

Performance Measurements Systems: Stages of Development Leading to Success

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ABSTRACT

This paper aims to discuss the subject of performance measurement systems and explore the latest trends in this area of research. Reviewing the relevant literature approach was adopted as a methodology for conducting the present research. Previous academic, theoretical and empirical papers from early stages and up to date papers were reviewed and analyzed. This paper finds that although literature shows significant changes and movements towards using the balanced (integrated) systems, more work still required in terms of developing more dynamic performance measurement systems that consider significant stakeholders who contribute in achieving better competitive advantage and success for an organization

Keywords: Performance measurement system, Balanced scorecard, dynamic systems, stakeholders.

INTRODUCTION

Performance measurement system (PMS) considered one of the most important topic and technique discussed in the field of business management. The fields of accounting, business strategy, operations management, marketing, and organizational behavior have all discussed and contributed to this topic at length (Neely, 1999; Marr and Schuima, 2003). The importance of this topic emerged from the assumption that performance measurement system is an essential tool that enables a company to achieve and control its desired objectives. In addition, such tool allows managers to balance the tensions between growth versus control, short-term performance versus long-term performance, and opportunities versus threats (Simons, 2000).

Due to the importance of this topic, the purpose of this paper is to review the relevant literature concerning the theory of business performance measurement system in order to understand the latest trends in this topic. To do that, authors review definitions of performance measurement systems; moreover, this paper introduces the common models and methods of performance measurement systems, in addition, this paper shows and tracks stages of development and evolution of PMS's to be able to highlight the significant changes created and introduced by previous research. Finally, this paper draws a conclusion for recommendations needed for the business performance measurements systems implemented by academics and practitioners.

DEFINITION OF PERFORMANCE MEASUREMENT SYSTEM

Before defining the performance measurement system (PMS) concept, it is worth discussing its components. First, the literature defines the term "performance" as the ability of an entity, such as a person, group or organization, to make results in relation to specific and determined objectives (Laitinen, 2002; Lebas and Euske, 2004). In addition, performance is an actual work or output produced by a specific unit or entity. To put it another way, the performance concept refers to the measurable achievements produced (Harbour, 1997; Phillips, Davies and Moutinho, 1999). Second, the term "measurement" indicates the ability and processes used to quantify and control specific activities and events (Morgan, 2004).

As key authors of this area, Neely, Gregory, and Platts (1995) define the performance measurement concept as *"a process of quantifying the efficiency and effectiveness of actions"* (Neely et al., 1995, p. 80). On the other hand, Neely, Gregory, and Platts, (2005, p. 1229) refer to the performance measurement system (PMS) as *"the set of metrics used to quantify both efficiency and effectiveness."* Literature defines measures as metrics used to quantify and compute an action's efficiency and effectiveness (Bourne and Neely, 2003).

The definition of PMS introduced by Neely's et al (2005) shows that efficiency and effectiveness act as an important part of the performance measurement system concept. Although this definition of PMS is popular, simple, and straightforward, the diversity of the PMS definitions introduced by different disciplines (e.g. strategy, operations, finance, accounting, human resources management, etc.) complicated the understanding of this concept. In this regard, Franco-Santos, Kennerley, Micheli, Martinez, Mason, Marr, Gray, and Neely (2007) claim that there is no agreement in terms of producing a single definition of the PMS concept; accordingly, any research in this area will be with a limited generalisability and comparability. To solve this confusion and simplify the complexity of the PMS definition, Franco-Santos et al (2007) reviewed several definitions introduced in the literature by different contributors who represented various research disciplines.

Resulting from their analysis of PMS definitions, Franco-Santos et al (2007) confirmed the diversity of the concept as well as the lack of consensus, since each definition provides a different perspective and characteristic of PMS. However, they categorised the various definitions of PMS into three main themes and perspectives. First, the operations perspective, which implies that a PMS uses a set of metrics to quantify efficiency and effectiveness as introduced by Neely et al (1995; 2005). Second, the strategic perspective, which refers to the PMS as a tool to cascade performance metrics down to achieve the strategies and objectives of a company and also to align processes with strategic goals and objectives (e.g. Ittner, Larcker and Randall, 2003); and third, the accounting perspective, which considers the PMS as a tool for the planning and budgeting of performance and results as suggested by Otley (1999).

