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Management Control System Design and Innovation: A Systematic Literature Review

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Abstract
The purpose of this study is to examine through a systematic review the management accounting research that focuses on the role of management control systems (MCS) in enhancing innovation within organizations. For that purpose, a total of 19 articles from publications spanning from 2000 to 2022 were selected using the keywords of management control system and innovation. The findings indicate that the Levers of Control (LoC) is the most widely studied topic. The next popular topic being examined is formal and informal control mechanisms. The aspect of innovation in that literature mainly focuses on product innovation, management and organizational innovation, and environmental innovation and sustainability. Future research can explore more the role of the MCS in the combined mechanism of LoC to encourage innovation. This paper contributes to the MCS literature by examining the suitable mechanisms affecting the success of innovation in a rapidly changing environment.

Keywords: Management Control System, Innovation, Review Literature, Levers Of Control, New Product Development

Desain Sistem Pengendalian Manajemen dan Inovasi: Telah Literatur Sistematis

Abstrak
Tujuan dari penelitian ini adalah untuk mengkaji melalui tinjauan sistematis penelitian akuntansi manajemen yang berfokus pada peran sistem pengendalian manajemen (SPM) dalam meningkatkan inovasi dalam organisasi. Untuk itu, sebanyak 19 artikel yang terbit pada periode publikasi 2000-2022 dikumpulkan berdasarkan kata kunci sistem pengendalian manajemen dan inovasi. Temuannya menunjukkan bahwa Levers of Control (LoC) adalah topik yang paling banyak diteliti. Topik populer selanjutnya yang diteliti adalah mekanisme kontrol formal dan informal. Aspek inovasi dalam literatur tersebut tidak hanya berfokus pada inovasi produk tetapi pada inovasi manajemen dan organisasi, serta inovasi lingkungan dan keberlanjutan. Penelitian selanjutnya dapat lebih mengeksplorasi peran MCS dalam mekanisme gabungan di LoC untuk mendorong inovasi. Makalah ini berkontribusi pada literatur MCS dengan memeriksa mekanisme yang sesuai yang berdampak pada keberhasilan inovasi dalam lingkungan yang berkembang pesat.

Kata Kunci: Sistem Pengendalian Manajemen, Inovasi, Telaah Literatur, Levers Of Control, New Product Development

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INTRODUCTION

Innovation that will remain one of the keys to success in organizational adaptation and dynamic business development requires an appropriate management control system (MCS) design to be able to deal with uncertainties in the business environment while continuing to innovate (Chenhall & Moers, 2015; T. Davila, 2000). MCS is a system that aims for efficiency which is the opposite of innovation as it is considered inefficient (Barros & Ferreira, 2019). However, in an innovative environment, control becomes a barrier to creativity (Simons, 1995). This is in line with Speklé et al. (2017) who suggest that control and creativity are opposites even though both are important to drive organizational success. Thus, the relationship between MCS and innovation is a concern in management accounting research.

The relationship between MCS design and innovation has been the object of examination in the literature of management accounting (Bedford, 2015; Bisbe & Malagueño, 2009; Bisbe & Otley, 2004; T. Davila, 2000; Moll, 2015). MCS design influences innovation product (Bisbe & Otley, 2004; A. Davila et al., 2009; T. Davila, 2000; Guo et al., 2019; Gurd & Helliar, 2017; Henri & Wouters, 2020; Müller-Stewens et al., 2020) and management innovation (Alharbi et al., 2022; Baird et al., 2019; Bedford, 2015; Bisbe & Malagueño, 2009; Henri, 2006). In addition, various MCS designs were examined in conjunction with the MCS. The Levers of Control (LoC) approach is a control design that has been extensively researched in the control literature. Moreover, inconsistencies in research models provide opportunities to examine the relationship between management control systems and innovation. Another issue found in previous studies is related to the mediating relationship model. This refers to the role of innovation mediator in the relationship between MCS and performance (Alharbi et al., 2022; Baird et al., 2019; Bisbe & Otley, 2004; Henri, 2006), or MCS as a mediator between strategy and innovation (Chenhall et al., 2011).

