The Role of Management Control System in Non-Financial Performance

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Abstract. The study aims to examine and analyze the role of management control system in non-financial performance. It is a quantitative study with primary data processing using SPSS 22. The population of this study was MSMEs in Karawang Regency totaling 45 samples. Sources of data in this study were the distribution of a questionnaire to all respondents and interviews. The data was analyzed using multiple linear regression analysis technique. Belief systems and diagnostic control systems have a partial effect on non-financial performance while belief system and diagnostic control systems have a simultaneous effect on non-financial performance. This study concludes that proper and optimal implementation of management control system in a company leads to better non-financial performance, especially employee performance, and the attainment of company goals.

Keywords: Belief System, Diagnostic Control System, Non-Financial Performance.

1 Introduction

The worldwide Covid-19 pandemic is hitting all nations brings about a myriad of negatives impact, including on MSMEs. Karawang is one of the cities in Indonesia affected by the pandemic. it is known that as many as 600 MSMEs in Karawang were affected by Covid-19. This of course requires remedy especially in terms of management control systems. Management control system is a method used by managers [1] to encourage employees in task planning and strategic planning [2] so that a company goal, namely performance, both financial performance and non-financial performance, is achieved [3]. Management control system is also a series of actions and activities that occur in all organizational activities and run continuously [4]. The implementation of a management control system in a company is intended so that each activity can be carried out properly in accordance with the methods and procedures that have been designed so that the company's goals can be achieved optimally [5].

Two things constitute a management control system, namely structure and process [6]. Management control systems are designed to prepare a structure that necessitates the process of planning and implementing plans [7]. The process of planning and implementing plans involves interaction between managers and their subordinates [8]. In

order to accomplish organizational goals, the management control system a a system, structure, and process interacts with one another [9]. The four lever of control, which are a belief system, diagnostic control system, boundary control system and interactive control system can be used to establish a good performance strategy within the Organizational [10]. A formal system is the belief system implemented by managers to communicate company missions and goals which might still be difficult for employees to understand while making it an activity that focuses on company goals [11]. Diagnostic control system is a system implemented by managers to motivate employees to work in accordance with and adapt their behavior to the goals of the company [12]. The primary of goal of a company is profit [3]. It can be achieved if a company practices a good performance and management control [2]. The performance of an employee is measured by the extent to which the employee has carried out their position and carried out the company's strategy and fulfil their obligations related to their individual position in the company [13]. Performance assessment can be executed based on two parameters, namely financial or non-financial [14]. Non-financial performance assessment is equally important because there is a lot of non-financial data concerning the company's operations and relations with its external environment which has a major impact on the company's future [15]. It is not possible to compare between financial and non-financial assessment because they complement each other for the continuity of the company's operations [16].

The research results by [15] stated that all aspects in a company, whether financial or non-financial, greatly affects the company's sustainability. If all aspects are deemed cohesive, it will have a favorable result on the company so that the business expectation of realizing a sustainable and dynamic company can be realized and performance can be achieved if it is accompanied by good strategy and control. [3] stated in their research results that alignment between the organizational performance will be impacted by the strategy of the organization and the type of management control system. Different business strategies will result in greater performance when in line with the type management control system, which is represented by the management controls. [17] the concluded that in order to effectively employ performance measurements, companies must be aware of both financial and non-financial performance metrics, as well as diagnostic or interactive approaches. Organizations do not currently need to stop using financial performance metrics, according to the interactive use of non-financial performance measurement to boost innovation [18]. They must embrace non- financial performance indicator and make an investment in their use, especially in light of their depth, breadth a capacity to represent a variety of employee tasks and organizational priorities. Meanwhile, [19] stated that interactive systems play an important role for performance management to achieve balance in performance assessment. The organization's strategic and contextual environment must inform the control system combination employed. This is a distinctive company that will provide you a lasting competitive advantage. The function of management control system has been studied in non-financial performance in SMEs, albeit still very limited. Therefore, it needs further development and analysis. Data in this study was 45 SMEs in Karawang. So that in this study there were 3 questions.

a. How does the belief system influence non-financial performance?
b. What is the influence diagnostic control system on non-financial performance?
c. What is the influence of the belief system and diagnostic control system on non-financial performance?

