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CASE REPORT

The Effect Of Board Governance, Management Accounting Information Systems, Innovation Strategy, On Sustainability Performance With Management Control Systems Loc As A Moderator

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ABSTRACT

The primary goal of this research is to examine the impact of board governance, management accounting information systems, and innovation strategies on sustainability performance, considering management control systems (MCS) LOC as a moderating factor. Using primary data collected through questionnaires from 270 directors, managers, supervisors, and staff of industrial companies, the data were analyzed using the Smart-PLS application. The results reveal that board governance, management accounting information systems, and innovation strategies can greatly enhance the sustainability performance. The MCS LOC does not have the capability to influence the connection between board governance and sustainability performance. In contrast, MCS LOC successfully moderates the influence of management accounting information systems and innovation strategies on sustainability performance. Theoretically, this research advances the development of MCS LOC by introducing four new dimensions: sustainability control systems, innovation management systems, and risk management systems. Practically, the research emphasises the significance of improving board governance, maximizing management accounting information systems, implementing innovation strategies, and fostering collaboration between MCS LOC and the identified variables to improve sustainability performance effectively.

INTRODUCTION

The threat of climate change is becoming more evident with increasing frequency of natural disasters such as floods, droughts and storms, increasing poverty, and increasing global population are some of the factors that can hinder social and environmental sustainability. Companies are expected to reduce carbon emissions and adopt sustainable business practices. Consumers are becoming more and more worried about the ecological footprint left by the products and services they purchase. They prefer companies that demonstrate a commitment to sustainability. Thus, products with a sustainability label or environmental certification are increasingly in demand. Sustainable development is viewed as a different approach to traditional economic growth (Villeneuve et al., 2017). The United Nations introduced the Sustainable Development Goals (SDGs) in 2015, also referred to as the Global Goals or the 2030 Agenda. These goals aim to eradicate poverty, preserve the environment, and promote peace and prosperity for all individuals by 2030. The 2030 Agenda was then ratified by various countries in the world, including Indonesia.

Improving corporate sustainability performance has become an awareness along with increasing public

concern for the economy, environment and social (Salim, 2023). The operations of a company can greatly influence the local community (Laguir et al., 2024). This initiative not only demonstrates the organisation's commitment to social and environmental issues, but also plays a role in promoting sustainable development. Investing in long-term sustainability is crucial for businesses. Stakeholders should be informed about the social and environmental impact of products used in operations, highlighting a lack of awareness in corporate governance. Transparency in sustainability performance is vital for both internal and external stakeholders (Feng et al., 2024).

In response to environmental and social responsibility, companies are beginning to recognize the importance of sustainability and embrace the rhetoric of sustainability as a discourse (Gond et al., 2012). However, strategic implementation of sustainability remains difficult, because: first, companies' and stakeholders' understanding of sustainability is still not uniform and consistent with the global understanding; second, most companies are still trapped in donation activities that only emphasize social activities without making substantial improvements to the company's overall operational control (Aryudha et al., 2024). In other words, companies have problems with management control for sustainability.

Issues within the Indonesian capital market are prompting individuals to consider implementing management strategies to mitigate said problems. The instances discussed previously highlight a deficiency in corporate accountability across multiple sectors in relation to sustainable development initiatives. In State-Owned Enterprises (SOEs), the occurrence of more cases necessitates the consideration of financial, environmental, social, and economic aspects, making an assessment of sustainability performance crucial as different company practices can undermine these areas. Companies in the manufacturing and mining sectors usually rely on natural resources for raw materials. Failure to restrict and monitor their utilization can result in harm to the environment (Sembiring et al., 2020).

Within companies, corporate governance provides direction for operational tasks and the management of stakeholders. The organisation assesses the effectiveness of financial management through a feasibility model that considers factors such as board composition, board independence, gender diversity on boards, and whether the CEO also holds sustainability responsibilities (Ullah et al., 2020).

In the late 1990s, the field of Management Accounting Information Systems (MAIS) saw significant transformations due to advancements in technology. These changes prompted businesses to enhance their accounting systems in order to access accurate and timely financial information. As a result, there is a pressing demand for solutions that address potential issues and improve strategic planning within the accounting department. To achieve these goals, tools are needed to aid in the development of innovative strategies (Jelonek, 2023).

The evolution of technology and the evolving business landscape necessitate companies and individuals in business to enhance the efficiency of their organizations in the face of growing competition. This underscores the crucial role of management accounting information systems in aiding decision-making processes within firms. The alterations in the business environment can impact the structure of management accounting systems within each organization, with varying requirements and circumstances contributing to these discrepancies.

To stay relevant in a rapidly changing market, businesses need to embrace innovation (Derqui et al., 2022). In the ever-expanding and dominant industrial world, businesses encounter increasing obstacles and rivals (Trubetskaya, 2022). Hence, businesses strive to gain a competitive edge to enhance their operational efficiency. Therefore, innovation strategies play a pivotal role in enhancing company performance (Hardiati et al., 2021), overcoming regulatory and financial hurdles, and establishing a competitive edge in the market (Grover & Dresner, 2022). Hence, it is crucial for businesses to effectively execute strategies in order to establish a strong competitive edge (Hariyati & Tjahjadi, 2018)

Manufacturing companies carry out the production process is a very important activity. When the company's production process is disrupted, the operations of the entire company are also disrupted and as a result the company does not develop and goes bankrupt. Therefore, the production process really needs a control system, where the system helps in planning, implementing and controlling every production process in this company (Mahulette et al., 2020).

The uniqueness of this study is found in the creation of multiple theoretical models for management control systems (MCS) known as control mechanisms (CM) introduced by (Simons, 1994) aims to explore how organizations can effectively manage and stimulate performance by utilising four key control mechanisms: belief systems, boundary systems, diagnostic control systems, interactive control systems.

Langfield-Smith (1997) conducted a critical review of research that discusses the management control system with strategies Based on Langfield-Smith's (1997) research, it is known that the management control system is influenced by changes in strategies as part of interactive control and diagnostic control Research by Kruis et al. (2016) explains that the impact of the levers of control framework on accounting research is quite large, but levers of control have also been widely criticized for being unclear and ambiguous. One of the things that is said to be unclear is the idea of balance. This means that the levers of control framework explains that in order to achieve goals there must be a concept of balance. According to (Peña-Miranda et al., 2022) the management control system should align with the company's overall strategy. This means that when creating a corporate strategy, the focus should be on a structured and logical approach. The strategy will then shape the structure of the management system within the company. According to (Anthony et al., 2007), the design of the management system is influenced by external and internal factors.

In this study, researchers added new dimensions to the management control systems - levers of control (MCS-LOC) framework, namely: sustainability control systems, innovation management systems, digital control systems, risk management systems. These dimensions are designed to be more relevant to the context of sustainability performance and the adoption of management accounting information systems.

These dimensions are designed to be more relevant to the context of sustainability performance and the adoption of management accounting information systems.

Sustainability Control Systems

A sustainability control system is a tool and procedure used to ensure that sustainable business practices are effectively implemented and monitored. The goal is to integrate sustainability goals into business decision-making and monitor sustainability performance (Kusi-Sarpong et al., n.d.)