According to these three perspectives, the PMS concept implies a sophisticated tool that offers useful information, implications, and needful functions. In this regard, Shank (1989) mention that PMS can be involved in policies and actions in order to harmonize activities and to transfer information supporting the entire business management strategy. Nanni, Dixon, and Vollman (1992) also indicate that a PMS is comprised of systematic activities conducted to ensure the successful implementation of strategies and plans in an organization. In other words, a performance measurement system provides a tool to clarify how well a company is doing, in terms of processes, actions, and strategies, in order to achieve its objectives. Moreover, Morgan (2004) considers the PMS a strategic tool with a wide variety of metrics used by management to monitor and guide a company toward successful desirable objectives and goals. Lohman, Fortuin, and Wouters (2005) state that PMS aims to support the implantation of strategies.

Based on the above discussion of the literature, a performance measurement system's definitions, functions, and benefits play interesting and different roles in the short and long-term of an organization. In addition, the literature shows that a PMS serves as a tool for monitoring and controlling performance as well as achieving strategic control and performance.

In order to help researchers and users of performance measurement systems to identify the main roles and tasks of the PMS, Franco-Santos et al (2007) summarized these functions into five main areas. The first area is that of measuring business performance, specifically, monitoring the progress of performance achieved. The second area involves in introducing and deploying strategic management philosophies into a company by developing, formulating, and implementing strategies and providing alignment between processes and objectives. The third area involves facilitating communications within the company as well as with parties outside of the company (i.e. internal and external communications), and benchmarking with different criteria. The fourth area involves influencing behavior through deciding and monitoring rewards and compensations and the fifth area is learning and continuous improvement function, which is accomplished by conducting feedback processes in order to improve future performance.

To conclude, definitions and functions of the PMS concept imply that this concept is not easy and offers several benefits. Moreover, the previous discussion in this section revealed that the PMS concept involves in different areas and functions within any organization. However, the two key functions of this concept are measuring and monitoring the progress of performance and achieving strategic objectives.

In terms of using PMSs, Phillips, et al (1999) claim that determining how to measure business performance is not an easy task for two reasons: difficulties in finding definitions for performance, competitiveness, effectiveness, and other related concepts, and also due to difficulties in finding measures and metrics for such concepts. As a result, there is a little agreement about which business performance measurement system is the best one to implement. Owing to this difficulty and the complexity of the PMS literature, several and different methods, perspectives, and models have been developed in order to enable organizations to measure and manage their performance effectively, as will be shown in the next sections.

OVERVIEW OF THE COMMON PMS'S LITERATURE

The literature in PMS's has developed and evolved over the last decades providing different measures, methods, systems and perspectives for measuring business performance. The origin of PMS's has emerged from using traditional accounting methods for measuring performance, such endeavors emerged in the 1880s and lasted till 1980. This approach and method of measuring performance implies using the historical accounting and financial data only for evaluating business performance, later on, a new wave of methods and models for measuring performance has started in the late of 1980s until now days as a response to the limitations of the historical accounting method (Neely, 1999).

Accordingly, several researchers grouped the literature of PMS's into two groups; the first group is the pure financial and accounting perspective while the second group which emerged in the 1980s implies using qualitative measures of performance as well as the financial measures. The latter group called the balanced or integrated approaches for measuring performance due to the combination between qualitative and quantitative measures of performance into one single system (Ghalayini and Noble, 1996; Olve, Roy and Wetter, 1999; Burgess, Ong, and Shaw, 2007).

The literature in PMS's has introduced several balanced frameworks and integrated models for measuring business performance such as Balanced Scorecard System (Kaplan and Norton, 1992), the performance pyramid system (Cross and Lynch, 1989), Performance Measurement System in the Service Industry (Fitzgerald, Johnston, Brignall, Silvestro, and Voss, 1991), the Performance Prism System (Neely, Adams, and Crowe, 2001), performance measurement matrix (Keegan, Eiler, and Jones, 1989), the Skandia Navigator (Edvinsson, 1997), the hybrid knowledge-based performance measurement system (Khan and Wibisono, 2008), the integrated performance measurement system (Laitinen, 2002), input, processes, the outputs and outcomes system (Brown, 1996), performance measurement system questionnaire (Dixon, Nanni and Vollmann, 1990), the integrated dynamic performance measurement framework (Ghalayini, Noble and Crowe, 1997), the Cambridge performance measurement process .the performance measure record sheet? (Neely, Richards, Mills, Platts and Bourne., 1997), dynamic multi dimensional performance (Maltz, Shenhar and Reilly, 2003), comparative business scorecard (Kanji, 1998), consistent performance measurement system (Flapper, Fortuin and Stoop, 1996), knowledge-based

