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## Performance Management System: Literature Review and an Agenda for Future Research

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### Abstract

*This study aims to determine the development of research related to designing an organization's performance management system. This study conducts a literature review on papers that have been published and are available in the Google Scholar and Proquest database with a time span of January 2012 to December 2022. Keywords such as performance management, design performance management, and performance management system were used. The results of this research use 10 papers that are considered capable of explaining methods for designing performance management systems.*

*Keywords— Performance management system; Performance management; Approach; Literature review*

### Abstrak

Penelitian ini bertujuan untuk mengetahui perkembangan penelitian terkait perancangan suatu system manajemen kinerja suatu organisasi. Penelitian ini melakukan literature review pada paper yang telah dipublikasi dan tersedia di data base Google scholar dan proquest dengan rentang waktu Januari 2012 hingga Desember 2022. Dengan menggunakan kata kunci seperti performance management, designing performance management, performance management system. Hasil dari penelitian ini ialah menggunakan 10 paper yang dirasa dapat menjelaskan metode yang digunakan dalam merancang suatu performance management kinerja.

Kata kunci— Performance management system; Performance management; Approach; Literature review

## I. INTRODUCTION

Every organization, company, and community has a set of activities often carried out to achieve the goals of the organization, company, and community. This collection of activities becomes an operation activity. Each of these operating activities needs to be monitored. Its operational activities need to be evaluated and managed. Of course, to be able to monitor, evaluate, and manage, adequate information is needed. This information is used to make decisions about operating activities.

According to Packová and Karácsóny (2010), Performance management is a system consisting of steps and principles that interact with each other to achieve certain goals (Taticchi, 2010). These steps are what is meant by operating activities, where these operating activities depend on each other. Thus, it is necessary to monitor, evaluate, and manage to avoid confusion or errors in operating activities. Thus, PMS is important in monitoring, evaluating, and managing an organization or company with adequate information. With this information, the owner of the company or the chairman of an organization can make good decisions.

Having a Performance management system in an organization or company can encourage motivation. This is because in a PMS, there is the latest information related to the performance of the organization or company, and the chairman or owner can see that the performance of the organization or company is approaching the organization's goals. Not only that, PMS can also achieve continuous improvement of a company or organization. This is because, with the latest information, which may result in an unsatisfactory evaluation, the owner and the chairman can make decisions that are deemed to be able to improve the poor performance. And

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decision making that is felt to improve organizational performance. For example, a company knows the level of product demand from its company is rising; of course, the chairman or owner must make good decisions so that product demand can be fulfilled. In conclusion, PMS is also able to provide a motivational boost, continuous improvement, action management, and the achievement of strategic goals (Kaplan & Norton, 1996; Lohman et al., 2004; Neely et al., 1994; Olsen et al., 2007; Tapinos et al., 2005; Waal, 2003).

As explained, the importance of a PMS in an organization or company, we are interested in how to design a PMS in an organization or company. Thus, this encourages us to analyze previous studies in designing a performance management system for an organization or company.

## II. LITERATURE REVIEW

### A. PMS Approach

There are various approaches to designing a performance management system. The Malcolm Baldrige National Quality Award, founded in 1987, promotes the competitiveness of companies in the United States. Within the MBNQA framework, there are several elements, namely leadership, strategic planning, customer focus, measurement, analysis and knowledge management, workforce focus, operations focus, and results (Christou & Fotiadis, 2022).

The balanced scorecard approach was discovered by Kaplan and Norton in 1992. The balanced scorecard (BSC) is a method of measuring a company's performance. The BSC has four perspectives, namely financial, customer, internal process, and learning & growth (Kaplan & Norton, 1996).

Prism's performance approach is a thinking tool for measuring company performance by integrating five perspectives and structures that enable executives to answer basic questions (Neely et al., 2002). The five perspectives are stakeholder satisfaction, contribution, strategies, processes, and capabilities.

Knowledge-based approach discovered by Wibisono. KBPMS is designing PMS through the application of a Knowledge-Based Expert System (KB) (Wibisono & Khan, 2010). There are three perspectives: organizational output, internal processes, and resources. Where each perspective has a sub-perspective.

