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How Belief System as The Best Driver of Control in Increasing Performance

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Abstract: Based on the essence of contingency theory and resource-based view, this research focuses on examining the influence of the management control system (MCS) on the performance of Indonesian public health sector organizations from both financial and non-financial perspectives such as sustainability practices mediated by organizational learning. The research technique used in this study included distributing questionnaires to 172 respondents from health service facilities in 22 provinces in Indonesia. The outcome of this study showed that there was a significant positive impact of MCS elements and organizational learning to organizational performance except for the diagnostic control system. Organizational learning mediates belief system on organizational performance. The conclusion of this study is expected to benefit the health practitioners and regulators aimed at promoting effectiveness of MCS practices on the performance of public sector organizations, especially belief systems as the best driver of control in increasing performance. The originality of this research is a study that investigates the complete elements of the MCS on the performance of public health sector organizations from both financial and non-financial perspectives such as sustainability practices, in addition to using organizational learning capabilities as mediation.

Keywords: management control system, organizational learning, organizational performance.

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INTRODUCTION

Public sector organizations in several developing and western countries are experiencing substantial operational challenges, such as increasing budget deficits, diminished government funding, increasing demand from the public, and increasing customer expectations (Chowdhury & Shil, 2016). Public sector organizations have faced issues that have led to the implementation of public sector reforms, including the adoption of new public management practices, in order to improve the organizational performance (Piening, 2013). This impact can make the public sector have to strengthen the organization to avoid failure and improve organizational performance. From a stakeholder perspective, MCS enables organizations to define and communicate goals them, monitoring performance by providing feedback and implementing control mechanisms, and motivate employees to achieve organizational goals (Janka, 2021). Public organizations have faced pressure and expectations from various communities, governments and non-governmental organizations regarding social and environmental business

regulations for the last ten years. Public organizations must consider economic and social benefits. The triple bottom line concept has emerged as a comprehensive approach to measuring organizational performance. To integrate sustainability into their strategies, organizations in developed countries use business models that incorporate a triple bottom line approach (Córdova-Aguirre & Ramón-Jerónimo, 2021). The triple bottom line concept emphasizes that organizations must not only pay attention to financial aspects (Profit), but also aspects of contribution to society (People) and an active role in protecting the environment (Planet).

Public organizations must accept the fact that organizational performance does not only play a financial role, but also non-financial roles such as social and environmental sustainability performance (Baird & Tung, 2023). Reporting financial profits also considering the ecological and social performance of organizations has become an increasingly widespread practice in all types of organizations with the aim of accountability and legitimacy considerations (Traxler et al., 2023). Appropriate management control systems enable companies to obtain feedback information regarding potential environmental and social impacts, sustainability performance (at all organizational levels), initiatives sustainability, stakeholder reactions, and corporate financial performance (Akankunda et al., 2024). In this research, the performance of public sector health organizations is not only measured from a financial perspective (profits and PNBP), but also a non-financial perspective (sustainability practices). Sustainability practices that have been implemented by the hospital include controlling energy consumption and circular economy programs such as environmentally friendly materials, waste processing and water conservation.

In generating information for managerial decision making, MCS can help companies track decision-making performance and feedback to measure past activities and find future directions to achieve sustainability performance (Wang et al., 2022). To work for a lasting future and gain competitive advantage, sustainability and balance between economic, social and environmental issues must be present in MCS. An organization's sustainability orientation refers to its efforts to create long-term value by considering the social, environmental and economic impacts of its business activities (Quesado et al., 2024). For this reason, organizations need a management control system (MCS) to guarantee that acquired resources are utilized in an effective and efficient manner to accomplish organizational objectives (Anthony & Govindarajan, 2005). MCS will have an impact on organizational failure which in the end will have fatal consequences, for example, financial losses, loss of company reputation, and ending in organizational failure (Merchant & Van der Stede, 2007). Simons (1995) introduced four elements of management control systems (MCS). While the theory of Resource-Based View (RBV) suggests that organization can overcome problems in their operating environments by developing internal resources and capabilities (Pablo et al., 2007), this study investigates how organizational dynamic capabilities mediate the relationship between organizational change and performance. Henri (2006) describes how organizational capabilities, namely organizational learning, can act as intermediaries in the connection between MCS and organizational performance.

Management control systems (MSC) play an important role in improving sustainability performance, maintaining dynamic capabilities, and developing open innovation strategies in organizations (Jutidharabongse et al., 2024). MCS is needed to implement sustainability strategies so that it can be used for holistic or integrative control purposes, in harmony with sustainability control and not implemented in isolation (Traxler et al., 2023). Implementation and adaptation of MCS practices can help avoid greenwashing and branding practices by encouraging transparency, accountability and improved performance in sustainability practices (Cortés et al., 2024). The use of MCS in integrating aspects of sustainability and the company's environment is very useful because it can influence the behavior of company resources to determine the company's sustainability strategy (Dana et al., 2021). MCS plays an important role in encouraging the integration

of sustainable development dimensions such as economic, social and environmental factors, possibly providing significant predictors for improving sustainable performance (Rehman et al., 2020). MCS is an important driving mechanism that enables SMEs to obtain performance results from implementing CSR initiatives (Cheffi et al., 2021).