measurement model (Sveiby, 1997), integrated performance measurement systems (Bititci, Carrie and McDevitt, 1997), integrated performance measurement framework (Medori and Steeple, 1998), dynamic performance measurement system (Bititci and Turner, 2000), Transforming performance measurement (Spitzer, 2007).

Accordingly, these systems have adopted a wide range of measures and dimensions and offered different mechanisms and explanations. In this regard, Srimai, Radford and Wright (2011) provide excellent summary for dimensions used within the performance systems since 1980s and until now including: effectiveness, efficiency, financial, customer, internal processes, learning perspective, growth, renewal, employee's competences, internal and external structure, stakeholder satisfaction, stakeholder contribution, process, future, etc.

Despite the significant number of PMS's developed in the literature, several weaknesses and problems appeared in these systems and models such as inability of offering clear and sufficient explanations for the linkages between dimensions and perspectives of performance i.e. which measures to use for which perspectives of performance and why. Laitinen (2002) highlights the positive features and benefits of the existing PMSs developed in the literature; but he also underlines the negative aspects of these models. By this is meant, Laitinen claims that the majority of PMS's are not well grounded in terms of offering justification for measures chosen and selected in every single model. Moreover, such systems and models do not provide a logical foundation for the relationships between all of these dimensions to ensure consistency and successful implementation. Neely, Gregory and Platts (2005) also describe this area of research as a complex area and offering a single framework seems to be impossible. Accordingly, researchers have moved their attention from developing new frameworks to finding best methods for designing, using, and implementing performance measurement systems match different settings.

In order to respond to this shortage and new direction in this area of research which called the process of performance measurement system design, different scholars suggest different perspectives for how to implement and use the performance measurement measures and systems. Different researchers (e.g. Wisner and Fawcett, 1991; Keegan et al., 1989; Neely et al., 2005 and 2000; Anderson and McAdam, 2004; Franco-Santos, Kennerley, Micheli, Martinez, Mason, Marr, Gray and Neely, 2007) developed different steps and processes when implementing PMS's.

Regardless of number of steps and processes suggested in the literature, it was highlighted that processes for designing performance measurement systems should consider and adopt more dynamic methods in order to accommodate the evolving changes in the market in order to assure successful implantations of performance measurement systems. (Bititci and Turner, 2000; Anderson and McAdam, 2004; Kennerley and Neely, 2005; Burgess et al., 2007).

In this regard, although the relevant literature highlights the importance of having dynamic performance measurement systems and their advantages, it was claimed that there is no empirical investigation of how to make dynamic process for designing and implementing performance measurement systems in practice. As a response for such shortages, Kennerley and Neely (2005) developed a model with some factors that affect the evolution of performance measurement systems. In other word, Kennerley and Neely (2005) developed a model with some key capabilities that can manage the evolution of performance measurement systems effectively. Unfortunately, Olsen, Zhou, Lee, and Padunchwit (2007) criticize the relevant literature for not offering rigours and sufficient research in terms of how to improve and evolve the existing PMSs. They claim that there is still a gap between the how to design a PMS and the evolution and continuous improvement of a balanced PMS. Accordingly, Olsen et al., (2007) describes the process of designing and implementing a PMS as a complex and evolutionary phenomena.

STAGES OF EVOLUTIONS AND DEVELOPMENTS FOR PMSs

In order to depict and track the evolution and development in the PMS literature in the last few decades (i.e. since 1980s and until now), this part of the present research attempts to show the main stages and phases for developing the PMS's literature as introduced by different researchers. Neely (2005), for example, limits the developments of PMS into five phases; 1) the problem identification phase through criticizing the shortages of the financial and accounting methods which lasted until the 1980s, 2) the development of potential solutions phase through developing integrated measurement systems such as the BSC, SMART, performance prism, and so on, 3) the

methods of application phase which was interested in developing new processes and methods in applying and implementing the proposed frameworks developed in the previous second phase i.e. the process of performance measurement system design, 4) the empirical investigation phase which aimed to provide thorough analysis for the existing frameworks developed. In other words, this phase aims to confirm the theatrical validity of the existing frameworks and models emerged in the previous stages, 5) the theoretical validation phase was developed as result of the previous fourth stage.

