

Performance Management System in Industry: A Systematic Literature Review

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Abstract

The increasingly competitive business environment necessitates the development of an effective Performance Management System (PMS). According to academics, current research on PMS has not yet reached a consensus on the actual consequences of PMS and the inconclusive results are due to inadequate understanding of the antecedents and effectiveness of PMS. Therefore, this research aims to observe the dimensions commonly used to measure PMS in the industrial context, understand the characteristics of studies, and identify antecedents, outcomes, mediations, and moderations in the literature on PMS in the industrial context over the past 7 years using a systematic literature review with the PRISMA guideline. The scholarly articles in this SLR are those included in the Scopus database from 2018 to 2024. The review results reveal that the dimensions currently used to study PMS originate from dimensions built by previous researchers, namely PMS Accuracy. The majority of the included studies on PMS in this research were published in 2018 and 2021, with most employing quantitative methods and the majority being located in India and Italy. Our research also reveals that PMS has a positive impact at both individual and organizational levels. This SLR contributes to explaining the current research conditions of PMS in the industrial context and also provides suggestions for future PMS research.

Keywords: *Performance Management System, PMS, Systematic Literature Review.*



A. INTRODUCTION

Digitalization, financial crises, and pandemics pose challenges to organizational sustainability (Bauwens et al., 2024). Additionally, the increasingly competitive business environment necessitates the development of an effective Performance Management System (PMS) for company employees, as they are the primary resources ensuring the strategic activities of the company are executed according to plan (Yadav et al., 2018; Mphahlele & Dachapalli, 2022).

PMS is defined as the process of quantifying and enhancing the efficiency and effectiveness of an organization (Laitinen & Kadak, 2018). Essentially, PMS is a performance appraisal process involving managers and employees to review the employee's performance, assign values based on past performance, and document it in an evaluation form conducted annually (Bach, 2013).

When properly designed and utilized, PMS can help organizations implement strategies and improve performance (Rompho and Boon-itt, 2012). PMS can serve various purposes within an organization, such as aligning organizational goals, enhancing individual capabilities and knowledge, supporting change efforts,

implementing organizational strategies, and ensuring staff commitment to achieving company objectives (Aguinis and Kraiger, 2009; Mansor et al., 2012; Munir et al., 2012).

PMS has two goals: administrative and developmental. Administratively, PMS assists leaders in making decisions regarding promotions and incentives, while developmentally, PMS provides contextual and timely feedback and identifies training needs (Varma et al., 2008). However, if not properly managed, PMS can lead to dysfunctional behavior and decrease overall organizational performance (Laitinen & Kadak, 2018).

The success and failure of PMS remain active topics of discussion among academics and remain hot topics to date (Agrawal, 2019). Furthermore, there is still a lack of consensus on the actual consequences of PMS and inconclusive results due to inadequate understanding of the antecedents and effectiveness of PMS (Laitinen & Kadak, 2018; Biron et al., 2011). Therefore, this research aims to observe the dimensions commonly used to measure PMS in the industrial context, understand the characteristics of studies, and identify antecedent, outcome, mediation, and moderation variables in the literature on PMS in the industrial context over the past 7 years. This study also aims to contribute to academic literature on PMS in the industrial context by conducting a systematic literature review of available literature over the past 7 years.

B. METHODS

The Systematic Literature Review (SLR) conducted in this study follows the guidelines outlined in The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement 2020 (Page et al., 2021). SLR can provide a synthesis of a topic or discipline, thereby generating research priorities for the future. Additionally, SLR can address questions that individual studies cannot answer or provide insights into how a theory is applied or how a phenomenon occurs (Page et al., 2021). To ensure that a Systematic Review is beneficial to readers, authors must prepare a transparent, comprehensive, and accurate report on why and how a study was conducted and what the researchers found. Therefore, the PRISMA 2020 Statement provides guidelines on the methods for identifying, selecting, assessing, and synthesizing various literature (Page et al., 2021).

Table 1 displays the criteria used in selecting relevant literature to address the research questions. Each literature must meet 6 inclusion criteria. If any of the inclusion criteria are not present in a literature, then that literature will not be included in the review. Scientific articles were identified and collected from the Scopus database. The selection of the database source was based on the consideration that the database contains reputable scientific articles and is capable of conducting fast searches with advanced search features.

