

**CHAPTER 7 – ORGANISATIONAL PERFORMANCE
MANAGEMENT: TRENDS, CHALLENGES,
AND SOLUTIONS**

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Abstract: Business organizations have been undergoing major changes to respond to increased market competition over the past 30 years. During this period, managers of these organizations have often witnessed the transformation of science fiction into technological reality. People working in these organizations had to make a huge effort to adapt to the new realities that are spreading throughout society. In this context, the performance measurement and management approach has also changed from the individual perspective to the organizational perspective. The purpose of this chapter is to present the evolution of performance measurement and management, the research trends, the challenges managers and researchers are facing, as well as solutions to overcome some of these challenges.

Keywords: Performance management, Performance measurement, Performance measures, Organizational performance, operations strategy.

1. Introduction

Business organizations have traditionally operated as closed-systems, in which their internal environment was totally separated from the external environment, including from customers and suppliers. These organizations were characterized by an intense focus on their internal efficiency, lack of operational flexibility, and lack of concern for customers' satisfaction. Managers often excused their ineffectiveness by citing their inability to control and respond to their external environment.

At the end of the 20th century, business organizations began to feel pressure from the market and from society to transform themselves into more open-systems. Managers of these business organizations became more concerned with customer satisfaction, increasing the flexibility of their processes in order to better respond to these customers, and maintaining the levels of internal efficiency. They would later generalize their attention to the remaining stakeholders, seeking not only their satisfaction but also their contribution to the improvement of organizational performance. In this transformation process, information technologies (IT) played an important role in the relationship with stakeholders. These technologies have become even more important in managing information related to organizational performance.

The last thirty years have not been easy for business organizations that have chosen the path to open systems. To this day, some of these business organizations have yet to complete this transformation. Business organizations that are late in the process of opening up to the market and society will be surprised when they finally do. They will find that their customers will not be close to them, but their competitors.

In 1991, Bob Eccles wrote:

“Within the next five years, every organization will have to redesign how it measures its business performance” (Eccles, 1991: p. 617).

However, almost 30 years later, some business organizations still experience difficulties related to the utilization of performance measurement and management systems (PMMS).



There are several factors that may cause these difficulties. One of them is the diversity of research approaches to this problem. When we analyze management-related literature, there are three terms that usually come up: performance, performance measurement, and performance management. If the first term is well understood, maybe because it is the dependent variable most used in management research, the two other terms are applied indiscriminately, despite some attempts to agree on a definition (e.g., Bititci et al., 2012; Franco-santos et al., 2007).

To better understand how these two terms are used, we conducted a search on the Web of Science (SCI-Expanded, SCI, ESCI), to find all the articles that were published in the last 15 years and include one of the following terms: *performance measurement* or *performance management*. We found 9.752 articles published in 2.112 journals. In order to understand which approaches are more used in research, we selected the authors who published the most articles from 2004 to 2019 and are active researchers in performance measurement and management. Based on the results, we identify 23 researchers, who are co-authors of 286 articles, published in 108 journals included in these Web of Science indexes.

We found authors who kept their research on this subject active throughout this time period and others who started more recently (Figure 1). There are authors who only study performance measurement, authors who only study performance management, and still, others that study both approaches simultaneously. There are also authors who started using performance management after using performance measurement.

Figure 1 – Authors who published articles on PMM from 2004 to 2019

Author	NP	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19
Bititci U.	20																
Ukko J.	20																
Forslund H.	17																
Gomes C.F.	16																
Mcadam R.	16																
Searcy C.*	16																
Jaaskelainen A.	15																
Aguinis H.	14																
Arnaboldi M.	14																
Sarkis J.	14																
Saunila M.	14																
Bourne M.	13																
Da Costa S.E.G.	13																
De Lima E.P.	13																
Gunasekaran A.	13																
Micheli P.	13																
Tavana M.*	13																
Kroll A.	12																
Wong K.Y.	12																
Luzzini D.	12																
Amirteimoori* A.	11																
Decramer A.**	11																
Kroll A.	11																