The contingency theory approach posits that there is no accounting system that can be uniformly applied to all organizations in all circumstances (Otley, 1980). Contingency studies have a significant impact on the utilization of various contextual factors. Contextual factors include strategy and organizational culture. Every member of the organization must be controlled by a belief system so that organizational values and strategies that impact organizational performance become a culture for the company. The belief system is employed to motivate and guide personnel in identifying current possibilities, encouraging them to seek out new ideas, establishing fundamental corporate principles, and setting organizational goals and direction (Hoque & Chia, 2012). It assists managers in translating complex values that employees may struggle to understand into practical behaviors that are in line with the organization's goals (Bruining et al., 2004). Training can be used as a powerful control tool when used to manage organizational culture for sustainability or promote organizational values such as conducting awareness-based training to stimulate sustainability performance (Shahbaz & Sajjad, 2020).

The internal monitoring strategy in achieving organizational performance is one of the contextual factors that is in line with the boundary system to provide boundaries for organizational members to avoid risks and negative things that have an impact on the organization. The monitoring strategy is carried out through communication from the manager level down, to create messages that can be received at all levels of organizational members. If the information collected exceeds what was expected then there will naturally be no information gap. Boundary systems are utilized by top managers to form boundaries in the form of rules and communicate them with actions that must be avoided by employees (Simons, 1995). Interactive control systems are utilized as a means to identify strategic uncertainty and develop sustainable action plans. Diagnostic control systems are utilized to plan how operations will be carried out by strategic plans. According to Henri (2006) interactive control systems can stimulate the development of new ideas initiatives, and directions that emerge from the bottom up with a focus on strategic uncertainty. Controls such as boundary systems, interactive controls and diagnostic control systems can be designed to encourage joint monitoring; a form of strong group pressure on individuals who deviate from group norms and values, the aim of which is to teach organizational members to follow prescribed policies and procedures for the purpose of sustainability performance (Shahbaz & Sajjad, 2020).

The resource-based view theory encourages companies to increase their organizational learning resources so that they have MCS capabilities in order to attain a competitive edge that positively influences the enhancement overall organizational performance. Henri (2006) also shows that organizational learning capability is a strategy that can lead companies to gain a competitive edge and improve their performance. According to Henri (2006), innovation and organizational learning are commonly acknowledged as the primary capabilities for enhancing competitive advantage, as well as for bringing together and creating market change.

Various previous studies have been conducted to investigates the impact of MCS on both performance and learning of organization, including research Nuhu et al. (2019) concluding that MCS, especially interactive and diagnostic approaches encourage the performance of Australia public sector organizations. Research by Jutidharabongse et al. (2024) shows that MCS has a significant effect on the organizational sustainability performance of hotels in Southern Thailand. Research by Cortés et al. (2024) shows that MCS has a significant

effect on the organizational sustainability performance of construction companies in European Union countries. Research by Traxler et al. (2023) shows that an appropriate MCS is necessary to implement sustainability strategies of companies listed on the Austrian and German stock exchanges. Research by Cheffi et al. (2021) shows that MCS is an important driving mechanism for SMEs to obtain performance results from implementing CSR. Research by Rehman et al. (2020) shows that MCS has a significant effect on the organizational sustainability performance of construction companies in Malaysia. Research by Akankunda et al. (2024) shows the mediating role of MCS on the relationship between human capital and sustainable performance of electricity companies in Uganda. Research by Rays et al. (2022) on 471 medium and large-scale manufacturing in Indonesia companies shows that organizational learning does not affect organizational performance. Research Bandiyono & Augustine (2019) on 99 tax service offices (KPP) shows that levers of control and organizational learning influence organizational performance. Baird & Su (2018) in their research on financial officials and financial supervisors in Australia show the performance of 645 manufacturing enterprises is influenced by four levers of control. Likewise, research by Baird et al. (2018) shows the four levers of control influence company performance in Australia. Theriou et al. (2017) conducted research on MCS and organizational learning in companies in Greece, showing the utilize of a diagnostic control system has no impact company performance and organizational learning. On the other hand, there are different results that interactive control systems influence organizational learning and company performance, while organizational learning influences organizational performance. Meanwhile, Eker & Eker (2016) in his research on 94 manufacturing companies in Turkey showed that diagnostic control and interactive control systems influence organizational performance. Meanwhile Hoque & Chia (2012) in their research on multinational companies in Australia show that performance measurement is influenced by four of levers of control. Research using a management control system linked to organizational learning was carried out by Tekavčič et al. (2008) in general hospitals spread across Australia. The research results show that the interactive style in the management control system for budgets allows organizations to learn.

The quantitative approach was used with a questionnaire data of officer respondents from health service facilities in twenty-two provinces in Indonesia. This research contributes to adding to the literature on empirical studies regarding the function of MCS on the performance of public health organizations from both financial and non-financial perspectives such as sustainability practices. This study also offers important insights to the government and health practitioners The function of MCS in improving the performance of public health officials. The originality of this research uses the complete MCS elements on the organization performance of public health, in addition to using organizational learning capabilities as mediation as a development of the research of Nuhu et al. (2019).

