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Abstract

The performance measurement system (PMS) developed as strategic orientation aimed at providing information to enhance the organization’s strategic outcomes. PMS provides benchmarking information in order to compare its competitive parcel of products and services against its competitors. Benchmarking information is related to trend in performance of the firm during previous years, and its explanation, and comparing firm’s performance with similar firm’s performance in industry. Moreover, inherited by the scarcity of empirical studies, evidence had been exploratory and little is known about organization’s performance measurement system and its effects on strategic outcomes. The impact of benchmarking information of PMS on the financial performance is sparse significantly. On another hand, in terms of essential benchmarking information of PMS, that might help to explain how the system has beneficial direct effects on organizational outcomes and indirect through the low-cost advantage. Thus, based on in-depth review on existing literature on benchmarking information of PMS, this paper develops a proposed theoretical framework. Specifically, the objectives of this paper are three folds; Firstly, it attempts to unravel the various perspectives and define benchmarking information of PMS and suggest on how it could be further developed. Secondly, benchmarking information of PMS helps the organizations to gain low-cost advantage possible and to improve the performance.

Keywords: Performance Measurement System, Benchmarking Information, Low-cost Advantage, Performance.

Introduction

Globalization has changed the business scenario generally and competition, in particular. The modern business environment is characterized by radical changes due to technological developments, increase competition, and the developments of customers’ desires and needs. Recent studies in the management accounting and management control systems have found that the formulation of a clear strategies priority necessary but not enough, it must be supported by an appropriate control system, organizational structure, and management accounting information systems to achieve competitive advantages and ensure high-performance consequences (Shank &

