

# Management Control System and Ambidexterity: A Systematic Literature Approach

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**Abstract:** Companies must continue to adapt to ensure the sustainability of their business by meeting current market needs and at the same time anticipating future market needs. Ambidexterity or the company's ability to carry out exploitation and exploration activities simultaneously is a must. Limited resources make it difficult for companies to carry out these two activities simultaneously.

Management Control System (MCS) has an important role in helping a company achieve its goals. MCS focuses on how to encourage, empower, or even force employees to act in accordance with the interests of the company. MCS includes all the tools or systems that managers use to ensure the behavior and decisions of their employees are in line with company goals and strategies.

This paper attempts to conduct a literature review to examine previous research regarding the relationship between MCS and ambidexterity. The research was conducted using the Scopus database with the keywords ambidexterity or ambidextrous and control. The research obtained 83 articles in the period 2006 – 2023.

Research has found that there is a relationship between the use of MCS and ambidexterity, with the commonly used MCS referring to the lever of control. There is also previous research that uses the MCS package. There are still opportunities to conduct research with other MCS that focus on employee behavior. This is important because it is the employees in the company who will determine whether the company's goals are achieved.

**Keyword:** Ambidexterity, exploitation, exploration, management control system.

## 1. INTRODUCTION

Constantly changing environmental conditions force companies to continue to adapt (Kafetzopoulos et al., 2023). Consumer demands, intense competition and the impact of technology are factors that make companies not only adjust business operations but also switch to new forms or business models (Kafetzopoulos et al., 2023). Companies must continuously accumulate, adapt, and update their knowledge, resources, and core competitiveness (Peng & Lin, 2021).

Companies adapt to environmental changes through exploiting knowledge they already have or by exploring new knowledge from outside the company (Roth & Corsi, 2023). Companies must be involved enough in exploitation to ensure current sustainability and exploration to ensure future sustainability (Levinthal & March, 1993). A company's ability to exploit and explore simultaneously is important for achieving superior and sustainable performance (Junni et al., 2020) or even survival (March, 1991).

Ambidexterity, which means the ability to use two hands with the same skills, is a description of companies that are capable of exploitation and exploration simultaneously (Kafetzopoulos et al., 2023). Ambidexterity is the main ca-

pability that determines the sustainability of the company (Junni et al., 2020). The importance of ambidexterity is such that it has encouraged research on this theme (Hughes, 2018; Kafetzopoulos et al., 2023; Peng & Lin, 2021; Roth & Corsi, 2023).

Literature studies regarding ambidexterity have been carried out by several researchers (Chakma et al., 2021; Kafetzopoulos et al., 2023; Pertusa-Ortega et al., 2020; Ragazou et al., 2022; Roth & Corsi, 2023; Zhou et al., 2023). The variables studied include ambidexterity at the employee level (Pertusa-Ortega et al., 2020), the relationship between agility, ambidexterity and open innovation (Ragazou et al., 2022), and ambidexterity in the context of international geography (Roth & Corsi, 2023). Research uses several different methods, including ambidexterity research using a combination of bibliometric and analysis framework theories, contexts, characteristics, and methodology (Chakma et al., 2021), and research using a multidimensional framework (Kafetzopoulos et al., 2023). There is also research that examines exploitation and exploration further in the context of innovation management by paying more attention to the theoretical basis used (Zhou et al., 2023).

Nonetheless, there are still many areas that have not been investigated (Chakma et al., 2021). Among them are the dichotomy of the concepts of exploitation and exploration (Zhou et al., 2023), limited literature until 2021, namely when the research was made (Roth & Corsi, 2023), and the

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development of a business model that integrates the circular economy dimensions in adapting to ever-changing opportunities and conditions (Ragazou et al., 2022).

Previous researchers have classified research related to ambidexterity into two levels, namely categories and themes for future research. There are three categories of research that can be carried out, namely the factors that influence the application of ambidexterity and determine the success of implementing ambidexterity, types of ambidexterity, and the effect of ambidexterity (Kafetzopoulos et al., 2023). The next level after categories is future research themes. The categories of factors that influence the application of ambidexterity and determine the success of implementing ambidexterity have several research themes that can be carried out including the antecedents of ambidexterity, organizational culture, the role of leadership in ambidexterity, exploration-exploitation, moderator/mediation of ambidexterity, the role of employees and human resources in ambidexterity, and quality management (Kafetzopoulos et al., 2023). This research will try to further examine the antecedents of ambidexterity, especially those related to the management control system.