METHODS

This research is based on a quantitative approach with a questionnaire data of 172 respondents from health service facilities in 22 provinces in Indonesia. Questionnaires were distributed over two periods from 1–31 May 2023 and 1–31 August 2023, through digital media using Google Forms. The research uses Structural Equation Modeling (SEM) to test the hypothesis.

This study sample uses the state civil officer criteria for working as a permanent employee in the government health agencies. This research population uses as in previous studies that used the management control system of public sector institutions such as Abernethy & Lillis (1995) and Nuhu et al. (2019). Respondents are identified as the public health officer who are serving in the positions of Director, Division/Department Head, Section

Head, and Employee. Thus, the population of this study is the public health organization located in Indonesia. This research uses primary data in the form of a questionnaire, so there is a possibility of respondent subjectivity when answering the questionnaire questions asked.

Organizational performance in research is measured from a financial perspective and a non-financial perspective, including sustainability performance. Like previous research, this research examines the relevance of MCS variables that play a role in improving sustainability performance (Cheffi et al., 2021; Cortés et al., 2024; Jutidharabongse et al., 2024; Rehman, 2022; Traxler et al., 2023). The survey for this study comprises seven (7) sections (Part A-G). All of the questionnaires were delivered to respondents in the form of questions with a 6-point scale of Likert, with range from 1 ("strongly disagree") to 6 ("strongly agree"). The first section, Part A consists of respondent's demographic. Part B consists of the belief system, four questions adapted from Baird et al. (2018). The third section, Part C, measures the boundary system, four questions were adapted from Baird et al. (2018). The fourth section, Part D, measures the interactive control system, five questions were adapted from Baird et al. (2018). The fifth section, Part E, measures the diagnostic control system, four questions were adapted from Nuhu et al. (2019). The sixth section, Part F, measures organizational learning, and six items were adapted from Baird et al. (2018). Finally, Part G measures the organizational performance, six questions were adapted from Baird et al. (2018).

RESULTS AND DISCUSSION

The type of respondent who dominated filling out this questionnaire was the central government public hospital with 73 respondents (about 42 percents). The number of respondents who filled out this questionnaire was employees with 93 respondents (about 54 percents). The domicile of respondents in this study is spread across 22 provinces throughout Indonesia, which the largest number of participants coming from South Sumatra province, there were 64 respondents (about 37 percents), followed by Jakarta province with 30 respondents (about 17 percents). The demographic profile of respondents was summarized for the type of respondent and respondent's position in Table 1.

Table 1 Profile of Respondent

Types of Respondent	Respondent	%	Respondent's Position	Respondent	%
Central Government Public Hospital	73	42%	Director	11	6%
Regional Government Public Hospital	68	40%	Division Head/Dept. Head	42	24%
Regional Health Laboratory	24	14%	Section Head	26	15%
Community Health Centres	24	3%	Employees	93	54%
Military Hospital	6	1%			
Total	**172**	**100%**	**Total**	**172**	**100%**

Table 2 shows that the average respondent score for the belief system indicator is 4.98 from a total of 6 scales with the lowest (highest) score of 1.0 (6.0). The research findings indicate that the average score for the belief system indicator (4.98) is greater than the boundary, interactive control, and diagnostic control system. On the

other hand, the boundary system indicator, the mean score by the respondents was 4.91. Meanwhile, for the interactive control system indicator, the respondents mean score was 4.79. As for the diagnostic control system indicators, the respondents mean score was 4.92. In the mediating variable of this research, the organizational learning indicator, the mean score by the respondents is 5.15. Finally, the organizational performance indicator has mean score by the respondents of 4.81 from a total of 6 scales.

Table 2 Statistical Result

Variable	Observation	Mean	Std. Dev
Belief System	172	4.98	0.84
Boundary System	172	4.91	0.88
Interactive Control System	172	4.79	0.86
Diagnostic Control System	172	4.92	0.85
Organizational Learning	172	5.15	0.75
Organizational Performance	172	4.81	0.88

This research carried out a validity test using Confirmatory Factor Analysis (CFA) to test whether an indicator used can confirm a variable. The findings indicate that the KMO MSA value is 0.941, which exceeds the threshold of 0.50. The Sig value is 0.000, it can be inferred that the CFA validity test has been met.

The validity results with outer loading have been verified valid with outer loading value of more than 0.5, so there was no need to improve the validity test. The variables' validity is tested using the Average Variance Extracted (AVE) approach, while the reliability of the variables is evaluated using Cronbach Alpha (CA) and Composite Reliability (CR).

Table 3 shows mean value (AVE) for every variable is greater than 0.50, suggesting the variable is valid. Additionally, the comparative fit index (CA) and the composite reliability (CR) values, which are both over 0.70, suggest that the variable is reliable. Thus, this research can be further pursued to conduct hypothesis testing.

Table 3 Validity and Reliability Test

Variable	CA	CR	AVE
MCS-Belief System	0.890	0.924	0.751
MCS-Boundary System	0.900	0.931	0.771
MCS-Interactive Control System	0.947	0.959	0.825
MCS-Diagnostic Control System	0.953	0.966	0.877
Organizational Learning	0.872	0.904	0.611
Organizational Performance	0.955	0.964	0.816

The multicollinearity test in Table 4 indicates that both the organizational performance and organizational learning models, VIF values <5, were obtained so that no multicollinearity was found.

