BIBLIOMETRIC ANALYSIS OF PERFORMANCE MANAGEMENT: RESEARCH OBSTACLES AND OPPORTUNITIES

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Abstract: This study presents a bibliometric analysis of publications relevant to performance management. Increased research in management has led to the emergence of a new paradigm in applying performance management systems. The researchers explore how to improve the effectiveness of the performance of companies and institutions. This bibliometric analysis research found 945 articles related to performance management using the Scopus database. The R-Studio bibliometric package is used to conduct data analysis to find trends, worldwide distribution of documents, influential journals, frequently used citations, and countries that dominate publishing articles. This study aimed to analyze articles from the Scopus database related to "Performance Management." The findings obtained in this study that the effectiveness of management lies in the organization's ability to determine goals, motivate employees to change individual behavior, and use the Balanced Score Card (BSC). This research can assist organizations in improving the effectiveness of performance management and as an illustration for future research.
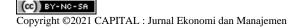
Keywords: Performance Management; Balanced Score Card; Bibliometric; R-Studio; Performance

Abstrak: Penelitian ini menyajikan analisis bibliometrik dari publikasi yang relevan terkait topik performance management. Peningkatan penelitian dalam bidang manajemen kinerja menyebabkan munculnya paradigma baru dalam penerapan sistem manajemen kinerja. Para peneliti mengeksplorasi bagaimana meningkatkan efektifitas manajemen kinerja perusahaan maupun institusi. Penelitian analisis bibliometrik ini menggunakan database scopus, ditemukan 945 artikel yang berkaitan dengan performance management. Paket *R-Studio* bibliometrik digunakan dalam melakukan analisis data untuk mengetahui tren, distribusi dokumen diseluruh dunia, jurnal utama, kutipan yang sering digunakan dan negara yang mendominasi dalam penerbitan artikel. Tujuan dari penelitian ini adalah untuk menganalisis artikel dari database scopus berkaitan dengan topik "*Perfomance Management*". Temuan yang didapatkan dalam penelitian ini bahwa efektifitas manajemen kinerja terletak pada kemampuan organisasi dalam melakukan tujuan, mampu memotivasi karyawan untuk merubah perilaku individu dan penggunaan *Balance Score Card (BSC)*. Penelitian ini dapat membantu organisasi dalam meningkatkan efektifitas manajemen kinerja dan sebagai gambaran untuk penelitian masa depan.

Kata Kunci: Performance Management; Manajemen Kinerja; Bibliometrik; Balanced Score Card

INTRODUCTION

Companies must be ready to face very rapid challenges, one of which must be able to face market competition (Zhou et al., 2017). These challenges make changes in the company's performance (Kelman, 2007). So that organizations are expected to be able to find a robust management model for organizational development (Wu et al., 2017).

Companies realize that to improve performance, they must develop practical performance management measurements (Stříteská et al., 2016). Increasing organizational effectiveness and efficiency of human resources is determined by Key Performance Indicators (KPI). These indicators must be analyzed thoroughly to determine the root causes of the company's low performance (Sonmez & Pintelon, 2020).

An effective performance management system is based on system dynamics, sustainability, and performance simulation (Yadav et al., 2013). It helps determine organizational performance (Kagioglou et al., 2001). (U. Bititci et al., 2010) explained that the concept of dynamics could create a sustainable system for monitoring the internal and external environment. Meanwhile, continuous improvement can determine system sustainability (Stříteská et al., 2016).

Performance management is the organization's primary key in setting goals, setting company standards, evaluating work, and giving awards (Nielsen, 2014). Performance management has an essential element: performance measurement, which refers to performance evaluation through valid indicators (Wang & Berman, 2001). (Melnyk et al., 2014) stated that the problem in performance measurement and performance management lies in the performance measurement system and performance management system. The performance measurement system is at the core of the overall performance management system (U. S. Bititci et al., 1997).

Over the past two decades, performance management has become a central theme (Bellisario & Pavlov, 2018). The increase in publications is swift, resulting in

much research and fragmentation (Briner & Denyer, 2012). This study contributes to the literature related to performance management using bibliometrics.

Bibliometrics are widely used to analyze the number of times articles are cited by other articles, analyze developing trends, influential actors (authors, journals, publishing institutions, articles, and others), and cluster analysis (Phulwani et al., 2020). Another contribution of this research is to provide an overview of the distribution of article publication data related to performance management.