In the light of this background, the study attempts to investigate literature that examines the relationship between MCS design and innovation in a systematic review. Previous systematic reviews have focused on the evolution of thinking on the role of MCS in innovation (Barros & Ferreira, 2019), the MCS relationship among Simon's model on innovation (Barros & Ferreira, 2022) and the role of MCS on innovation activities (Lill et al., 2021). In order to elaborate on how MCS plays a role the innovation, this study starts with defining the innovation studies in those previous literatures. Therefore, the aim of this study is to explore MCS design research and various measures of innovation. According to Moll (2015), until recently research on innovation still focuses on product innovation. Bisbe and Otley (2004) emphasize the importance of investigating not only product innovation but also process innovation and organizational/management innovation. Therefore, this article aims to explain the role of MCS in various innovation measurements. In addition, this study also explores research models that discuss the connection between MCS and innovation in literatures.

This literature review was conducted by following several steps to search for relevant articles using the keywords 'management control system' and 'innovation.' The initial search

was performed on www.sciencedirect.com, limiting the publication years from 2000 to 2022. The next step involved identifying the most relevant article titles published in reputable journals in accounting and business. This was achieved by filtering the article types and subject areas, specifically focusing on business, management, and accounting. Another academic source utilized in this review was www.emerald.com. This process resulted in the identification and analysis of 19 articles to determine the mechanisms of MCS, the measurement of innovation, and its impact on other variables relevant to management accounting. Furthermore, this article provides a comprehensive synthesis of the topics discussed in relevant research and offers implications for future research."

It is expected that this paper will contribute to the development of MCS literature and its role in innovation. First, it is because this study provides an overview of the MCS mechanisms as researched in literature. Barros & Ferreira (2019) suggest that analyzing the mechanics of MCS can highlight the evolution of MCS and explain the differences in perceptions in traditional and contemporary MCS.

Second, this study explores the measures of innovation in research and identifies the situations in which MCS plays a role. Chenhall & Moers (2015) emphasize that innovation has become a key variable, motivating a more complex understanding of control. Innovation directly impacts by producing new products, services, and processes. Bisbe & Otley (2004) also note the need for research to focus not only on product innovation but also on institutional innovation. Third, this study identifies the research model of the association between MCS and innovation and its relation to other relevant accounting and organizational variables. This study aims to contribute to the development of a research model linking MCS, innovation, and relevant accounting and organizational variables.

This paper will explain the mechanisms and characteristics of MCS in management accounting and control studies. It will draw on both empirical and theoretical works from MCS and innovation literature, focusing on research articles that explore the role of MCS and innovation. The articles examined are those related to management and accounting, published up to 2022, providing an update on recent research results.

The structure of this paper is as follows: The second section discusses the definitions and terminology relevant to this study. The third section outlines the methods used in literature analysis. The fourth section presents the results of the article review, based on the MCS mechanism framework and the measurement of innovation used in the research. Additionally, this study provides an overview of research models that associate MCS with innovation within the framework of organizational development.

Management Control System

Management control systems (MCS) are defined as formal and information-based routines and procedures that managers use to maintain or change patterns in organizational activities (Simons, 1995). Chenhall & Moers (2015) describe MCS as a combination of formal and informal control over inputs, processes, and outputs used by management to achieve goals. Similarly, Kennedy & Widener (2019) define MCS as a mechanism for communicating organizational goals, motivating individuals within the organization to achieve these goals,

and fostering behaviorial alignment. This suggests that MCS are integral to complementary relationships within the organization. Barros & Ferreira (2019) emphasize the connection between MCS and organizational strategy in achieving goals. Information-based systems within MCS enable organizations to manage activities effectively to reach their objectives. This aligns with Tushman & Nadler's (1978) assertion that MCS are effective tools for managing environmental uncertainty by providing the necessary information to achieve organizational goals.

This definition assumes that the information in the MCS mechanisms can vary and become more complex when multiple controls aer connected by relationships influenced by the environmental and organizational context. For example, in a simple management accounting practice, a budgeting approach can be used to assess the extent to which the production process has met established cost standards (Chenhall & Moers, 2015). Simons (1995) suggests that the purpose of MCS is not merely to achieve organizational goals but also to manage organizational activities as both a strategy implementation and formulation tool. This implies that the complexity of MCS mechanism can vary depending on the hierarchical structure of the organization (Barros & Ferreira, 2019) and the organizational context (Chenhall, 2003). These mechanisms include combining systems as MCS packages (Chenhall et al., 2011; Malmi & Brown, 2008), using Levers of Control frameworks (Simons, 1995), performance measurements such as balanced scorecards, budgeting, and other mechanisms that support the achievement of organizational goals.