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Abushaiba & Zainuddin

Govindarajan, 1993; Chenhall & Langfield-Smith, 1998). Manufacturing firms were pressured to find ways to be more effectively in lower costs (Adler et al., 2000). Management accounting system is the provision of information to support organization's decisions in the long term, and organization's performance by providing internal and external information, and provides information for strategic purposes, i.e. it is defining the strategic position, formulating strategy and controlling the strategic performance of the organization (Shank & Govindarajan, 1993). Performance measurement system (PMS) described as an integral part of the contemporary management accounting system which provides information to encourage managers to think strategically about how their activities fit with other parts of the organization, and to assist them in managing their organization's operations (Lillis & Anne, 2002; Ittner, et al., 2003b; Malina & Selto, 2001; Fullerton & McWatters, 2002; Ulrich & Tuttle, 2004; Choe, 2003). The changing nature of value creation complicates the performance measurement process whereby the focus now is on managing intangible assets (e.g. customer relationships, innovative products/services, high-quality and responsive operating processes) which are non-financial in nature, rather than managing tangible assets (e.g. fixed assets and inventory) which are financial in nature (Kaplan & Norton, 2001). According to Jusoh (2006), the pressure from domestic and global competitors and customers, demands for quality and reliable products, a high expectation from the stakeholders and usage of new and advanced manufacturing technology. As well as, the increased competition has forced organizations to continually monitor their products and services as well as that of the competitors. Therefore, studies have advocated that positioning and differentiating strategies are a key for survival (Mia & Clarke, 1999). All of them contribute as major impetus for devising and implementing a good PMS for firm which can provide what it requires in meeting its objectives. In addition, the designing, in particular, performance measurement system, which relies on short-run profit measures, is not adequate to reflect firm’s effectiveness in today's business environments (Neely, 1999; Phillips, 1999). Where, there have been considerable innovations in this area to improving and implementing the strategic PMS. A common understanding has developed that there exists a ‘traditional’ approach which exhibits reliance upon financial measures and a more balanced or ‘contemporary’ approach, which acknowledges a wide range of financial and non-financial measures (Richardson and Gordon, 1980; Kaplan and Norton, 1992). Hence, the evidence is mixed on whether the importance placed on performance measures positively affects performance consequences (Wouters, et al., 1999), whereas a significant association between the importance of performance measures and organization’s performance (Widener, 2006). In fact, some researchers, argue that the gaining a competitive advantage might be led to achieve high performance, for example, (Raduan, et al., 2009; Bustinza, et al., 2010). It must provide a clear strategy in the organization; it is a necessary but not a sufficient condition. The organization’s strategy must be supported by appropriate regulatory factors and the process of actual production of the organizational structure and accounting information systems (Shank & Govindarajan, 1993; Jermias & Gani, 2004; Johnson & Kaplan, 1987). Chenhall (2005) has examined the relationship between strategic PMS and the achievement of competitive advantage as a strategic outcome (delivery, flexibility and low costs) as indicators of competitive strategy in the areas of
product differentiation and low cost-price. On the other hand, in the long-term the competitive strategy should be reconsidered as a tool of organization’s capability to meet the competitive environment through improve poor in the performance consequences, not as a goal per se. Bustinza, Aranda and Gutierrez (2010) have noted that, the organization’s capability to adapt to changing market conditions is a mechanism for reducing uncertainty, making this capability a catalyst for obtaining competitive advantages that allow companies to achieve higher levels of performance. However, there is an ambiguity about the relationship between competitive capability and its superior performance (Ma, 2000). Ma (2000) makes three observations regarding competitive advantage that, the competitive advantage does not equal to superior performance, but it is a relational term; and context-specific. Furthermore, the links between the different competitive strategies and different measures of performance, such as financial and non-financial, are still uncertain, in performance consequences (Menguc, Auh, & Shih, 2007). Some researchers have attempted to define the theoretical properties of PMS such as Chenhall (2003); Ittner, et al. (2003b). Simon and Guiding (2008) mentioned that, the studies that develop and test hypotheses concerning factors relating to strategic management accounting adoption are still incomplete, and therefore, should be encouraged. However, there are numerous studies, which have been done, but the finding of those studies was inconclusive as have noted there some researchers claim that their findings are conflicting. Anyway, so far, there has been little consideration given to benchmarking of PMS in terms of information output and to identify underlying information characteristics (Marchand & Raymond, 2008). In addition, the prior researches on MCS information characteristics have focused mainly on MAS as a whole, e.g. (Mia & Chenhall, 1994; Mia & Patiar, 2001; Bouwens & Abernethy, 2000) and few of researchers are focused on benchmarking of PMS ( e.g. Mia and Clarke (1999)). Hence, little is known about the benchmarking of PMS. As such, the study also investigates empirically the organizational role of strategic PMS information characteristics. On another hand, there is a need for ways of renewed conceptualization and better definition of PMS, in terms of their essential characterization as benchmarking, which might help explain how the systems have beneficial direct and indirect effects on performance. Many authors agree about a range of characteristics, which enhance PMS comprehensiveness, relevance and, ultimately therefore, effectiveness, such as: Balanced measures such as financial and non-financial (Feurer and Chaharbaghi, 1995) and internal and external (Waggoner, Neely et al., 1999); and linking to the business strategy (Dixon, et al., 1990); linking measures hierarchically from strategy through to operational detail (Dixon, et al., 1990). Although the study of performance management has accumulated a great knowledge of the effects of the PMS on performance, the actual mechanism of these effects is not fully understood (Pavlov & Bourne, 2011).

Motivated by the aforementioned background, proposed theoretical framework is that attempts to answer main objectives. Firstly, it attempts to unravel the various perspectives and define performance measurement system and suggest on how it could be further developed. Secondly, employing contingency theory as its underpinning theory this paper attempts to identify the extent of organization’s competitive advantage is influenced by the benchmarking of PMS. Finally, the perceived possible performance
consequences of the PMS will be put forth to legitimize the development as an important remedial to a traditional performance measurement system in aiding organization's long-term survival.

The remaining section of the paper is organized as follows: the immediate section presents literature review relating to the development of the proposed theoretical framework, inherited by the paucity of PMS in the literature, development in management accounting that lead to PMS information requirements is briefly dwelled. It followed by the concept of benchmarking of PMS. As well as, the concept of low cost advantage. The remaining sections presented the conceptual framework and propositions of the current paper. In the final section, some implications to the theory and practice conclusion are presented.