Table 1. Inclusion and Exclusion Criteria

Criteria	Inclusion	Exclusion
Time Period	2018 to 2024	Research outside the time range of 2018 to 2024 is excluded
Language	<i>English</i>	<i>Non- English</i>
Document Type	Scientific articles that have undergone peer review	Scientific and non-scientific articles that have not undergone peer review. Books, conference papers are also included in the exclusion criteria.
Journal	Journals indexed in Scopus	Journals not indexed in Scopus
Study Focus	Studies with the topic of Performance Management System	Studies with topics outside of Performance Management System
Study Context	<i>Industries, Public Organization</i>	<i>Education</i>
Accessibility	Articles can be downloaded from the publisher's website using a registered user from the University of Indonesia or are open access articles	Scientific articles cannot be downloaded because they are not published by publishers subscribed to by the University of Indonesia

Several strategies are employed when searching on the Scopus website. First, the search is conducted by entering the title or topic to be searched for in the database, which is "Performance Management System." Second, the researcher applies limitations to the date range, from January 1, 2018, to April 6, 2024. Third, the search field utilizes Boolean operators, namely AND NOT Teacher AND NOT School AND NOT Education AND NOT Teaching, with the following string: ((TITLE(performance AND management AND system) AND NOT TITLE-ABS-KEY(education*) AND NOT TITLE-ABS-KEY(school) AND NOT TITLE-ABS-KEY(teacher) AND NOT TITLE-ABS-KEY(student)) AND PUBYEAR > 2017).

Step four involves checking the criteria boxes for Document type: article, Language: English, Source type: Journal. The search results from these four steps yield 236 scientific articles from Scopus. Subsequently, the author downloads the file in RIS format and uploads it to a website specifically designed to aid in the implementation of SLRs, such as Covidence.

Figure 1 illustrates the literature selection process with the PRISMA diagram. The selection process is carried out by 3 reviewers. The process of selecting relevant articles is generally divided into 3 stages: identification, screening, and validation. All these stages are conducted with the assistance of the web-based SLR application Covidence.

The identification stage begins by ensuring that there are 236 scientific articles uploaded from Scopus. Duplicate screening is automatically performed by the application, and 1 duplicate article is identified. The result of this identification yields 235 articles eligible for screening.

The screening stage is conducted in 2 steps: screening of titles, abstracts, and journals, and screening of the entire article content. Screening of titles and abstracts is carried out on the 235 articles that have passed the identification stage. Articles with titles, abstracts, and journal names related to education context, those not within the human resource management domain, or those not empirical studies, are eliminated. In this stage, 165 articles are eliminated, leaving 70 articles for full-text screening. Full-text screening is performed by examining criteria such as study characteristics, research context, research focus, and article accessibility. At this step, 46 articles are eliminated, leaving 24 relevant articles to address the research questions.

From the 24 journals, a review is conducted by extracting data that can be synthesized. This data includes author's name, year of publication, article title, journal name, research context, country of research location, research method, independent variables, mediating/moderating variables, dependent variables, and dimensions of PMS used in the study. The selection process is carried out by 3 reviewers. There is no division of the number of articles to be extracted, so all reviewers perform 24 extractions until a consensus is reached.

C. RESULTS AND DISCUSSION

1. Performance Management System Dimensions

Table 2 illustrates the dimensions used in scientific articles employing quantitative research methods. In measuring PMS, Sharma et al. (2016) is a study that is frequently referenced. Sharma et al. (2016) measured PMS through the aspect of accuracy. According to Berdicchia et al. (2023), accuracy in PMS is crucial to be evaluated by employees because fundamentally PMS is a system that can be customized in design and implementation according to the contextualization of its usage. If its usage does not align with the context, then a PMS can be considered inaccurate. In fact, Sharma et al. (2016) measured the effectiveness of PMS through 2 variables, namely perceived.