Table 4 Multicollinearity Test

Variable	Organizational Performance	Organizational Learning
Belief System	3,137	2,577
Boundary System	2,710	2,700
Interactive Control System	4,583	4,545
Diagnostic Control System	4,949	4,903
Organizational Learning	–	–
Organizational Performance	2,278	–

Table 5 of the organizational performance model indicates the adjusted R-square is 0.479, indicating a moderate influence. This means that 47.9% of the variation or behavior of organizational performance, can be explained by the MCS elements and organizational learning. The remaining 52.1% represents the variation caused by other independent variables that are not accounted for in the model. In the organizational learning, the adjusted R-square value was 0.551, indicating a significant influence. These findings indicate the MCS elements can explain 55% of the variation or behavior of the organizational learning variables. The remaining 1%, specifically 44.9%, represents the discrepancies caused by other independent factors that impact organizational learning but have not been accounted for in the model.

Table 5 Test of Coefficient Determination

	R Square	R Square Adjust	Q Square
Organizational Performance	0.495	0.479	0.280
Organizational Learning	0.561	0.551	0.432

This research aims to identify the best research model that relates to all independent variables examined on organizational performance in the context of hypothesis testing.

The belief system has a significant and positive impact on organizational learning with an estimated coefficient of 0.496, the t-statistic value of 5.352, which above the critical value of 1.96, confirms the significance, resulting in a p-value of 0.000. These findings are consistent with prior research (Bandiyono & Augustine, 2019; Tekavčič et al., 2008; Widener, 2007). The findings of this study conducted by Hoque & Chia (2012) validate that the belief system has been utilized by health sector management to motivate and guide employees in recognizing current opportunities, encouraging them to explore new ideas, establishing core organizational values, and determining organizational goals and direction. According to the Resource Based-View perspective, which considers the company capability is the main source for achieving sustainable competitive advantage (Wernerfelt, 1984), health sector organizations have a high level of learning accompanied by a high commitment to learning. Through a belief system, every employee in a health sector organization is controlled so that organizational learning becomes a culture for their unit based on their experience and knowledge so that it is applied in dealing with changes that arise to improve the performance of health sector organizations. Based on the demographic of respondents, this impact is caused by the dominance of more than 40% of respondents who

come from central and regional government public hospital, which organizational learning is easy to implement and carry out because the company's belief system has strong basic organizational values and effective communication towards the organization's mission and goals. The hypothesis testing as shown in Table 6.

Table 6 Results Path Coefficient

Description	Coefficient	T Statistic	P-Value
MCS-Belief System → Organisational Leaning	0.496	5.352	0.000***
MCS-Boundary System → Organisational Leaning	0.066	0.565	0.286
MCS-Interactive Control System → Organisational Leaning	0.142	1.051	0.147
MCS-Diagnostic Control System → Organizational Performance	0.128	0.865	0.194
Organisational Learning → Organizational Performance	0.167	1.324	0.093*
MCS-Belief System → Organizational Performance	0.214	1.877	0.031**
MCS-Boundary System → Organizational Performance	0.225	1.966	0.025**
MCS-Interactive Control System → Organizational Performance	0.169	1.307	0.096*
MCS-Diagnostic Control System → Organizational Performance	0.036	0.296	0.384

* = alpha 10%, ** = alpha 5%, *** = alpha 1%

Table 6 shows that boundary systems are not proven to influence organizational learning with an estimated coefficient of 0.066, t-statistic value of 0.565, p-value of 0.286. The results confirm previous research (Widener, 2007). This can happen because the boundaries of the boundary system have been set by the management of the health sector organization and are considered by employees as something negative, but this system can motivate employees to do something positive. According to the Resource Based-View to produce competitiveness, a unique combination of resources is needed which is bound by boundaries within an organization. Various restrictions imposed in health sector organizations result in employee behavior being regulated. This is considered by staff-level employees as something negative which is reflected from the demographics of the respondents, this non-influential impact is influenced by staff-level employees who dominate about 54% of respondents filling out this research survey.

The results of path coefficient shown in Table 6, interactive control systems are not proven to have an effect on organizational learning with an estimated coefficient of 0.142, and the t-statistic value is 1.051 and resulting in a p-value of 0.147. These results confirm previous research (Widener, 2007). Uncertainty and risk in competition trigger a highly interactive control system in health sector organizations, causing the interactive control system to not affect organizational learning. Furthermore, with a highly interactive control system from the management level of the health sector organization to all employees, the Resource Based-View theory approach which encourages organizational learning to increase the value of organizational resources and capabilities becomes less influential. This occurs because employees' ability to anticipate and effectively manage uncertainty in the future increases (Simons, 2000). The existence of a tiered interactive control system in government health institutions as respondents in this study shows that employees have the ability to manage uncertainty in the future, so that organizational learning has no effect.