### B. Comparison between PMS approach

Table 1. comparison between the PMS approach

Aspect	MBNQA	BSC	PRISM	KBPMS
<b>PMS design procedure</b>	Clearly stated	Clearly stated	General description	Clearly stated
<b>Perspective/Level</b>	7 perspectives	4 perspectives	5 perspectives	3 perspectives and 9 sub perspective
<b>Recommended performance variable formulation</b>	Persp 1-6 qualitative, perspective 7 quantitative	The general description is supported by a detailed formulation of the implementation of variables by a particular company	Detailed formulation on each variable	Detailed formulation on each variable
<b>Use for implementation</b>	Service, Education, Business	All kinds of industries	All kinds of industries	All kinds of industries
<b>Number of performance variables</b>	Based on detailed questions in each perspective	Grouped into 4 major perspectives, each perspective can contain several variables depending on the company being managed.	More than 200 individual performance variables	More than 200 individual performance variables
<b>Reason for variable selection</b>	Clearly stated in every perspective	Clearly stated in every perspective	Clearly stated in every perspective	Clearly stated in every perspective
<b>“Knowledge-based” approach</b>	no	no	no	yes
<b>Powered by software</b>	no	no	no	In development

<b>Benchmarking process</b>	Presented in perspective 7	Benchmarking procedures are discussed conceptually, but standards are not given for each performance variable	Not clearly discussed, some performance standards are explained	Clearly discussed, some examples of benchmarking on indicators
<b>Relationship between variables at different management levels</b>	no	Described on the available perspective framework	Clearly differentiated	Clearly differentiated, it is recommended to use factor analysis, correlation analysis, and analytical hierarchical process.
<b>Relationship assessment method</b>	Implicit in the score achieved	Not given	Not given	It is recommended to use correlation analysis or analytical hierarchical processes.
<b>Repair recommendations</b>	Judging from the score achieved	Clearly stated in the examples given (empirical data)	Clearly stated in each of the suggested measurement variables	It is clearly stated in each measurement and knowledge-based variable that is built

Source: (Wibisono & Khan, 2010)

Some PMS approaches have drawbacks. Such as Malcolm Baldrige, who only answered the main questions in measuring performance, and The BSC, which only focused on financial performance until ISO was achieved only because of getting certification. So it is less flexible and not too focused on continuous improvement. as in the book "How to Create a World Class Company: A Guide for Managers and Directors" by Wibisono, 2012, where according to Kaplan (1983) and Cooper et al. (1992) who define the weaknesses of accounting reporting are lack of relevance, lagging metrics, short-term, inflexible, and does not encourage repairs and cost distortions (Stella & Wibisono, 2016).

### III. RESEARCH METHODOLOGY

This research is a literature review of 10 papers in the last 10 years that examine the design of a performance management system. The author will review and analyze the journal papers that are read. Using qualitative data such as published research journals. Journal articles and papers are taken based on Google Scholar and ProQuest databases. The author analyzes a paper related to how the paper interprets how to design performance management in an organization or company. In searching for journal articles or papers in the database used, the authors use several keywords such as performance management, designing performance management, and performance management system.

### IV. RESULTS/FINDING

Table 2. The findings of ten articles related to designing the performance management system

No.	Title	Author	Journal	Sector	Approach
1	<b>Using the balanced scorecard to manage performance in public sector organizations: Issues and challenges.</b>	(Northcott & Ma'amora Taulapapa, 2012)	International Journal of Public Sector Management	public sector organization	Balanced scorecard
2	<b>Designing performance measurement systems in nonprofit and public administration organizations.</b>	(Moura et al., 2019)	International Journal of Productivity and Performance Management	nonprofit and public administration organization	a systematic literature review

