

Article

# The barriers to successful performance measurement systems (PMSS): a literature review

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**Abstract:** The Performance Measurement Systems (PMSs) have been gaining an increased interest from both academics and businesses since almost the beginning of 1990, and many frameworks and approaches have been developed and introduced since then. The literature on PMSs is very extensive, however, there is limited number of studies regarding the pitfalls that could cause the failure of these systems, as well as the barriers that could block their implementation. Moreover, only a few studies discuss the reasons behind the unsuccessful PMSs based on actual experiences. The aim of this paper is to address some of the reasons that could affect the successful implementation of PMSs based on examining the available literature regarding this topic. The lack of understanding, the poor design and implementation of metrics, the required resources, as well as the fear of adopting new systems and technologies were of the most discussed reasons behind PMSs failure.

**Keywords:** Performance Measurement Systems; PMSs; Balanced Scorecard; BSC; failure; barriers;

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## INTRODUCTION

In the light of the attributes characterizing the current business environment, which can be very dynamic and highly competitive, organizations face tremendous challenges. They struggle in adapting to the changes and developments occurring in the business environment, which make it very difficult for them to guarantee their stability as well as prosperity. To overcome these challenges, the right implementation of the organization's strategic goals, the periodic assessment of their progress towards attaining those goals, and the continuous improvement of their performance are a few procedures that are considered essential.

Performance Measurement System (PMS) is one of the methods that has garnered increased interest from both academics and practitioners (Franco-Santos et al., 2012), owing to its significant role in assisting organizations within these hard and demanding business environments. PMSs are adopted by organizations as they provide invaluable support in planning, measuring, and controlling their performance in reference to the predetermined strategy (Johnson, 2007). The primary goal behind the utilization of any measurement system is to get feedback that is intricately aligned with the established goals, in which by this feedback the chances that goals are being achieved in an efficient and effective way would significantly increase.

Despite the enormous number of available studies in the field of corporate performance management and the massive application of PMSs by the organizations, it is noteworthy that not all these systems ended up being successful or yielded the anticipated favorable outcomes. Regrettably, in certain instances, these systems failed eventually. Furthermore, in certain organizational contexts, they did not even start for some reason. Van Camp and Braet (2016) highlighted the fact that only limited overview papers are found that discuss the reasons for the failure of PMSs based on actual experiences, they added "successful business cases or failure analyses are a scarce find in literature. Only a limited number of studies on PMSs mention less than five failures or merely discuss singular and independent cases". Other researchers (Bourne et al., 2002; Giovannoni & Pia Maraghini, 2013) have emphasized the fact that several challenges accompany the implementation and use of these systems.

This paper aims to address several reasons discussed in literature regarding the failure of PMSs and what were the barriers behind not implementing these systems by organizations. The literature was

screened for publications discussing possible reasons behind these systems failure in the period 1995-2023. A total of 27 pieces of literature were reviewed and discussed.

## LITERATURE REVIEW

The success of PMSs within organizations is contingent upon navigating various barriers that impede their effectiveness. This literature review section aims to analyze and elucidate these barriers, thereby providing a comprehensive understanding of the challenges hindering the optimal functioning of PMS.

In order to structure our exploration systematically, this chapter will be subdivided into five distinct subchapters to capture distinct phases in the evolution of research on PMSs over nearly three decades. This approach provides a glimpse of how research themes changed over time.

Each subchapter delves into the findings from scholarly literature spanning a five-year time frame. By delineating the barriers identified in recent research, this review endeavors to contribute to the ongoing discourse surrounding PMS and offer insights for enhancing their efficacy in organizational settings. The reason of selecting these specific intervals aimed to achieve a relatively equal distribution of studies across each period. This ensures that each time segment receives adequate representation, enabling a balanced analysis of trends and developments in PMS research.

### Results from studies conducted between (1995-2000)

Beginning with Meekings (1995), it was emphasized that several factors impede the successful implementation of PMSs, including using the wrong measures, having doubts regarding the potential benefits of PMSs, prior unsuccessful experience with PMSs, and the lack of understanding. In 1999, Schneiderman identified, based on his many years of experience with the Balanced Scorecard (BSC) in the same organization, several reasons that were behind the BSC failure. These reasons include poorly defined metrics, the absence of quantitative linkages between nonfinancial and financial results, negotiation-based goal setting rather than stakeholder-driven objectives, misidentification of primary drivers for stakeholder satisfaction, and the absence of deployment systems for goal decomposition to the organizations' lower levels. Selecting the right metrics was also highlighted by Hauser and Katz (1998). They asserted that selecting the right measures is critical to success, however,

acknowledged that the process is not easy in practice, “it is easy to select a metric, it is hard to select a good metric”.