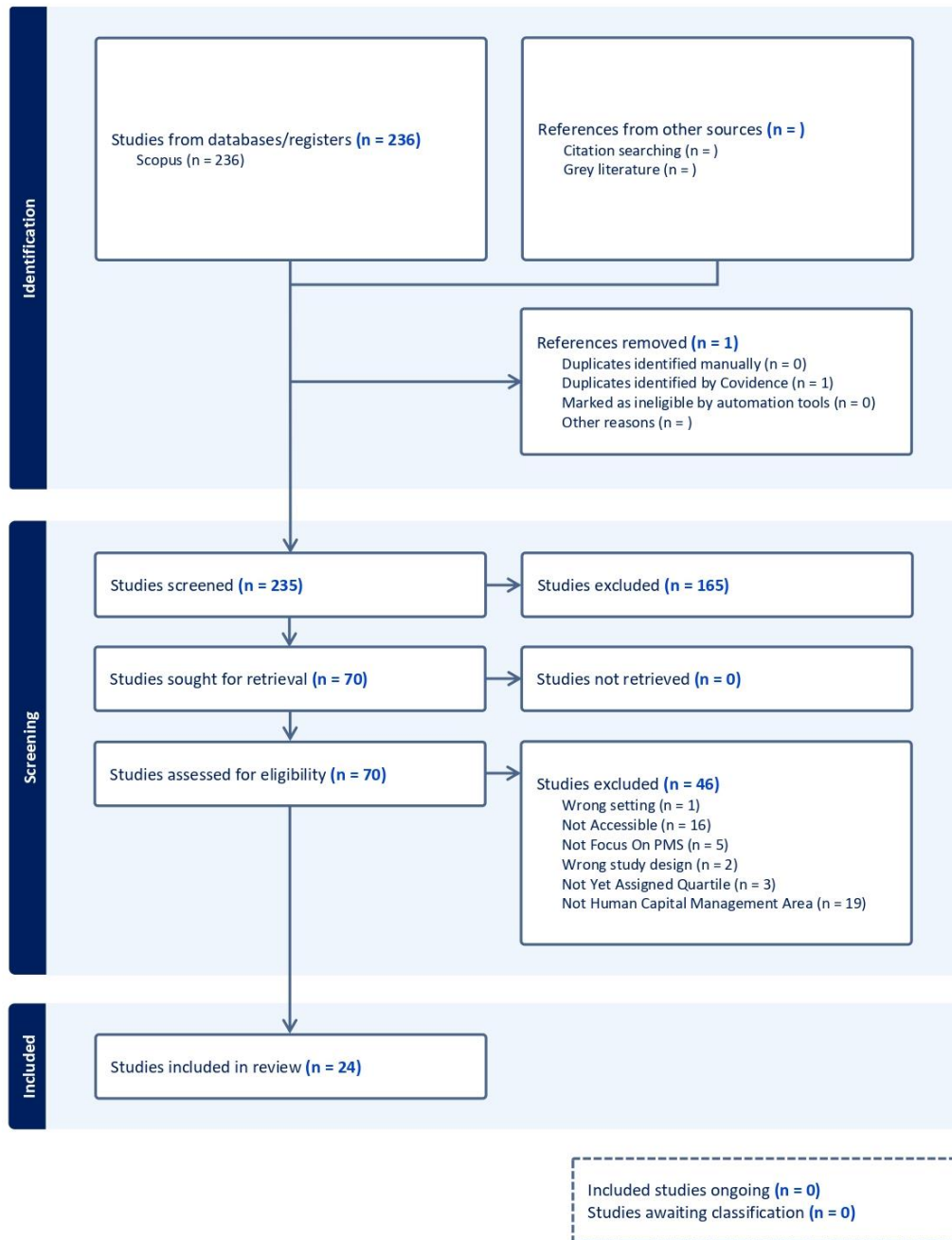


Figure 1. PRISMA Flow Diagram

Accuracy and perceived fairness. Perceived accuracy is synonymous with doing the right thing, while perceived fairness is synonymous with doing things the right way. However, Berdicchia et al. (2022) and Berdicchia et al. (2023) only adopt one variable, which is perceived accuracy.

Another study frequently referenced in PMS measurement is Kadak & Laitinen (2016). They measured PMS success using 14 key factors based on logical chains. These 14 key factors must be present in a PMS for it to be considered successful. The principle of the logical chain is that if any of these key factors are missing, the PMS can be considered a failure. These 14 key factors were then categorized into 4 aspects by

Kadak & Laitinen (2019), namely Strategic Aspect, Alignment and Process Aspect, Usage Aspect, and Information Aspect.

From Table 2, it can also be observed that the dimensions of PMS measurement are divided into unidimensional and multidimensional. In terms of the number of articles included in this study, the majority use unidimensional PMS measurement, although the difference in quantity compared to studies using multidimensional PMS measurement is not significant. An interesting point is the use of measurement developed by Sharma et al. (2016). Initially, Sharma et al. (2016) developed the measurement of PMS effectiveness as multidimensional, consisting of accuracy and fairness. However, Berdicchia et al. (2022) and Berdicchia et al. (2023) adopted only one variable, perceived accuracy, and made it a unidimensional variable.