2   Methods

This study used a quantitative method with data in the form of primary data obtained directly through a questionnaire with respondents, namely 45 UKM employees in Karawang Regency. This study was the further development of [19], where qualitative methods were used. Quantitative methods were used for this study using 3 variables, namely belief system, diagnostic control system and non-financial performance (Fig. 1). An appropriate and good management control system will result in optimum company performance. This study is hoped to serve as a reference for future researchers.
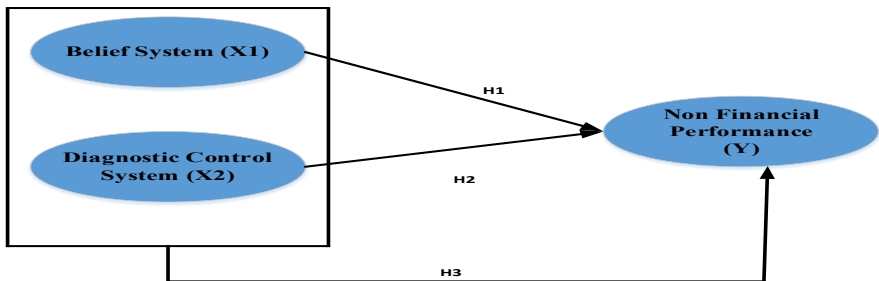

Fig. 1. Research design

Hypothesis:

a. Belief system has a positive effect on financial performance
b. Diagnostic Control System a positive effect on financial performance
c. Belief system and diagnostic control system a positive effect on financial performance

3   Results and Discussion

3.1   Results

Data in this study was collected by distributing a questionnaire to all employees of SMEs in Karawang Regency. In accordance with Table 1, the questionnaire was distributed to 45 respondents and all of them returned the questionnaire. In accordance with Table 2, of the 45 samples, 25 or 56% were men, while 20 or 44% were women. Thus, it can be concluded that male respondents dominated the sample in this study with a percentage of 56%.

Table 1. Collected Questionnaire Results

Description	Total	Percentage
Distributed questionnaire	45	100%
Unreturned questionnaire	0	0%
Returned questionnaire	45	100%

Source: Data processed by the researchers (2022)

Table 2. Profile of Respondents Based on Gender

No.	Gender	Total	Percentage
1	Men	25	56%
2	Women	20	44%
Total		45	100%

Source: Data processed by the researchers (2022)

In accordance with Table 3 containing results of data validity test of belief system, diagnostic control system, and non-financial performance on the respondents' responses, it can be concluded that all question items in the distributed questionnaire have r-count > r-table and a sig. value <0.05, thus all of the questions were valid.

Table 3. Results of Data Validity Test

Item	R-count	R-table (5%)	Significant Value	Significant Rate	Validity Test	Description
X1.1	0.752	0.2940	0.000	0.05	Valid	Used
X1.2	0.567	0.2940	0.000	0.05	Valid	Used
X1.3	0.566	0.2940	0.000	0.05	Valid	Used
X1.4	0.590	0.2940	0.000	0.05	Valid	Used
X1.5	0.755	0.2940	0.000	0.05	Valid	Used
X1.6	0.430	0.2940	0.003	0.05	Valid	Used
X1.7	0.525	0.2940	0.000	0.05	Valid	Used
X2.1	0.525	0.2940	0.000	0.05	Valid	Used
X2.2	0.610	0.2940	0.000	0.05	Valid	Used
X2.3	0.716	0.2940	0.000	0.05	Valid	Used
X2.4	0.640	0.2940	0.000	0.05	Valid	Used
X2.5	0.760	0.2940	0.000	0.05	Valid	Used
X2.6	0.480	0.2940	0.001	0.05	Valid	Used
X2.7	0.763	0.2940	0.000	0.05	Valid	Used
Y1	0.052	0.2940	0.000	0.05	Valid	Used
Y2	0.543	0.2940	0.000	0.05	Valid	Used
Y3	0.614	0.2940	0.000	0.05	Valid	Used
Y4	0.557	0.2940	0.000	0.05	Valid	Used
Y5	0.613	0.2940	0.000	0.05	Valid	Used
Y6	0.666	0.2940	0.000	0.05	Valid	Used
Y7	0.486	0.2940	0.001	0.05	Valid	Used

Item	R-count	R-table (5%)	Significant Value	Significant Rate	Validity Test	Description
Y8	0.558	0.2940	0.000	0.05	Valid	Used
Y9	0.652	0.2940	0.000	0.05	Valid	Used
Y10	0.678	0.2940	0.000	0.05	Valid	Used
Y11	0.712	0.2940	0.000	0.05	Valid	Used
Y12	0.758	0.2940	0.000	0.05	Valid	Used
Y13	0.772	0.2940	0.012	0.05	Valid	Used
Y14	0.371	0.2940	0.000	0.05	Valid	Used

Source: Data processed by the researchers (2022)

Table 4. Multiple Linear Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	27.817	9.662		2.879	.006
	Belief System	.144	.400	.062	.360	.712
	Diagnostic Control System	.908	.329	.472	2.756	.009

a. Dependent Variable: Non-Financial Performance
Source: Data processed in SPSS 16 (2022)

In accordance with Table 4, the equation model of multiple linear regression analysis in this study is Y = 27.817 + 0.144 + 0.908.