Innovation Management Systems

An innovation management system is a structure and process used to drive, manage, and measure innovation in an organization. The goal is to improve the organization's ability to innovate by regulating the innovation process and ensuring new ideas can be implemented effectively (Wu et al., 2015).

Digital Control Systems

A digital control system is the use of digital technology to manage and control business operations and support decision-making. The goal is to optimize the efficiency and effectiveness of business operations through automation, data analytics, and information technology integration. (Ryu et al., 2021)

Risk Management Systems.

A risk management system is a tool and process used to identify, assess, and manage risks that can affect

the achievement of organizational goals. The goal is to ensure that relevant risks are proactively identified and managed to mitigate negative impacts on the organization (Lopez-Valeiras et al., 2015).

These new dimensions can be used as moderation variables to strengthen or weaken the relationship between board governance, management accounting information systems, and innovation strategies to sustainability performance.

LITERATURE REVIEW

Stakeholder Theory for governance and sustainability

Stakeholder theory, introduced by Freeman & Reed (1983), suggests that in order to achieve a goal, strong relationships must be built with various stakeholders. Based on this theory, stakeholders are classified into two groups: internal stakeholders and external stakeholders. The interaction between stakeholders and the company is symbiotic, whereby stakeholders play a part in enhancing the company's performance, and strong company performance will in turn enhance their well-being. Stakeholder Theory is used in this study in relation to corporate governance Variables in this case the theory emphasizes the importance of considering the interests of various parties related to the company, not only shareholders but also employees, customers, society.

Resource-Based View (RBV) for leveraging MAIS and innovation strategies as competitive advantages.

Resource-Based View (RBV) is used in this study related to innovation strategy variables, that the company's competitive advantage comes from the ability to manage and utilize unique and difficult-to-imitate resources, including innovation capabilities.

Sustainable Development Theory for connecting these strategies to broader societal impacts.

Sustainable Development Theory is used in this study related to sustainability performance variables, focusing on growth that fulfills the requirements of the current populace while also ensuring that upcoming generations can fulfill their own requirements.

Research Hypothesis

Through agency theory proposed by Jensen and Meckling in 1976, managers are assumed to tend to prioritize themselves, which ultimately creates conflicts of interest with principals (Said et al., 2017). As a result, deviations that occur in the company cannot be avoided. This theory also explains that the company's board of directors has a vital role in every company activity. Following corporate sustainability, agency theory emphasizes that board mechanisms that implement corporate sustainability will benefit the company (Hariyati et al., 2019). Agency theory concludes that effective corporate governance will increase a company's ability to overcome challenges and reduce agency conflicts (Hussain et al., 2018; Utama et al., 2017). Guo et al (Guo et al., 2023) investigated the governance capability indicators of supervisory boards in public companies from a sustainability perspective, highlighting the increasing momentum towards integrating sustainability into corporate governance practices. This integration is especially important in today's era of social and environmental awareness, where organizations face increasing pressure to align corporate governance structures with sustainability principles. Highlights how sustainable board capital can have a positive impact on sustainability reporting, the role of effective corporate governance in driving sustainability and financial performance, ultimately improving corporate reputation (Ngu & Amran, 2019). **H1: Board governance has a positive effect on sustainability performance**

Contingency theory in management accounting describes an effort to identify the appropriate control system in the most appropriate conditions. In principle, management accounting practitioners always

try to adapt the system so that it is more useful in every situation. Such an attempt to identify the most important contingency variables and assess their impact on control system design. The impact of Management Accounting Information Systems on sustainable performance is an important area of study that has received attention in recent research. Research (Gunarathne et al., 2021) highlights the importance of environmental management accounting systems in providing important information regarding environmental costs and monitoring environmental and financial performance. This underlines the role of management accounting information systems in supporting organizations in implementing environmental management strategies to achieve sustainable development goals. Additionally, Vărzaru (2022) investigates the impact of digital transformation, accounting information systems, and improved strategic human resource management on organizational performance and sustainable development, emphasizing the interrelationship of these factors in driving sustainable outcomes. Additionally, a study by Vásquez et al. (2020) explores how management accounting systems, top management teams, and continuous knowledge acquisition interact to positively influence performance. Burritt et al (2023) provides a comprehensive overview of the development of environmental management accounting over the past two decades, emphasizing the evolving landscape of sustainability objectives and the expanding role of management accounting information systems in addressing environmental and social performance metrics. In the context of sustainable development, Velikanov et al (2023) introduced a conceptual approach to develop accounting and information support systems for managing sustainable development in the agro-industrial sector based on ESG strategies. This framework incorporates a Balanced Scorecard system to align management and decision-making functions with sustainable development goals across key areas such as human resources, internal processes, customer relationships and financial aspects. Additionally, Werastuti et al (2024) highlights the mediating role of management accounting systems in improving sustainability performance, indicating a positive relationship between strategic management accounting and sustainable outcomes. Alabdullah (2019) mention the contribution of management accounting information in supporting strategic plans, task completion and overall organizational performance, thus strengthening the economy at the national level, the important role of management accounting information systems in encouraging sustainable performance results in various sectors. From environmental management to strategic decision making, management accounting information systems serve as an integral tool in improving organizational performance, supporting sustainable development initiatives, and growing competitive advantage. **H2 : Management accounting information system has a positive effect on sustainability performance.**

Resource-Based View theory explains that a company's competitive advantage comes from the ability to manage and utilize unique and difficult to imitate resources, including innovation capabilities. The internal resource capabilities possessed in a resource-based strategy can achieve superior effectiveness in calculating costs through the concept of an innovation strategy based on a cost approach during the manufacturing process and achieving more accurate innovation effectiveness if based on the internal capabilities of the manufacturing business in understanding its strengths and weaknesses. Thi et al (Thi et al., 2023) discusses how companies can achieve sustainable competitive advantage through the effective use of innovation at both the strategy and process levels to improve performance. Wang & Liu (Wang & Liu, 2022) provide insight into how green innovation strategies can stabilize corporate performance and mitigate supply chain risks related to environmental issues. Almeida & Wasim, (2023) focus on environmental innovation and sustainable business performance in SMEs, highlighting the clear impact of environmental innovation strategies on improving overall corporate desirability and performance. (Espino-Rodríguez & Taha, 2022) discusses how supplier innovation in supply chain integration can improve sustainable performance in the hospitality industry, emphasizing the importance of trust, understanding customer needs, and coordination between departments in driving sustainable outcomes. Taneja et al (2023) underscore the important role of strategic innovation in influencing sustainable performance in organizations. Various strategies, ranging from environmentally friendly process innovation to stakeholder interaction and innovation environmentally friendly, can drive positive outcomes in terms of environmental performance, competitive advantage and overall organizational success. By combining innovation efforts with desired goals and leveraging factors such

as social capital, supplier relationships, and open innovation, businesses can improve their performance while contributing to a more sustainable future. **H3 : Innovation strategy has a positive effect on sustainability performance**.