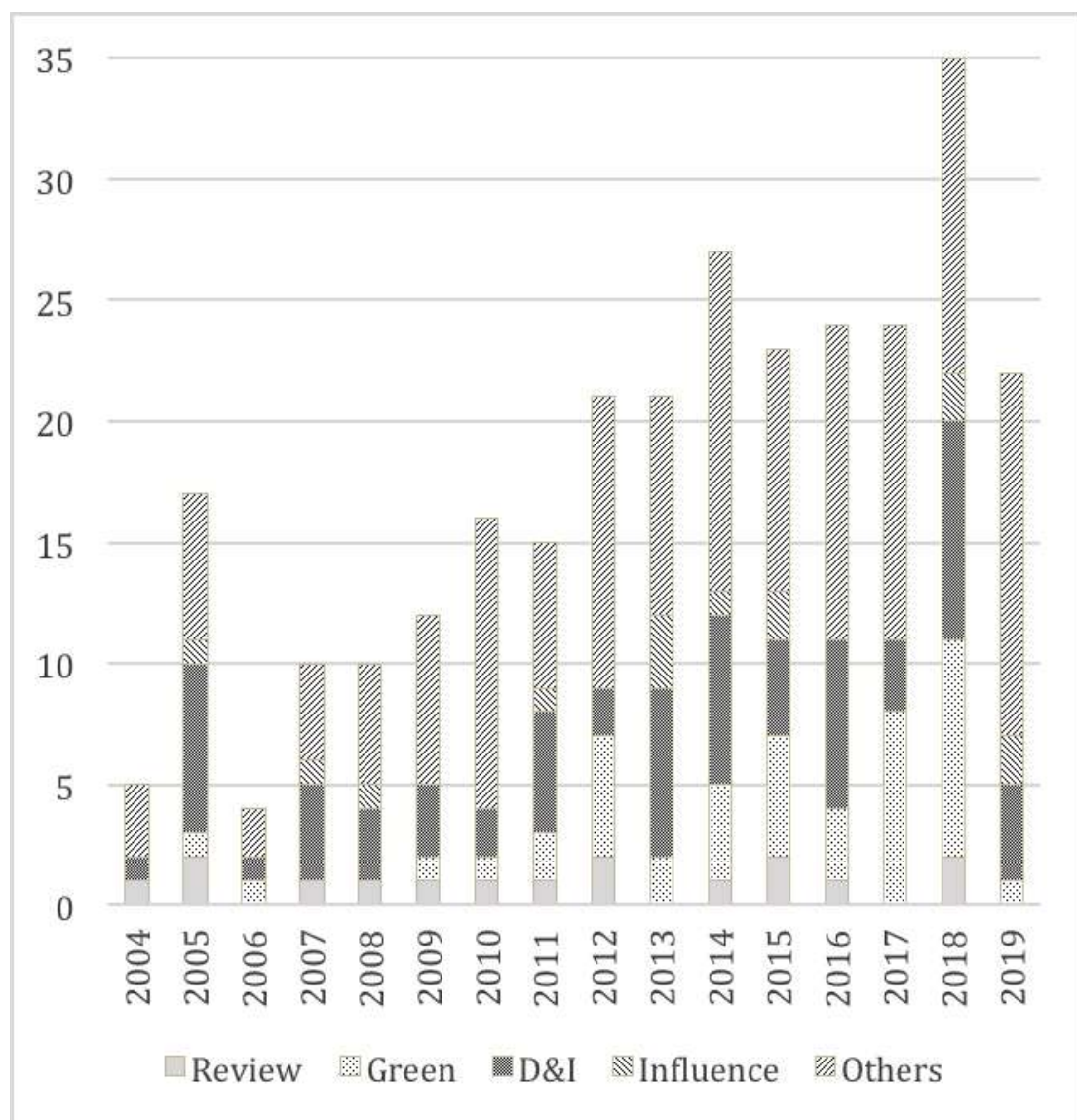
Performance measurement:  Performance management: 
 The authors identified above met the criteria of having published more than 10 articles from 2004 to December 2019, and more than 1 article from 2017 to December 2019.

* Authors who only use performance measurement

** Authors who only use performance management

The articles published by these authors highlight three topics: performance green-related issues, development and implementation of PMMS (D&I), and the influence of performance measurement on organizational resources (Figure 2). However, almost fifty percent of the published articles, despite being related to performance, only focus marginally on their measurement and management issues.