LITERATURE REVIEW

Performance Measurement Systems:

In this context, the concept of PMS is defined from an information system perspective (i.e. characterization as information system). The provision of information for performance measurement is an integral part of the MAS. PMS is conceptualized here as a formal system designed for providing information to managers. The literature has identified several important features of strategic PMS. These include a comprehensive and diverse set of performance measures, the integration of measures with strategy and link to value organization's outcomes, and the coverage of performance measures related to different parts of the organization (Malina & Selto, 2001; Ittner, et al, 2003b; Malmi, 2001; Neely, et al., 2005). Drawing on these descriptions of PMS, it is argued that an information characteristic of PMS is comprehensiveness; It is defined the extent to which a PMS provides managers with comprehensive performance information as an information system (e.g. Gordon and Narayanan, 1984) suggest that the information need for decision making can be considered in terms of general information characteristics. These information requirements are the user specifications of information characteristics involved in information seeking, and refer to those qualities of information perceived by managers to be useful to facilitate their decision making. Research pertaining to MAS and MIS design is largely based on the information characteristic continua advocated by Gorry and Scott Morton (1971) (Gordon & Narayanan, 1984; Chenhall & Morris, 1986).

The conceptual draws on three key literature bases and illustrates three categories of antecedents of the usefulness of performance information characteristics: environmental uncertainty perceptions, decision-maker characteristics, and work environment factors (Chenhall & Morris, 1986). Environmental uncertainty perceptions are drawn from conceptual frameworks and empirical investigations in organizational design and behavioral decision-making; decision-maker factors are drawn from the personality and cognitive psychology literature; work environment factors are drawn from theories of managerial information processing. Although the considerable emphasis has been placed on potential benefits of contingency theory applications to accounting research, relatively few empirical investigations exist examining PMS design. The framework suggests that user specifications of information characteristics may depend on the nature of the external environment, work conditions that decision-
makers have to deal with, and the psychological disposition of the decision-maker. The researcher suggests that, PMS be conceptualized as a system that accumulates and process account and general information either electronically or manually. As such, organizations need to effectively maintain a strategic PMS. The strategic PMS provides benchmarking information in order to compare its competitive parcel of products and services against its competitors. Kaplan, (1983) noted that the benchmarking information can provide feedback on various aspects of performance, such as costs and cost structures, inventory levels, market share, sales volume, profitability, and productivity (Mia & Clarke, 1999).

**Benchmarking of PMS:**

Comparative performance information which are related to trend in performance of organization during previous years and its explanation, and comparing organization's performance with similar organizations' performance in industry (Mia & Clarke, 1999). The original definition for benchmarking is the searching for best practices in the industry, and implementation of industry's best operational practices, for achieving the superior performance. The organization can use MAS (including PMS) which provides benchmarking information to scan its environment and identify any change in the industry and in competitors' strategies, in order to compare its competitive parcel of products and services, and its performance against its competitors or previous years. The definition of benchmarking practice of measuring the performance of a organization (or performance of business units) against the performance of previous years or other organization in the same sector. The benchmarking is the process of evaluating and emulating the products, services, and processes of best practices in the industry, and implementation of industry’s best operational practices and best performing organizations (Mia & Clarke, 1999). A report comparing organizations current years' performance on market share, sales volume to that of previous years or with those of similar organizations in the industry, is an example of such feedback. Benchmarking information can provide feedback on various aspects of performance, such as market share, sales volume, profitability, and productivity (Mia & Clarke, 1999), which might be led to improve organizational performance.

The strategic PMS provides benchmarking information in order to compare its competitive parcel of products and services against its competitors. As Kaplan, (1983) noted that the benchmarking information can provide feedback on various aspects of performance, such as costs and cost structures, inventory levels, market share, sales volume, profitability, and productivity (Mia & Clarke, 1999). The organization can use MAS (including PMS) which provides benchmarking information to scan its environment and identify any change in the industry and in competitors' strategies, in order to compare its competitive parcel of products and services, and its performance against its competitors or previous years. By using comparative information, a business can more easily identify its strengths and weaknesses and, then take an appropriate decision. In one of the original texts on benchmarking, the definition for benchmarking is the search for best practices in the industry that lead to superior performance. More recently, however, benchmarking is seen as a systematic way to identify, understand, and
creatively evolve superior, services, designs, equipment, processes, and those practices that improve an organization’s real performance.