3	<b>Designing a Performance Measurement System: a case study at the Oil and Gas Sector</b>	(Martins et al., 2014)	Proceedings of the 2014 Industrial and Systems Engineering Research Conference	Oil and Gas Sector	Performance metric and SCOR model is used as references
4	<b>Designing Performance Management Systems in Academic Institutions: a Dynamic Performance Management View</b>	(Cosenz & Bianchi, 2013).	XXXVI AIDEA Conference (Italian Academy of Management) on "The firm's role in the economy: Does a growth-oriented business model exist	Academic Institution	A Dynamic performance Management View
5	<b>Proposed Integrated Performance Management System for Ministry of Research, Technology, and Higher Education in Indonesia</b>	(Stella & Wibisono, 2016)	3rd International Seminar and Conference on Learning Organization (ISCLLO 2015)	Ministry of research, technology, and higher education in Indonesia	Integrated or knowledge-based performance management system
6	<b>Developing a Performance Management System Using Soft Systems Methodology: A Chinese Case Study</b>	(Liu et al., 2012)	European Journal of Social Psychology	hi-tech Chinese company	based around soft systems methodology
7	<b>Designing Self-Assessment Tool for Library Performance Measurement Adopting Malcolm Baldrige Framework (Case Study: Central Library of Andalas University)</b>	(Putri et al., 2019)	IOP Conference Series: Materials Science and Engineering PAPER	Central Library	Malcolm Baldrige
8	<b>Designing dynamic performance management systems to foster SME competitiveness according to a sustainable development perspective: empirical evidence from a case-study</b>	(Bianchi et al., 2015)	International Journal of Business Performance Management	SME	System dynamic modelling
9	<b>Performance Management System (PMS) In Indian Small and Medium Enterprises (SMEs): A Practical Framework- A Case Study</b>	(Kumar & Nirmala, 2015)	Asian Journal of Research in Business Economics and Management	SME	Performance Management and Control (PMC) (Ferreira, A., & Otley, D. 2005, 2009)
10	<b>Designing a performance measurement system for collaborative network</b>	(Pekkola & Ukko, 2016)	International Journal of Operations and Production Management	Franchise company	literature review and based expert

The Balanced scorecard seems less suitable for the public sector. Like the previous research conducted by North and Taulapapa (2012) whose research was related to the role of the balanced scorecard in the public sector. By distributing questionnaires to managers who work in public organizations, namely local government organizations. The results of the study indicate that the level of the BSC adoption in the public sector is still lacking and the utility of the BSC is only for measuring and reporting performance.

As for the previous research conducted by Moura et al., (2019) which examined the factors that influence PMS design in NPOs and public administration. By conducting a systematic literature review on 29 papers. The results show that there are 10 factors that influence the design of PMS for NPOs and are grouped into 3 parts, namely objectives, stakeholders, and management.

Research conducted by Martins, RA, et.al., (2014) which analyzes a system that has been implemented by the Downstream Logistics Division of a multinational company in the oil and gas sector. This research is a longitudinal study because this study redesigns PMS to implement the new PMS design. There are stages in the PMS redesign carried out by Martins, RA, et.al, (2014) namely the first to evaluate, evaluate the work context, collect data, and plan action. collection of data from existing processes, systems, and metrics, such as metrics used, names of responsible persons, connections and interfaces between activities. it aims to understand the role of each functional area. second, the PMS design phase and its implementation which aims at setting metric goals, drawing performance monitoring processes and defining requirements for technology support tools. third, formed by surveys with participants and clients of the process and reflections from design team members on the progress of the initiative, lessons learned and feedback to key stakeholders.

Research conducted by Cosenz and Bianchi (2013) who carried out PMS design in academic institutions by combining dynamic systems. The results show that combining dynamic systems in a PMS allows decision makers to better identify and measure KPIs applied in educational institutions and can effectively influence policies in building sustainability at a university.

As for the research conducted by Stella and Wibisono (2015) who redesigned the performance management system with the KBPMS approach. The PMS redesign was carried out on a non-profit organization, namely the ministry of research, technology, and higher education in Indonesia. The redesign was carried out because the PMS currently implemented was not based on the organization's vision and mission. from this research resulted in new kpi to be implemented. and provide suggestions for applying external benchmarking to developed countries.