Innovation

Organizations need to innovate to respond to changing customer demands and lifestyles and to take advantage of opportunities offered by technology and shifts in market structure and dynamics. Innovation in organizations can occur in products, services, processes, and relationships (Baregheh et al., 2009). According to Sisaye (2003), innovation involves the introduction of new ideas, products, technologies, or programs within the organization. Baregheh et al. (2009) identify 60 definitions of innovation from various literatures, mapping these definitions into attributes such as the nature, type, stage, social context, means, and aim of innovation.

Sisaye (2003) differentiates between technical and administrative innovations. Technical innovation focuses on enhancing technological performance, such as developing new products, equipment, services, or introducing new elements in production processes. In contrast, administrative innovation involves structural alignment and personnel changes, impacting all organization levels and duties. Examples include new reporting systems, personnel and recruitment policies, internal control mechanisms, and resource allocation decisions.

This research identifies three types of innovation: product innovation, management/organizational innovation, and innovation in organizational sustainability and environmental aspects. Product innovation refers to the development and launch of unique products (Bisbe & Otley, 2004), with new product development (NPD) being part of this process (A. Davila et al., 2009; T. Davila, 2000; Müller-Stewens et al., 2020).

Management innovation, as described in the Innovation Management Mode (IMM), refers to the configuration of organizational and management processes where innovations emerge and are managed (Bisbe & Malagueño, 2009). Organizational innovation also includes the introduction of new business management methods and changes in organizational structure (Lopez-Valeiras et al., 2016). Additionally, innovations in business practices that address environmental, ecological, economic, and social criteria for sustainability are increasingly important in research (Lopez-Valeiras et al., 2015; Wijethilake et al., 2018).

Management Control System and Innovation

In an uncertain environment, the role of MCS in the innovation process is to provide the required information (T. Davila, 2000). Simons (1991, 1995) develops information-based MCS within the framework of Levers of Control (LoC). The LoC framework is based on the idea of balancing opposing forces to manage tensions between freedom and constraints, empowerment and accountability, top-down direction and bottom-up creativity, and experimentation and efficiency (Simons, 1995). Simons refers to these as positive and negative control system, likening them to the yin and yang of Chinese philosophy. Positive control systems provide motivation, rewards, guides, and promote learning, while negative controls systems involve coercion, punishment, determination, and regulation. Organizations must integrate both types of control to create dynamic tensions, ensuring effective control.

Recent research models depict the relationship between MCS and innovation as direct, indirect (mediation), and moderating, with organizational performance as the dependent variable. In an indirect relationship, innovation mediates the relationship between MCS and performance (Baird et al., 2019; Bisbe & Otley, 2004; Henri, 2006). In a moderating relationship, the MCS design moderates the relationship between innovation and performance (Bisbe & Otley, 2004; Lopez-Valeiras et al., 2015, 2016; Wijethilake et al., 2018). Research examining these mediation and moderation effects provides insights into the interplay between MCS design, innovation, and organizational outcomes such as performance.

METHOD

This study limits the scope of the literature review to MCS and innovation research articles published between 2000 and 2022 in leading accounting journals. Wibbeke & Lachmann (2020) suggest that the period after 2000 represents a broad spectrum of research methods and theoretical perspectives in management accounting and control. The keywords used in the search were 'management control system' and 'innovation'. The search was conducted through www.sciencedirect.com and www.emerald.com, yielding 19 relevant articles. These articles were selected based on criteria including coverage of MCS and innovation topics, original research, empirical methods, and the inclusion of MCS and innovation in the title, abstract or constructs.

The journals assessed were reputable and Scopus-indexed with Q1, Q2 and Q3 ratings. Fourteen of the selected articles were published in Q1-rated journals. Two articles were published in Q2-rated journals, and one article in Q3-rated journal. The majority of the articles (six) were published in Accounting, Organization and Society (AOS), which has played a pioneering role in the development of MCS research (Chenhall & Moers, 2015). Other journals included in the review are European Accounting Review, Journal of Management Accounting Research, Management Accounting Research, Sustainability, Review of Managerial Science, British Accounting Review, Journal of Business Ethics, Pacific Accounting Review, Global Business Review, Journal of Accounting and Organizational Change, Business Process Management Journal, and Qualitative Research in Accounting & Management.