Neely and Bourne (2000) believed that the main two reasons for PMSs failure are the poor design and the implementation difficulties of these systems. Managers’ failure in deciding what to measure makes the implementation of these systems almost impossible, and even if the right measures are selected, some decisions taken during the implementation phase could affect the effectiveness of the selected measures. They further noted that the key to a successful design of PMSs is the success map, which is the cause-and-effect relationships between the different perspectives of the PMSs that explains the organization’s strategy and how it can be achieved. Then, after conducting the design maps, the right measures can be selected. However, even if organizations succeeded in designing the PMS, unfortunately, they still could fail in the implementation process. They argued that three reasons are behind the implementation difficulties of these systems namely: political, infrastructure, and focus. Political is related to the fact that people are usually threatened by measures, so they do not want the data to be revealed, especially if there is a “blame culture” in the organization. Therefore, employees could manipulate these measures, where instead of delivering the actual performance, they would worry about achieving the right numbers. Infrastructure on the other hand refers to the lack of supporting organizational infrastructure; PMSs data are distributed over the whole organization and not being stored in a connected or interrelated database. Finally, the loss of focus employees suffers from due to the time, effort, and resources the implementation of the supporting infrastructure takes, which unfortunately leaves people drained.

#### **Results from studies conducted between (2001-2006)**

In addition to Neely and Bourne’s (2000) conclusion that the required time and effort are key factors contributing to PMS failure, Holloway (2001) similarly highlighted this aspect. Holloway also underscored the significance of understanding and establishing causal linkages as critical for system success. Furthermore, what is an important cause of failure is that companies tend to copy the same PMS from other companies that reported successful outcomes, he asserted the fact that “what works well in some organizations may fail to deliver improvements in performance in apparently similar ones” (Holloway, 2001).

Kaplan and Norton (2001), the founder of the BSC, regarded its failure to two sources, design and

process failures. Design failures included issues such as an excessive or insufficient number of measures and a lack of alignment of these systems with the organization’s overall strategy. Conversely, process failures encompassed factors such as involving only a few numbers of people, not involving the entire organization, the lack of managerial commitment, hiring inexperienced consultants, designing scorecards that are not linked to a strategy, and the prolonged development process due to the belief that the BSC is a one-time event that must be delivered perfectly at the moment it is launched rather than an ongoing process.

Bititci et al. (2002) regarded the main reason why these systems are short-lived to the way people explain and deal with the provided information from PMSs. Bourne et al. (2002) studied the success and failure in the design of PMSs in ten medium-sized manufacturing companies. They found that the failure in implementing the PMSs were mainly caused by difficulties with the information system, the required time and effort, the decreased managerial commitment, the effects of the parenting companies, the lack of believed benefits of these systems, the personal consequences of PMSs, and difficulties in developing the right measures. Similarly, Bourne and Neely’s (2002) study that year revealed that the PMSs progress was influenced by four factors significantly, information technology infrastructure, other events were prioritized over the PMSs projects, disagreement between the management members regarding the benefits that could be achieved from implementing PMSs, and the parenting company effects.

Asserting the previous findings, Bourne (2005) analyzed implemented PMSs in 16 businesses, identifying managerial disagreement and lack of commitment as primary reasons for failure. Additionally, he highlighted the impacts of parent companies, time and effort requirements, and challenges in data accessibility via information technology systems as significant barriers to PMS implementation.

#### **Results from studies conducted between (2007-2012)**

Meyer (2007) identified two primary reasons for PMSs failure, an excessive number of measures leading to information loss and the dominant focus on the financial metrics, which was also mentioned by Turban et. al(2010). Further reason for these systems’ failure was highlighted by Marchand and Raymond (2008) as they emphasized that the lack of clear definitions and uniform concepts in the field of PMSs is what could make the PMSs more problematic.

Micheli and Manzoni (2010) noted that while organizations invest strong resources to design and implement PMSs, the planned benefits may often not be achieved by the implementation of such systems. They further noted that if these systems are poorly done, in this case, they will be harmful to the organizations and can be very expensive. They argued that many organizations implemented PMSs to enhance the strategy implementation and improve the strategic decision, however, they failed to do so because of the inadequate design of their PMSs. Moreover, the solely focus on financial indicators when the financial results are negative would negatively affect the information flow, thus causing dysfunctional behaviors. They have also concluded that the lack of organizational alignment could affect the success of these systems. Another discussed reason regarded as one of the most important causes of failure of PMSs, is that they are neither flexible nor dynamic in competitive business environments, which constrains organizational change.