**Low Cost Advantage:**

In today’s business, creating new forms of competitive advantage has become a main concern for management as the business environment continues to change rapidly and unpredictably (Boon-itt, 2009). Based on this challenge, an effective manufacturing strategy must take into account the competitive advantage of the organizations over their competitors. In practice, the competitive advantage is usually reflected in its superiority in production and performance consequences (Day & Wensley, 1988). The competitive advantage must also be first identified and evaluated to achieve firm’s strategic goals. In relation to operations management, the certain aspects of competitive advantage such as cost, quality, and time, which use as the competitive weapons. According to Porter (1980), competitive advantage is the extent to which a organization is able to create a defensible position over its competitors. Moreover, Hayes and Pisano (1996) suggest that capabilities are activities that a organization can do better than its competitors. The way a organization chooses to improve its competitive advantage should ideally create significant difficulties for others to imitate, which results in a long-term or sustainable competitive advantage. Models of market globalizations maintain that business organizations operate within increasingly competitive, global environments (Bustinza, et al, 2010; Porter, 1990) .Porter (1985) suggests that businesses are compelled to compete by differentiating their products based on product quality or low-cost. Others claim that organization focusing strategies on product features must do so without a price premium. As Skinner (1985) mentioned that, Producing on a lower cost would only be possible with a decree in quality. This is because a plant that is supposed to provide a high level of all capabilities will suffer from a high level of complexity and confusion (Boon-itt, 2009).

Competitive advantage can be defined as a positional superiority, based on the provision of superior customer value and the achievement of lower relative costs, and the resulting market share and profitability performance (Day & Wensley, 1988). Competitive advantage is the extent to which an organization is able to create a defensible position over its competitors, and it comprises capabilities that allow an organization to differentiate itself from its competitors and is an outcome of critical management decisions, (Porter, 1985). The strategic positioning of an organization reflects the organization’s ability to generate competitive advantage (Kim, Song, & Koo, 2008). According to Porter (1991) organizational performance is determined by industry structure and the organization’s strategic position in the industry; strategic position is a function of business strategy (i.e., product differentiation or cost leadership). Such competencies should lead to the marketplace positional advantages through competitive strategies such as product differentiation and cost leadership, which considered as product characteristics. And the different strategic positioning will lead to different organization’s performance (Kim, et al., 2008). Porter posits that such an attractive relative position is the result of one of two basic types of competitive advantages: lower costs than rivals or the ability to differentiate and command a premium price in excess of the extra cost of differentiating. In this view, “superior profitability can only logically arise from commanding a higher price than rivals or
Abushaiba & Zainuddin

enjoying lower costs”. Successful strategic outcomes are defined as being competitive on these strategic priorities. Hammond (1994) noted that, the necessity to sustain competitive advantage presents considerable administrative challenges (Chenhall, 2005). To sustain organization’s competitive advantage require administrative procedures that encourage invention and creativity, targeted on combinations of product features (Clark & Fujimoto, 1991). Furthermore, contemporary strategies place demands on production processes to provide a capacity to manufacture products with enhanced features but at low cost (Shank & Govindarajan, 1993; Cooper, 2000). Once formulated, effective implementation is required to ensure that innovative product characteristics and technologies deliver product characteristics to customers in cost-effective ways (Shank & Govindarajan, 1993). The concept of competitive advantage requires that given business strategies be viewed relative to its competitors with respect to three main areas (quality, cost and service).

In this paper, the competitive advantage is conceptualized based on low cost advantage. The product attributes with low costs is manufacturing-based competitive advantage. Whereas, it is used to differentiate it with the existing definition of basic of competitive ability, and they are more suitable and importantly for manufacturing industrial, particularly in transition economic. In addition to the empirical literature has been quite consistent in identifying cost of product as important competitive advantage (Tracey, et al., 1999; Rosenzweig, et al., 2003; Li, Ragu-Nathan, et al., 2006; Rondeau, et al., 2000; Boon-itt, 2009). The low cost advantage is ability to providing a standard product at a lower cost than competitors and charging either the same (or a lower) price than competitors (cost-based).