Management control system (MCS) is a management tool in ensuring the success of an organization in surviving and continuing to develop. The management control system focuses on execution and plays an important role in determining the company's success (Merchant & Van der Stede, 2017) It is thought to be able to play a role in implementing ambidexterity. This raises research questions namely:

RQ: How does the management control system affect ambidexterity in the company.

This research question will be tried to be answered by examining previous research related to MCS and ambidexterity.

MCS plays an important role in the company. MCS failure can bring financial losses, damage to the company's reputation, or even organizational failure (Merchant & Van der Stede, 2017). Failure of the control system not only has an impact on the company, but also has the potential to affect the industry, for example bank failure due to a lack of integrity has the impact of reducing investor confidence in the banking industry.

Management control is the final part of the management process which includes goal setting, strategy formulation, and management control. Management control here means the execution and implementation of strategy (Merchant & Van der Stede, 2017). Company failures are generally caused by poor execution, not bad strategy.

This article is divided into five parts, namely introduction, literature search methods, disclosure of results, discussion, and conclusions.

## 2. MATERIAL AND METHOD

### 2.1. Conceptual Boundaries

The discussion in this study is limited to the antecedents of ambidexterity in relation to organizational control (Snyder, 2019). This limitation is necessary because of the extent of

the discussion of ambidexterity and the ongoing development of research in this area (Roth & Corsi, 2023). Restrictions will make research more focused so that it is expected to be able to connect the research that will be carried out with previous studies (Snyder, 2019).

### 2.2. Systematic Review

Systematic Literature Review (SLR) was originally used in health sciences, based on the assumption that medical practice must have scientific evidence (Pati & Lorusso, 2018). In its development, other fields of science also use SLR, including education, information technology, management, supply chain, public health, and psychology (Siddaway et al., 2019). The research uses the antecedent-phenomenon-consequence logic which will systematically develop an integrative framework (Williams et al., 2021). The SLR provides a comprehensive overview of the literature related to the research question and synthesizes previous research to strengthen the foundation of a particular theme.

The SLR approach is suitable for answering clear research questions or building a conceptual framework (Roth & Corsi, 2023). This approach encourages systematic and objective analysis and collection of material. SLR plays an important role in building a knowledge base or serving as policy guidance, as well as providing evidence, even if done well SLR can provide new ideas and research directions in the future (Snyder, 2019).

### 2.3. Search Protocol

Search for articles using the Scopus database. The Scopus database was chosen because the process of selecting journals to be indexed in Scopus has gone through a series of strict selection processes. Scopus has an independent advisory and content selection board, consists of leading experts in the field. Apart from that, there is a re-evaluation mechanism to identify journals that cannot maintain their performance (*The Importance of High-Quality Content in Scopus | Elsevier Scopus Blog*, n.d.).

The keywords used are ambidextrous or ambidextrous and control. The search was carried out on the article title, abstract and keywords. Researchers try to get articles that are relevant to ambidexterity, ambidextrous in relation to control within the organization. In addition, a delimiter is used in the subject area of the selected journal, namely business, management and accounting and the type of document in the form of an article. Restrictions were made so that the filtered articles were related to the field of accounting.

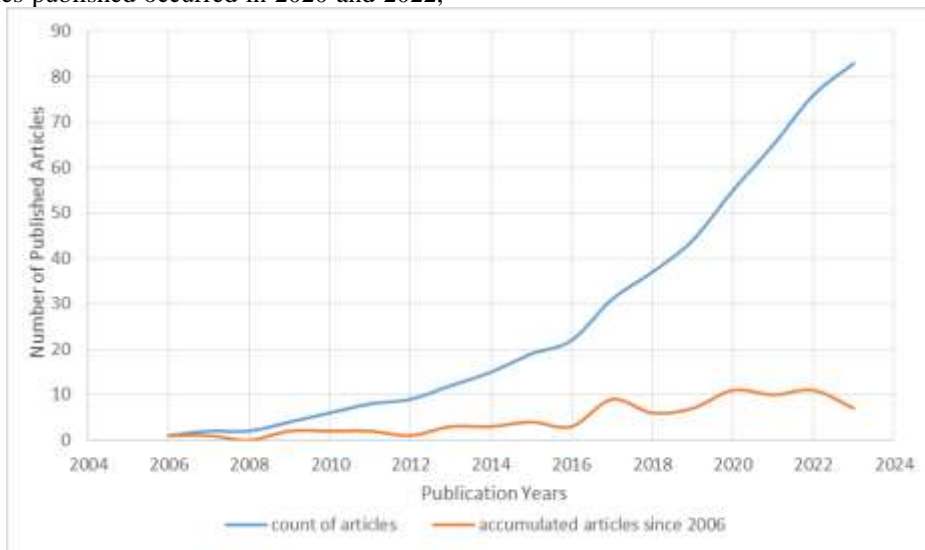
Database access was carried out on August 18, 2023. In the initial stage, 127 articles were obtained, researchers then carried out a selection to determine articles that could continue to be used as references. A total of 83 articles remains. 54 articles were omitted due to limitations in accessing articles or not being relevant to the SLR that was to be carried out.

