The Evolution of Performance Measurement System (PMS) and Linkage to the Environmental Uncertainty and Strategy; a Review of Literature

Anbalagan Krishnan, Lecturer for Accounting, School of Business, Curtin University of Technology, Sarawak Campus

ABSTRACT

Performance measurement systems in today’s business environment are different from the 1960s and 1970s. The nature of today's business is very unique and dynamic; and with the effect of globalization, the organization’s performance measurement system requires a different dimensional approach. To provide managers with useful information and to sustain competitiveness, the organization must measure all aspects of organization functions. Traditional organization performance measurement systems measure the financial dimension alone, but as a result of stiff competition from the global market, the organization has to take a different approach in measuring performances. Integrated or multidimensional performance measurement system is a major innovation in organization performance measurement. However, this tool is not effective if it is not linked to the organization’s strategy and reflected based on the environment uncertainty that has great influence in changing the organization strategy. Besides, the organization performance measurement system also varies according to the organization structure. This research paper is divided into two sections. The first section of this research reviews the literature with regards to development and evolution of performance measurement systems. The second section reviews literature with regards to the significance of incorporating factors such as environmental uncertainty, organizational strategy and structure in organizations’ performance measurement system. In summary, the innovation in performance measurement system and above mentioned factors are compulsory in order to sustain the organization’s competitiveness in today’s business environment.

Keywords: Innovation in Performance measurement system, Environmental Uncertainty and Strategy and Structure

INTRODUCTION

Maintenance of an effective performance management system is a fundamental issue that every organization must continuously pay attention to in order to ensure its survival as it plays an important role in leading the organization. This includes translating strategy into desired behaviors and results, communicating these expectations, monitoring progress, providing feedback, and motivating employees through performance-based rewards and sanctions (Chow and Stede, 2006). According to Neely et al., (2002) performance measurement system is a balanced and dynamic system that is able to support the decision-making process by gathering, elaborating and analysing information (cited in Garengo et al., 2005). Research reveals that a number of organizations are still relying on traditional performance measurement systems. Traditional performance measurement tools designed for the industrial-age economy, which emphasize financial measures and tangible assets, are no longer able to capture the changing nature of today’s business environment (Jusoh, R. et al. 2006, p. 51).

As such, scholars from several disciplines for the last two decades have directed significant effort in the development of performance measurement systems that reflect the fast changing business environment (Bitton 1990; Eccles and Pyburn 1992; Kaplan and Norton 1993, 1996, 2000; Neely et al., 1996, 2000; Olve et al., 1999; cited in Franco-Santos and Bourne, 2005, p.116). As a result, there is a shift away from traditional concepts in order to reflect the complexity and dynamic business environment. According to Jusoh, pressure from domestic and global competitors, demands for quality and reliable products from customers, high expectation from the stakeholders, and usage of new and advanced manufacturing technology contribute major impetus for devising and implementing a good performance
measurement system for an organization (2006, p. 51). To address all the needs of the business operators and to provide them a measurement that provides a complete assessment, scholars developed the multidimensional and many other integrated performance measurement systems to suit today business nature.

The researchers also studied the successes and failures contributing to each performance measurement system and explored the factors that have impact on performance measurement system. Some of the key factors included organization strategy, organization structure and environmental uncertainty that played an important role efficient and effective operation of the organization. Considering these factors when developing the performance measurement system is critical for the organization and the significance of these factors is well documented in the literature. These elements are necessary in order to develop an effective performance measurement system and also to reflect the unique dynamics of business environment. This paper is divided into two sections. The first section of this paper reviews literature related to evolution and significant development of performance measurement system. The first section also discusses why some companies still adopt the traditional performance measurement system. The second section contains a literature review of the significance of incorporating factors such as organization strategy, organization structure and environmental uncertainty and the impact of incorporating these factors in performance measurement system.