Agency theory helps in understanding the relationship between owners and management, the consequences of agency problems and how to overcome them through governance involving a series of shareholders, company management and all stakeholders. The relationship between board independence and the sustainability performance of shareholders and stakeholders to achieve goals evenly and performance within the company can be improved. The Board of Commissioners has an important responsibility in supervising and providing strategic direction to company management. Their role includes supervising management policies and decisions, monitoring company performance, and safeguarding the interests of shareholders and other stakeholders. Management control is an important process in maintaining company performance and effectiveness, while good governance plays an important role in maintaining integrity and transparency in company management control. through good governance, namely increasing transparency and reporting, as well as increasing accountability and risk management. Good transparency in financial and operational reporting allows management to monitor company performance effectively and identify problems quickly. Meanwhile, strong accountability helps reduce errors, abuse, and risks associated with company operations. Belief Systems can moderate the relationship between corporate governance and sustainability performance by strengthening strategic values and objectives. **H4 : Management Control Systems LOC strengthens the positive influence of board governance on sustainability performance.**

Management accounting information systems are generally a contingency approach from conditional factors. These conditional factors can be grouped into four variables, namely cultural, organizational, interpersonal and individual. Researchers have proven that the effectiveness of budget participation on performance depends on organizational contextual factors. Contingency contextual factors include the control system. The use of diagnostic performance measurement focuses on the role of the control system as a monitoring tool, measuring performance achievements and comparing performance with previously established standards (Simons, 1994). Diagnostic MCS LOC help managers monitor the development of individual, departmental and organizational performance achievements as a whole. Furthermore, these diagnostic controls assure managers that important organizational goals can be achieved efficiently and effectively. Diagnostic MCS LOC focus on achieving organizational goals, therefore, this type of control must allow results to be measured and compared with standards. Interactive MCS LOC are based on what will happen in the future (forward-looking) and are characterized by the emergence of active discussions between various levels of management. The discussions and conversations are about how the budget is prepared, what system or behavior must be adjusted in preparing the budget, and what actions should be taken to achieve the budget as a goal. MCS LOC is a concept consisting of several elements that are used to achieve certain goals. . The conventional concept of MCS LOC in organizational change uses conventional ideas of management accounting and MCS in enabling organizational change towards greater social and environmental sustainability. Diagnostic Control Systems can moderate the relationship between information systems management accounting and sustainability performance by continuously monitoring and measuring performance. **H5 : Management Control Systems LOC strengthens the positive influence of management accounting information systems on sustainability performance.**

Simons (1994) states that MCS in organizations focuses on the human resources that run the organization, and is an important aspect in supporting company strategy. MCS is used to manage the tension between creating innovation and achieving predictable goals and balancing the basic organizational dilemma between control and flexibility. Innovation is an important source of competitive advantage that contributes significantly to organizational performance. There are research results that show that Management Control Systems have both negative and positive effects. (Ismail, 2016) in research on Belief Systems, Diagnostic Control Systems, Interactive Control Systems, Organizational Learning and Organizational Performance stated that belief systems, diagnostic control

systems, interactive control systems and organizational learning have a positive and significant influence on performance. Interactive MCS LOC are primarily used to expand opportunity seeking and learning. The relationship between belief systems and innovation is that organizations that can consistently implement belief systems can increase innovation. By implementing a belief system, employees are given motivation to continue working towards the main goal, achieving the mission and looking for opportunities. Through a belief system, managers can communicate organizational values to all employees to motivate and inspire employees to create, explore ideas and concepts in the right way for organizational goals. Logical explanation of the relationship between Management Control Systems diagnostics and innovation where MCS LOC diagnostics include action plans derived from strategy, detailed financial targets, comparison of actual results with targets, and explanation of variances. The research results found that the interactive use of MCS LOC triggers service innovation. Bedford (Bedford, 2015) provides evidence of a positive relationship between an emphasis on interactive use and innovation exploration. Malagueño & Bisbe (2012) found that interactive control systems foster creativity and influence various phases of the innovation process. Lopez-Valeiras et al. (2015) examined the role of interactive use in driving organizational and process innovation. The results show that control increases process innovation. Interactive Control Systems can moderate the relationship between innovation strategy and sustainability performance by encouraging management involvement in the innovation process. **H6 : Management Control Systems LOC strengthens the positive influence of innovation strategy on sustainability performance.**

RESEARCH METHOD

The population in this study are companies listed and not listed on the Indonesia Stock Exchange (BEI). The unit of analysis is a company with respondents in the company's internal control section, staff, supervisors, managers, and directors related to the accounting or finance, production, marketing, HR departments who have worked at least five years in the company. Sampling in this research was carried out using a purposive sampling technique. The standard number of samples used in this research refers to (J. F. Jr. Hair et al., 2010) which explains that the sample ratio for indicators used is based on the highest number of indicators from one variable from the research multiplied by 10. For the sustainability performance variable there are fourteen indicators, the Corporate variable Governance has six indicators, the Management Accounting Information System variable has seventeen indicators, the Innovation Strategy variable has seventeen indicators, the MCS LOC variable has twenty seven indicators, so in total there are eighty one. statement. Overall, there are eighty-one questions, the highest number of indicators in this research is the MCS LOC variable, twenty-seven times ten, so the standard sample size is two hundred and seventy respondents.

The variables used in this study consist of one dependent variable, three independent variables, one moderating variable, namely MCS LOC, all of these variables use a Likert scale containing six levels of answer preferences with the following options: For answers strongly agree then given a value of 6, for answers agree given a value of 5, for answers moderately agree given a value of 4, for answers moderately disagree given a value of 3, For answers that disagree, a score of 2 is given, and answers that strongly disagree are given a score of 1.

Sustainability performance using the measurement of (Kamble et al., 2020) consists of three dimensions, namely environmental performance, social performance and economy performance. Board governance uses the measurement of (Haque & Jones, 2020), consisting of three dimensions, namely three dimensions, namely board independence, board size, board experience, and board proactivity. The management accounting information system variable uses the measurement of Chenhall and Morris (1986), namely broad scope, timeliness, aggregation (integration), and integration. Innovation strategy uses measurements: Innovation capability (Le et al., 2020), Risk (Karabulut, 2015) and Management Innovation Strategy (Alfiana et al., 2023) for (Chenhall & Morris, 1986) namely Broad scope, Timelines, Aggregation (integration), Integration (integration).

The study utilises MCS LOC as a moderating variable. This system is an authorised management control system that relies on regular information and director procedures to regulate patterns in organisational activities. The dimensions used to measure MCS LOC include beliefs system, boundary system, diagnostic control system, interactivec control system, and the novelty dimension composed of sustainability control systems, innovation management systems, digital control systems, and risk management systems (Simons, 1994).

The study focused on companies both listed and not listed on the Indonesia Stock Exchange (IDX). The method of sampling employed in this study was purposive sampling. The number of samples in this study were 270 respondents. Sources of data from respondents were obtained from company profile data and references from networking researchers. Researchers sent questionnaires online using google form to each respondent via email, WhatsApp, telegram, face book, Instagram.

The research carried out tests: validity test, reliability test, structural model test, goodness of fit test, hypothesis test, sensitivity test and expansion test. This research tests convergent validity and discriminant validity. Convergent validity is assessed based on average variance extracted (AVE). Discriminant validity is tested using the recommended method, which is based on cross loading of the indicator, with a rule of thumb for outlier loading values. acceptable is ≥ 0.7, because this value allows the latent variable to explain at least 50% of the variance of each indicator.