## 3. RESULT

Descriptive statistics from the processing of the data obtained are described in Fig. (1), table 1 and table 2 below.

Articles regarding ambidexterity, ambidextrous and control began to be tracked in 2006. There has been an increase in the number of articles published since 2009, while the highest number of articles published occurred in 2020 and 2022,

namely 11 articles. In 2023 until August, 7 articles have been published. A total of 83 articles were found in the period 2006 to 2023.



**Fig. (1).** Publication Development Over Time.

**Table 1.** Most cited articles according to Scopus.

No	Author	Year of Publication	Article Title	Journal	Citations
1	Raisch S.; Birkinshaw J.; Probst G.; Tushman M.L.	2009	Organizational ambidexterity: Balancing exploitation and exploration for sustained performance	Organization Science	1392
2	O'Reilly Iii C.A.; Tushman M.L.	2013	Organizational ambidexterity: Past, present, and future	Academy of Management Perspectives	1290
3	Kang S.-C.; Snell S.A.	2009	Intellectual capital architectures and ambidextrous learning: A framework for human resource management	Journal of Management Studies	425
4	Tiwana A.	2010	Systems development ambidexterity: Explaining the complementary and substitutive roles of formal and informal controls	Journal of Management Information Systems	203
5	Zacher H.; Rosing K.	2015	Ambidextrous leadership and team innovation	Leadership and Organization Development Journal	186
6	Bedford D.S.	2015	Management control systems across different modes of innovation: Implications for firm performance	Management Accounting Research	170
7	Arzubiaga U.; Kotlar J.; De Massis A.; Maseda A.; Iturralde T.	2018	Entrepreneurial orientation and innovation in family SMEs: Unveiling the (actual) impact of the Board of Directors	Journal of Business Venturing	155
8	McDermott C.M.; Prajogo D.I.	2012	Service innovation and performance in SMEs	International Journal of Operations and Production Management	136
9	Mccarthy I.P.; Gordon B.R.	2011	Achieving contextual ambidexterity in R&D organizations: A management control system approach	R and D Management	127
10	Martin S.L.; Javalgi R.G.; Cavusgil E.	2017	Marketing capabilities, positional advantage, and performance of born global firms: Contingent effect of ambidextrous innovation	International Business Review	101

Source processed secondary data 2023.

**Table 2. Overview of Sourced Publication per Journal.**

No	Number of Papers per Journal	Journal
1	3	European Journal of Innovation Management, Long Range Planning, Management Decision, Technological Forecasting and Social Change
2	2	Business Process Management Journal, Educational Management Administration and Leadership, International Business Review, International Journal of Operations and Production Management, Management Accounting Research, Organization Science, Technology in Society
3	1	Academy of Management Perspectives, Asian Journal of Technology Innovation, Bottom Line, British Accounting Review, Chinese Management Studies, Equality, Diversity and Inclusion, European Journal of Marketing, European Research on Management and Business Economics, Futures, Human Relations, Industrial Management and Data Systems, Industrial Marketing Management, International Journal of Bank Marketing, International Journal of Emerging Markets, International Journal of Engineering Business Management, International Journal of Human Resource Management, International Journal of Information Management, International Journal of Information Systems and Project Management, International Journal of Lean Six Sigma, International Journal of Managing Projects in Business, International Journal of Organizational Analysis, International Journal of Physical Distribution and Logistics, International Journal of Productivity and Performance Management, International Journal of Project Management, International Journal of Technology Management, Journal of Accounting and Organizational Change, Journal of Business and Industrial Marketing, Journal of Business Research, Journal of Business Strategy, Journal of Business Venturing, Journal of Family Business Strategy, Journal of Innovation and Entrepreneurship, Journal of International Marketing, Journal of Knowledge Management, Journal of Management and Organization, Journal of Management Control, Journal of Management Information Systems, Journal of Management Studies, Journal of Manufacturing Technology Management, Journal of Organizational Change Management, Journal of Personal Selling and Sales Management, Journal of Personnel Psychology, Journal of Product Innovation Management, Journal of Service Research, Leadership and Organization Development Journal, Management and Organization Review, Management and Production Engineering Review, Management Learning, Marketing Intelligence and Planning, Nankai Business Review International, Organization Studies, Organizational Psychology Review, Qualitative Research in Accounting and Management, R and D Management, Revista de Gestao, Technology Analysis and Strategic Management, Total Quality Management and Business Excellence

Source processed secondary data 2023.