The selected articles were categorized based on the journal, the MCS design tested, the type of innovation, the research method, and the research results. This categorization required a detailed re-examination of the title, abstract, key words, and the entire text. Articles with keywords such as 'interactive', 'diagnostic', 'beliefs', and 'boundary' were categorized under the Levers of Control framework for MCS design. The types of innovation were categorized into product innovation, management innovation, and environmental innovation (including environment and sustainability).

Table 1. *List of Journals and Their Ratings*

No	**Journal**	**Number of Articles**	**Rating Scopus Journal**		
			Q1	Q2	Q3
1	Accounting, Organization and Society	6	√		
2	European Accounting Review	2	√		
3	Journal of Management Accounting Research	1	√		
4	Management Accounting Research	1	√		
5	Sustainability	1	√		
6	Review of Managerial Science	1	√		
7	British Accounting Reviews	1	√		
8	Journal of Business Ethics	1	√		
9	Global Business Reviews	1		√	
10	Journal of Accounting and Organizational Change	1		√	
11	Pacific Accounting Review	1			√
12	Business Process Management Journal	1	√		
13	Qualitative Research in Accounting & Management	1		√	
	Total	19	15	3	1

FINDING AND DISCUSSION

Connection System Control Management and Innovation

Management control systems in the literature are identified and categorized into LoC perspective, and formal and informal controls. The LoC framework approach dominates the research on MCS design. Interactive control was tested in all studies using the LoC approach (Baird et al., 2019; Barros & Ferreira, 2022; Bedford, 2015; Bisbe & Malagueño, 2009; Bisbe & Otley, 2004; Biswas & Akroyd, 2022; Henri, 2006; Lopez-Valeiras et al., 2016; Müller-Stewens et al., 2020; Wijethilake et al., 2018). Diagnostic control was also examined in these studies (Baird et al., 2019; Barros & Ferreira, 2022; Henri, 2006; Müller-Stewens et al., 2020; Wijethilake et al., 2018). Responding to suggestions from Bisbe & Otley (2004) and Chenhall & Moers (2015), the LoC perspective has increasingly include beliefs and boundary perspectives alongside interactive and diagnostic controls (Baird et al., 2019; Barros & Ferreira, 2022; Wijethilake et al., 2018).

Formal MCS mechanisms related to products, such as product cost, product design, and product development, are tested in relation to innovation (Chenhall et al., 2011; A. Davila et al., 2009; T. Davila, 2000; Henri & Wouters, 2020; Lopez-Valeiras et al., 2015). Performance evaluation, including the Balanced Scorecard (BSC) and other informal performance measurements, is another formal system tested in research(T. Davila, 2000; Henri & Wouters, 2020; Lopez-Valeiras et al., 2015). Budgeting and other input controls are also examined (A. Davila et al., 2009; T. Davila, 2000; Guo et al., 2019; Henri & Wouters, 2020). Informal mechanisms in management control, related to organizational behavior and culture, are studied by Alharbi et al. (2022; Guo et al. (2019).

Research testing the LoC framework as an MCS design confirms that interactive use has a positive relationship with innovation (Bedford, 2015; Bisbe & Malagueño, 2009; Henri, 2006). Convesely, diagnostic use has a negative effect on innovation (Henri, 2006). However, Bedford (2015) suggests that the use of diagnostics in MCS is important for identifying new markets and technological capabilities, which can contribute to performance. Subsequent research combines different LoC perspectives to influence innovation. This combination includes enabling use (interactive and belief control) and controlling use (diagnostic and boundary control) (Baird et al., 2019; Wijethilake et al., 2018). Additionally, Müller-Stewens et al. (2020) tested the combination of interactive and diagnostics controls and their influence on innovation in both stable and turbulent environments.

The formal MCS mechanisms discussed in this paper relate to product costs, product design, and product development. A. Davila et al. (2009); and T. Davila (2000) investigate the influence of the formal control system in the context of new product development (NPD) and found that these systems play a role in obtaining information to reduce uncertainty. Whereas Chenhall et al. (2011) tests the formal design of MCS as a mediating variable between differentiation strategy and innovation. Other formal controls, such as benchmarking, BSC, and budgeting systems, strengthen the link between innovation and performance (Bernd & Beuren, 2022; Lopez-Valeiras et al., 2015).