Firm’s Performance

The concept of performance is related to the survival and success of an organization. Even though literature on performance is very extensive but there is still a lack in consensus about the meaning of the term. However, the majority of the studies have used financial and non-financial indicators to measure performance (Johannessen, et al., 1999). The financial and non-financial measures can be used to operational performance, but the use of financial measures is the more common, even, to some extent, extent in the certain organization. Examples of financial measures are return on investment (ROI), return on assets (ROA). Further, the financial reports have been produced a daily basis. Due to limitations of financial performance mentioned above and the impact of globalization on today's business environment, organizations should rethink their current performance measurement, which more is focusing on financial to a more balanced measurement which has both financial and non-financial dimensions (Atkinson & Brown, 2001). There is also a growing need to assess firm’s performance through non-financial indicators. The reason is that financial measures only tell about a firm’s past performance while non-financial measures reflect the health and wealth-creating potential of the organization (Kalafut & Low, 2001). Furthermore, Kaplan and Norton (1996) argue that measurement using only financial measures can damage an organization’s capacities, and they recommend that a combination of financial and non-financial measures are better suited for evaluating performance.
Benchmarking of PMS, Low Cost Advantage and Performance:

Performance-measurement system can play a key role in strategy implementation by helping to translate organization’s strategy into desired behaviors and results, communicate expectations, monitor progress, provide feedback, and motivate employees to improve performance consequences (Chenhall, 2003; (Chenhall & Langfield-Smith, 1998) (Kaplan & Norton, 2001; Ittner, et al., 2003b). More specifically, and according to Hambrick (1983); Shrivastava (1983) strategy researchers have stressed that information acquisition provides potentially useful ideas related to external and internal opportunities and threats that are relevant to formulating innovative strategy to gain competitive advantage in low costs (Chenhall, 2005). According to Zhang and Lado (2001) the potential contributions of an information system to competitive advantage can be understood in terms of their impact on the development and utilization of distinctive organizational effectiveness. Roslender and Hart, (2002) report that, the recent history of attempts to generate accounting information to support the pursuit of sustainable competitive advantage by businesses. Further, the results Zhang’s (2005) study suggested that information system can be a source of competitive advantage and superior economic performance if they are used to support the development of certain competitive advantage.

The using of information assists managers in positioning their organization in the competitive market, and firm’s proper positioning in the competitive market is crucial to its ability to subsequently sustain the package of product attributes it offers to customers and achieving a cost advantage over competitors is the basis for such as positioning (Bromwich & Bhimani, 1994). There are associations between information type and the development and implementation of strategy. Where, the appropriate information mix and balance of financial and non-financial information is important to support strategic processes and monitor the achievement of strategic goals (Bhimani & Langfield-Smith, 2007). And the use of an information system for strategic purposes can provide a variety of competitive advantages (Choe, 2003) and supports for strategic flexibility positively related to sales growth and returns on sales (Zhang, 2005). PMS supports the competitive strategies (Rivard, et al., 2006). In addition, numerous researchers claimed that strategic PMS plays an important role in assisting a organization to achieve high level of competitive capability (Fitzgerald, Johnston, et al., 1991; Kaplan & Norton, 1992; 1996; Simons, 2000; Chenhall R., 2005). In the same time, the strategic positioning has affected on the firm’s performance (Hawawini, et al., 2003; Porter, 2001; Kim, et al., 2008; Bustinza, et al., 2010). As well as, competitive advantage has been positive affected on the performance (Rosenzweig, et al., 2003; Kristal, et al., 2010). As well as, Campbell, Datar, Kulp, and Narayanan (2006) find that the organization’s strategically linked performance measures systematically reveal more timely information about problems with the strategy, and distinguish between problems with strategy formulation, implementation, and fit. Furthermore, the PMS can play a key role in strategy implementation by helping to translate organizational strategy into desired behavior and results, communicate expectations, monitor progress, provide feedback, and motivate employees to improve performance (Chenhall & Langfield-Smith, 1998; Kaplan & Norton, 2001; Ittner, et al., 2003b; Chenhall, 2003; Malagueno, et al., 2010).
Abushaiba & Zainuddin

Proposed Theoretical Framework

Based on the conceptualization of the respective variables presented above, the propositions are developed and presented below. The proposed theoretical framework is depicted in figure 1.