As for the research conducted by Liu et al. (2012) who also redesigned the PMS of a hi-tech company in China. Prior to the redesign, the company used a balanced scorecard approach during its growth period. Meanwhile, the company is currently experiencing a decline, so that BSC is no longer able to face the demands on it. thus, the researchers carried out a redesign using the approach taken to develop a PM system based on the soft systems methodology (SSM), a well-established systems-based approach to problem solving and organizational design. This research also describes several phases in developing a new PMS, namely phase 1: Developing the strategic objectives, phase 2: Strategy decomposition, phase 3: specifying targets and performance indicators, phase 4: Planning and communication.

As for the research conducted by Putri et al. (2019), the aim of the research is to design a self-assessment tool for library performance by combining indicators between ISO 11620 and Indonesian library accreditation standards and adapting the MBNQA framework. In his research, he used 3 steps in designing PMS for libraries, namely first, identifying indicators, then grouping these indicators into Malcolm Baldrige criteria and determining the experts selected as respondents. second, AHP is used to assign importance weights. third, designing a matrix for self-assessment tools adopting the national library accreditation system from BAN-PT into the Malcolm Baldrige framework.

As for the research conducted by Bianchi et al. (2015) in which researchers design and use a dynamic performance management (DPM) approach to assess and support the competitiveness of SMEs from a sustainable development perspective. From the results of his research, it shows that there are 3 parts in a dynamic view of performance management, namely strategic resources, performance drivers, and end results.

As for the research conducted by Kumar and Nirmala (2015) which carried out performance measurements on SMEs in India using the Performance Management and Control (PMC) framework designed by Ferreira and Otley (2005) as a research tool to test performance management systems in Indian small and medium sized companies, which are engaged in manufacturing. In his research, there are 12 dimensions that are interpreted

with 12 questions to measure the performance of SMEs that are being studied. The 12 dimensions include vision and mission, key factors, organization, organizational structure, strategies and plans, key performance measures, targets, performance evaluating, rewards, information flow, PMS use, PMS change, strength, and coherence.

As for the research conducted by Pekkola and Ukko (2016) in which the researcher designed a performance management system for a collaborative network. Where to conduct semi-structured interviews with several managers who are experts in the franchise business. the results of his research indicate that there is a five-step process model for designing a PMS for a collaborative network. including first, first initial interview to understand network structure, second 1st development session Consensus regarding the PMS's development targets and information needs, third 2nd development session The final version of selected measures, fourth 3rd development session Knowledge of how to use PMS, fifth feedback results of the workability of the PMS.

## V. DISCUSSION

From the results of a literature review on 10 papers taken from the google scholar database and Proquest. Shows that in the last 10 years the approach in designing a performance management system has continued to develop, no longer focusing on several well-known methods such as BSC, MBNQA and so on. What has been discussed quite often in recent years is the use of dynamic systems in designing a performance management system. This is because in the period of growth and development of an organization is always changing. Not only that, the organization is not only in the same scope. As MSMEs can develop and turn into SMEs, then develop into a company and so on. So that dynamic systems need to be discussed in more depth in order to develop more.

The knowledge obtained from the review of the 10 papers above is that in the first stage of designing a performance management system, the paper from Kumar & Nirmala (2015) is deemed suitable to be applied. This is because the dimensions used in the paper can be used to identify and understand the subject for which the PMS will be designed. Then a dynamic system also needs to be applied in designing a performance management. Not only combined with dynamic systems, maybe it can be combined with some new methods. As did Putri et al. (2019), which combines various methods to be used in performance management systems such as MBNQA, ISO, the BAN-PT accreditation system. so that the performance management system will be more perfect and can more easily monitor the performance of the organization in achieving its goals.

## VI. CONCLUSION AND RECOMMENDATION

The conclusion of this research is that many methods have been developed for designing a performance management system. Not only one method can be applied, but various methods can be applied in designing a performance management performance. However, if we look at the analysed papers and the quick review abstracts in the Google Scholar and Proquest databases. There is a knowledge gap that needs to be filled. That is, there is still little or no research related to the design of performance management in MSMEs. Given that MSMEs currently have an important role in the economic growth of a country. Starting with creating jobs, increasing investment, and so on. Practically, it also shows that there are still few SMEs that have a performance management system. Not infrequently, MSMEs have a short life because they are still unable to manage and monitor their performance. Thus, the suggestion for further research is to design a performance management system for MSMEs.

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