**Evolution of Performance Measurement System**

Performance measurement system is key topic amongst accounting researchers since its introduction in the era of industry way back in the 1960’s. At this time researchers developed a traditional management accounting system focused on financial measures such as traditional budgeting, costing and variances analysis and Cost volume profit. The focus of this traditional performance measurement system was to monitor organization cost. Nanni et al., (1992) and Ballantine & Brignall (1995) supported this view that the traditional idea of performance measurement (PM) system was a means of maintaining organizational control and financial goal for hierarchical manufacturing organizations (cited in Hussain, 2005). However, this traditional performance measurement system is not effective in the context of today’s business environment as a result of shift in the nature of business and its surrounding. The focus is no longer on competitors but on customer, quality of product and services provided to consumers. The effect of globalization has increased competitiveness among the companies not only locally but also from internationally. This has contributed to making the business environment even more complex. This certainly requires a different kind of performance measurement system that focuses not only on monitoring and controlling cost. Johnson and Kaplan (1987) assert that the rapid changes of technology with enormously expanding information processing capabilities and vigorous global competition, traditional management accounting systems are not providing useful information in fulfilling organizational objectives, decision-making, planning, and control (cited in Hussain, 2005, p.566). Traditional models of performance measurement systems focused on maximizing the wealth of shareholder, such as earning per share (EPS), return-on-investment(ROI) and etc, which are “the result of management action and organizational performance, and not the cause of it”(Eccles and Pyburn, 1992; cited in Hussain, 2005). Recent coverage of performance measures has criticized periodic financial measures as being too aggregated, too late, and too backward-looking to help managers understand the root causes of performance problems, initiate timely corrective actions, encourage cross-functional decision making, and focus on strategic issues (Chow and Stede, 2006). The organization’s performance measurement system should include both financial as well as non financial in order to cater to the complex and dynamic business condition. This is necessary in order to get a complete picture of organization performance in the new millennium. Besides, to succeed in the present dynamic business environment, companies should link their performance measurement system to the organization strategy and at the same time the system should monitor whether the customers’ needs are met as well as keep the organization cost under control. The shortcomings of traditional measurement systems have triggered a performance measurement revolution (Neely 1999; Neely and Bourne 2000; cited in Pun and White, 2005). See TABLE 1 shows the evolution of performance measurement system and its main focus.
Since the beginning of the 1990s, performance measurement has become an important issue for academics and practitioners (Gosselin, 2005). Researchers have been highlighting the shortcoming of the traditional system and proposed various types of performance measurement system that would enable the organization measure all aspect of business. According to Kaplan and Norton, the financial measures alone were not sufficient to measure performance. Other factors in the new economy such as competence and knowledge, customer focus, and operational efficiency and innovation were missing from traditional financial reporting (cited in Gumbus and Lussier, 2006). Attention in practitioner, consultancy and academic communities has turned to how organizations can replace their existing, traditionally cost-based, measurement systems with ones that reflect their current objectives and environments.

Thus, the professional literature has suggested that managers should design a new performance measurement system (PMS) that includes financial and non financial measures (Gosselin, 2005). Kaplan and Norton (1992, 1993, and 1996) advocated in favor of the balanced scorecard approach. On the other hand Dixon et al. (1990) and Nanni et al. (1992) proposed the use of integrated performance measurement systems (ibid). Discussion of the use of integrated or multidimensional performance measurement system has been prevalent among academics and practitioners (Marr and Schiuma 2003; cited in McNamara and Mong, 2005). This is also supported by Medori and Steeple (2000) who stated that the PMS incorporating financial and non- financial measures have been a topic of considerable interest to both business practitioners and academic (cited in Pun and White, 2005). Neely and Bourne (2000) noted that many researchers and practitioners have become interested in developing integrated, rather than piecemeal measurement systems (cited in Pun and White, 2005).