Figure 2 – Comparing topics on PMM from 2004 to December 2019



Based on the results, it seems that there is a growing concern with green issues, reflecting the increasing concerns of society on this topic. There is also a continuing focus on the issues related to the design and implementation of PMMS, which may indicate that much remains to be investigated on this topic. Finally, these authors ensured a continuous publication of literature reviews, thus stimulating research on performance measurement and management. As such, we cannot conclude that performance management research has evolved from performance measurement, as some authors claim (Bititci et al., 2015).

Like other authors (Gomes and Yasin, 2011; Koufteros et al., 2014; Smith and Bititci, 2017), we think that performance measurement and performance management are two distinct inter-related processes, integrated into a system. While the former need to be cost-efficient, the latter need to be reflective and promote effectiveness. As such, we use these two terms together, when referring to a system, and separately when referring to processes.

In addition to the lack of consensus on taxonomy, there are other factors that affect the measurement and management of organizational performance: those resulting from the organizational structure of the business organization and those resulting from their external competitive environment (Jääskeläinen et al., 2012).

Business organizations behave differently, depending on their role in the market or their relationship with society. For example, manufacturing organizations have focused on the efficiency of their systems and processes, while service organizations have devoted special attention to the satisfaction of their customers. Recently, these concerns also emerged in organizations more protected from the market, such as public organizations.

As such, it seems that business organizations are operating in a multidimensional space of market and society contingent forces, to which they will be more or less permeable, and are responding

to these forces through different degrees of internal organizational changes. In this context, the existence of a multidimensional and dynamic PMMS will be essential to avoid their uncontrolled movement in an increasingly volatile market.

A growing number of articles published in recent years suggests that there are still many challenges to overcome in this research subject (e.g., Alach, 2017; Bourne, Franco-Santos, Micheli, & Pavlov, 2017; Bourne, Melnyk, & Bititci, 2018; Kivistö, Pekkola, & Lyytinen, 2017; Maestrini, Luzzini, Maccarrone, & Caniato, 2017; van Fenema & Keers, 2018). Of particular note the researchers' interest in the negative influence of performance management and measurement on various organizational resources, processes, and strategies, such as human resources (Bauwens et al., 2019), client-supplier relationship (Jääskeläinen and Thitz, 2018), and entrepreneurial orientation (Taheri et al., 2019). Overall, it seems that performance measurement and management, on one hand, can provide managers with critical information that helps them make better decisions but, on the other hand, can negatively affect organizational performance (Melnyk et al., 2014). This apparent paradox is stimulating the continuous interest in the research on this subject.

2. Trends and challenges

The major changes in performance measurement research started in the manufacturing industry (Gomes et al., 2004a). Until the end of the last century, most of manufacturing business organizations used fundamental operational efficiency measures as well as financial measures. Therefore, external stakeholders had difficulty in obtaining information related to other performance measures that they considered very important for the evaluation of these business organizations, namely quality, customer satisfaction, and competitive

environment measures (Gomes et al., 2004b). Literature also showed a major weakness in the management of business organizations, as their managers believed that financial measures would have the highest predictive value, revealing a consistent negative effect that had a structural impact in reducing their competitiveness (Gomes et al., 2006). It was also noted that managers of these business organizations were still too attached to a traditional closed system management approach, by not paying attention to what was going on with their external stakeholders. Thus, there were significant differences in the vision of both stakeholders of the manufacturing business organizations, which led us to believe that, even if the managers of these business organizations continued to provide information related to financial and operational efficiency, it would not be used by external stakeholders. On the other hand, if these managers released information related to effectiveness, namely product quality and customer satisfaction, it would be used more frequently by external stakeholders, including banks, in assessing the risk of these business organizations, thus reducing the cost of capital. However, this rarely happened because the managers of business organizations usually raised a barrier of confidentiality to the availability of this information (Gomes et al., 2007b).

Despite this behavior regarding the relevant performance information, business organizations quickly adjusted to the new competitive realities. They reduced the use of traditional measures while increasing the sharing of non-financial measures by becoming more transparent in the dimensions related to quality and customer satisfaction, thereby meeting the preferences of their external stakeholders.

In addition, they started to be positively consistent, which means, they started to use more measures of effectiveness that they believe to be more predictive, thus operating a structural change that allowed them to be competitive in a sustainable way (Gomes et al., 2011).

As such, it appears that the increased market competition forced managers of these business organizations to break the psychological barriers of information confidentiality.