This study aims to analyze articles from the Scopus database related to "Performance Management" using bibliometric analysis. The bibliometric analysis uses an objective process based on easy statistical techniques (Aria et al., 2020).

METHODS

This research uses the bibliometric analysis method. The bibliometric method becomes very important because it allows for obtaining detailed information about a particular topic (van Eck & Waltman, 2017). Bibliometrics has been widely used in analyzing publications (Linnenluecke et al., 2020). The bibliometric analysis uses conceptual structures to identify themes and trends; a social structure that can explain the interactions between authors, institutions, and the state; intellectual structure, namely how one person's scientific work can influence others (Aria & Cuccurullo, 2017). The bibliometric analysis provides knowledge to readers to find out past trends in the topic of discussion and provides space for future research (Durieux & Gevenois, 2010).

This study uses data from the Scopus database using the keyword "Performance Management Survey." The Scopus database is considered the most widely used and reliable database for scientific publications by researchers globally (Singh, 2021); (Khan & Muktar, 2020).

The publication of the Scopus database source in this study will carry out data analysis by visualization and bibliometric mapping using the R bibliometric package (Aria & Cuccurullo, 2017), as recommended by (Anglada-Tort & Sanfilippo, 2019) and (Luo et al., 2018).

RESULT AND DISCUSSION

The data has been extracted from the Scopus database using the R package. The Scopus dataset with the keyword "*Performance Management Survey*" includes 1167

documents containing 945 articles, six books, 23 book chapters, 117 conference papers, and other sources. Documents with 222 were deleted because the researchers only took data with Article-type documents. The final data used 945 articles for further analysis. Table 1 summarizes statistics from the Scopus database by searching for the keyword "*Performance Management Survey*."

Table 1. Summary of bibliographic statistics of a performance management survey

Description	Results
MAIN INFORMATION ABOUT DATA	
Period	1983 - 2022
Sources (Journals, Books, etc)	500
Documents	945
Average years from publication	8.03
Average citations per document	20.35
Average citations per year per doc	2.13
References	45810
DOCUMENT TYPES	
Article	945
DOCUMENT CONTENTS	
Keywords Plus (ID)	2003
Author's Keywords (DE)	2311
AUTHORS	
Authors	2403
Author Appearances	2658
Authors of single-authored documents	147
Authors of multi-authored documents	2256
AUTHORS COLLABORATION	
Single-authored documents	161
Documents per Author	0.393
Authors per Document	2.54
Co-Authors per Documents	2.81
Collaboration Index	2.88

From 1999 until now, with the number of publications is 945 articles. The first article related to performance management was published in 1999. Researchers extracted documents related to titles, keywords, authors, journals, and others through the R software package. Researchers identified an increasing number of articles published from 1999 to 2022.

In (Figure 1) provides exciting information about performance management. The number of publications has consistently increased from 1999 to 2022. By 2022, the number of publications related to performance management will have reached 400 publications. Performance management is seen as more important in the future by the government (Kelman, 2007). This increasing trend certainly illustrates the curiosity of researchers developing in 2022 (Phulwani et al., 2020).

Five hundred journals publish articles in this study. The top three journals include the *International Journal of Productivity and Performance Management, Benchmarking, and Public Performance and Management Review*. The three journals have published 63 articles in the data for this study (Table 2). As for the distribution of article distribution, it is presented in Figure 2. The list shows that publisher journals are from various fields of industry, companies, and institutions. According to the current data set, *the International Journal of Productivity and Performance Management* is the most active in publishing articles related to performance management.
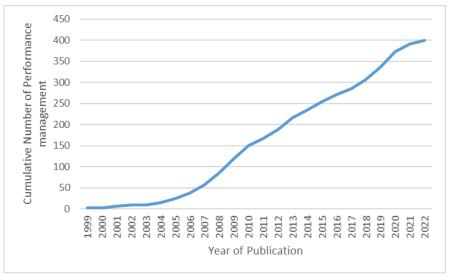

Figure 1. The number of annual and cumulative papers on performance management at Scopus from 1999 to 2022

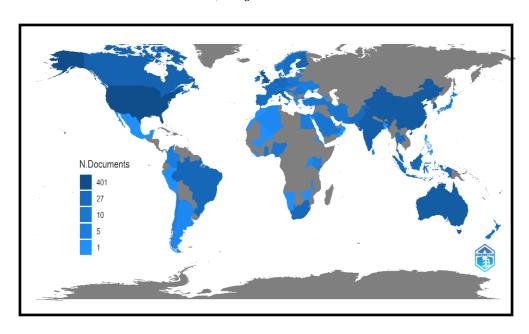Source: Analysis with R-Studio from the Scopus database.