The most cited article was an article entitled Organizational ambidexterity: Balancing exploitation and exploration for sustained performance (Raisch et al., 2009), with a total of 1,392 citations. This was followed by the article Organizational Ambidexterity: Past, Present, and Future (O’Reilly & Tushman, 2013) with a total of 1,290 citations. The third most cited article is Intellectual Capital Architectures and Ambidextrous Learning: A Framework for Human Resources Management (Kang & Snell, 2009) with a total of 425 citations.

The most article contributors were achieved by 4 journals, each of which contributed 3 articles, consisting of the European Journal of Innovation Management, Long Range Planning, Management Decision, Technological Forecasting and Social Change. Furthermore, 7 journals namely Business Process Management Journal, Educational Management Administration and Leadership, International Business Review, International Journal of Operations and Production Management, Management Accounting Research, Organization Science, Technology in Society contributed 2 articles. Meanwhile, the remaining 56 journalists contributed 1 article.

The most cited article, with 1,392 quotes, discusses the existence of tension in discussing ambidexterity. There are 4 tensions (Raisch et al., 2009) namely:

1. Differentiation and integration

Previous researchers conducted research with a focus on differentiation in carrying out opposite functions, there are units that specifically perform functions related to exploitation, and there are other units in the organization that carry out exploratory functions so that both organizations can go hand in hand. In general, units that perform exploration functions are more decentralized, more compact, and more flexible than units that perform exploitation. Decentralization helps companies maintain different competencies to anticipate different demands and maintain existing market share.

While other studies focus on integration, namely companies performing ambidexterity functions together, the same unit can carry out exploitation or exploration activities.

There are three assumptions related to this difference, firstly integration and differentiation are complementary, not as an alternative mechanism to achieve company goals, secondly the balance between integration and differentiation is very dependent on the activities or tasks performed, and thirdly the conflict between differentiation and integration requires special attention from management (Raisch et al., 2009)

2. Actors of ambidexterity, whether at the individual level or organizational level

The next difference is the perpetrator of ambidexterity, whether at the individual level or at the organizational level. Previously it was known that organizations can carry out ambidexterity through differentiation or integration. Howev-

er, some research shows that ambidexterity stems from an individual's ability to exploit and explore simultaneously.

Furthermore, the researchers argued that managers can carry out personal ambidexterity with different levels of ability by carrying out exploration and exploitation. The level or variation of ambidexterity within each organization will differ depending on personal characteristics or the organizational context encountered, and finally organizational ambidexterity will be influenced but not limited to the cumulative ambidexterity individual members (Raisch et al., 2009).

### 3. Perspective regarding ambidexterity, whether static or dynamic

Some researchers think that ambidexterity is acquired through a dynamic cycle between suppression of exploitative activity and exploration at other times. However, some others think that exploitation and exploration are carried out simultaneously and simultaneously. The second opinion uses a static approach, the organization becomes ambidextrous by applying certain configurations.

Managing ambidexterity requires dynamic alignment and not static. Organizations need different solutions in managing ambidexterity, both structurally and contextually. In addition, ambidexterity can emerge from a static or dynamic approach simultaneously (Raisch et al., 2009).

### 4. Perspective regarding ambidexterity, whether internal or external

Some researchers assume that exploitation and exploration are obtained through a series of activities within the organization. Some of them think that exploitation and exportation are obtained through outsourcing or sourced from outside the organization.

Ambidexterity is very dependent on the company's ability to integrate knowledge from outside or from within the company. A company's ability to integrate outside knowledge depends on a combination of its ability to absorb and intermediary outsiders. Furthermore, ambidexterity can occur because it is supported by the company's network which combines knowledge from inside and outside the company (Raisch et al., 2009).

The next article that won the most citations, which amounted to 1,290 citations, discussed the development of research on ambidexterity for 15 years until 2013 when the article was published. In general, under uncertain environmental conditions, organizational ambidexterity is positively related to increased innovation, better financial performance, and higher survival rates. (O'Reilly & Tushman, 2013). Organizational ambidexterity is all about organizational sustainability.

