Those items that are marked with the symbol (†) were the ones retained after testing the measurement models. The standardised factor loadings for the each retained item is the value shown in the parenthesis.

ORGANISATIONAL PERFORMANCE

1. Profit goals have been achieved
2. Sales goals have been achieved† (0.766)
3. Return on investment goals have been achieved
4. Our product(s) are of a higher quality than that of our competitors† (0.750)
5. We have a higher customer retention rate than our competitors
6. We have a lower employee turnover rate than our competitors† (0.765)

COMPETITIVE ADVANTAGE

1. We have gained strategic advantages over our competitors
2. We have a large market share† (0.758)
3. Overall, we are more successful than our major competitors
4. Our earnings before interest and taxes (EBIT) is continuously above industry average† (0.743)
5. Our return on investment (ROI) is continuously above industry average† (0.654)
6. Our return on sales (ROS) is continuously above industry average† (0.782)

CONTEMPORARY MANAGEMENT ACCOUNTING PRACTICES

1. Strategic Cost Management† (0.699)
2. Value Chain Analysis† (0.708)
3. Activity Based Management† (0.770)
4. Activity Based Costing
5. Key Performance Indicators
6. The Balanced Scorecard† (0.759)
7. Total Quality Management
8. Benchmarking (e.g. quality, cost practices and procedures)

TRADITIONAL MANAGEMENT ACCOUNTING PRACTICES

1. Cost benefit Analysis
2. Standard Costing† (0.734)
3. Variance Analysis† (0.687)
4. Return on investment† (0.788)
5. Capital budgeting† (0.672)
6. Budgeting for planning and control

MILES AND SNOW STRATEGY

(ALL ITEMS ARE RETAINED AS THEY WERE MEASURED USING SINGLE ITEMS)

PROSPECTOR

This type of organisation operates in a relatively stable product or service area. The organisation offers a more limited range of goods and/or services than its competitors and attempts to protect its domain by offering higher quality, superior goods and/or service, lower prices, and so forth. Often this type of organisation is not at the forefront of developments in the industry. †

DEFENDER

This type of organisation operates within a broad product-market domain that undergoes periodic redefinition. The organisation values being 'first in' in new product (goods and/or service) areas even if not all of these efforts prove to be highly profitable. However, this type of organisation may not maintain market strength in all of the areas it enters.†

ANALYSER

This type of organisation attempts to maintain a stable, limited line of goods and/or services. The organisation adapts quickly to new developments in areas compatible with its stable product-market base. While the organisation is seldom 'first in' with new goods or services, it can frequently be 'second in' with a more cost efficient good or service. †

REACTOR

This type of organisation does not appear to have a consistent product-market orientation and is usually not as aggressive in maintaining established products (goods and/or services) and markets as some of its competitors. The organisation does not take as many risks as its competitors and only responds to environmental pressures when forced to. †