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Low Cost Advantage

Benchmarking of PMS  Firm’s Performance
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*Figure 1 Proposed Theoretical Framework*

Benchmarking of PMS and Low Cost Advantage:
The benchmarking is important in the manufacturing industry because of the competition are facing, whereby PMS can assist the manufacturing industry in their pursuit of cost of their products. Numerous researchers claimed that strategic PMS plays an important role in assisting a organization to gain high leveled of cost advantage (Fitzgerald, Johnston, et al., 1991; Kaplan & Norton, 1992; 1996; Simons, 2000; Malina & Selto, 2001; Chenhall R., 2005; Campbell, et al., 2006). According to Nicholls (1992) and supported by Ajibolade, Arowomole and Ojikutu (2010) the companies that are able to identify true product costs in a more sophistication of PMS will be able to price their products more competitively and gain some advantage over their competitors that are unable to do so (Ajibolade, et al., 2010). Further, Nyamori, Perera, and Lawrence (2001) and Henri (2006) suggest that, MAS characteristics which support a certain strategic position may differ from the MAS characteristics that enable a move towards that strategic position. Use of the PMS can help firms to build their competitive advantages (Mohamed, et al., 2008). PMS provides benchmarking information in order to compare its competitive parcel of products and services in trim of cost (Mia & Clarke, 1999). Therefore, it is hypothesized that:

**H1**: The high level of benchmarking of PMS will lead to increase the level of low cost advantage.

Benchmarking of PMS and Performance

This aspect would appear an important aspect of effective PMS, as results of the association between performance consequences and its PMS, which have been ambiguous; the evidence is mixed at best on whether the importance placed on the performance measurement system positively affects performance consequences (Kaplan & Norton, 1992; 1996; Ittner & Larcker, 1998a; Wouters et al., 1999). Despite, some studies have provided support for the association (Anderson, et al., 1997; Pavlov & Bourne, 2011). Benchmarking of PMS involves the comparison of an organization with its competitors on relevant factors, including financial and non-financial performance. Comparing the way an organization performs a specific activity with that of its competitor enables that organization to learn how to improve performance or even identify some best practices linked to organization excellence (Donthua, Hershbergerb,
& Osmonbekov, 2005). Thus, through Benchmarking information, firm can more easily, identify its strengths and weaknesses and then, take appropriate strategic decisions, which lead to improvement its performance. Therefore, it is hypothesized that:

H2: The high level of benchmarking of PMS will lead to increase the level of performance.

**Low Cost Advantage and Performance**

Low cost advantage is two main area of competitive advantage, and it is an important capability for an organization to survive and succeed in a competitive market, cope with the market competition (Porter, 1985) and to enhance organizational performance (Day & Wensley, 1988; Porter, 2001; Hawawini, et al., 2003; Kim, et al, 2008). The strategic positioning has affected on the firm’s performance (Hawawini, et al., 2003; Porter, 2001; Kim, Song, & Koo, 2008; Bustinza, et al., 2010). As well as, low cost advantage affects positively on the performance (Rosenzweig, et al., 2003; Kristal, et al., 2010; Majeed, 2011).

H3: The high level of low cost advantage will lead to high level of performance.

This paper has advanced a proposed theoretical framework attempting to answer pertinent objectives. Inherited by its little progress to data, this paper unraveled PMS various conceptualization and its claimed information characteristics and subsequently. By investigating the level of benchmarking of PMS in manufacturing firms it will shed lights on benchmarking of PMS development. It is assumed that high level of benchmarking of PMS will indicate the high level of comparing information that is provided. Theoretically, it could infer how benchmarking of PMS should be further developed and promoted, while practically it could assist companies in designing their benchmarking of PMS for particular improving their low-cost advantage and performance.

This paper also attempts to identify the association between benchmarking of PMS and performance by employing contingency theory as its underpinning theory. Theoretically, it will contribute further in MAS/PMS contingency-based researches. It is hoped that it will shed some lights in relation to the information characteristics of PMS and strategic outcomes. Finally, perceived possible performance consequence of PMS information has also put forth to legitimize the development as an important remedial to the traditional performance measurement system as an important means to achieve organization’s long-term survival via improve its cost advantage. By investigating on the strategic outcomes, it will reveal the implication of certain information benchmarking of PMS on the certain strategic outcomes (performance). Theoretically, it could assist academic to develop benchmarking information of PMS for certain low cost advantage and the performance that intended to be improved. For companies in turn, it will infer that to address certain performance issues, they could focus on certain PMS information benchmarking.

In summary, the proposed study attempts to enrich the current knowledge on PMS, MAS, MCS, and low-cost advantage and strategy literatures from manufacturing firms. The benchmarking of PMS is of value to firm, which intends to sustain their low-cost advantage and consequently, to the long-term performance.
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Abushaiba & Zainuddin