Furthermore, the antecedents of ambidexterity will be described in the following table:

**Table 3. Antecedent ambidexterity.**

No	Antecedents	Authors
1	New product selling orientation, existing product selling orientation, ambidexterity selling orientation	(Van Der Borgh & Schepers, 2014)
2	Frequent use of EMS, business process customizability	(Choudhary et al., 2018)
3	Proactive post sales services, motive uncertainty, the effect of proactive post sales services	(Becker et al., 2020)
4	Intended team-oriented HC practice	(Bouwman et al., 2019)
5	Management control, employee adaptability, customer proximity	(Breslin, 2014)
6	Exploration innovation, exploitation innovation, interaction between exploration and exploitation	(McDermott & Prajogo, 2012)
7	Sales service ambidexterity, adaptive selling behavior, role conflict	(Agnihotri et al., 2017)
8	Agency advantages, self-control, agency disadvantage, decision making authority, family capital, strategic persistence, personalized authority structure, stagnation, convergence of economic and non-economic goals, the commitment of the firm to the business, independence director mitigating self-control and family related agency cost, professional education of family managers, horizontal and vertical tmt diversity	(Veider & Matzler, 2016)
9	Control role, service role, strategy role	(Ben Rejeb et al., 2020)
10	Direct communication, indirect communication, delegate control, centralize control	(Zhang et al., 2020)
11	Co exploration, co exploitation	(B. Sun & Lo, 2014)
12	Learning goal orientation, performance goal orientation	(Xiang et al., 2019)
13	Outcome control, behavior control, interaction outcome and behavior control	(Stouthuysen et al., 2017)
14	Entrepreneurial orientation	(Arzubiaga et al., 2018)
15	Locomotion regulatory mode, behavior/outcome-based control	(Faia & Vieira, 2017)
16	Ambidextrous organization culture, psycap	(Lee et al., 2019)
17	Belief system, interactive system, boundary system, diagnostic system	(Mccarthy, 2011)

No	Antecedents	Authors
18	Diagnostic control system, interactive control system, boundary control system, belief control system, diagnostic and boundary control system, interactive and believe control system, simultaneously use diagnostic and boundary control system, simultaneously use of interactive and believe control system, imbalance interactive and diagnostic control system, imbalance believe and boundary control system	(Bedford, 2015)
19	Balance use of formal control and social control, formal control, social control, balance use of formal information platform and informal information platform, formal information platform, informal information platform	(Yang et al., 2020)
20	Human capital, social capital, organizational capital	(Kang & Snell, 2009)
21	More focused strategy, moderate level of ambidexterity intensity	(Jin & Zhou, 2021)
22	Opening leadership behavior, closing leadership behavior, no leadership	(Gerlach et al., 2021)
23	Senior manager knowledge	(Torres et al., 2015)
24	Job autonomy	(Frare & Beuren, 2021)
25	Bottom-up learning	(Wei et al., 2011)
26	Leader opening, leader closing, leader opening and closing behavior	(Alghamdi, 2018)
27	Clan control	(Tiwana, 2010)
28	Diagnostic control system, boundary system, interactive control system, belief control system	(Endenich et al., 2022)
29	Opening leadership behavior, closing leadership behavior	(Zacher & Rosing, 2015)
30	The use of performance measurement system – attention focus, the use of performance measurement system – strategic decision making, the use of performance measurement system – legitimate firm choice	(Severgnini et al., 2018)
31	Organization support, marketing proficiency, technical challenge, technical proficiency, product quality, speed to market	(Ahn et al., 2006)
32	Diagnostic use of performance measurement system, interactive use of performance measurement system	(Mura et al., 2021)
33	Firm investment in R&D, availability of financial slack, concentration of ownership, family firm	(Ahsan et al., 2020)
34	Marketing capabilities, competitive strategy, positional advantage	(Martin et al., 2017)
35	Knowledge exploitation, knowledge exploration, SME size, SME sector, ambidexterity context	(Cegarra-Navarro & Dewhurst, 2007)
36	Sales manager request of salesperson ambidexterity	(DeCarlo et al., 2021)
37	Climate for internal flexibility, climate for external control, climate for internal control, climate for external flexibility	(MacCormick & Parker, 2010)
38	Six sigma	(Alcaide-Muñoz & Gutierrez-Gutierrez, 2017)
39	Focal firm in trust, formal contract, trust and formal contract	(Guo et al., 2020)
40	Flexibility, control	(Chang et al., 2019)
41	Marketing ambidexterity	(Ho et al., 2020)
42	Degree of openness, degree of distinctiveness, degree of openness and degree of distinctiveness	(Inoue, 2021)
43	Organizational ambidexterity, strategic consistency, organizational ambidexterity dan strategic consistency	(Iborra et al., 2020)
44	Existence of non-family investor, 100% share owned by family shareholder, percentage of family members in management team	(Hiebl, 2015)
45	Ambidexterity, inter functional coordination, quotation management, workload control	(Katic et al., 2021)
46	Goal organization, goal individual	(Michl et al., 2013)

