



Bibliometric Analysis of the Management Control Systems in SMEs

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Abstract. This study presents a Bibliometric Analysis on MSME management control system. This study analysis provides an understanding of information on level of research development, frequently used themes and bibliographic networks. Bibliographic data collected through the Scopus database from 2010 to 2020 with a total of 712 articles document analyzed and the analytical tool used was VOSviewer. These tools generate graphs in the form of bibliographical data based on cooccurrence, cocitation and coupling. These results provide an understanding that journals with these themes continue to increase in terms of publication volume and reputation, as evidenced by the publication of 712 Scopus indexed articles to date. Therefore, this analysis can provides a comprehensive understanding in the past research trends and predicts future research trends.

Keywords: Bibliometric · Management Control System

1 Introduction

Management control system according to some experts is defined as a formal presentation of information for managerial decision making [1]. Management control is a process and mechanism used by managers to influence individuals and groups towards goals and targets set by the organization. This control may include personal control, performance measurement or control systems. The reward system and process control mechanisms are combined and used together as a management control system [2]. The management control system in its application has received fairly considerable attention [2]. Management control system is very important for the growth of the organization and gives confidence to top management and provides important information. Management control systems are considered an important part of top management's responsibilities [1]. Management control systems are now important for the business environment, including MSMEs and have a major impact on business performance [1]. Management control systems can help managers to achieve organizational goals [3]. In the business environment, technology, organizational structure, company size, strategy, and culture all contribute to

the contingency of the management control system [4]. The practice of management control systems signifies a package of controls that are interdependent on each other [5]. Management selects the right combination of controls to suit the contextual conditions of the company [6].

This article discusses the development of management control system research in the past and the development of management control system research in the present and explores the trend of management control system research in the future. Many previous researchers have researched management control systems, but the literature review on management control systems in MSMEs is still scarce, which gave birth to the interest in analyzing management control system in MSMEs from 2016 to 2022 by collecting articles from reputable journals indexed by Scopus. This analysis covers the trend of MCS research topics in the past and present, plus aims to explore emerging trends and developments in management control system research in the future. There questions we put forward in this study:

- (1) What are the publication trends that include the top-cited articles, keywords and year of publication?
- (2) How to classify the article Management Control System?
- (3) What is the impact of management control systems on future research?

2 Methods

The method used in this research was descriptive with a qualitative method using the bibliometric analysis method by analyzing the management control system in the MSME. The data base used was the Scopus data base which was searched on October 4, 2022. This research analyzed general research trends, publications, by keyword, author, university, and citation structure. The analytical tool used was the VOSviewer application. The data analyzed were 712 documents. VOSviewer was chosen to visualize and analyze trends in the form of bibliometric maps. Data mapping articles were prepared and presented in VOSviewer with network visualization and density visualization. The visualizations are presented in this study.

3 Discussion

3.1 The Development of Research on MSME Management Control System

Research on management control systems in MSMEs from 2010 to 2020 has been published in 712 documents consisting of articles, books, book chapters, conference papers, and reviews, with the number of authors as many as 2,136 authors. The rate of development of management control system research from 2010 to 2020 steadily increases (Fig. 1). The research rate in 2010 was 78 articles, 113 articles in 2012, 121 articles in 2014, 142 articles in 2016, 148 articles in 2018; however, in 2020 it saw a decline in articles where only 110 articles were generated. The data are presented in the following graph:

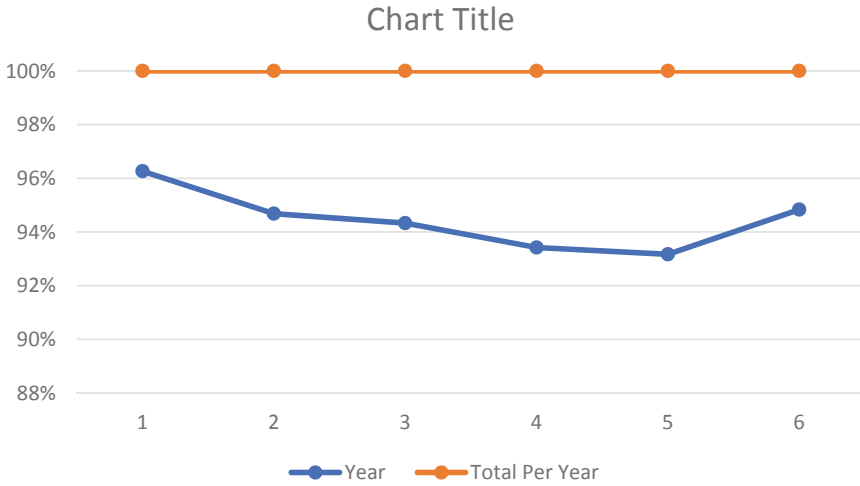


Fig. 1. The rate of development of management control system research in MSMEs from 2010 to 2020