Researchers' attention to the performance measurement of service organizations came later (Yasin and Gomes, 2010). Like manufacturing business organizations, they placed a special emphasis on financial measures. However, they also used non-financial measures related to the quality of service, customer satisfaction, human resources, and efficiency. It is important to note that they failed to use measures related to the competitive environment and innovation.

Although literature reported a significant evolution in the approaches to performance measurement and management, a major challenge related to the consistency between PMMS and corporate strategy still remained. This means that they may have followed strategies that generate competitiveness in the markets where they operate, but they are not monitoring the execution of these strategies effectively (Gomes et al., 2018; Gomes and Yasin, 2017), which configured a dysfunctional behavior of the PMMS (Micheli and Manzoni, 2010).

Organizational changes did not occur simultaneously in all organizations, much less in all geographical areas. The first changes usually took place in the most competitive geographical areas and in the least complex organizations. Therefore, it is natural that the manufacturing business organizations were the first, and the service business organizations followed the example, as has been the case in other management techniques. For this reason, it is only later that changes in performance measurement reached organizations whose management becomes more complex, such as public organizations.

Over the past twenty years, public administration has been exposed to major changes, which have led most western countries to adopt a more business approach and to progressively abandon the bureaucratic approach (Brusca et al., 2017). These changes were

driven by the process of institutional reforms called New Public Management, the implementation of which began in the 1990s. Performance measurement and management systems have been used as a driver of these reforms (Agostino and Arnaboldi, 2015). These reforms, which aimed to improve performance, ended up encouraging the proliferation of new regulations with the objective of imposing minimum levels of performance through the formulation of public service quality standards (Capaldo et al., 2017).

Public sector institutions are different from business organizations in that they do not feel pressure from the competitive market to measure and improve their performance. For this reason, they use benchmarking in place of real market-based competition, with the intention of improving service quality and saving taxpayers' money. However, these institutions were unable to complete what would have been a true benchmarking process by not using the results to implement improvements that would allow them to increase their effectiveness and consequently improve the quality of services to users. Furthermore, contrary to what they expected, comparing public institutions in different countries can cause barriers to change within these organizations (Kuhlmann and Bogumil, 2018).

In this context, managers of public institutions face major challenges to increase the effectiveness of their organizations and translate that effectiveness into increased user satisfaction.

In addition to public sector institutions, there are other organizations with the same or larger degree of complexity that have also delayed the implementation of multidimensional PMMS, due to their hybrid nature and multiplicity of stakeholders (Wiesel and Modell, 2014). This is the case of nodal transport infrastructures like airports that have undergone major changes in recent years (Bezerra and Gomes, 2016). For these organizations, the major challenges are related to the new roles they are called to play in the context of sustainability.

There seems to be a consensus that PMMS are considered instruments to promote the competitiveness of business organizations and the effectiveness of public institutions. A large number of business organizations, when evaluating their performance, tend to focus their attention on intra-organizational practices, although they are concerned with the satisfaction and contribution of their external stakeholders. However, business organizations have different degrees of interaction with each stakeholder, focusing their attention on suppliers and customers. In this context, literature recognizes the existence of a set of management processes, with common stakeholders, that can contribute to increasing the level of competitiveness of business organizations. This set of processes is called the supply chain. It includes all business organizations that contribute to adding value to products and services from their first transformation to the final consumer.

As in business organizations, PMMS are central mechanisms of supply chain management (Laihonen and Pekkola, 2016). However, it is not only the customers and direct suppliers of the business organizations that influence their performance measurement system but also all the business organizations in the supply chain to which they belong.

For this reason, the study of PMMS within a supply chain context faces two major challenges. First, the activities, resources, and actors located outside organization boundaries can explicitly or implicitly affect the design, implementation, and use of the PMMS. Second, the supply chain performance measurement system presents a more comprehensive representation of performance dimensions when compared to those focused only on each individual organization within the supply chain. In this context, IT and other related organizational resources play an important role in the integration of the supply chain as well as their influence on organizational performance (Martinho et al., 2019).

Information technology capabilities have been a controversial topic in management research. This controversy started with the so-called Solow Paradox: “You can see the computer age everywhere but in the productivity statistics” (Solow, 1987). At this time, IT was a high-cost resource, only available to large business organizations.