No	Antecedents	Authors
47	Formalization (structural instrument), employee involvement (social instrument)	(Rojas-Córdova et al., 2022)
48	Salesperson acquisition retention, ambidexterity	(Zheng et al., 2022)
49	Organizational culture	(Giménez Espín et al., 2022)
50	Behavior based control, outcome-based control	(Ahmad et al., 2022)
51	Behavior based control, outcome-based control	(Amenuvor et al., 2023)
52	Interpersonal emotion management behavior, task-oriented behavior	(Adams & Webster, 2022)
53	Technological information, R&D, more acquisition, capital investment	(Alderman et al., 2022)
54	Exploration, exploitation, ambidexterity	(Pietsch et al., 2022)
55	Business performance	(Gastaldi et al., 2022)
56	Intrapreneurial capabilities, exploitative innovation, exploratory innovation	(J. Sun et al., 2023)

Source processed secondary data 2023.

Some studies fall into the literature review category or are descriptive in nature, so they do not specifically indicate the antecedents used. Meanwhile, the antecedents in other articles are shown in Table 3. The discussion regarding the relationship between variables in the articles obtained using the keywords ambidexterity or ambidextrous and control is very diverse. There are several themes raised, including MCS or performance measurement systems (Bedford, 2015; Eendenich et al., 2022; Mura et al., 2021; Severgnini et al., 2018), human capital (Adams & Webster, 2022) strategic management (Michl et al., 2013), education (Pietsch et al., 2022), marketing (Ahmad et al., 2022; Amenuvor et al., 2023; Zheng et al., 2022), information technology (Chang et al., 2019).

Articles with the MCS theme generally use a control mechanism consisting of diagnostic control, interactive control, boundary control, and belief control (Bedford, 2015; Eendenich et al., 2022; Mura et al., 2021). Other control mechanisms used are based on the desired function, namely as attention focus, strategic decision making, and legitimize firm choice (Severgnini et al., 2018).

The division of control into diagnostic control, interactive control, boundary control, and belief control refers to the lever of control (Simons, 1995). Belief control is a set of organizational definitions that are formally communicated and systematically strengthened to convey the basic values, goals, and direction of the organization. The belief system is contained in the credo, vision, and mission statements of the company. Boundary control includes limits for activities or actions that are accepted in an organization, generally listed in the code of conduct. Diagnostic control system is a set of formal information systems used by managers to monitor results and take corrective action if the results obtained are different from the standards or targets that have been set. Three things that must be possessed by diagnostic control are: firstly, the ability to measure the results or output of a process, secondly the existence of predetermined standards or targets to be compared with the results achieved, and thirdly the ability to correct or adjust deviations from the set standard. Interactive control is a type of control that managers use to involve themselves routinely and personally in making decisions about their team's activities, this control

emphasizes attention and dialogue within the organization to obtain information outside of routine means. The characteristics of interactive control include that the information produced by this system is important and is routinely carried out by top management, requires regular attention from all managers within the company, the data obtained is translated and becomes material for discussion in meetings of each team, and this system is a catalyst for improvement using data, assumptions, and action plans (Simons, 1995).

There are also articles that use formal control (Stouthuysen et al., 2017). The formal controls used are outcome control and behavior control. Outcome control is control that sets certain targets, for example sales volume, product specifications, product delivery time, and cost reduction. On the other hand, behavior control refers to the application of mechanisms that can affect the production process and intend to influence the achievement of goals. This control attempts to influence activities that convert inputs into outputs by evaluating or adjusting processes, procedures, and methodologies (Stouthuysen et al., 2017). Another article uses a form of control in formal control and social control (Yang et al., 2020)

Apart from that, there are articles that discuss the relationship between MCS and ambidexterity through literature reviews (Diab & Mohamed Metwally, 2019; Gschwantner & Hiebl, 2016). However, the ambidexterity reviewed here is institutional ambidexterity, namely the conditions experienced by companies in the form of a diversity of complex challenges and the ability to turn threats into opportunities for organizational gain (Diab & Mohamed Metwally, 2019). The MCS used is formal control combined with informal control based on religion, family, community, and democratic logic (Diab & Mohamed Metwally, 2019).