To ensure the reliability of the instrument used, the question items that measure the construct are reliable, so internal consistency reliability is tested using Cronbach's alpha values and composite reliability values. The rule of thumb for Cronbach's alpha value is a minimum of 0.7 and the rho value and composite reliability value is a minimum of 0.7. (J. F. Jr. Hair et al., 2010; Vandenbosch, 1996).

Structural model testing uses two values, namely: Prediction oriented measure with R Square value (R^2 value). R^2 is a prediction oriented measure. R2 is based on the relationship between the explained variance of a latent construct and its total variance Therefore, a higher R^2 indicates higher predictive power of the structural model. Prediction F Square is carried out to determine whether or not variables are disturbed due to the size effect when testing their influence on sustainability performance. If the F square value is above 0.35 then it is considered a large effect. If the F square value is 0.15 to 0.35, the effect is considered moderate. If the F square value is 0.02 to 0.15, the effect is considered small.

The goodness of fit test is carried out to find out whether the model as a whole is in a fit condition or not. Goodness of fit using SRMR and NFI. SRMR is the square root of the difference between the residuals of the sample covariance matrix and the hypothesized covariance model. SRMR is Standardized Root mean square residual which is a tool for measuring model fit. The condition used is that an SRMR value below 0.08 indicates a fit model, while an SRMR value between 0.08 to 0.10 is still acceptable (Ghozali, 2017). NFI is a comparison measure between the proposed model and the null model. The NFI value will vary from 0 (no fit at all) to 1.0 (perfect fit). NFI requires a minimum score of 0.7 (Zheng & Valente, 2023).

RESULT AND DISCUSSION.

Hypothesis Test

The results of hypothesis testing in this research model, accompanied by the coefficient value of the influence of each variable, are shown in the following table and image of the main model hypothesis test results:

Table 1. Hypothesis Test Results

No.	Hypothesis	Directions	Coefficient	T Statistics	P Value	Decision
1	Board					Hypothesis

	Governance → Sustainability Performance	+	0.224	2.660	0.004	Supported
2	Management Accounting Information System → Sustainability Performance	+	0.227	2.054	0,020	Hypothesis Supported
3	Innovation Strategy → Sustainability Performance	+	0.118	1.731	0.042	Hypothesis Supported
4	MCS LOC* Board Governance → Sustainability Performance	+	0.004	0.037	0.485	Hypothesis Not Supported
5	MCS LOC* Management Accounting Information System → Sustainability Performance	+	0.268	1.982	0.024	Hypothesis Supported
6	MCS LOC * Innovation Strategy → Sustainability Performance	+	0.189	1,977	0,024	Hypothesis Supported

Source: Primary data processed, 2024

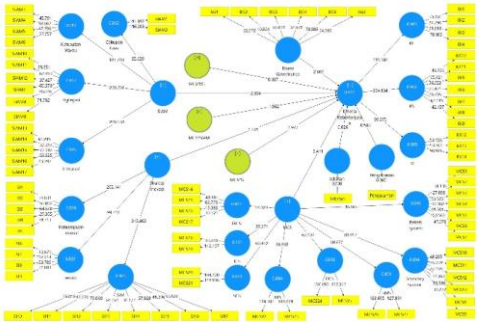

Figure 1. Main Model Hypothesis Test Results

The results of the main model hypothesis test can be explained **;**

1. The Influence of board governance on sustainability performance discussion of the test of the effect of board governance on sustainability performance : This research proves that board governance has a significant and positive impact on sustainability performance. The results of the t statistics value are 2,660 > 1.65 and P Values 0.004 < 0.05, which means that this hypothesis is accepted. The resulting influence coefficient value can be seen in the loading factor image, namely 0.224. The resulting influence coefficient value is positive

2. The Influence of management accounting information systems on sustainability performance: This

research proves that the management accounting information system has a significant and positive impact on sustainability performance. The results of the statistical t value are 2,054 > 1.65 and p values 0.020 < 0.05, which means that this hypothesis is accepted. The resulting influence coefficient value can be seen in the loading factor image, namely 0.227. Of the three independent variables tested in this research model, the coefficient of influence of the management accounting information system has the highest coefficient score compared to the coefficient of influence of board governance and innovation strategy. This means that, among the three factors driving sustainability performance tested in this research, the management accounting information system is the top priority. If you want to improve sustainability performance, the management accounting information system will be the main strategic priority, followed by board governance and innovation strategies.

3. The Influence of Innovation Strategy on Sustainability Performance : Based on the results of this research, innovation strategies have a significant and positive impact on sustainability performance. The results of the t statistics value are 1,731 > 1.65 and p values 0.042 < 0.05, which means that the hypothesis is supported. The resulting influence coefficient value can be seen in the loading factor image, namely 0.188. The resulting influence coefficient value is positive. Of the three independent variables tested in this research model, the coefficient of influence of innovation strategy has the smallest coefficient score compared to the coefficient of influence of board governance and management accounting information systems.

4. MCS LOC moderation on the Influence of board governance on sustainability performance : This research proves that the MCS LOC is unable to moderate the influence of board governance on sustainability performance. The results of the t statistics value are 0.037 < 1.65 and p values 0.485 > 0.05, which means that this hypothesis is not supported. The resulting influence coefficient value can be seen in the loading factor image, namely 0.004. The resulting influence coefficient value is positive. MCS LOC as a moderating variable is unable to contribute positively between the influence of board governance and sustainability performance. This means that the MCS LOC is unable to strengthen the positive influence of board governance on sustainability performance. The moderation model used in this research is an interaction or collaboration model between board governance variables and sustainability performance. The coefficient score for the influence of interaction or collaboration is 0.004, lower than the coefficient score for interaction or collaboration from management accounting information systems and innovation strategies.

5. MCS LOC moderation on the influence of management accounting information systems on sustainability performance : This research proves that the MCS LOC is able to moderate the influence of the management accounting information system on sustainability performance. The results of the t statistics value are 1.982 > 1.65 and P Values 0.024 < 0.05, which means that this hypothesis is supported. The resulting influence coefficient value can be seen in the loading factor image, namely 0.268. The resulting influence coefficient value is positive. MCS LOC as a moderating variable is able to contribute positively to the influence of the management accounting information system on sustainability performance. The influence coefficient score of the interaction or collaboration of the MCS LOC with the management accounting information system is 0.26.8 higher than the interaction or collaboration coefficient score of the MCS LOC with the innovation strategy. These three interactions or collaborations were tested in one model in this research. These results mean that, if company management wants to carry out strategic collaboration to improve sustainability performance, based on this research model, collaboration between the MCS LOC and the management accounting information system occupies the main priority.

6. MCS LOC moderation on the Influence of Innovation strategy on sustainability performance : This research proves that the MCS LOC is able to moderate the influence of innovation strategies on sustainability performance. The results of the t statistics value are 1,977 > 1.65 and p values 0.024 < 0.05, which means that this hypothesis is supported. The resulting influence coefficient value can

be seen in the loading factor image, namely 0.189. The resulting influence coefficient value is positive. The MCS LOC as a moderating variable is able to contribute positively to the influence of innovation strategy on sustainability performance. This means that the MCS LOC is able to strengthen the positive influence of innovation strategies on sustainability performance. The moderation model used in this research is a unidirectional interaction model between MCS LOC variables and innovation strategy. The coefficient score for the influence of interaction or collaboration is 0.189, which is lower than the coefficient score for interaction or collaboration from the MCS LOC and the management accounting information system. The influence coefficient score of the interaction or collaboration of the MCS LOC with the innovation strategy is 0.189 lower than the interaction or collaboration coefficient score of the MCS LOC with the management accounting information system. These three interactions or collaborations were tested in one model in the research. This result means that, if company management wants to carry out strategic collaboration to improve sustainability performance, based on this research model, collaboration between MCS LOC and innovation strategy is the second priority.