Table 2. *List of Literature based on Management Control System Mechanisms*

No	Approach Control	Reference	MSC Design
1	Levers of Control	Bisbe & Otley (2004)	Interactive use of MCS
		Henry (2006)	Interactive use of MCS
			Diagnostic use of MCS
		Bisbe & Malagueño (2009)	Interactive use of MCS
		Bedford (2015)	Interactive use of MCS
			Diagnostic use of MCS
		Lopez-Valeiras et al. (2016)	Interactive use of MCS
		Wijethilake et al. (2018)	Enabling use of MCS (belief and interactive use of MCS)
			Controlling use of MCS (boundary and diagnostic use of MCS)
		Baird et al. (2019)	Enabling use of MCS (belief and interactive use of MCS)
			Controlling use of MCS (boundary and diagnostic use of MCS)
		Müller- Stewens et al. (2020)	Interactive use of MCS
			Diagnostic use of MCS
		Barros & Ferreira (2022)	Enabling use of MCS (belief and interactive use of MCS)
			Controlling use of MCS (boundary and diagnostic use of MCS)
		Biswas & Akroyd (2022)	Levers of Control
		Bernd & Beuren (2022)	Enabling MCS system
2	Formal Control	T. Davila (2000)	formal control
		A. Davila et al. (2009)	Accuracy product development time
		Chenhall et al. (2011)	Planning and control
		Lopez-Valeiras et al. (2015)	Benchmarking, BSC, cost accounting, budget system
		Guo et al. (2019)	Input controls
		Henri & Wouters (2020)	Costing system and nonfinancial performance indicators
		Alharby et al. (2022)	formal control
		Bernd & Beuren (2022)	Formal system as budgeting and reengineered and improvement
3	Informal Control	Guo et al. (2019)	Behavior control
		Alharby et al. (2022)	Personal and cultural control organization

The literature in this study adopts the concept of innovation as the development of new ideas or behaviors within organizations (Bisbe & Malagueño, 2009; Chenhall et al., 2011; Chenhall & Moers, 2015; T. Davila, 2000). This innovation can take form of new product development (Bisbe & Otley, 2004; Chenhall et al., 2011; A. Davila et al., 2009; T. Davila, 2000; Guo et al., 2019; Gurd & Helliar, 2017; Henri & Wouters, 2020; Müller-Stewens et al., 2020), management and organizational innovation (Alharbi et al., 2022; Baird et al., 2019; Bedford, 2015; Bernd & Beuren, 2022; Bisbe & Malagueño, 2009; Guo et al., 2019; Lopez-Valeiras et al., 2016), and environmental innovation and sustainability (Lopez-Valeiras et al., 2015; Wijethilake et al., 2018). The development of various types of innovation in research addresses the challenges posed by Bisbe & Otley (2004), who suggest that innovation research should extend beyond product innovation to include management innovation and process innovation.

Research examining the relationship between MCS and innovation indicates that managers use control to gather information that reduces uncertainty in the innovation process. This process applies not only to new product development but also to management innovation. Information-based MCS mechanisms, such as the Levers of Control (LoC) framework, contribute to increased innovation.

Table 3. *List of Literature based on Innovation.*

No	Innovation	Reference	Innovation Measures
1	Innovation product	T. Davila (2000) Bisbe & Otley (2004)	New Product Development
		A. Davila et al. (2009) Chenhall et al. (2011) (Gurd & Helliar, 2017) Guo et al. (2019) Henri & Wouters (2020) Müller- Stewens et al. (2020)	New Product Development
2	Innovation management and organization	Henry (2006)	Innovativeness in capabilities
		Bisbe & Malagueño (2009)	Innovation Management Mode
		Bedford (2015)	Innovation mode of exploitation and exploration
		Lopez-Valeiras et al. (2016)	Process and organizational innovation
		Guo et al. (2019)	Process Innovation
		Baird et al. (2019)	Management innovative dimension
		Alharby et al. (2022)	Organizational-oriented type of innovation
		Bernd & Beuren (2022)	Process innovation and marketing
		Biswas & Akroyd (2022)	Strategic management of innovation
3	Innovation environment and sustainability	Lopez-Valeiras et al. (2015)	Sustainable innovation
		Wijethilake et al. (2018)	Environmental innovation strategy