Similarly, Nudurupati et al. (2011) found that the effects of the parenting companies, difficulties in implementing the measures because of the improper information, and employees' uncertainty about the outcomes of implementing new technologies were three barriers to the PMSs implementation.

Rompho (2011) examined the failure of a small and medium-sized enterprise (SME) in implementing the BSC, attributing it to frequent changes in the company's strategy driven by a rapidly evolving business environment, leading to confusion and misunderstanding among managers and employees. In the public sector context, Northcott and Taulapapa (2012) discussed reasons for unsuccessful BSC implementations and non-implementation based on prior research. In terms of the unsuccessful implementation of the BSC, they found that difficulties and uncertainties in choosing the right measures, organizations' resistance to change, and the poorly linked PMSs to employees' rewards were the main reason hindering the successful implementation. On the other hand, the lack of time, the poor senior managers' support and commitment to the BSC, and the poor information system were the reasons that attributed to the non-implementation of the BSC. Their findings were drawn from data collected from local governmental bodies in New Zealand, supplemented by interviews, providing valuable insights into the unique challenges faced by public sector organizations in implementing BSCs. They found that the required time and effort, facing difficulties in developing causality linkages between the different measures, and the difficulties these organizations faced to adapt the structure of the BSC

to the context of the public organizations were the barriers for the successful BSC implementation.

### **Results from studies conducted between (2013-2018)**

Parmenter (2015) regarded the reason why most monitoring and reporting of measures has failed to the lack of understanding of performance measures. Vachnadze (2016) further asserted that despite the wide and big attention to the performance measures, there is a certain misunderstanding and mixing up of the measures. He also confirmed that in many practical cases, performance measurement is failing because organizations are working with the wrong measures.

Hourneaux et al. (2017) found that the traditional management style while using the PMSs could pose a challenge to their effectiveness in organizational strategic management. Hence, preventing the system from delivering the support and management technology that they were designed to deliver. The issue can be mitigated by providing managers with training to enhance their understanding of PMSs, thereby improving their strategic decision-making efforts and ultimately enhancing productivity and profitability. Despite receiving considerable attention from researchers and practitioners, many PMSs lack the dynamism and flexibility required to adapt to changes in both internal and external organizational environments. Consequently, some organizations are running in dynamic markets addressing static PMSs and working on dynamic strategies, resulting in complexity and a lack of resource allocation efficiency (Melnik et al., 2014; Okwir et al., 2018).

### **Results from studies conducted between (2019-2023)**

An investigation conducted by Couturier and Sklavounos (2019) identified several challenges and barriers related to the performance dialogue, which is an essential part of PMSs. Data accuracy emerged as a significant challenge, concerns were raised regarding the accuracy and consistency of nonfinancial data. Moreover, they noted the lack of time allocated for discussion and preparation, citing the need to provide data and conduct analysis, resulting in a lack of time to find solutions and improve performance. These findings address the issues many companies face as they attempt to successfully use their PMS and emphasize the criticality of addressing issues related to time allocation, communication, and data accuracy, within the performance dialogue process. Another study by Holzer et al. (2019) employed survey methodologies to discover the challenges public

organizations encountered in sustaining their performance management systems. The findings revealed several obstacles. Firstly, individuals showed reluctance in comprehending and embracing performance systems due to the lack of technical proficiency and expertise. Moreover, the study revealed that the insufficient allocation of resources for newly initiated performance systems, issues related to the quality, completeness, and reliability of performance data, alongside change in leadership and inconsistencies in the pursued objectives also emerged as notable challenges.

The research by Vega Falcón et al. (2020) focused on the barriers that may hinder the successful implementation of the BSC in business organizations. These barriers include an imbalance in organizational management, importance of achieving a balance between the indicators through the perspectives and between the financial and non-financial metrics. The authors additionally highlighted the adverse effects of bad practices in the design and implementation phases of the BSC, asserting the importance of analyzing their root causes to improve implementation effectiveness.

Agarwal (2021) examined the challenges encountered with existing PMSs. These challenges include the lack of managerial support, the conception of PMS process as time-consuming, failure to communicate clear and specific objectives, and a lack of consistency. Furthermore, Agarwal highlighted the role of the BSC in addressing the limitations associated with most performance management tools, by encompassing critical aspects of organizational success, it offers a comprehensive approach to performance management and mitigates the challenges often encountered with more narrowly focused performance measurement methods.