Integrated or multidimensional performance measurement system is widely practiced in today’s organization. The integrated system accessing the organization non financial dimension still incorporates the traditional elements that measure the organization activities against financial aspects. Abdel-Maksoud et al., (2005, p. 264) noted that surveys conducted in UK manufacturers by CIMA in 1993 revealed a growing emphasis by organizations to include non-financial indicators on performance measurement system focusing particularly on quality issues and marketing activities. The authors further assert that aspects of non-financial performance such as customer satisfaction, employee efficiency and quality levels were thought important by all companies surveyed. Thus, the focus of integrated and multidimensional performance measurement system incorporates both financial and non financial elements. Based on articles published in Harvard Business Review (1992) and a book written by Kaplan and Norton (1996) noted that there has been a general acceptance in practice that a mixture of financial and non-financial measures in a performance measurement system is beneficial for both profit and non-profit organizations (Sinclair and Zairi, 2001, Ballou et al., 2003; cited in McNamara and Mong, 2005). One such widely used multidimensional performance measurement that measures both financial and non financial aspect of business is the Balanced Scorecard approach. The BSC framework encompasses both the quantitative and qualitative measures to determine the performance of organization (Kaplan & Norton 1992; 1993; Missroon 1999; cited in Wang, 2006). In addition to BSC performance measurement system, there are many other multidimensional performance measurement systems introduced by scholars and adopted by many organizations. Each of these performance measurement systems are unique and evaluate the organization’s performance in different ways. See Table 2 gives a list of different kind of performance measurement system.

Table 1: The Evolution of Performance Measurement

<table>
<thead>
<tr>
<th>Measures</th>
<th>1960’s</th>
<th>1970’s</th>
<th>1980’s</th>
<th>1990 onwards</th>
</tr>
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<tr>
<td><strong>Main Focus</strong></td>
<td>Financial</td>
<td>Financial</td>
<td>Financial / Managerial</td>
<td>Financial / Non Financial</td>
</tr>
<tr>
<td><strong>Key Developments</strong></td>
<td>Accounting Earnings</td>
<td>Accounting Earnings</td>
<td>Unit Costs</td>
<td>Balanced Scorecard</td>
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<td></td>
<td>Earnings Per share</td>
<td>Residual Income</td>
<td>Joined Budgets</td>
<td>Economic Value Added</td>
</tr>
<tr>
<td></td>
<td>ROI</td>
<td>Operating Profits</td>
<td>Activity-Based Costing</td>
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<td></td>
<td>NPV</td>
<td>Cash Flows</td>
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(Source: Swamy, 2002, p44)
In addition to the above integrated performance measurement system, Economic Value Added (EVA) system developed by Stern Steward Corporation is interestingly getting much attention by industrialists. It is an overall measure of financial performance that is intended to focus managers’ on the delivery of shareholder value (Otley, 1999). Nevertheless, despite the various systems developed by researchers for performance measurement system, literature and survey suggest the balanced scorecard (BSC) prevails as the most influential and widely accepted performance measurement system (Paranjape et al., 2006). This because using this strategic management tool incorporates both financial and non-financial measures. Managers can gather information about their organizations' ongoing efforts to integrate their vision and strategies with their organizational performance (Kaplan & Norton 1992; 1993; Missroon 1996). However, research reveal that the balanced scorecard system or any other integrated performance measurement system is only popular among the western organizations but not so in Asian organization. For instances Sulaiman et al., (2004) conducted a study of management accounting practices in selected Asian countries-Singapore, Malaysia, China and India-The study revealed that the use of contemporary management accounting tool, that is the integrated or multidimensional performance measurement system, is still lacking and the use of traditional management accounting techniques remain strong. Tho et al., (1998) gave various reasons as to why traditional management accounting practices are still widely used in developing countries. They include lack of awareness of new techniques, lack of expertise and lastly lack of top management support. Besides high cost of implementation and the fact that there simply was “no reason to change” from the traditional to the new tool is the main reason why some companies are still using the traditional performance measurement tool (Sulaiman et al., 2004, p. 505). Hence, future research is needed to find out reasons of organization still favor using the traditional performance measurement system despite the fact that literature specify that organizations require the adoption of different kinds of performance measurement system.