Discussion of the test of the effect of board governance on sustainability performance

This research proves that board governance has a positive effect on sustainability performance, meaning that the better the bord governance, the more sustainability performance will also increase. Board governance is implied by four dimensions, namely board independence, board size, board experience and board proactivity. The application of these four dimensions of board governance has a positive impact on sustainability performance on environmental performance, social performance and financial performance.

Board governance on the dimension of board independence implies that a larger number of commissioners succeeds in increasing independence in decision making and no member of the board of commissioners or directors has a business or family relationship with company management. Board governance on the dimension of board size implies that the number of independent commissioners on the board of commissioners is sufficient to ensure independence in decision making. Board governance on the dimension of board experience implies that the experience and connections possessed by the board of commissioners and directors facilitate the company's access to external resources and the experience of the board of commissioners and directors contributes to the accuracy of decision making in dealing with complex problems. Board governance on the proactive board dimension implies that the active participation of the board in sustainability training helps the company improve sustainability performance.

The results of this study are in line with agency theory, in agency theory emphasizing that a board mechanism that implements corporate sustainability will benefit the company (Tjahjadi et al., 2021). Agency theory concludes that effective governance will increase the company's ability to overcome challenges and reduce agency conflicts (Hussain et al., 2018; Utama et al., 2017). The results of this study are also in line with Endrikat et al (2021) explaining that board size has a significant positive relationship with sustainability performance because with the increase in the board of directors, supervision in the company is more effective. The larger the size of the board of directors will allow the implementation of social responsibility activities. Colakoglu et al. (2021) who found that directors and commissioners with higher levels of education and experience abroad have a positive effect on sustainability performance. García Martín & Herrero (2020) also stated that board education has a positive impact on sustainable environmental performance (Hassan & Marimuthu, 2018).

Discussion of the Test of the Effect of Management Accounting Information Systems on Sustainability Performance

This research proves that the Management Accounting Information System (SIAM) has a positive effect on sustainability performance, meaning that the better the management accounting information system, the sustainability performance will also increase. The application of the four dimensions of the management

accounting information system, namely broad scope, timelines, aggregation, and integration, these four dimensions have a positive impact on sustainability performance on environmental performance, social performance and financial performance.

Management accounting information system in the broad scope dimension implies that the management accounting information system (SIAM) provides information about possible future events, SIAM provides information about external factors that affect the company.

Management Accounting Information System (SIAM) on the dimension of timelines is implied by the existence of SIAM: information about the impact of company decisions is available throughout the department, the availability of non-financial information related to efficiency, output levels, and employee absenteeism, information is received automatically after processing or as soon as processing is complete, reports are provided regularly and on time, there is no delay between events and relevant information reported to the company.

The Management accounting information system on the aggregation dimension is implied by the existence of SIAM: providing information about various functional areas in the company, the information provided includes the impact of events over a period of time, the information is processed to show the effect of events on the various functions of the company, providing information on the impact of the activities of various departments on the summary report of the company as a whole. summary for the department and the whole company, information is available in an appropriate format for use in decision-making models, costs are clearly separated into fixed costs and variable costs.

The Management accounting information system in the integration dimension (integration) is implied by the existence of SIAM: company decisions are available to all departments, providing accurate information about the activity objectives of each department, presenting information related to the impact of company decisions on the performance of each department. effective in providing reports that are accurate, up-to-date, and easily accessible to all users, the budgeting system successfully compares actual results with plans, and helps take corrective action if deviations occur.

The results of this study support contingency theory that the contingency approach used in management accounting is based on the premise that no management accounting system is universally appropriate to be applied to all organizations in every circumstance, but the management accounting system also depends on situational factors that exist in the organization. The contingency approach can find out whether the reliability of the management accounting information system will always have the same effect on every condition or not. Based on contingency theory, the performance measurement system and socialization process need to be generalized by considering organizational and situational factors such as individual behavior (cooperation / interdependence) in order to be applied effectively to the company.

The results of this study are in line with Werastuti et al (2024) highlighting the role of management accounting systems in improving sustainability performance, which shows a positive relationship between strategic management accounting and sustainable outcomes. Alabdullah (2019) the contribution of management accounting information in supporting strategic plans, task completion, and overall organizational performance, thereby strengthening the economy at the national level, the important role of management accounting information systems in driving sustainable performance results in various sectors.

Discussion of the Test of the Effect of Innovation Strategy on Sustainability Business Performance

The results of this study prove that innovation strategy affects sustainability performance. This means that the better the innovation strategy, the better the sustainability performance will be. innovation strategy is measured using three dimensions, namely, innovation capability, risk, management innovation strategy, these three dimensions are able to improve sustainability performance.

Innovation strategy with the dimension of innovation capability is implemented by the company often generating new ideas, actively seeking new ways to improve operational quality, creative in carrying out operational methods, often being the first to market new products and services, the introduction of new company products has increased significantly in the last five years. The implementation of this innovation capability dimension is able to improve sustainability performance.

Innovation strategy with the risk dimension is implemented by company managers carefully considering every new product development decision, company managers support successful and profitable new product development, in the company innovation is seen as risky but still accepted, the company dares to take risks to turn threats into opportunities in product development. The implementation of the risk dimension is able to improve sustainability performance.

Innovation strategy with the dimensions of management innovation strategy is implemented by the company identifying key elements of a successful innovation strategy in the digital era, all company management understands the importance of developing a corporate culture of innovation, in the company collaboration between departments is very strong in supporting innovation, the company quickly adapts to change, the company invests in human resources with the latest technology skills, in the company the application of the latest technology has improved sustainability performance, in the company the integration of the latest technology has successfully reduced environmental impacts, in the company careful data analysis and the use of artificial intelligence increase automation and business effectiveness. Implementation of the strategic dimension of management innovation can improve sustainability performance.

Looking from the descriptive statistics of the research respondents' answers, the mean achievement of the innovation strategy variable of 4.74 and the mean sustainability performance of 4.85 are not much different. This means that the level of implementation of these two variables is still at almost the same level. There is no high spike. However, the resulting standard deviation shows a result of 1.036 for the sustainability performance variable and 0.946 for the innovation strategy variable. This means that the data standard deviation distance is higher on the sustainability performance variable than the data deviation distance on the innovation strategy variable.

The results of this study support the resource-based view theory, stating that the source of the company's sustainable competitive advantage is a resource that is valuable, rare, cannot be imitated, and there is no substitute. The resources in question include all assets, capabilities, organizational processes, company characteristics, information, knowledge and so on which these resources are within the control of the company for strategy implementation in order to achieve effectiveness and efficiency. Broadly speaking, these resources are grouped into three categories: physical capital resources, human capital resources, and organizational capital resources. Some resources may have a valuable influence on the strategy implementation process, but some resources may not have a positive influence on strategy implementation.