Meanwhile, the results of diagnostic control system do not affect organizational learning. The estimated coefficient for the diagnostic control system of 0.128, and the t-statistic value of 0.865, resulting in a p-value of 0.194 > 0.10. These results confirm previous research (Henri, 2006). The main objective of the diagnostic control system is effectively to coordinate and monitor the results achieved. Resource Based-View encourages organizational learning as a capability possessed by health sector organizations to achieve sustainable competitive advantage (Wernerfelt, 1984), which enables all employees to act according to their authority and responsibilities (Abernethy & Lillis, 1995). Therefore (Henri, 2006; Simons, 1995, 2000) argue that this system can put negative pressure on all members of the organization because this system focuses on errors and deviations and the results achieved need to be compared. As is known, the majority of respondents who filled out the survey in this research were staff-level employees who perceived negative pressure from supervision carried out by top management.

Table 6 also shows evidence that organizational learning, belief, boundary, and interactive control systems have a significant and positive impact on organizational performance. The test findings indicate an estimated coefficient of organizational learning at 0.167, with t-statistic of 1.324, resulting in p-value of 0.093. These findings are consistent with prior studies (Bandiyono & Augustine, 2019; Theriou et al., 2017; Widener, 2007). The connection between organizational learning and performance is aligned with the Resource-Based View perspective, that suggests a company's competitive advantage arises from the uniqueness of its own resources. Organizational learning is effective in health sector organizations where there is unique knowledge obtained that will greatly contribute to the competitive edge of health sector organizations which can ultimately improve organizational performance. Based on descriptive statistical data, the average value of organizational learning mediation is 5.15, which exceeds the mean value of MCS elements. This shows that all levels of respondents view organizational learning as very important to achieve and improve organizational performance.

Belief systems positively impact organizational performance. The estimated belief system coefficient is 0.214, and the t-statistic value is 1.877, and resulting in a p-value of 0.031. The findings are confirmed with previous research (Baird et al., 2018; Baird & Su, 2018; Bandiyono & Augustine, 2019; Hoque & Chia, 2012; Widener, 2007). The contingency theory approach is based on contingency studies which have a broad impact on the use of various contextual factors, namely strategy and organizational culture. Every employee in a health sector organization has been controlled by a belief system so that organizational values and strategies that impact organizational performance become a culture. All employees of health sector organizations are motivated to carry out activities that can benefit the company. In line with the opinions of (Henri, 2006; Simons, 1995, 2000) who state that a belief system is a system that has positive energy. This is also in line with the belief system indicator which has a higher average value about 4.98 of descriptive statistics than other MCS elements. This could happen because the majority of respondents came from central and regional government public hospitals, which were established more than 60 years ago, and have a belief system in company values which has become an organizational culture that motivates them to be able to carry out activities that can increase organizational performance. The results of this belief system also show its influence on non-financial performance. The belief system built through training on the importance of sustainable performance values has been seen to be successful in private and government hospitals. Hospitals have initiated green hospitals such as the Mahar Mardjono Jakarta National Brain Center Hospital, Dharmais Cancer Hospital, Indonesian University Hospital, Pertamina Hospital Cirebon, Anugerah Sehat Afiat Hospital Depok, RM. Soedjarwadi Hospital Klaten and BP Batam hospital. As Shahbaz & Sajjad (2020) explain, training can be used as a powerful control tool to manage organizational culture for sustainability or promote organizational

values such as holding awareness-based training to stimulate sustainability performance. These results also confirm the research (Cheffi et al., 2021; Cortés et al., 2024; Jutidharabongse et al., 2024; Rehman, 2022; Traxler et al., 2023).

Boundary systems positively impact organizational performance. The estimated boundary system coefficient is 0.225, the t-statistic value of 1.966 is significant, resulting in a p-value of 0.025. The findings are confirmed with prior studies (Baird et al., 2018; Baird & Su, 2018; Bandiyono & Augustine, 2019; Hoque & Chia, 2012). The core tenet of contingency theory is that the performance of a corporation is heavily influenced by the alignment between contextual aspects within an organization (Cadez & Guilding, 2008). The internal monitoring strategy of health sector organizations in achieving organizational performance is one of the contextual factors that is in line with the boundary system to provide employee boundaries to avoid risks and negative things that have an impact on the organization. The boundary system has been used by the management of health sector organizations to form boundaries that must be avoided by every employee (Simons, 2000). Apart from the limitations provided, this system also provides opportunities for employees to be motivated to seek new opportunities to improve organizational performance. In line with this, government hospitals and military hospitals that were respondents in this study have government regulations as limitations to provide direction and supervision in achieving performance of organization.

Interactive control systems positively impact organizational performance. The estimated coefficient for the interactive control system of 0.169, and the t-statistic value is 1.307, resulting in a p-value of 0.096. The findings are confirmed with prior studies (Baird et al., 2018; Baird & Su, 2018; Bandiyono & Augustine, 2019; Eker & Eker, 2016; Hoque & Chia, 2012; Nuhu et al., 2019; Theriou et al., 2017; Widener, 2007). The monitoring strategy of health sector organizations toward achieving organizational performance is one of the contextual factors of the contingency approach. The monitoring strategy for health sector organizations is carried out through communication from the management level to employees, thereby creating messages that can be received at all levels of employees. If the information collected exceeds what was expected, then there will naturally be no information gap. According to Henri (2006) interactive control systems can stimulate the development of new ideas initiatives, and directions that emerge from the bottom up with a focus on strategic uncertainty. The supervision inherent in government health institutions as respondents in this study proves that the supervision strategy of government public health organizations is carried out through effective communication from the management level to employees in achieving organizational performance.