While the researchers recognize the important of using the integrated or multidimensional performance measurement system, they also recognize the significance of this system relate organization structure, strategy and reflect to environmental uncertainty. According to Govindarajan & Gupta (1985) and also based on research produced by Govindarajan in 1998, there is evidence that high organizational performance may result from a matching of an organization’s environment, strategy and internal structures and system (cited in Smith, 1997, p. 207). The influence of the organization strategy, structure and environmental uncertainty has great influence on how the organization is operating. As such it is significant for incorporating these factors when developing the performance measurement system.
ENVIRONMENTAL UNCERTAINTY, STRATEGY AND ORGANIZATION STRUCTURE

There has been growing research in the relationship between Management control system (MCS) and strategy. Management control system is defined as a system whereby used to monitor the organization resources is used effectively and efficiently in order for the organization to achieve it desire objectives. For effective monitoring on organization resources, it is important that the organization’s performance measurement system is linked to organization strategy. For instances researcher has suggested that the MCS should be tailored explicitly to support the strategy of the business to lead to competitive advantage and superior performance (Dent, 1990; Samson et al., 1991; Simons, 1987a, 1990, cited in Smith, 1997, p. 207). On the other hand Skineer (1971) reported that for many years, it has been recognized that the performance measurement can influence a company’s behaviour and consequently affect the successful implementation of organization’s strategy (cited in Garengo et al., 2005).

Strategy has been defined in many ways. For instance, strategy has been described as a pattern of decisions about the organization’s future, which takes on meaning when it is implemented through the organization’s structure and processes (Mintzberg, 1978, Miles and Snow, 1978, cited in Smith, 1997, p. 209). Johnson (1987, pp. 4-5 cited in Smith, 1997, p. 209)) stated that strategic decisions occur at many level of managerial activity. He further asserts that they are concerned with the long-term direction of the organization, the scope of an organization’s activities, the matching of organizational activities to its environment and resource capabilities, the allocation of major resources within the organization, and consideration of the expectations and values of the organization’s stakeholders. Strategy is mainly categorized into three categories. First Corporate strategy that focuses on types of businesses to operate in, including what businesses to acquire or divest, and how best to structure and finance the company (Johnson & Scholes, 1989, p. 9), Second, Business (or competitive) strategies which relate to each business unit of the organization and focus on how individual SBUs (Strategic business units) compete within their particular industries and positioning itself in relation to competitors and the third category is Operational strategies that address how the various functions of the organizations contribute to the particular business strategy and competitiveness of the organization (Smith, 1997, p. 210). It is crucial that the organization’s performance measurement system is linked to its business and operational strategy. This is necessary to keep track the organization’s direction and maintain a competitive position.

This fact is supported by scholars who believe that the performance measurement system must be designed and implemented in accordance with a company’s business strategy in order to link the strategy to the objectives of functions, groups of people, and individuals (Bierbusse and Siesfeld 1997; Kaplan and Norton 1996; Nanni et al. 1992; Schneiderman 1999), as well as to operational aspects (Greatbanks and Boaden 1998; Lynch and Cross 1991; Meekings 1995; Neely et al., 2002; cited in Garengo et al., 2005). The researchers acknowledge one of the drawback with traditional performance measurement system is the lack of alignment of the system with the organization’s strategy and this has been recognized as a main obstacle for organization not achieving its intended objectives (Akinson and Waterhouse 1997; Bourne et al., 2000; Dixon et al., 1990; Goold 1991; Kaplan and Norton 1992, 1996; Keegan et al., 1989; Lynch and Cross 1991; McAdam and Bailie 2002; Neely et al., 1994; Sink 1986; cited in Garengo et al., 2005). Noting this drawback with the traditional system, scholars emphasize the alignment between the strategy and performance measurement system is crucial for organizational survival. Accounting literature suggests that each strategy is unique in its own way; it requires different types of performance measures and with different strategy (Jusoh et al., 2006). The firms place more emphasis on particular accounting techniques or information, depending on which strategy they adopt. Many scholars stress that designing of a performance measurement system should be based on the company’s intended strategy. Others explicitly state that a performance measurement system should also support the definition, development and evolution of business strategy in order to support continuous improvement (Bititci 1997; Bourne et al., 2000; Tonchia 2001; cited in Garengo et al., 2005).