Other articles use the notion of ambidexterity as we are familiar with it, while the MCS used are cultural control, cybernetic control, reward and compensation control, and administrative control (Gschwantner & Hiebl, 2016). This research used the MCS approach as a package (Malmi & Brown, 2008). MCS as a package is defined as a system, rules, practices, values or other management activities to ensure the actions and behavior of employees are in accord-

ance with company goals (Malmi & Brown, 2008). The MCS package consists of cultural control, planning, cybernetic control, reward and compensation, and administrative control. Planning is ex ante of control, first setting goals for various functions within the organization, second setting standards that must be carried out in achieving goals, explaining the expected efforts and behavior, and third being able to align goals across functions within the organization area, thereby controlling group activities and individuals (Malmi & Brown, 2008).

Cybernetic control consists of five characteristics, namely having a measure that can be quantified in measuring phenomena, activities or systems, secondly there are standards for expected performance or targets, thirdly there is process feedback that can compare the results of activities with targets, fourthly there is an analysis of differences or variance between results and targets, fifth is the ability to modify or direct activity behavior. Reward/compensation will motivate and improve individual and group performance through rewards to control the direction, length of effort and intensity of action. Administrative control is a system that directs employee actions through setting organizational and structural designs, overseeing employee behavior and accountability, and through specific processes regarding tasks or behavior for performing and non-performing employees. Cultural control is the values, beliefs or social norms that influence employee behavior (Malmi & Brown, 2008).

#### 4. DISCUSSION

Organizational theory adopts the ability of human ambidexterity, namely the ability of individuals to use both hands with the same skills, as a metaphor to describe companies (Lubatkin et al., 2006). The word organizational ambidexterity was introduced by Duncan (1976) to explain that organizations need to adjust their structure periodically to be able to carry out innovation and efficiency (Gschwantner & Hiebl, 2016). Organizational ambidexterity is the capacity of an organization to simultaneously exploit existing processes and resources and simultaneously explore new opportunities and carry out radical innovations in its products (Mura et al., 2021). Ambidexterity is indicated as one of the main capabilities in achieving competitive advantage (Roth & Corsi, 2023).

Companies are not only required to be able to adapt products to their needs, but also to change them into completely new products in the face of an ever-changing business environment and consumer behavior, increasingly fierce competition, and the influence of technology (Kafetzopoulos et al., 2023). The adaptation process requires exploitation and exploration in order to produce sustainable success (March, 1991). Exploitation is related to increasing productivity and efficiency through improving methods or procedures and reducing processes (March, 1991). This process is carried out by building existing knowledge, analyzing current customer preferences, and improving the quality of current services (Raisch & Birkinshaw, 2008). Exploration is related to searching, experimenting, and adding product variations (March, 1991). This process refers to the company's ability to seek and pursue new opportunities, develop new

knowledge, and innovate its products radically (Benner & Tushman, 2003).

Some companies focus on exploitation because it is associated with certainty, efficiency, and short-term profits, while exploration is associated with uncertainty, inefficiency, and cost (Hill & Birkinshaw, 2014). Companies that focus only on exploitation will be able to increase revenues and profits in the short term, but they will likely have difficulty meeting environmental demands and changes (Gschwantner & Hiebl, 2016). Meanwhile, companies that only focus on exploration may be able to adapt to environmental changes and be able to innovate, but will have difficulty in getting returns from the capital they have invested (Raisch & Birkinshaw, 2008). The right combination of exploitation and exploration will improve company performance in the long term (Cao et al., 2009). The balance of exploitation and exploration is a key factor in a company's long-term success and sustainability (Gschwantner & Hiebl, 2016).

The challenges faced by companies in trying to balance exploitation and exploration to achieve an ambidextrous organization are not easy. Ambidextrous organizations require certain structures and skills that must be supported by different management control mechanisms (Simons, 2010). MCS is a company's means of achieving goals

The absence of a mutually agreed definition regarding MCS is a challenge. There is a very broad definition of MCS but there are also researchers who define MCS more specifically (Malmi & Brown, 2008). MCS is broadly defined as a system that is broader than management accounting systems which includes other controls such as personal and clan control, while management accounting systems are defined as the systematic use of management accounting to achieve certain goals. Management accounting is a series of activities such as budgeting and product costing (Chenhall, 2003).

Some researchers define MCS more narrowly. Management control focuses on how to encourage, empower, or even force employees to act in accordance with the company's interests. Management control attempts to answer the question of how a company can ensure that all employees at various levels carry out the tasks they are responsible for well. Some management controls are proactive, which means the controls are designed to prevent problems before the company suffers losses that will impact performance. Management control includes all devices or systems that managers use to ensure that employee behavior and decisions are in accordance with company goals and strategies. The system itself is referred to as MCS (Merchant & Van der Stede, 2017).