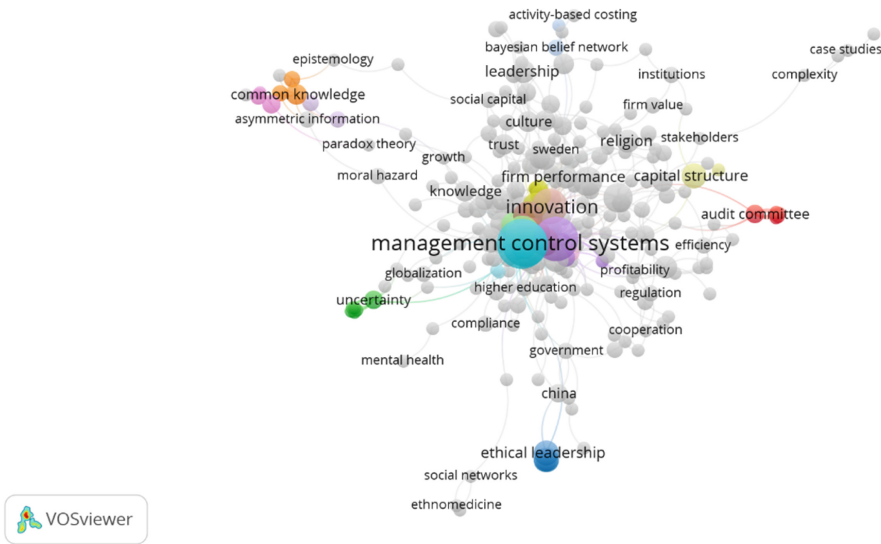


Fig. 2. Visualization of Research Topic Areas Using VOSviewer Network Visualization with Keywords

From Fig. 2, this article analyzed and developed a network based on journal co-occurrence based on cited keywords. Of the 712 that meet the minimum threshold of 5 citations from 2166 sources. Of the 166 that met the threshold, 44 were the top sources for analysis. The first cluster is the largest cluster marked in blue with the most widely used keyword being management control system. The second cluster is marked in purple

with the most used keyword being management control. The third cluster is in yellow with the most used keyword being innovation. The fourth cluster is marked in green with the most keyword being uncertainty. The fifth cluster is marked in red with the most widely used keyword being audit committee.

3.2 Visualization of Research Topic Areas Using VOSviewer Research Year

Figure 3 shows analysis and develops the relationship base on the development of the research theme and year of research, starting from 2010, where during this year the most studied is culture, followed by 2012, where during this year the research theme that is widely studied is profitability. Next is 2014, where the prevalent research theme is ethical leadership, 2016, where the prevalent research theme is management control system. In 2018, the most common research is innovation, while in 2020 the most common research is about firm value.

3.3 Bibliography Among Authors Writing About Management Control System

Figure 4 contains the coupling network bibliography. This bibliography consists of several references [7], therefore, this bibliographic network was built using documents and authors as the unit of analysis. This bibliographic network consists of 2,136 authors with the top 100 authors to be analyzed. From Fig. 3, there are 6 clusters consisting of a gray cluster consisting of 35 authors with uncertainty as the most common topic [8]. The next cluster is the green cluster consisting of 21 authors with Audit committee; Experience; Expertise; Independent committee chair; Independent directors as the most common topics [9]. The next cluster is in red with 6 authors with the role of using diagnostic control and interactive control in innovation as the most common topics [10]. The next cluster is in blue consisting of 4 authors with performance management as the most common topic [11]. The next cluster is in brown with 4 authors with system design and control as the most prevalent topics [12]. Lastly, yellow cluster consisting of 2 authors with network trust as the most prevalent topic [13].