Research also provides evidence that besides the organization strategy, other attributes such as organization structure and environmental uncertainty (EU) have predominant influence on designing the performance measurement system. According to Tymon et al., (1998) this construct has been studied in several management accounting studies (Gosselin, 2005). Over the years many theoretical and empirical studies have considered the relationship between the firms and its environment (Yusof, 2002). The author further noted that past studies have conceptualized EU in different
ways (Milliken, 1987). As Yusof (2002) indicated uncertainty, is seen as lack of information for decision-making (Thompson, 1967), it is also conceptualized as unpredictability (Cyert and March, 1963), environmental complexity (Galbraith, 1973), ambiguity (Milliken, 1987) and turbulence (Emery and Trist, 1965). Wack (1985) asserts that whatever dimension uncertainty assumes, many would concur that it is a basic feature of the business environment and for business ventures to survive and flourish, they must have the ability to, among other things, cope with uncertain environment. This means the survival of business very much depends on how well it adopts and changes according to the environment it operates within. It is very important for the business to be sensitive to changes in its environment and change its strategy accordingly. According to Miles and Snow (1994) firms that match their situation to the environment can improve their performance, while those that do not court failure (Jabnoun et al., 2003). The relationship between the firm and its environment, in the strategy-making context, has two major dimensions. First, the firm’s basic mission or scope should match its environment and second, it should aim at having a competitive edge with other firms that are also trying to get the match (Rumelt 1996, cited in Jabnoun et al., 2003). As such the perceived environmental uncertainty plays a central role in formulating strategy and it provides a competitive edge. This mean the organization requires a well designed performance measurement system that measure changes in environmental uncertainty which provides necessary information to formulate a strategy. The performance measurement system that incorporates different dimension of measures is important to be on par with environmental changes. This is because the performance measurement system is the organization’s navigation tool that provides direction of business operation.

According to Gordon and Narayanan (1984) the perceived environmental uncertainty is the firms’ perceptions about the ability and stability in various aspects of their organization’s industrial, economic, technological, and competitive and customer environment which has great influence in performance measurement system. This view is supported by Hrebiniak and Snow (1980) that the environmental uncertainty is likely to be perceived important by managers including the degree of predictability of financial and capital markets, government regulation and intervention, actions of competitors, actions of suppliers, and general conditions facing by the organization (Desaro et al., 2005). All this elements have great impact on business performances. Therefore, the performance measurement that organization uses should be able to measure all these attributes and provide timely feedback to organization decision makers. This is necessary for them to take necessary steps to reflect changes in the environment. Hence, it is important that the performance measurement system that reflects environmental uncertainty help the firm respond more rapidly to unforeseen changes in order to survive (Lawrence and Lorsch, 1967; Covin and Slevin, 1989; cited in Desaro et al., 2005). Therefore as noted by Gosselin (2005) environmental uncertainty has significant influence when designing performance measurement system.

The phenomenon of relationship between the environmental uncertainty and performance measurement system is well explained by Gul and Chia (1994) that when perceived environmental uncertainty is low, the management is able to make relatively accurate predictions about the market which can be derived from some fairly common parameters in the performance measurement system. Under these conditions, interpreting the environment is relatively easy because the set rules are available and traditional performance measurement system would be adequate (p. 416). Under this environment the organization does not require a detailed performance measurement system that includes all kind financial and non-financial measurement. When the environment is not complex and performance measurement system provides additional information which is irrelevant, managers may suffer from overloaded information and this affects their decision making process. On the other hand Gul and Chia (1994) state that if the perceived environmental uncertainty is high, the organization may require additional information to cope with the complexities of the environment. They further noted that in this complex environment a manager requires a sophisticated report based on performance measurement system that assists managers to reduce uncertainty and improve decision making (Amey 1979; Chia 1990; cited in Gul and Chia, 1994). Therefore, the extent of environmental uncertainty is viewed as a function of the level of increase in environmental dynamism and complexity (Johnson and Scholes, 1999, cited in Jabnoun et al. 2003, p. 20). The more dynamic and complex environmental conditions are, the greater the intensity of uncertainty in the environment (ibid). The organization performance measurement system that doesn’t reflect the extent of dynamic and complex environment may not provide necessary information and as indicated by Jabnoun et al. (2003)
affects not only the availability of resources to the firm and the value of its competencies and capabilities, but also customer needs and requirements, as well as the competition.