A well-designed MCS will influence employee behavior to act in accordance with company expectations, thereby increasing the possibility of achieving company goals. The main function of the MCS is to influence behavior according to the wishes of the company. The main benefit of MCS is to increase the possibility of achieving company goals (Merchant & Van der Stede, 2017).

Management control is the final part of the management process which includes goal setting, strategy formulation, and management control. Management control here means the execution and implementation of strategy (Merchant & Van



der Stede, 2017). Company failures are generally caused by poor execution, not bad strategy.

Previous studies have found some evidence of an association between MCS and ambidexterity with the different types of MCS used. It is interesting to develop other studies using different MCS to see the effect on ambidextrous organizational achievement. In accordance with the contingency theory approach which states that there is no best approach that applies to all organizations in every activity.

The idea of contingency theory in management accounting began to develop in the 1970s to explain the variations used in management accounting practices at that time (Otley, 1980). Initial research was conducted to investigate the importance of environment, technology, structure and size in the preparation of MCS (Chenhall, 2003). The contingency approach in management accounting is based on the statement that there is no accounting system that can be universally applied to produce similar results in all organizations at a certain time (Otley, 1980).

There are still opportunities to conduct research in this area, especially regarding the emphasis on MCS as a tool for executing company policies. The focus of management control lies in execution. This largely depends on the employee's behavioral tendencies. There are three questions whose answers must be ascertained, firstly do employees understand the company's expectations from them, secondly do employees work consistently to achieve what the company expects of them, namely achieving company goals in accordance with the strategy, and thirdly are they able to did a great job.

Management control involves managers taking action to ensure employees do what is best for the company. Control management also anticipates the possibility of unwanted actions or failure to complete its tasks. Sometimes employees are unable or unwilling to act in accordance with the interests of the company, when this happens the role of managers is required to take steps to prevent undesirable behavior and encourage desired behavior (Merchant & Van der Stede, 2017).

There are three main problems faced by managers when ensuring employees act according to company requirements. First is the lack of direction, some employees act contrary to expectations because they don't know what the company expects from them. One of the functions of the MCS is to inform employees about how they can contribute to achieving company goals.

Furthermore, after employees understand what the company expects from them, but still do not act according to the wishes of the company, there is a second problem, namely the problem of motivation. Employees sometimes act in their own self-interest and at the expense of the company's interests. An effective MCS must focus on employee motivation issues, how to motivate employees to act positively and productively, how to encourage employees to work consistently to achieve company goals.

The third behavioral problem faced by MCS is individual limitations. After employees understand what the company wants and have the motivation to do their best, they are still unable to achieve what is assigned to them due to limitations. Inability related to individuals, could be due to lack of

talent, training, experience, stamina, or knowledge for the tasks assigned (Merchant & Otley, 2006).

The role of MCS in ensuring employees act in the best way for the company is crucial. Especially in conditions of complete uncertainty. The company must ensure that it can compete with the existing market and meet future market needs by continuing to carry out exploitation and exploration activities simultaneously.

## CONCLUSION

The purpose of this article is to provide an overview of the literature regarding the relationship between management control systems and ambidexterity. In general, the search results show a relationship between the use of MCS and achieving ambidexterity in companies (Bedford, 2015; Endenich et al., 2022; Gschwantner & Hiebl, 2016; Mura et al., 2021). Most researchers use MCS which is based on the lever of control (Simons, 1995), but there are also those who use the MCS package (Malmi & Brown, 2008). There is still an opportunity to test the relationship between other MCS and ambidexterity to find the MCS that best suits the environmental conditions faced by a company.

This research contributes to the literature regarding MCS and ambidexterity, and the practical aspect is collecting literature that shows the influence of using MCS to achieve organizational ambidexterity. However, this research also has limitations in choosing data that only comes from Scopus. Further research can use other databases as data sources.

## FUNDING

This work was supported by The Ministry of Education, Culture, Research, and Technology of The Republic of Indonesia through research program funding for the 2023 fiscal year.

## CREDIT AUTHORSHIP CONTRIBUTION STATEMENT

Conceptualization, B.P. and T.I.; Methodology, B.P.; Validation, I.A.H. and M.M.; Investigation, B.P.; Writing – Original Draft, B.P.; Writing – Review & Editing, I.A.H. and M.M.; Supervision, T.I.; All authors have read and agreed to the published version of the manuscript.

## CONFLICTS OF INTEREST

The authors declare no conflict of interest.

## ACKNOWLEDGMENTS

Our sincere gratitude goes to all stakeholders who have participated in our study.

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Received: Sep 15, 2023

Revised: Sept 25, 2023

Accepted: Mar 01, 2024

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