Management Control System and Innovation Research Models

Research examining the relationship between management control systems (MCS) and innovation reveals direct, indirect, and moderating connections. The direct relationship is highlighted by the relevance of MCS implementation to innovation within organizations (Barros & Ferreira, 2022; Bisbe & Malagueño, 2009; T. Davila, 2000; Guo et al., 2019; Henri, 2006; Henri & Wouters, 2020; Lopez-Valeiras et al., 2016). In the context of new product development, MCS provides essential information under conditions of uncertainty (T. Davila, 2000), but its effectiveness may be compromised when using an interactive perspective due to increased complexity (Bisbe & Otley, 2004). Contrary to this, Henri (2006) provides empirical evidence that an interactive MCS approach, which represents positive forces used to explore opportunities and learning within organizations, positively influences innovation. Conversely, the diagnostic MCS approach, which represents the traditional feedback role of MCS used to monitor and control, tends to have negative influences on innovation (Henri, 2006).

The implementation of dynamic tension within the Levers of Control (LoC) framework also impacts innovation. Dynamic tension supports the organization in aligning towards a single goal, indicating that innovation can be balanced against the need to achieve set objectives (Barros & Ferreira, 2022). Henri (2006) discovers that this dynamic tension, combining interactive and diagnostic approaches, helps bridge tension between the freedom to innovate and the necessity to achieveme of predictable goals (Henri, 2006). Thus, while MCS might be considered a barrier to innovation, a design that combines interactive and diagnostics approaches contributes positively to innovation.

The mediating role of innovation emerges when examining the implementation of MCS in relation to organizational performance (Bisbe & Otley, 2004; Henri, 2006). This indirect relationship suggests that MCS contributes to the development of innovations that, in turn, enhance organizational performance (Bisbe & Otley, 2004). MCS implementation can also indirectly impact performance by influencing the deployment of valuable, rare, and inimitable organizational capabilities (Henri, 2006). Baird et al. (2019) discovers that management innovation, through new techniques, mediates the relationship between MCS and performance. However, some studies indicate that innovation does not always mediate this relationship effectively (Bisbe & Otley, 2004), reflecting the complexity and variability in how MCS influences innovation. Alharbi et al. (2022) tests the mediating effect of MCS on the relationship between organizational culture and innovation.

In the moderation model, MCS implementation is evaluated as a variable that can enhance the influence of innovation on output. Bisbe & Otley (2004) suggest that an interactive MCS mechanisms that leverage creativity and encourage product innovation contribute to the success of innovation initiatives, thereby benefiting performance. By focusing on interactions that involve managers in subordinate decision making, MCS can enhance performance through innovation. Research shows that MCS mechanisms strengthen performance in Bisbe & Otley (2004); Lopez-Valeiras et al. (2015); and Wijethilake et al. (2018). Additionally, Müller-Stewens et al. (2020) analyzes how interactive MCS relationships drive innovation in both stable and turbulent environments.

Henri & Wouters (2020) also investigate the effect of MCS on innovation with environmental uncertainty as a moderating variable.

CONCLUSION

This study's findings indicate that the Levers of Control (LoC) approach by Simons is the most widely used framework in research linking Management Control Systems (MCS) and innovation. The use of interactive control within LoC has a positive influence on innovation, as it enables constant searching for opportunities and learning, driving the organization to innovate. However, in the context of interactive complexity, a correlation between MCS and innovation is not observed. The dynamic tension that arises from combining the LoC perspective is a factor that can increase innovation initiation within the organization.

Future research may consider exploring control mechanisms that combine multiple perspectives and their impact on increased innovation in organizations. As previously discussed, control mechanisms can inhibit creativity, making it essential to investigate which control mechanisms can encourage creativity and promote innovation. Moreover, the significance of informal control in organizations provides a foundation for future research development.

It is essential to acknowledge the limitations of this study, as the literature on this topic is extensive, and this study's scope is limited in capturing the diversity of research results on the relationship between control and innovation. To overcome this limitation, additional search criteria should be employed to retrieve more literature that supports the study's findings. Despite these limitations, this study aims to identify patterns in MCS research and innovation regarding mechanisms, types of innovation, and models developed. Based on these findings, it is hoped that further research will be able to further explore the relationship between MCS and innovation in various contexts.

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