In addition to the organization structure and perceived environmental uncertainty, the performance measurement system must also reflect the organization structure. Organization structure that is either mechanistic or organic literally translated as centralization and decentralization structure has significant impact on the extent of types of financial and non financial measures to be included in performance measurement system. The link between centralization (decentralization) and management accounting systems which includes the performance measurement system has been investigated in many management accounting studies (Gordon and Narayanan, 1984; Chenhall and Morris, 1986; Govindarajan, 1988; Gul and Chia, 1994; cited in Gosselin, 2005). Gul and Chia (1994) noted that an appropriately structured organization will need to be complemented by appropriate information from the performance measurement system to facilitate a higher level of managerial performance. According to Otley (1980), decentralization which refers to the level of autonomy delegated to the managers and management accounting system design constitutes a significant part of the control package in an organization (cited in Gul and Chia, 1994). Business structure that adopts decentralization will require a detail performance measurement system that includes varieties measures. As pointed out by Chenhall & Morris (1986) broad scope information would be needed to service the diversity of decisions faced by the decentralization manager in areas such as pricing, marketing, inventory control and labour negotiations (Gul and Chia, 1994, p.416).

Thus, the level of innovation in performance measurement system is significantly influenced by the organization structure depending on whether the structure is decentralized or centralized. Hence, the extent of complexity of performance measurement system is based on the organization structure. If the structure is decentralized the manager is responsible for the achievement of the organization objective and therefore will be more concerned with the performance of organization. As such the performance measurement system is designed to include measurement of every dimension of business operation. These phenomena of complexity of performance measurement system are the same if the organization is operating under very highly uncertain environment. The organization operating under this environment will require a wider scope of performance measurement system in order to reflect precisely the environment. The types and the extent of measures of performance measurement system are similar in the context of decentralization and perceived environmental uncertainty. Thus the organizational structure and perceived environmental uncertainty are closely related to performance measurement system (Gordon and Narayanan, 1984; cited in Gosselin, 2005).

According to Gordon and Narayanan (1984) researchers are attempting to discover the relationship between perceived environmental uncertainty (PEU) and organizational structure. Research efforts are geared towards explaining variations in organizational structures as a consequence of variations in PEU (e.g. Leifer & Huber, 1978; Lawrence & Lorsch, 1967; cited in Gordon and Narayanan, 1984). This means the choice of organization structure, whether it is centralized or decentralized, very much depends on the environment the business is operating. This ultimately influences the extent of financial and non financial measures including the performance measurement system. For example research reveal that the mechanistic forms of organization are associated with stable environment whereas organic forms of organizations (which are similar to decentralized organization) are prevalent in dynamic environment (Burns & Stalker 1961; Lawrence & Lorsch 1967; Hall 1962; Leifer & Huber 1978; cited in Gordon and Narayanan, 1984). This is also supported by other researchers. Galbraith (1973) noted that inherent flexibility organic structures (as compared to mechanistic forms) have greater information processing capability demanded by uncertain environments. Hence the observed relations in the empirical literature and emerging consensus in organization theory literature that the greater the perceived uncertainty, the greater the likelihood that organization tend to be organic (Gordon and Narayanan, 1984). Thus, the organization adopts organic structures when it operates in dynamic environment that is uncertain. This is because in uncertain environment the unforeseen requirements for action cannot be broken down or distributed automatically through the functional roles defined within the organizations. Therefore, through decentralization an organization is able to provide its managers with greater responsibility and control over its activities (Waterhourse & Tiesen 1978; cited in Gul and Chia, 1994).
On other hand managers operating in uncertain environments that adopt a decentralization structure are required to be alert for any changes in its environment as this will have strong impact on business operation. Under such conditions the manager will be requiring a performance measurement system that provides detailed measures of every aspect of business operation. As indicated by Gordon and Narayan (1984) based on their exploratory study that was designed to test a set of specific contingency relationships between environment, structure and accounting information system reveal that information characteristics appear to be more valuable to key decision makers under one set of environmental conditions that another and more to the point, the higher the perceived environmental uncertainty, the greater the need for external, non-financial and ex ante information. This is also supported by another study conducted by Gull and Chia (1994) on relationship between degree of decentralization and managerial performance over the range of the level of management accounting system sophistication for organizations operating under varying PEU. Their study stated that when perceived environmental uncertainty is high, managers will require more information and management accounting system which provides more sophisticated information in terms of scope and aggregation that will enhance the decisions of the managers.