The study conducted by Cunha et al. (2023) provided a comprehensive discussion of obstacles to the effectiveness of PMSs in the context of organizations striving for continuous improvement and sustainability. Ranging from inappropriate indicators and lack of employee involvement to inadequate communication systems and lack of top management support, a total of 19 types of obstacles were identified within six different areas: system, indicators, people, culture, technology, and data. To address these barriers, the authors propose a systematic approach. This approach involves developing a clear strategy and aligning the PMS with it. Additionally, it emphasizes the importance of securing top management involvement and support. The approach further highlights the significant role of involving employees in the design and implementation of the PMS, providing them

with adequate training and education, and ensuring the appropriate use of technology and data management systems. Furthermore, the approach includes cultivating a culture of continuous improvement and data-driven decision-making.

## CONCLUSIONS

Adopting PMSs has proved to have great impacts and benefits to the organizations, nevertheless, unfortunately, not all implemented PMSs end up being successful. Research discussing barriers that prevent the PMSs from being successful is rather scarce.

The main aim of this paper is to address several reasons discussed in the literature that affect achieving successful PMSs, a total of 27 academic references in the period between 1995 and 2023 were reviewed. Authors of the referenced studies discussed numerous reasons contributing to the failure of PMSs. Some barriers were extensively discussed by many authors, including the lack of understanding of PMSs and the inadequate allocation of required resources. Other barriers were mentioned by only a few authors, such as the challenges associated with using static PMSs in dynamic environments and difficulties in constructing cause-and-effect diagrams. Additionally, specific barriers were discussed by individual authors, for example, the risks associated with directly copying PMSs from other companies and the poor linkage of PMSs to employee rewards. From conceptual ambiguities to practical barriers, scholars have consistently highlighted factors such as poor design, implementation difficulties, and a narrow focus on financial metrics as recurrent obstacles to PMS success. Research has further underscored emerging challenges, including the mismatch between static PMSs and dynamic organizational environments, as well as the importance of managerial training for enhancing PMS utilization. This comprehensive analysis offers actionable insights for practitioners and scholars alike. One significant implication is the importance of enhancing organizational understanding of PMSs and their components. Organizations can achieve this through education and communication initiatives, coupled with investing in employee training and development to empower staff in utilizing performance measurement tools effectively for performance improvement. Another critical insight is the necessity of aligning PMSs closely with organizational strategies and goals. This strategic alignment ensures that performance



measures directly contribute to desired outcomes and overall organizational success.

Furthermore, securing top management commitment and involvement is essential for successful PMS implementation and utilization. Leadership support drives organizational change and emphasizes the importance of performance management initiatives. Additionally, organizations should avoid overemphasis on financial metrics by adopting a balanced approach that includes both financial and non-financial indicators. This broader perspective provides a comprehensive view of organizational performance.

As organizations navigate dynamic and competitive environments, addressing the identified barriers will be crucial for leveraging PMSs as strategic tools for performance management and organizational success. The comprehensive analysis provides a foundation for future research endeavors aimed at enhancing the efficacy and sustainability of PMSs in organizational contexts.