Figure 2. Frequency of article distribution. Source: Analysis with R-Studio from the Scopus database.

Table 2. Most Relevant scientific

Rank	Country	Freq	Most Relevant Sources	Freq
1	USA	401	INTERNATIONAL JOURNAL OF PRODUCTIVITY AND PERFORMANCE MANAGEMENT	31
2	UK	211	BENCHMARKING	18
3	CHINA	105	PUBLIC PERFORMANCE & MANAGEMENT REVIEW	14
4	AUSTRALIA	99	PUBLIC ADMINISTRATION REVIEW	13
5	INDIA	88	INTERNATIONAL JOURNAL OF OPERATIONS AND PRODUCTION MANAGEMENT	11
6	MALAYSIA	63	INTERNATIONAL JOURNAL OF PUBLIC SECTOR MANAGEMENT	11
7	CANADA	54	INDUSTRIAL AND COMMERCIAL TRAINING	10
8	SOUTH KOREA	46	INTERNATIONAL JOURNAL OF QUALITY AND RELIABILITY MANAGEMENT	10
9	FINLAND	45	ENGINEERING, CONSTRUCTION AND ARCHITECTURAL MANAGEMENT	9
10	NETHERLANDS	44	INTERNATIONAL JOURNAL OF HUMAN RESOURCE MANAGEMENT	9

Note: Rank is a rank position; Freq Country is the number of publications in that country; Freq Most Relevant Sources is the number of publications of scientific works in the journal. Source: Analyzed with R-Studio Bibliometrix with Scopus database.

The keyword "*Performance management Survey*" has been dominant in the last two decades. The R package is used to identify the most frequently used keywords. The search results using the keyword "*Performance Management Survey*" yielded 945 articles. Figure 3 shows a visual representation of the author keyword network that often appears related to performance management.

A list of 10 articles from the top 10 journals is included in Table 3. From the literature review results, it was found that many researchers researched to assess the effectiveness of implementing a performance management system. Performance management emphasizes performance targets, communication, employee development, and engagement. The findings of (de Menezes & Escrig, 2019) research do not support the emphasis on communication, development, and employee engagement, but performance management practices are much more varied. Employee performance appraisal is widely adopted, but many are also criticized (Chubb, 2011).
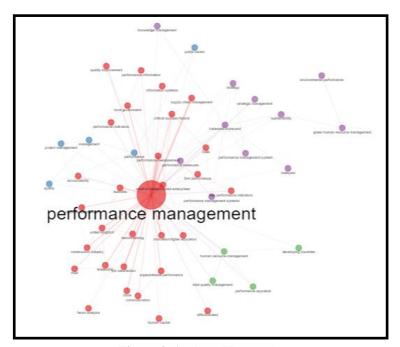

Figure 3. Authors Keyword

Source: Bibliometric analysis with R-Studio

Table 3. Literature Overview of the top 10 publications

No	Author	Journal	Year	ISSN	Contribution
1	Subhra Pattnaik, Susmita Pattnaik (Pattnaik & Pattnaik, 2021)	International Journal of Productivity and Performance Management	2020	1741-0401	This study examines the dimensions of the performance construct in the context of the Indian public sector. The author argues that Indian public sector managers do not see apparent differences between performance dimensions when assessing subordinates, so it is necessary to redefine performance management practices.
2	Shiva Kakkar, Sanket Dash, Neharia Vohra, Surajit Saha (Kakkar et al., 2020)	Benchmarking	2020	1463-5771	This study found a negative relationship between the perceived effectiveness of the performance management system and job satisfaction (intention to move). This indicates that organizations need to request employee participation in designing the performance management system
3	Zhangli Liu, Yuqian Yang, Jiannan Wu (Liu et al., 2021)	Public Performance & Management Review	2020	1530-9576	This study shows that management must participate in improving organizational culture and management strategy and need a strategy in setting goals and indicators as well as possible to reduce gaps in the performance measurement system.