2. Characteristics of Performance Management System Studies

Based on Figure 2, studies included on PMS in this research were most frequently published in 2018 and 2021, both with the same percentage of 25%. Then, in Figure 3, it is evident that quantitative methods are the most commonly used among other methods, with a percentage of 62.5%. Figure 4 shows the location of the countries where the included research was conducted. India and Italy are the most researched countries regarding PMS in an industrial context in this study, with 3 studies each.

3. Antecedent, Outcome, Mediating, and Moderator Variables in Performance Management System Studies

Below are the variables related to PMS, whether as antecedents, mediators, moderators, or outcomes based on the included literature.

a. Antecedent Variables

The level of control factor is one of the antecedents of PMS studied by Yu et al. (2018). Level of control consists of 3 variables: beliefs, interactive, and diagnostic. Additionally, organizational factors such as line manager involvement, senior manager involvement, and performance feedback are factors that can drive the effectiveness of PMS (Teeroovengadam, 2019). Furthermore, there are also variables that promote the effectiveness of PMS, such as administrative reforms (Castelo & Gomes, 2023) and perceived environmental uncertainty (Laitinen & Kadak, 2018).

Table 2. Dimensions of Performance Management System in Included Articles with Quantitative Methods

References	Dimension	Adopted By	Type of Dimension
Yadav et al. (2018)	Situation, Actor, Processes	Yadav et al. (2018)	Multidimensional
Waeyenberg et al. (2022)	Strength in PMS (Distinctiveness, Consistency, Consensus)	Bauwens et al. (2024)	Unidimensional
Dutta et al. (2021)	Promotion and Incentive	Dutta et al. (2021)	Multidimensional

Sharma et al. (2016)	PMS Accuracy	Berdicchia et al. (2022), Sharma et al. (2022), Berdicchia et al. (2023)	Unidimensional
Sharma et al. (2016) dan Colquitt's (2001)	PMS Accuracy, PMS Fairness	Sharma et al. (2022)	Multidimensional
Mphahlele & Dachapalli (2022)	Policy Implementation, PMS Fairness	Mphahlele & Dachapalli (2022)	Multidimensional
Henri (2006)	Performance Measurement and Management System	Castelo & Gomes (2023)	Unidimensional
Tung et al. (2011)	PMS Process Outcomes (Staff related and Performance Related)	Yu et al. (2018)	Multidimensional
Kadek & Laitinen (2016)	Strength of chain of PMS success	Laitinen & Kadak (2018)	Unidimensional
Decramer et al. (2013)	Employee Performance Management System (Planning and Evaluation)	Thielen (2018)	Unidimensional
Noe et al. (2008)	Effectiveness of PMS (Strategic purpose, developmental purpose, administrative purpose)	Teeroovengadum (2019)	Unidimensional
Bedford (2022)	PMS Broad Scope dan PMS Integration	Bedford (2022)	Multidimensional
Kadek & Laitinen (2019)	Strategic Aspect, Alignment and Process Aspect, Usage aspect dan Information Aspect	Kadak & Laitinen (2021)	Multidimensional

b. Moderation Variables

Moderation variables are variables that can strengthen the relationship between PMS and its outcomes. Participation in decision making and task uncertainty are variables proven to act as moderators of the relationship between PMS Accuracy and extrinsic motivation. The higher the employee participation in decision making and task uncertainty, the stronger the relationship between PMS Accuracy and extrinsic motivation will be (Berdicchia et al., 2023).

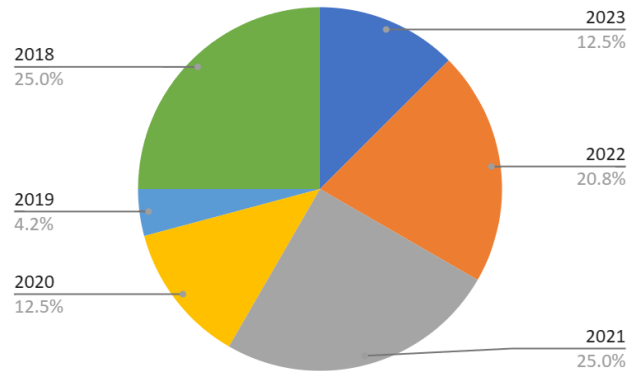


Figure 2. Percentage of Included Scientific Articles Based on Publication Year

c. Outcome Variables

Outcome variables are variables influenced by PMS, either directly or indirectly. PMS has been proven to positively influence work outcomes such as job satisfaction and work engagement (Thielen, 2018; Sharma et al., 2022). On the other hand, regarding turnover intention and strain, PMS has a negative influence on both variables (Thielen, 2018; Sharma et al., 2022). Another variable is work motivation, where PMS has a positive influence on employee work motivation, both extrinsic and intrinsic motivation (Berdicchia et al., 2022; Berdicchia et al., 2023). PMS also significantly influences people's interest in staying in the organization and their desire to strive harder (Dutta et al., 2021).