#### REFERENCE LIST

- [1] Agarwal, A. (2021). Investigating design targets for effective performance management system: an application of balance scorecard using QFD. *Journal of Advances in Management Research*, 18(3), 353-367.
- [2] Bititci, U. S., Nudurupati, S. S., Turner, T. J., & Creighton, S. (2002). Web enabled performance measurement systems: Management implications. *International Journal of Operations & Production Management*.
- [3] Bourne, M. (2005). Researching performance measurement system implementation: the dynamics of success and failure. *Production Planning & Control*, 16(2), 101-113.
- [4] Bourne, M., & Neely, A. (2002). Why measurement initiatives succeed and fail: The impact of parent company initiatives. *Business performance measurement*, 198. (P: 199/215)
- [5] Bourne, M., Neely, A., Platts, K., & Mills, J. (2002), "The success and failure of performance measurement initiatives: Perceptions of participating managers", *International Journal of Operations & Production Management*, Vol. 22 No. 11, pp. 1288-1310.
- [6] Couturier, J., & Sklavounos, N. (2019). Performance dialogue: A framework to enhance the effectiveness of performance measurement systems. *International Journal of Productivity and Performance Management*, 68(4), 699-720.
- [7] Cunha, F., Dinis-Carvalho, J., & Sousa, R. M. (2023). Performance measurement systems in continuous improvement environments: obstacles to their effectiveness. *Sustainability*, 15(1), 867.
- [8] Franco-Santos, M., Lucianetti, L., & Bourne, M. (2012). Contemporary performance measurement systems: A review of their consequences and a framework for research. *Management Accounting Research*, 23(2), 79-119.
- [9] Giovannoni, E., & Pia Maraghini, M. (2013). The challenges of integrated performance measurement systems: Integrating mechanisms for integrated measures. *Accounting, Auditing & Accountability Journal*, 26(6), 978-1008.
- [10] Hauser, J., & Katz, G. (1998). Metrics: you are what you measure! *European Management Journal*, 16(5), 517-528.
- [11] Holloway, J. (2001). Investigating the impact of performance measurement. *International Journal of Business Performance Management*, 3(2-4), 167-180.
- [12] Holzer, M., Ballard, A., Kim, M., Peng, S., & Deat, F. (2019). Obstacles and opportunities for sustaining performance management systems. *International Journal of Public Administration*, 42(2), 132-143.
- [13] Hourneaux Jr, F., Carneiro-da-Cunha, J. A., & Corrêa, H. L. (2017). Performance measurement and management systems. *Managerial Auditing Journal*.
- [14] Johnson, C. C. (2007). Introduction to the balanced scorecard and performance measurement systems. *Balanced Scorecard for State-Owned Enterprises: Driving Performance and Corporate Governance*, ADB.
- [15] Kaplan, R. S., & Norton, D. P. (2001). The strategy-focused organization: How balanced scorecard companies thrive in the new business environment. Harvard Business Press.
- [16] Marchand, M., & Raymond, L. (2008). Researching performance measurement systems. *International Journal of Operations & Production Management*.
- [17] Meekings, A. (1995). Unlocking the potential of performance measurement: A practical implementation guide. *Public money & management*, 15(4), 5-12.
- [18] Melnyk, S. A., Bititci, U., Platts, K., Tobias, J., & Andersen, B. (2014). Is performance measurement and management fit for the future?. *Management Accounting Research*, 25(2), 173-186.
- [19] Meyer, M. (2007). Finding performance: The new discipline in management. In A. Neely

- (Ed.), *Business Performance Measurement: Unifying Theory and Integrating Practice* (pp. 113-124). Cambridge: Cambridge University Press. doi:10.1017/CBO9780511488481.007
- [20] Micheli, P., & Manzoni, J. F. (2010). Strategic performance measurement: Benefits, limitations and paradoxes. *Long range planning*, 43(4), 465-476.
- [21] Neely, A., & Bourne, M. (2000). Why measurement initiatives fail. *Measuring business excellence*. Vol. 4 No. 4, pp. 37. <https://doi.org/10.1108/13683040010362283>
- [22] Northcott, D., & Taulapapa, T. M. A. (2012). Using the balanced scorecard to manage performance in public sector organizations: Issues and challenges. *International Journal of Public Sector Management*.
- [23] Nudurupati, S. S., Bititci, U. S., Kumar, V., & Chan, F. T. (2011). State of the art literature review on performance measurement. *Computers & Industrial Engineering*, 60(2), 279-290.
- [24] Okwir, S., Nudurupati, S. S., Ginieis, M., & Angelis, J. (2018). Performance measurement and management systems: a perspective from complexity theory. *International Journal of Management Reviews*, 20(3), 731-754.
- [25] Parmenter, D. (2015). *Key performance indicators: developing, implementing, and using winning KPIs*. John Wiley & Sons.
- [26] Rompho, N. (2011). Why the balanced scorecard fails in SMEs: A case study. *International Journal of Business and Management*, 6(11), 39.
- [27] Schneiderman, A. M. (1999). Why balanced scorecards fail. *Journal of strategic performance measurement*, 2(11), 6-11.
- [28] Turban, E., Sharda, R., & Delen, D. (2010). *Decision Support and Business Intelligence Systems*, Pearson, Upper Saddle River, NJ.
- [29] Vachnadze, R. (2016). Prioritization of performance measures using analytic hierarchy process. *International Journal of the Analytic Hierarchy Process*, 8(3), 490-501.
- [30] Van Camp, J., & Braet, J. (2016). Taxonomizing performance measurement systems' failures. *International journal of productivity and performance management* 65, no. 5: 672-693.
- [31] Vega Falcón, V., Navarro Cejas, M., Cejas Martínez, M. F. & Mendoza Velazco, D.S. (2020) Balanced Scorecard: Key Tool for Strategic Learning and Strengthening in Business Organizations. *Academic Journal of Interdisciplinary Studies*, 9(3), 1. <https://doi.org/10.36941/ajis-2020-0036>