Therefore, the performance measurement system varies depending on the environmental uncertainty and organization structure. Researchers such as Duncan (1973), Tushman & Nadler (1978) and Gerloff (1985) suggested that organizational structure has important implication for the ability of the organization to gather and process information (Gull and Chia 1994). There is sufficient evidence that the relationship exists between the perceived environmental uncertainty and organization structure and determines the degree of measurability in performance measurement system. Also there is evidence that organization adopts decentralization structure when the perceived environmental uncertainty is high and ultimately require in depth measures of performance measurement system. As noted by Chenhall and Morris (1986, p. 21) that decentralized managers are more likely to prefer to be evaluated on performance measures which are aggregated in ways which reflect their responsibility (cited in Gul and Chia 1994). Therefore the link between the performance measurement system and environmental certainty as well as organization structure is important for an organization to improve its performance and ultimately maintain its competitiveness.

CONCLUSION

The Traditional performance measurement system no longer provides sufficient information on the organization is success in the global market. Many companies have responded to the challenges in the global market and adopted a performance measurement system that reflects the changes in this competitive environment. Kaplan (1983), Vollman (1989), Drucker (1990), Hall et al., (1991) and Conti (1993) had been influential in arguing that traditional, financial based performance measurement systems were insufficient (cited in Abdel- Maksoud et al, 2005, p. 264). However, as outlined in the paper there are still a number of organizations using the traditional performance measurement system despite the fact that the business nature has change tremendously, requiring a different kind of performance measurement system. Understanding this situation, Sulaiman et al., (2004) strongly recommend that future study should attempt to examine specific factors as to why firms are not adopting newly developed management accounting practices and what the obstacles are to in implementing such techniques. The researchers also indicated that future study should address whether culture differences have any impact in implementing of the performance measurement system. For instance in his study he noted that even though cultural values differ in each of these four countries i.e. Singapore, Malaysia, India and China, they all consistently adopt traditional performance measurement system. This provides valuable information for future study as to whether organization culture is a predominant factor influencing the performance measurement system in an organization.

While adopting the more diversified performance measurement system, researchers also commented that the performance measurement system should reflect organization strategy, the perceived environmental uncertainty and organization structure. This is necessary to increase performance competence. Performance competence is a new concept; introduced by Nanni et al., (1992). It suggests that to be competent, a performance measurement system should measure what is important for the organization and that the measures should correspond to its context. Performance competence is increased if the firms alter and adopt a performance measurement system linked to organization strategy.
and reflects the organization structure and perceived environment uncertainty. The contingency theory of management accounting suggests that there is no universally applicable system of management control but that the choice of appropriate control techniques will depend upon the circumstances surrounding a specific organization (Otley, 1999). Some of the research conducted on relationship between environmental uncertainty and strategy focuses on general business environment and therefore the conclusion reached is also treated in a general sense. Therefore the author recommended future study in this area that also conducts empirical investigation on the effects of sectoral difference in terms on industry, size and age of firms.

In summary, the organization’s performance competence increases if the organization performance measurement system fits with the organization’s strategy, structure and the environmental uncertainty that they face (Gosselin, 2005). However, it surprising that relatively few empirical research papers have been published, despite the interest shown in academic and professional literature in recent years (Smith, 1997, p. 228). Smith also noted that most of the empirical and case studies were on senior management divisional heads, profit center managers and business unit managers and continued focus on senior management’s use of controls could be misplaced. This is because the success of a strategy may be directly influenced by activities that take place in other areas of business, for example at the operational, and research and development areas of the organization. Smith suggested while normative research and single case study have considered these issues, empirical research may provide much needed evidence of performance measurement system measure this strategy.

REFERENCES