Since then, there have been several attempts to solve this paradox through studies that tried to prove the existence of a direct relationship between the use of IT and the organizational performance, but the research findings have not been consistent. It appeared that the reasons for that lack of agreement might have been related to different contexts and research approaches (Kohli and Devaraj, 2003).

With innovation and widespread use of IT, it would seem that the paradox was returning, and new studies would appear to assess the competitive power of IT for small and medium-sized business organizations. Some arguments have become controversial but interesting to analyze. Perhaps the most interesting argument is the one that, based on the resource-based theory, the availability of IT for all organizations could be a way to lose competitiveness. However, competitiveness can be obtained through other intangible resources that are linked to the effective use of IT (Kijek and Kijek, 2019; Martinho et al., 2015, 2016). In this context, an important challenge for business organizations is the identification and utilization of organizational resources that can leverage the competitive power of IT, namely people and knowledge (Al Karaawi and Huimin, 2018; Turulja and Bajgoric, 2018).

3. Solutions

Over the past thirty years, management and research trends have led to increased complexity in performance measurement and management systems, both in the number of measures and the pro-

per use of these measures to impact organizational effectiveness. This increase in complexity has increased management costs and made performance management and measurement processes less attractive to people. Following this trend, business organizations may be losing their organizational learning ability, which is one of the factors that justify the lack of effective use of PMMS.

From a conceptual point of view, managers of business organizations have already understood that a good PMMS should contain a balanced set of financial and non-financial measures; it should help to predict what may happen to the business organization as well as help to understand what has happened; it should encourage members of these organizations to do what the corporate strategy promotes; and it should include a systematic process for reviewing measures, ensuring that they encourage sustainable practices. However, after almost three decades, many business organizations are unable to successfully implement PPMS, and researchers are trying to identify why these implementations have failed (Van Camp and Braet, 2016; Lucianetti et al., 2019; de Mendonça et al., 2020). It seems that researchers and managers are still looking for answers to the following question:

“[...] Why it has been so difficult to do something that seems so obvious – create a more comprehensive system of performance measurement that combines financial and nonfinancial measures in the right proportion and in the right way?”. (Eccles and Pyburn, 1992, pp. 42)

The answer to this question may be similar to other management processes: there will be no single recipe for success. However, some guidelines can be used to find solutions for each organization.

Managers of business organizations and public institutions are currently faced with realities that may vary between two extreme

scenarios of lack of effectiveness in measuring and managing organizational performance. At one extreme scenario, they could have available, through powerful information systems, a wide and multifaceted set of performance measures that fail to properly support decision making. In this case, it fails to support the process for which it was created (Elg, 2007), because the information is not being analyzed or used to predict organizational performance. As such, these organizations used financial resources to implement PMMS and are supporting costs that have resulted in reduced added value.

At the other extreme scenario, perhaps due to organizational issues or even the lack of adequate information systems, managers will not have available the performance measures they require to make effective managerial decisions (Gomes et al., 2007a).

There is a lack of effective use of the information needed to measure and manage performance in both scenarios. In the various intermediate organizational scenarios, the levels of effectiveness will vary, with balanced positions between the number of measures used, the dimensions of performance measurement, and the timely availability of information. It will be the balance between these factors and the size of the business organization that need to be found to optimize the costs of the performance measurement processes. This balance will not only help to reduce costs, but it is also an important motivating element for people involved in the implementation and use of PMMS. A multidimensional instrument can be used for this purpose to ensure the effective use of information related to performance measurement and management (Pedroso and Gomes, 2020).

One of the factors that influence the success of all organizational change processes, as well as the design and implementation of PMMS, is the involvement of top managers. Therefore, the first step of these processes should be convincing top managers the value

that the PMMS can bring to the business organization, as they must be the sponsors of the implementation process.

In a large business organization, the implementation of a PMMS naturally arises from the need for information to support decisions of a collegial nature. However, in small and medium business organizations, this need is not so evident. In these organizations, the top manager assumes individually, in most cases, the decision-making risk and does not feel the need for this management support instrument. As such, it is important to note that SMEs are not small versions of large business organizations (Martin-Tapia et al., 2008). These differ from large business organizations in several ways (resources, organizational structures, management systems), and these differences must be taken into account when designing and implementing a PMMS system. In this context, other obstacles to the implementation of these systems have been presented by the managers of small and medium-sized business organizations, such as high maintenance costs, uncertainty regarding a future extensive use of these systems, need to change the information systems installed, and lack of people with the necessary skills to use them. As such, convincing top managers to implement a PMMS in small and medium business organizations will not be an easy task.