4	Alexander Kroll, Donald P. Moynihan (Kroll & Moynihan, 2021)	Public Administration Review	2020	0033-3352	The use of performance information is intended for measurement. Executive agencies can influence the implementation of reforms related to performance data for management decisions; other studies have examined the use of performance information for the budgeting process.
5	Lilian M. de Menezes, Ana B. Escrig (de Menezes & Escrig, 2019)	International Journal of Operation and Production Management	2019	0144-3577	This study investigates performance management in the context of quality management. Performance appraisal is widely adopted and also widely criticized. The impact of performance management is mainly through the perception of conditions (job control and job demands) and their impact on working conditions
6	Tomi Rajala, Harri Laihonen, Petra Kokko (Rajala et al., 2021)	International Journal of Public Sector Management	2020	0951-3558	This study demonstrated a low degree of fragmentation in the examined hybrids, but this fragmentation led to several isolated units. Creating fragmented goals is also a barrier to shared performance measures.
7	Rasha Mahmoud Elkanayati, Ranisa Shamah (Elkanayati & Shamah, 2019)	Industrial and Commercial Training	2019	0019-7858	The balanced scorecard has a significant and positive relationship with performance quality. Besides that, the quality performance also has a significant and positive relationship with business performance

8	Andrea Chiarini (Chiarini, 2016)	International Journal of Quality and Reliability Management	2016	0265-671X	This study contributes to answering strategic questions in improving organizational performance by exploring the situation in Italy, especially organizations related to the Italian local government in charge of providing services to the community.
9	Okan Sirin, Murat Gunduz, Mohammed E. Shamiyeh (Sirin et al., 2021)	Engineering, Construction, and Architectural Management	2020	0969-9988	This study identifies the importance of all factors affecting pavement performance to guide decision-makers and looks at critical issues for professionals to consider during the design, construction, and maintenance stages.
10	Adelien Decramer, Carine Smolders, Alex Vanderstraeten (Decramer et al., 2013)	International Journal of Human Resources Management	2013	0958-5192	The employee performance management system aligns communication related to this system and strict academic control. Adopt an integrated approach to employee performance management in institutions.

Source: Bibliometric analysis with R-Studio

In the study, (Kakkar et al., 2020) stated that performance appraisal and management showed significantly different things. Performance appraisal is a method of evaluating employee behavior. The effectiveness of the assessment lies in the accuracy of the measurement process (Cynthia, 1985). Meanwhile, the performance appraisal does not lead to an increase in performance. Employee behavior can be changed based on goal setting, feedback, and rewards (Denisi & Smith, 2014). The effectiveness of performance management lies in the organization's ability to motivate employees to change their behavior voluntarily.

The effectiveness of performance management can be linked to the quality management system (ISO 9001). Research conducted by (Chiarini, 2016) proves that

ISO 9001 can increase the effectiveness of performance management, such as community satisfaction, reducing claims, and staff awareness of community needs. Apart from this, ISO 9001 also negatively affects citizen participation, internal communication, and group performance.

Organizational Performance Improvement can use the Balanced Score Card as a performance management system tool. The balanced scorecard can strengthen the quality management system (ISO 9001) and help align the company's strategy and goals (Elkanayati & Shamah, 2019). The balanced scorecard (BSC) has proven to increase the effectiveness of organizational performance management.

Achieving high business performance, of course, must be able to determine organizational goals appropriately. Inappropriate goals will have a dysfunctional impact (Davis & Stazyk, 2014); (Jung & Rainey, 2011). So, setting goals and indicators must be precise, which helps reduce gaps in the performance management measurement system (Liu et al., 2021).

CONCLUSION

The bibliometric analysis of the R-Studio package in this study shows that the keyword performance management increases every year in the number of publications. The distribution of research related to performance management exists in several countries. Implementation of performance management systems is critical in companies and institutions. Implementation of the performance management system can increase performance management effectiveness, although some have criticized the implementation of the performance management system.

Several things influence the effectiveness of performance management. This research found that the effectiveness of performance management lies in the organization's ability to determine goals and motivate employees to change individual behavior. The Balanced Score Card (BSC) performance management system tool can improve organizational performance and strengthen the company's quality system.

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