Discussion of Moderation Test of Management Control Systems LOC on the Effect of Board Governance on Sustainability Performance

The interaction and combined action of MCS LOC with Board governance is proven not to strengthen the positive and significant influence on sustainability performance. The higher the intensity of collaboration between MCS LOC and Board governance, the less impact on improving sustainability performance. MCS LOC is measured using eight dimensions, namely beliefs system, boundary system, diagnostic control system, interactive control system, sustainability control systems, innovation management systems, digital control systems, risk management systems, while board governance is measured using four dimensions, namely board independence, board size, board experience, board proactivity. MCS LOC with their respective dimensions that interact with Board governance with their respective dimensions have an insignificant impact on sustainability performance, proving unable to strengthen the positive influence of

board governance on sustainability performance. This implies that the collaboration of the two variables and their respective dimensions cannot work well together so that they do not have a significant impact on sustainability performance.

Discussion of why Management control systems LOC fails to moderate the effect of Board Governance on sustainability performance.

Simons (1994) says that MCS LOC as a basic means to achieve success in implementing strategies and MCS LOC as formal information-based routines and procedures managers use to maintain or change patterns in organizational activities. Simons (1994) argues that the most important fact is not the identification of the type of corporate control, but rather how the corporate control is used which will result in differences in the levers of control framework between the use of diagnostic and interactive controls.

In Indonesia, the fact that board size has no effect on environmental performance suggests that environmental issues are not part of the board's priorities. Large or small board size will not affect environmental sustainability performance when environmental issues do not provide benefits to the company, so they are not a priority.

Discussion of Moderation Test of Management Control Systems LOC on the Effect of Management Accounting Information Systems on Sustainability Performance

The interaction and combination action of MCS LOC with management accounting information system is proven to strengthen the positive and significant influence on sustainability performance. The higher the intensity of collaboration of MCS LOC with management accounting information systems, the more it will affect the improvement of sustainability performance. MCS LOC is measured using eight dimensions, namely beliefs system, boundary system, diagnostic control system, interactive control system, sustainability control systems innovation management systems, digital control systems, risk management systems, while management accounting information systems is measured using four dimensions, namely broad scope, timelines, aggregation, and integration. MCS LOC with their respective dimensions that interact with management accounting information systems with their respective dimensions have a significant impact on sustainability performance proved to be able to strengthen the positive influence of management accounting information systems on sustainability performance. . This means that the collaboration of the two variables and their respective dimensions can work well together so that it has a significant impact on sustainability performance. The collaboration of the two variables and their respective dimensions is recommended to be implemented as part of a strategy to improve sustainability performance.

Accounting for management use is a structured process and system that utilizes information to support and offer options for various company activities. Dimensions of an effective management accounting information system, such as broad scope, timelines, aggregation, and integration, serve as important sources of information for managers to effectively monitor their operations and improve corporate performance. MCS LOC affects the relationship between management accounting information and sustainability performance. Managers with levers of control tend to be better able to utilize management accounting information to improve sustainability performance. This could be because managers with levers of control have a stronger belief that they can control the outcome of the decisions they make. Thus, they are more proactive in using management accounting information to make decisions that can improve sustainability performance. Management accounting information systems have been necessary because they provide relevant data for decision makers to make the right decisions to improve sustainability performance.

Discussion of Moderation Test of Management Control Systems LOC on the Effect of Innovation Strategy System on Sustainability Performance

The interaction and combination actions of MCS LOC with innovation strategies are proven to strengthen the positive and significant influence on sustainability performance. The higher the intensity of collaboration of MCS LOC with innovation strategies, the more it will affect the improvement of sustainability performance. MCS LOC is measured using eight dimensions, namely beliefs system, boundary system, diagnostic control system, interactive control system, sustainability control systems, innovation management systems, digital control systems, risk management systems, while innovation strategy is measured using three dimensions, namely innovation capability, risk, and innovation strategy. MCS LOC with their respective dimensions that interact with innovation strategies with their respective dimensions have a significant impact on sustainability performance are proven to be able to strengthen the positive influence of innovation strategies on sustainability performance. This means that the collaboration of the two variables and their respective dimensions can work well together so that it has a significant impact on sustainability performance. The collaboration of the two variables and their respective dimensions is recommended to be implemented as part of a strategy to improve sustainability performance.

The explanation of the relationship between belief system and innovation is that organizations that can implement belief systems consistently can increase innovation. With the implementation of the belief system, employees are motivated to continue striving towards the main goal, achieving the mission and looking for opportunities. Through the belief system, managers can communicate organizational values to all employees to motivate and inspire employees to create, explore ideas and ideas in the right way for organizational goals.

The association between diagnostic MCS LOC and innovation where diagnostic MCS LOC includes action plans derived from strategy, detailed financial targets, comparison of actual results with targets, and explanation of variances. Interactive use of MCS LOC triggers innovation. The results of this study are in line with Bedford (2015) providing evidence of a positive relationship between an emphasis on interactive use and innovation exploration. Malagueño and Bisbe (2015) found that interactive control systems foster creativity and influence various phases of the innovation process. In line with this research, Lopez-Valeiras (Lopez-Valeiras et al., 2015) examined the role of interactive use in driving organizational and process innovation. The results indicate that these controls enhance process innovation.

Sensitivity Test

The sensitivity test was conducted to determine the difference in the results of testing the research model, between the main research model used to test the research hypothesis with a research model without new dimensions and indicators which is a research novelty. This evaluation is useful for seeing the amount of novelty contribution in this research model. The following figure presents the validity test for the sensitivity test:

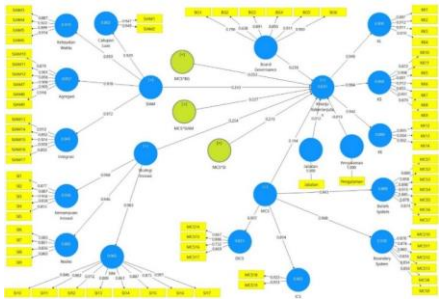

Figure 2. Sensitivity Validity Test

Noting the loading factor image above> 0.5, it can be concluded that all statement instruments in the questionnaire are valid. Likewise, the AVE results are all > 0.5, which means that the research instruments for each variable are all valid. The reliability test below is measured by looking at the

Cronbach alpha, rho, and composite reliability scores. The resulting score> 0.7, it can be concluded that the research respondents are consistent in answering the research questionnaire. This means that the respondents of this study are the right respondents worthy of research.

The results of the research hypothesis test in this sensitivity test can be shown in the figure and table below. Six hypotheses tested in this study are four proven accepted hypotheses and two hypotheses are not accepted / not supported. The following data proves the results of the sensitivity data hypothesis test in full.