Meanwhile, the results of testing hypothesis were not proven, which indicates that the diagnostic control system positively impacts performance of organization. The estimated coefficient is to be 0.036, with a t-statistical value of 0.296, resulting in a p-value of 0.384. These findings are confirmed with prior studies (Nuhu et al., 2019). The health sector organization's monitoring strategy for measuring organizational performance is one of the contextual factors of the contingency approach. Diagnostic control systems have been used by health sector organizations to plan how operations will be carried out by strategic plans. Conversely, this approach is utilized to monitor and evaluate progress towards objectives and track outcomes. This technique is utilized to detect notable variations from expected outcomes and implement suitable measures to compute and provide feedback on organizational performance discrepancies. This system can put negative pressure on employees because the system focuses on errors and deviations that result in organizational performance not being achieved. The government's public health organization's monitoring strategy for measuring organizational performance is considered negative pressure for staff level employees who dominate the survey filling in this research, not as feedback for achieving organizational performance.

This study additionally examines the variables in the mediation model to ascertain the degree to which organizational learning mediates the correlation between management control system elements and organizational performance (Table 7).

Table 7 Specific Indirect Effect - Organizational Learning as a Mediator

Description	Coefficient	T Statistic	P-Value
Belief System → Organisational Learning → Organizational Performance	0.083	1.252	0.105*
Boundary System → Organisational Learning → Organizational Performance	0.011	0.397	0.346
Diagnostic Control System → Organisational Learning → Organizational Performance	0.021	0.588	0.278
Interactive Control System → Organisational Learning → Organizational Performance	0.024	0.717	0.237

* = alpha 10%, ** = alpha 5%, *** = alpha 1%

Organizational learning mediates the direct correlation between belief systems and organizational performance with the results of the hypothesis moderation test have an estimated coefficient is to be 0.083 and a p-value of 0.10. The outcomes of this indirect impact align with the outcomes of the direct effect that belief systems positively impact organizational performance. Shown on statistical descriptive and respondent demographics data in this study, health sector organizations especially central and regional government public hospital have a high level of learning, thereby fostering commitment and culture for the company based on experience and knowledge established more than 60 years ago, which is ultimately used in dealing with emerging changes to increase organizational performance.

Organizational learning does not mediate the direct correlation between boundary systems and performance of organization. This is supported by an estimated coefficient of 0.011, a p-value of 0.346. However, the outcomes of this indirect impact do not align with the outcomes of the direct effect where the boundary system positively impact organizational performance. The various restrictions provided in this system result in the behavior of public health sector organization employees being regulated. This makes what the organization wants to be in line with the company's expected goals. However, restrictions from organizational leaders do not have an impact on learning as is known, the dominance of staff level employees who filled out this research survey was considered something negative and finally it is the experience of employees of health sector organizations to understand how to avoid risks and negative things that have an impact on not achieving organizational performance.

The connection both between the diagnostic control system and organizational performance is not mediated by organizational learning, as evidenced by a coefficient of 0.021, a p-value of 0.278. The indirect influence of the diagnostic control system has the same consequences as the direct impact, which is that it does not affect organizational performance. Learning in health sector organizations does not have a learning impact on organizational employees regarding the experience of errors, deviations, and evaluations of leaders to achieve organizational performance. This can be seen from staff level employees who dominate the entries in this survey who consider organizational learning to be less important and that the diagnostic monitoring system only relies on looking for errors and deviations made by employees, not as feedback to achieve organizational performance.

Finally, the results of testing hypothesis state that the estimated coefficient is 0.024, and the p-value is 0.237. This suggests that organizational learning does not mediate the direct correlation between both

interactive control systems and performance of organization. The outcomes of this indirect impact do not align with the outcomes of the direct impact where the interactive control system positively impact organizational performance. The health sector companies have a highly advanced interactive control system from the top level to employees of health sector organizations, causes organizational learning to have no impact on increasing the value of resources and the ability to anticipate and manage effectively future uncertainty in achieving organizational performance. This aligns with the respondents in this study who came from government public health institutions which already have a tiered interactive control system so that organizational learning has no effect.

The expansion test in this research was by separating research sample data from respondents from health sector organizations managed by the Central Government and Regional Government. This expansion test focuses on comparing the responses of each variable based on the type of management between the Central Government and Regional Government.

The Wilcoxon/Mann-Whitney result test as shown by Tabel 8 for each independent variable, dependent variable, and mediating variable have a probability value above 0.05, suggesting that it is not significant. This suggests that there is no significant difference in the assessment of each variable between managers of health sector organizations from both the Central Government and Regional Government. However, judging from the average score obtained, apart from organizational planning, it shows that managers from the Regional Government are greater than those from the Central Government. This shows that the Regional Government has implemented a Management Control System (MCS) better than the Central Government, while in organizational learning it seems that the Regional Government has not yet focused on developing learning capabilities for its agencies.