As another description for the development of the PMS's, Neely, Marr, Roos, Pike and Gupta (2003) summarized the evolutionary stages of PMS's into three stages or generations. The first generation of PMSs combined the non-financial measure with financial measures such as the Balanced Scorecard. The second generation of PMSs tried to overcome the limitations of models developed in the first stage by using the strategy and success maps as suggested by Kaplan and Norton (2000). The third generation of PMS indicates that the system should have three criteria in order to address and fulfill the characteristics of the third generation of PMSs including; 1) models should reflect the static as well as dynamic realities of organizations; 2) information produced should offer right, rich, and rigorous details about the organization, especially the intangible drivers of performance; and 3) models should be practical and aligned with all processes in the organization in order to take action.

Marchand and Raymond (2008), also, tracked changes and evolutions of the PMS field based on a four-period chronological scale (before 1980; 1980-1989; 1990-1999; and 2000-present) and based on other criteria including; definitions of performance, dimensions of performance, architecture and logic of performance measurement frameworks and roles and output of performance measurement systems. Marchand and Raymond (2008) state that PMS's have developed from pure financial definition of performance to using wider definition of performance considering more stakeholders and the company's strategic objectives.

More recently, Sirmai et al (2011) offered similar but wider and more comprehensive stages for development of PMS's over the last decades. In their review, performance measurement research has been going through four stages and paths including; 1) transition from operations to strategic, 2) transition from measurement to management, 3) transition from static and dynamic i.e. adaptability, 4) and finally transition from being economic-profit focus to stakeholder focus. The main motivation for Sirmai et al for doing their narrative review, the fact that performance measurement field is developed and evolved continuously to fit and meet its contexts.

This discussion reveals that there is more research still needed rather than developing dynamic systems as suggested earlier in this paper by considering internal and external changes in the environment. Although Srimai et al., (2011) state that PMS's should have the capability to respond rapidly and flexibly for constant changing market and environment which leads to dynamic sustainability for the organization, they asked researchers and practitioners to go one stage ahead and moving to new phase and stage of research. They claim that PMS's now should consider more stakeholders into their consideration especially the intangible drivers of performance as mentioned earlier by Neely et al (2003).

To shed more light on the latest stage or phase of development and direction for PMS's, Srimai et al (2011) encouraged researchers and practitioners to give equal attention for all stakeholders of the organization. In other words, managers and developers of PMS's will make a big mistake when they incorrectly give more attention to shareholders only (i.e. shareholder's economic-profit), but in fact, they should broaden their perspective by considering more stakeholders' requirements since they have significant contribution to the company's performance. Moreover, having broader stakeholder perspective implies taking into consideration the social and environmental responsibility of a company.

CONCLUSIONS

The generic literature of PMS's indicates that the design and implementation of PMSs should include dynamic processes and including more multiple stakeholders to have a contemporary and strategic performance measurement system (Bititci and Turner, 2000; Anderson and McAdam, 2004; Kennerley and Neely, 2005; Chenhall and Langfield-Smith, 2007; Lansiluoto and Jarvenpaa, 2008). Thus, good and powerful PMS should be more dynamic,

flexible and address several and different requirements and perspectives of stakeholders not only the shareholders' interests.

Thus, using the integrated performance measurement systems by practitioners is not enough recently, on contrast, researchers and practitioners should consider and implement the newest and latest trends introduced in the generic PMS literature. Although it was claimed by some researchers that financial and operational measures still dominate practices of PMSs, scholars and managers should be more dynamic by having open, interactive, externally focused and integrating non-financial measures, and by considering more stakeholders since they have a strong impact on the company's successfulness and sustainability i.e. looking for more stakeholders requirements rather than fulfilling the narrow shareholders' objectives.

For this reason, this paper urges researchers to develop a strategic and reliable performance measurement system to be applied and implemented since literature review undertaken in this paper identified what is a contemporary and up-to date performance measurement system. The only way for doing this is considering more dynamic process and through considering all stakeholders might be involved in achieving better competitive advantage for an organization.

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