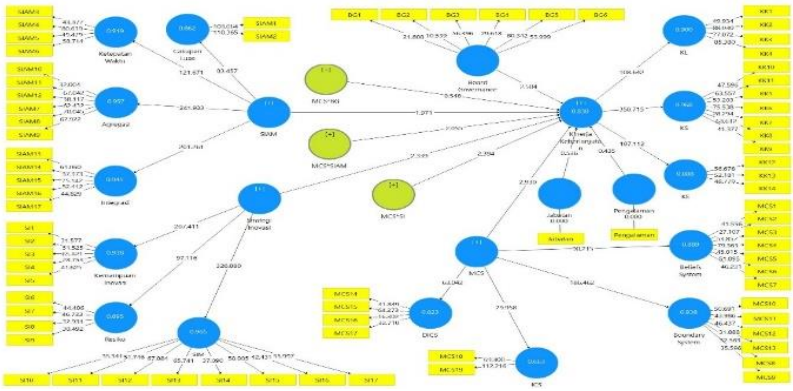

Figure 3. Sensitivity Test Results

Table 2. Sensitivity Test Results

No.	Hypothesis	Directions	Coefficient	T Statistics	P Value	Decision
1	Board Governance → Sustainability Performance	+	0.236	2.504	0.006	Hypothesis Supported
2	Management Accounting Information System → Sustainability Performance	+	0.243	1.971	0,025	Hypothesis Supported
3	Innovation Strategy → Sustainability Performance	+	0.254	2.339	0.010	Hypothesis Supported
4	MCS LOC* Board Governance → Sustainability Performance	+	0.053	0.548	0.292	Hypothesis Not Supported

5	MCS LOC* Management Accounting Information System → Sustainability Performance	+	0.227	2.055	0.020	Hypothesis Supported
6	MCS LOC * Innovation Strategy → Sustainability Performance	+	0.215	2,394	0,009	Hypothesis Supported

Source: Primary data processed, 2024

Five hypotheses have been supported in six sensitivity tests. The first hypothesis proves that effective Board governance contributes positively to sustainability performance. Similarly, the second hypothesis suggests that a well-functioning management accounting information system also enhances sustainability performance. The third hypothesis emphasises that implementing an innovation strategy has a positive impact on sustainability performance. Additionally, the fourth hypothesis shows that the MCS LOC amplifies the positive effect of management accounting information systems on sustainability performance. Finally, the fifth hypothesis indicates that the MCS LOC further strengthens the positive impact of innovation strategies on sustainability performance. while one hypothesis is not accepted, namely the MCS LOC does not strengthen the positive effect of board governance on sustainability performance. The main focus that needs to be analysed from this sensitivity test is on the moderating variable, namely the MCS LOC, where the novelty lies in the form of adding four new dimensions with their respective indicators. The dimensions are sustainability control systems, innovation management systems, digital control systems, and risk management systems. The results of this sensitivity hypothesis test are compared with the results of the hypothesis test on the main model with the difference of novelty and without novelty. The following comparison results are presented in detail in the following table:

Table 3. Comparison of Hypothesis Results

No.	Hypothesis	New Measurement			Measurement Length		
		Koefisien	P Values	Decision	Coefficient	P Values	Decision
1	BG → SP	0.224	0.004	Supported	0.236	0.006	Supported
2	MAIS → SP	0.227	0.020	Supported	0.243	0,025	Supported
3	IS → SP	0.188	0.042	Supported	0.254	0.010	Supported
4	MCS*BG → SP	0.004	0.485	Not Supported	0.053	0.292	Not Supported
5	MCS*MAIS → SP	0,268	0,024	Supported	0.227	0.020	Supported
6	MCS*IS → SP	0.189	0.024	Supported	0.215	0,009	Supported

Source: Primary data processed, 2024

Furthermore, comparison of the results of the coefficient of determination R Square and Adjusted R Square between variables using the new measurement compared to variables using the old measurement.

Table 4. Comparison of R Square Values

Variables	R Square	Adjt. R Square
Sustainability Performance - New Measurement	0.841	0.835
Sustainability Performance - Old Measurement	0.830	0.824

Source: Primary data processed, 2024

Taking into account the results of the hypothesis test comparison and the comparison of the coefficient of determination, between the old measurement and the new measurement, the following important conclusions can be made:

1. The number of hypotheses supported using the new measurement is five hypotheses and the hypothesis that is not supported is one hypothesis, as well as the hypothesis supported by the old measurement is five hypotheses and the hypothesis that is not supported is one hypothesis, so the number of supported and unsupported hypotheses is the same.

2. The coefficient value on the MCS LOC variable as a moderator of the effect of management accounting information systems on sustainability performance containing elements of novelty is greater than the old measurement. The coefficient generated using the new measurement is 0.268. While the coefficient generated using the old measurement is 0.227. The coefficient value on the MCS LOC variable as a moderator of the effect of innovation strategy on sustainability performance containing elements of novelty is smaller than the old measurement. The coefficient generated using the new measurement is 0.189. While the coefficient generated using the old measurement is 0.215. This proves that the latest measurement with novelty in the management control system variable as a moderator can increase and strengthen the positive influence on the relationship between the management accounting information system and sustainability performance.

3. The coefficient of determination or R Square in research using new measurements with novelty is 84.1%, greater than using old measurements without novelty of 83%. This means that the ability of independent variables and moderation effects is better able to explain sustainability performance when using new measurements, compared to using old measurements.

Expansion Test

The expansion test is conducted by placing all dimensions of the MCS LOC as independent variables. This aims to see which dimensions of MCS LOC variable most strongly influence sustainability performance. The following is the loading factor image for the expansion test.

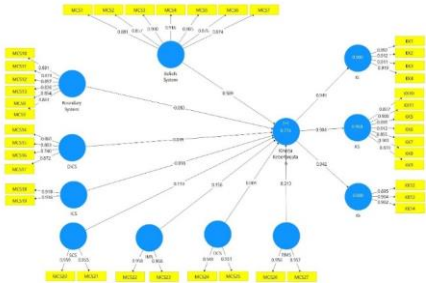

Figure 4. Loading Factor of Expansion Test

Noting the loading factor image above> 0.5, it can be concluded that all statement instruments in the questionnaire are valid (Chin, 1998) and if> 0.7, the indicators of each variable are getting fit (J. Hair & Alamer, 2022). Likewise, the AVE results are all> 0.5, which means that the research instruments for

each variable are all valid (Hair Jr et al., 2017).

The reliability test below is measured by looking at the Cronbach alpha, rho, and composite reliability scores. The resulting score> 0.7, it can be concluded that the research respondents are consistent in answering the research questionnaire (Ghozali & Latan, 2015). This means that the respondents of this study are the right respondents worthy of research.

Furthermore, the table below shows the results of proving the hypothesis in the expansion test, so that it can be compared which of the dimensions of the MCS LOC variable has the most influence on sustainability performance.