Table 8 Wilcoxon/Mann-Whitney Test

Variable	Central Government Mean	Regional Government Mean	Prob.
Organizational Performance	6.5	6.5	0.93
Belief System	4	5	0.66
Boundary System	2.75	6.25	0.06
Interactive Control System	3.8	7.2	0.09
Diagnostic Control System	4.25	4.75	0.88
Organizational Learning	6.66	6.33	0.93

CONCLUSION

This study examines the impact of Management Control Systems (MCS) on organizational learning and performance in public health sector organizations using contingency theory and resource-based view. The findings highlight that belief systems significantly and positively influence organizational learning and performance by fostering a culture of experience-based learning, motivation, and alignment with organizational goals, while boundary, diagnostic, and interactive control systems show no significant effect. Organizational learning, mediated by belief systems, improves performance through enhanced resource capabilities and adaptability. MCS also supports sustainability practices in public and private health sectors, emphasizing non-financial performance. However, limitations include potential respondent subjectivity, lack of consideration for

organizational culture, and a focus solely on public sector organizations. Future research should explore private sector contexts, cross-country comparisons, and integrate organizational culture variables to better assess the role of learning in improving resource capabilities and performance.

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REFERENCES

Abernethy, M. A., & Lillis, A. M. (1995). The impact of manufacturing flexibility on management control system design. *Accounting, Organizations and Society*, *20*(4), 241–258. https://doi.org/10.1016/0361-3682(94)E0014-L

Akankunda, B., Nkundabanyanga, S. K., Kaawaase, T. K., Adaramola, M. S., Nkurunziza, G., & Tumwine, S. (2024). The mediating effect of management control systems on human capital and sustainable performance among Ugandan power companies. *Cogent Business and Management*, *11*(1), 1–27. https://doi.org/10.1080/23311975.2024.2324369

Anthony, R. N., & Govindarajan, V. (2005). *Management Control Systems* (12th Edition). New York: McGraw-Hill. Available at: https://spada.uns.ac.id/pluginfile.php/926262/mod_resource/content/1/management-control-systems-%20E-BOOK.pdf

Baird, K., & Tung, A. (2023). Green human resource management: the role of positive levers of control and environmental performance measures in managing performance. *International Journal of Manpower*, *44*(5), 880–899. https://doi.org/10.1108/IJM-01-2022-0005

Baird, K., & Su, S. (2018). The association between controls, performance measures and performance. *International Journal of Productivity and Performance Management*, *67*(6), 967–984. https://doi.org/10.1108/IJPPM-03-2017-0059

Baird, K., Su, S., & Munir, R. (2018). The relationship between the enabling use of controls, employee empowerment, and performance. *Personnel Review*, *47*(1), 257–274. https://doi.org/10.1108/PR-12-2016-0324

Bandiyono, A., & Augustine, Y. (2019). Organizational Performance as A Mediation On The Effect Of Levers Of Control And Learning Organization On Tax Compliance. *International Journal of Business, Economics and Law*, *19*(5), 65–78. Available at: https://www.ijbel.com/wp-content/uploads/2019/09/K19_234.pdf

Bruining, H., Bonnet, M., & Wright, M. (2004). Management control systems and strategy change in buyouts. *Management Accounting Research*, *15*(2), 155–177. https://doi.org/10.1016/j.mar.2004.03.003

Cadez, S., & Guilding, C. (2008). An exploratory investigation of an integrated contingency model of strategic management accounting. *Accounting, Organizations and Society*, *33*(7–8), 836–863. https://doi.org/10.1016/j.aos.2008.01.003

Cheffi, W., Abdel-Maksoud, A., & Farooq, M. O. (2021). CSR initiatives, organizational performance and the mediating role of integrating CSR into management control systems: Testing an inclusive model within SMEs in an emerging economy. *Journal of Management Control*, *32*(3), 333–367. https://doi.org/10.1007/s00187-021-00323-6

Chowdhury, A., & Shil, N. C. (2016). Innovation in Public Sector Management Control Systems in the Context of New Public Management: A Case of an Australian Public Sector Organization. *Journal of Entrepreneurship, Management and Innovation*, *12*(4), 99–125. https://doi.org/10.7341/20161245

Córdova-Aguirre, L. J., & Ramón-Jerónimo, J. M. (2021). Exploring the inclusion of sustainability into strategy and management control systems in peruvian manufacturing enterprises. *Sustainability*, *13*(9), 5127. https://doi.org/10.3390/su13095127

Cortés, D., Traxler, A. A., & Greiling, D. (2024). Management control practices for the sustainability transformation in the European construction industry. *Journal of Accounting and Organizational Change*, *20*(6), 156–177. https://doi.org/10.1108/JAOC-11-2023-0209

Dana, L. P., Rounaghi, M. M., & Enayati, G. (2021). Increasing productivity and sustainability of corporate performance by using management control systems and intellectual capital accounting approach. *Green Finance*, *3*(1), 1–14. https://doi.org/10.3934/GF.2021001

Eker, M., & Eker, S. (2016). The Effects of Interactions between Management Control Systems and Strategy on Firm Performance: An Empirical Study. *Business and Economics Research Journal*, *7*(4), 123–123. https://doi.org/10.20409/berj.2016422343

Henri, J. F. (2006). Management control systems and strategy: A resource-based perspective. *Accounting, Organizations and Society*, *31*(6), 529–558. https://doi.org/10.1016/j.aos.2005.07.001