The second step in the PMMS implementation process will be to convince all members of the organization what performance is and why we will have to measure it. Without the involvement of all the people who work for the business organization, the process will be doomed to failure. As such, we need to be prepared, not only to answer the main questions related to this new management instrument but also to do so in the way that all members of the organization can understand the message.

For this purpose, the following definitions regarding the performance measurement and management subject seem to be consensual, both in the academic and business forum:

- Performance measurement is the process of quantifying efficiency and effectiveness.
- The performance measure is used to quantify efficiency and effectiveness.
- The performance measurement system is a set of measures used to quantify the effectiveness and efficiency of a business organization.

However, it is perhaps these general definitions that contribute to the failure rate that occurs in the implementation and utilization of performance management and measurement systems. It is very important that the focus of this process remains on the organization, as experience has demonstrated that systems fail because they are often implemented as instruments for obtaining individual efficiency, missing the fundamental objectives of organizational change and learning. As such, a more robust and effective explanation of a PMMS would be captured by the following three guidelines:

- It should be a system that provides managers with the means to measure the progress of their business organization in the market, like a car on the road.
- It should be a system through which all employees of the business organization can communicate their successes or failures to top managers, which means to be an instrument to promote transparency and trust.
- It should be a system that clearly specifies how the organization views individual performance impacts overall organizational performance.

After those two initial steps, involving all internal stakeholders in the design and implementation of the PMMS will be essential for successful installation and operation. For this purpose, managers

must be actively engaged in the strategic diagnosis and objectives identification processes, which depend on the organization's characteristics and market conditions. It is essential to emphasize that all the objectives, although being internally established, result from the balance between the market needs and the organization's strategic resources, which, in turn, influence the organization's competitiveness.

The organization needs to define proper performance measures and their goals to achieve corporate objectives. For this purpose, the information regarding performance measures should be available for managers and employees involved in achieving these objectives. They should also be involved in the goal-setting process. Without effective goal negotiation, there is a danger of gaming and, therefore, not meeting the corporate objectives. Managers should actively promote the employees' engagement in the goal-setting process, as well as providing them training opportunities to improve their competencies. This way, PMMS is promoting trust and transparency in the organization's culture.

A continuous monitoring process should ensure the alignment of the PMMS with the corporate strategy. For this purpose, periodic routines for reviewing and updating market diagnostics, objectives, performance measures, and goals should be implemented as a fundamental part of the PMMS process.

4. Conclusion

Although most business organizations recognize the need to measure all dimensions of organizational performance or modify aspects of their existing PMMS, they are often not sure how to do it. This uncertainty is mainly due to the dynamic nature and increasing volatility of the markets in which they operate. It can be an

exhaustive task to add to managers' daily concerns, especially in the case of small and medium business organizations. In this context, managers who decide to use a PMMS will have to take into account three fundamental aspects to ensure the competitiveness of their business organizations.

The first aspect is related to the transformation of the business organization in an open-system. As such, they will have to improve the communication channels with their stakeholders continually. This change should be achieved through the implementation of two-way communication channels that allow managers to improve the satisfaction of their stakeholders and to obtain important contributions from them. It is important to use the most recent innovative information technologies for this purpose. Previously existing cost-barriers for small and medium business organizations have been largely minimized due to much more affordable access to high power computing hardware, software, and expertise.

A second aspect is related to the information that circulates in the various communication channels. Information systems that promote effectiveness should be used to allow managers to make decisions based on reliable information and to enable stakeholders to understand the business organization better. These information systems should also play an important role as cornerstones of the PMMS, ensuring the sharing of information within the business organization and with the main stakeholders.

Finally, the most important aspect is related to people, truly those most interested in the business organization's success. They will have to be brought to the center of discussions about improving organizational processes. In this context, people will have to be an active part in identifying the objectives and determining the goals through transparent negotiation processes that contribute to the reinforcement of the organizational culture. In

this way, PMMS makes a decisive contribution to organizational learning, which essential to increase the business organization's competitiveness.

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