From a behavioral perspective, PMS can encourage the formation of innovative behaviors in employees (Bauwens et al., 2024). PMS can also influence employees' structural and social resources (Berdicchia et al., 2022). At the organizational level, PMS has been shown to enhance organizational performance, both financially and non-financially, ultimately improving corporate performance (Laitinen & Kadak, 2018). Moreover, effective PMS can increase employee satisfaction with PMS (Thielen, 2018). The impact of effective PMS strategies also affects CEOs. Effective PMS can enhance the CEO's realized absorptive capacity (Bedford, 2022). Lastly, PMS influences psychological contract fulfillment (Sharma et al., 2022).

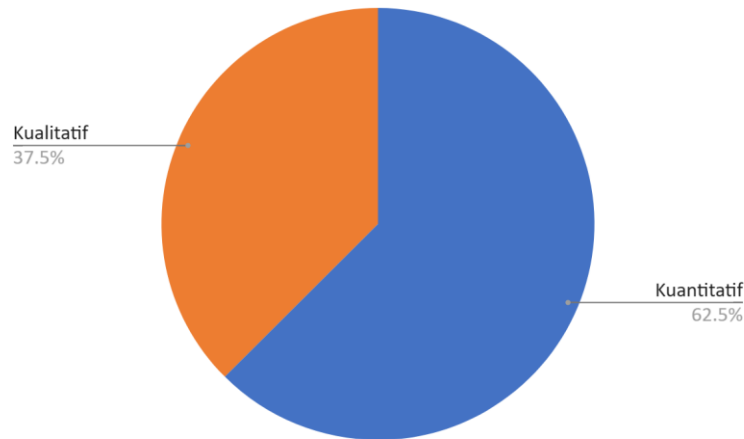


Figure 3. Percentage of Included Scientific Articles Based on Research Method

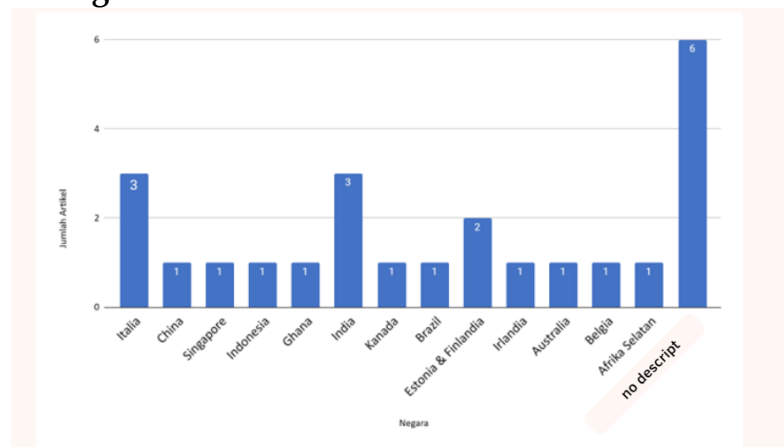


Figure 4. Number of Included Articles Based on Research Location

D. CONCLUSION

The SLR results show that in measuring PMS, each researcher has justification regarding the dimensions of PMS measurement, whether unidimensional or multidimensional. The dimensions often referenced in PMS measurement are those developed by Sharma et al. (2016) and Kadak & Laitinen (2016). Sharma et al. (2016) measure PMS effectiveness using perceived accuracy and perceived fairness, while Kadak & Laitinen (2016) measure PMS success based on 14 key factors. Out of the 24 literatures included in the articles we reviewed, the majority were published in 2018 and 2021, with most also using quantitative methods and the majority of the research conducted in India and Italy. We identified factors and variables related to PMS. Antecedent variables influencing PMS are variables grouped into lever of control and organizational factor. Outcome variables as the impact of effectively implementing PMS in organizations include work outcomes, work motivation, behavioral intention, working behavior, resources, organizational performances, PMS satisfaction, and top management team. Mediating variables that help understand the relationship between PMS and its outcome variables are the group of work motivation variables. Lastly, variables that can enhance the relationship between PMS and its dependent variables are participation in decision making and task uncertainty.

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