Hoque, Z., & Chia, M. (2012). Competitive forces and the levers of control framework in a manufacturing setting: A tale of a multinational subsidiary. *Qualitative Research in Accounting and Management*, *9*(2), 123–145. https://doi.org/10.1108/11766091211240351

Janka, M. (2021). Enabling formal MCS design and use: A meta-synthesis of qualitative research. *Journal of Accounting & Organizational Change*, *17*(2), 133–163. http://dx.doi.org/10.1108/JAOC-01-2019-0002

Jutidharabongse, J., Imjai, N., Pantaruk, S., Surbakti, L. P., & Aujirapongpan, S. (2024). Exploring the effect of management control systems on dynamic capabilities and sustainability performance: The role of open innovation strategy amidst COVID-19. *Journal of Open Innovation: Technology, Market, and Complexity*, *10*(1). https://doi.org/10.1016/j.joitmc.2024.100224

Merchant, K. A., & Van der Stede, W. A. (2007). *Management Control Systems: Performance Measurement, Evaluation and Incentives* (2nd ed.). New Jersey: Prentice Hall.

Nuhu, N. A., Baird, K., & Appuhami, R. (2019). The impact of management control systems on organisational change and performance in the public sector: The role of organisational dynamic capabilities. *Journal of Accounting and Organizational Change*, *15*(3), 473–495. https://doi.org/10.1108/JAOC-08-2018-0084

Otley, D. T. (1980). The contingency theory of management accounting: Achievement and prognosis. *Accounting, Organizations and Society*, *5*(4), 413–428. https://doi.org/10.1016/0361-3682(80)90040-9

Pablo, A. L., Reay, T., Dewald, J. R., & Casebeer, A. L. (2007). Identifying, enabling and managing dynamic capabilities in the public sector. *Journal of Management Studies*, *44*(5), 687–708. https://doi.org/10.1111/j.1467-6486.2006.00675.x

Piening, E. P. (2013). Dynamic Capabilities in Public Organizations: A literature review and research agenda. *Public Management Review*, *15*(2), 209–245. https://doi.org/10.1080/14719037.2012.708358

Quesado, P., Silva, R., & Oliveira, H. C. (2024). Management Control Systems and Sustainability: A Bibliometric Analysis. *Sustainability*, *16*(12), 5067. https://doi.org/10.3390/su16125067

Rays, M., Aryati, T., & Augustine, Y. (2022). A new decade for social changes Investing the effect of learning organization, organizational culture, company reputation on organizational performance. *Technium Social Sciences Journal*, *37*, 265–286. http://dx.doi.org/10.47577/tssj.v37i1.7540

Rehman, A. (2022). Organizational Corruption Prevention, Internal Audit, and Sustainable Corporate Governance: Evidence from Omani Public Listed Companies. *International Journal of Social Sciences and Economic Review*, *4*(2), 10–20. https://doi.org/10.36923/ijsser.v4i2.159

Rehman, S. U., Bhatti, A., Kraus, S., & Ferreira, J. J. M. (2020). The role of environmental management control systems for ecological sustainability and sustainable performance. *Management Decision*, *59*(9), 2217–2237. https://doi.org/10.1108/MD-06-2020-0800

Shahbaz, W., & Sajjad, A. (2020). Integrating management control systems, mindfulness and sustainability: an occupational health and safety perspective. *Corporate Governance,* 21(3), 433–449. https://doi.org/10.1108/CG-06-2020-0242

Simons, R. (1995). *Levers of Control-How Managers Use Innovative Control Systems to Drive Strategic Renewal*. Boston: Harvard Business School Press.

Simons, R. (2000). *Performance Measurement and Control Systems for Implementing Strategy*. New Jersey: Prentice Hall.

Tekavčič, M., Peljhan, D., & Šević, Ž. (2008). Levers of control: Analysis of management control systems in a Slovenian company. *Journal of Applied Business Research*, *24*(4), 97–112. https://doi.org/10.19030/jabr.v24i4.1333

Traxler, A. A., Schrack, D., Greiling, D., Feldbauer, J., & Lautner, M. (2023). The interplay of sustainability reporting and management control – an exploration of ways for dovetailing to develop reporting beyond accountability. *Journal of Applied Accounting Research,* 26(6), 160–182 https://doi.org/10.1108/JAAR-08-2022-0222

Theriou, N., Dimitrios, D., & Theriou, D. N. (2017). Management Control Systems and Strategy: A Resource based Perspective. Evidence from Greece. *International Journal of Business and Economic Sciences Applied Research*, *10*(2), 35–47. https://doi.org/10.25103/ijbesar.102.04

Wang, T., Ismail, K., & Abas Azmi, K. S. (2022). The Rise of MCS and EMA in the Sustainable Field: A Systematic Literature Analysis. *Sustainability*, *14*(24). 16532. https://doi.org/10.3390/su142416532

Wernerfelt, B. (1984). A Resource-based View of the Firm. *Strategic Management Journal*, *5*(2), 171–180. https://doi.org/10.1002/smj.4250050207

Widener, S. K. (2007). An Empirical Analysis of the Levers of Control Framework. *Accounting, Organizations and Society*, *32*(6), 757–788. https://doi.org/10.1016/j.aos.2007.01.001