4 Conclusions

This research is expected to provide an overview about theme of management control systems in MSMEs. This study accesses research model, keywords use and years of the research. However, it only in the form of bibliometric data not complete data. The topic of research carried out is still very limited to the management control system in MSMEs. It is hoped that this study will make it easier for future researchers to conduct research and opens up more promising opportunities for future research.

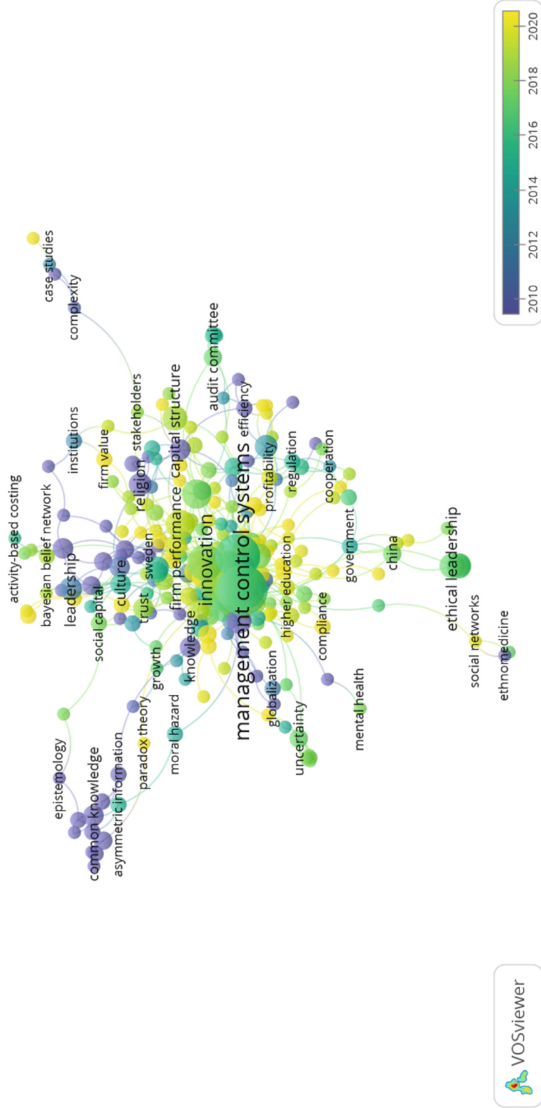


Fig. 3. Visualization of Research Topic Areas Using VOSviewer Research Year

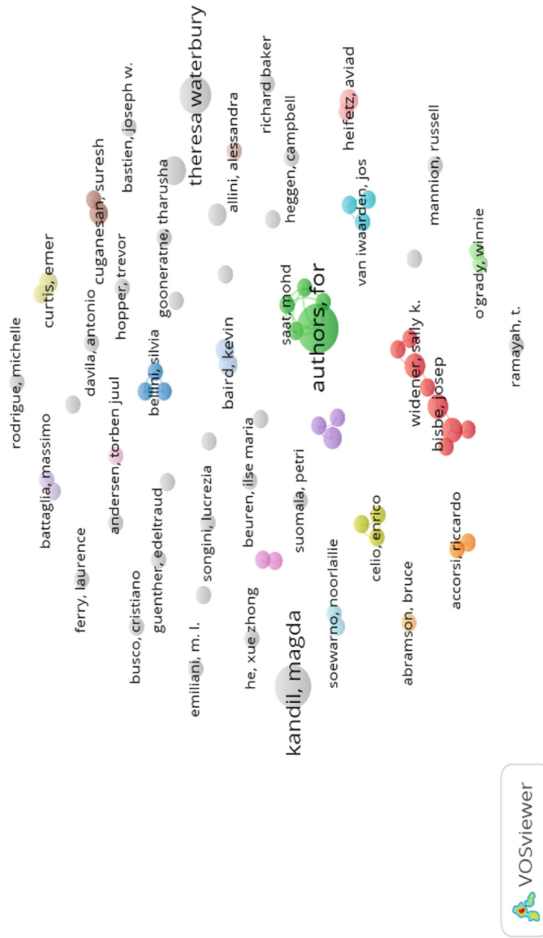


Fig. 4. Bibliography Among Authors Writing about Management Control System

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