Table 5. Expansion Hypothesis Test Results

No.	Hypothesis	Coefficient	T Statistik	P Values	Decision
1	Beliefs systems → Sustainability Performance	0,509	3,904	0,001	Significant Positive
2	Boundary systems → Sustainability Performance	0,083	0,596	0,282	Not Significant
3	Diagnostic control systems → Sustainability Performance	0,004	0,045	0,483	Not Significant
4	Interactive control systems → Sustainability Performance	0,018	0,433	0,337	Not Significant
5	Sustainability control systems → Sustainability Performance	0,119	1,719	0,048	Positively Significant
6	Innovation management systems → Sustainability Performance	0,156	1,800	0,047	Significant Positive
7	Digital control systems → Sustainability Performance	0,004	0,881	0,199	Not Significant
8	Risk management systems → Sustainability Performance	0,213	2,431	0,018	Positively Significant

Source: Primary data processed, 2024

The results of the expansion test in the table above can be seen that there are only four dimensions whose results are significant, namely Beliefs systems, Sustainability control systems, Innovation management systems, and Risk management systems. In line with the results of the T test statistics presented in the figure below

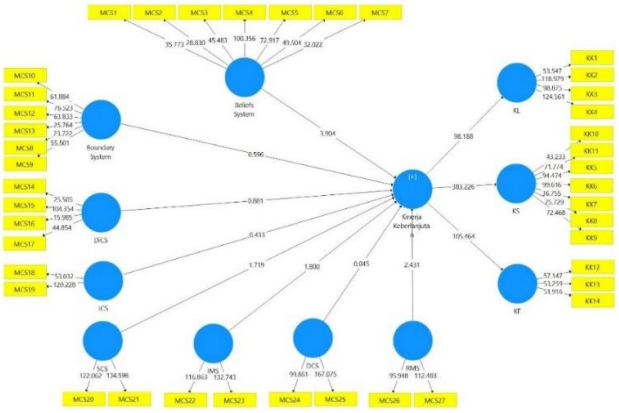

Figure 5. Expansion Test Statistic T Results

A total of four dimensions have a positive and significant effect on sustainability performance, while four dimensions have no significant effect on sustainability performance. From these results, several conclusions can be drawn, namely:

1. The dimensions of Beliefs systems, Sustainability control systems, Risk management systems and Innovation management systems have a positive and significant effect on sustainability performance. This means that these four dimensions are able to stand alone to influence sustainability performance positively and significantly. Among these four dimensions, the Beliefs systems dimension has a strong influence coefficient of 0.509. Then the coefficient of influence of Risk management systems 0.213, Innovation management systems 0.156 and Sustainability control systems 0.119. The dimensions of boundary systems, Diagnostic control systems, Interactive control systems, and Digital control systems have no effect on sustainability performance. This means that these four dimensions cannot stand alone in influencing sustainability performance. If it stands alone, then these four dimensions will not affect sustainability performance. These four dimensions require synergy with other dimensions in order to affect sustainability performance.

2. The Boundary systems dimension has no significant effect on sustainability performance. In order to successfully use the boundary system, businesses must establish predetermined behavioral boundaries. These boundaries should include well-defined rules and consequences for any breach of the code of conduct, management needs to establish and communicate boundaries for violations of the code of ethics, company rules, regulations, and strategic boundaries (business agreements with suppliers) to employees. Disclosure to management of bad news regarding task constraints to avoid the possibility of the company being faced with unexpected risks.

3. Diagnostic control systems dimension has no significant effect on sustainability performance. Diagnostic control systems are designed to encourage employees to work harder and ensure their actions are in line with the company's objectives by offering incentives. These systems are utilised to assess overall company performance, identify critical factors for success (which aids executives in determining business strategies), and to oversee the execution of planned strategies. By reviewing the reports submitted by division coordinators, leaders can keep track of employee performance. In addition to supervising all company division coordinators. Company leaders also conduct evaluations to serve as a tool to minimise the possibility of errors in the company.

4. The Interactive control system dimension has no effect on sustainability performance. Interactive control systems can be implemented in superior communication with employees formally conducting training and often engaging in sustainability practices, exchanging best practices with stakeholders for various sustainability innovations, conducting regular meetings of top managers with operational managers related to sustainability.

5. Digital control systems have no effect on sustainability performance. Digital control systems are implemented in various processes, especially such as large-scale manufacturing, oil industry, where digital control systems manage and control business operations and support decision-making, optimising the efficiency and effectiveness of business operations through automation, data analytics, and information technology integration.

CONCLUSION

This study proves that board governance, management accounting information system and innovation

strategy are the right variables to influence sustainability performance. MCS LOC is also able to be a driver of the influence of management accounting information systems and innovation strategies on sustainability performance. This research has answered the formulation of the problem that has been set before. The following are the conclusions obtained from the results of this study.

1. Board Governance has a significant and positive direct impact on sustainability performance. The better the board governance, the better the sustainability performance. Board governance can be used as a strategic choice if you want to improve sustainability performance.

2. Management accounting information system has a significant impact on sustainability performance. The better the management accounting information system, the better sustainability performance will be. Management accounting information system can be used as a strategic choice if you want to improve sustainability performance.

3. Innovation strategy has a significant and positive impact on sustainability performance. The better the innovation strategy, the better the sustainability performance will be. Innovation strategy can be used as a strategic choice if you want to improve sustainability performance.

4. MCS LOC is not able to moderate the influence of Board Governance on sustainability performance. In other words, the MCS LOC is unable to strengthen the positive influence of board governance on sustainability performance. Collaboration of MCS LOC with board governance has no impact on sustainability performance.

5. MCS LOC is able to strengthen the influence of management accounting information system on sustainability performance. Collaboration of MCS LOC with management accounting information system has a great impact on sustainability performance. In other words, the collaboration of the MCS LOC with the management accounting information system effectively supports sustainability performance. If you want to improve sustainability performance, then the collaboration of the LOC management control system with the management accounting information system has a major impact. This collaboration is highly recommended to be used as a strategy to improve sustainability performance.

6. Management control system LOC is able to strengthen the influence of innovation strategy on sustainability performance. Collaboration of Management control system LOC with innovation strategy has an impact on sustainability performance. Collaboration of LOC management control system with innovation strategy effectively supports sustainability performance. If you want to improve sustainability performance, then the collaboration of LOC management control system with innovation strategy has a big impact. This collaboration is highly recommended to be used to improve sustainability performance.

Research Implications

The results of this study can be used for the development of Semester Learning Plans (SSP) in management accounting, especially management control system courses on the development of new dimensions of the MCS LOC. The results of this study provide evidence of new implications about the contribution of board governance, management accounting information systems, innovation strategies and MCS LOC as moderators to sustainability performance. This research develops the measurement of the management control system LOC variable, by adding four new dimensions, namely the dimensions of Sustainability control systems, innovation management systems, digital control systems and risk management systems, The implication of adding these four new dimensions makes the contribution of the MCS LOC variable better in this research model, compared to the previous model as evidenced in the sensitivity test.

The results prove that as many as three variables, namely board governance and management

accounting information systems and innovation strategies have a positive and significant direct impact on sustainability performance. The strongest influence coefficient is given by management accounting information system, followed by board governance, and the lowest coefficient is given by innovation strategy. This can be implicated by companies. If you want to improve sustainability performance, then the main priority of strategies that can be applied is to improve aspects of management accounting information systems, second aspects of board governance and third innovation strategies. Then if the alternative is to collaborate strategies, then the best option to be implicated is the collaboration between the MCS LOC and the management accounting information system because this study proves that the MCS LOC is able to strengthen the influence of the management accounting information system on sustainability performance. Thus, it can be stated that to improve sustainability performance, the option that can be implied is to improve the MCS LOC, and the management accounting information system, the next is to collaborate between the MCS LOC and the innovation strategy, because this study proves that the MCS LOC is able to strengthen the influence of the innovation strategy on sustainability performance.

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