Table 5. T Test Results of Belief System

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	34.588	10.036		3.447	.001
	Belief System	.844	.333	.361	2.537	.015

a: Dependent Variable: Non-Financial Performance
Source: Data processed in SPSS 16 (2022)

Table 5 containing t test (belief system on non-financial performance) shows that the significance value of belief system on non-financial performance was 0.015 < 0.05 and t-count value of 2.537 > t-table value of 2.017. Thus, H_{o1} is rejected and H_{a1} is accepted. Therefore, it can be concluded that belief system has a significant effect on non-financial performance.

Table 6 containing t test (diagnostic control system on non-financial performance) shows that the significance value of diagnostic control system on non-financial performance was 0.000 < 0.05 and t-count value of 2.3898 > t-table value of 2.017. Thus, H_{o2} is rejected and H_{a2} is accepted. Therefore, it can be concluded that belief system has a significant effect on non-financial performance.

Table 6. T Test Results of Diagnostic Control System

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	29.850	7.760		3.847	.000
Diagnostic Control System	.983	.252	.511	3.898	.000

a: Dependent Variable: Non-Financial Performance
Source: Data processed in SPSS 16 (2022)

Table 7. F Test

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	327.901	2	163.951	7.509	.002[b]
Residual	917.076	42	21.835		
Total	1244.978	44			

a: Dependent Variable: Non-Financial Performance
b: Predictors:
Source: Data processed in SPSS 16 (2022)

Table 7 containing f test (diagnostic control system on non-financial performance) shows that the significance value of belief system and diagnostic control system on non-financial performance was $0.002 < 0.05$ and f-count value of $7.509 >$ f-table value of 3.21. Thus, it shows that Ho3 is rejected and Ha3 is accepted. Therefore, it can be concluded that belief system and diagnostic control system have a significant effect on non-financial performance.

3.2   Discussion

The Effect of Belief System on Non-Financial Performance. The results of correlation analysis between belief system and non-financial performance showed that belief system has a significant effect on non-financial performance among MSMEs in Karawang Regency. Therefore, vision, missions, direction, and goals in a company/organization need to be communicated properly so that it can foster awareness within employees and promote the enthusiasm to work to create new ideas in bringing about innovation within the company or organization [20]. If an employee is aware of and understand the vision, missions, direction, and goals of the company or organization, then they will internalize the goals and focus towards the achievement of the goals that have been set. In addition, employee performance will also be more focused and they always comply with the rules and work discipline set by the company because the main objective of the belief system in the company will help managers to provide employees with an understanding of the company's core values, vision, mission, and company goals [21]. The implementation of belief system in a company is intended to direct employees in identifying opportunities and come up with new ideas. In addition, it is also intended to help managers to divert values that might be difficult for employees to understand,

while making it an activity that focuses on company goals. Therefore, through this belief system, managers are able to inspire and control employees to avoid opportunistic behavior. If employees do not understand the vision, mission and goals of the company, it will affect negatively their performance. These results are in line with the studies by [22] and [23], showing that belief system has an effect on non-financial performance. Furthermore, the results by [19] stated that the interaction of the four interactive controls, diagnostics, beliefs, and boundaries will assist organizations in managing tensions within the organization in relation to long-term and short-term focus so that organizational achievements can be predicted.

The Effect of Diagnostic Control System on Non-Financial Performance. Diagnostic control system significantly affects non-financial performance among MSMEs in Karawang Regency. The implementation of diagnostic control system in a company is intended to serve as formal feedback with the aim of monitoring employee performance results and correcting any deviations from predetermined performance standards [20]. After monitoring employee performance in its entirety in the attainment of company goals, a manager/leader can then determine when and how much reward will be given to employees, which applies similarly to punishment. Based on the limitations of employee action and behavior at work, a manager can determine whether an action taken by an employee is deviant or not. In the event of deviations, the manager may impose punishment that has been previously communicated to employees when they first joined the company [24]. This reward and punishment may become one form of management controls that can boost employee motivation in working. In addition, if employees are having difficulty in understanding and adjusting their behavior, it might negatively impact their performance. These results are in line with the study by [25] showing that diagnostic control system has an effect on non-financial performance.

The Effect of Belief System and Diagnostic Control System on Non-Financial Performance. In accordance with the f test, belief system and diagnostic control system have an effect on non-financial performance. Belief system is implemented to impart inspiration and directions as well as encouragement to employees to identify possible opportunities, come up with fresh new ideas, teach the basic values of the organization, and communicate organizational goals and direction. Furthermore, belief system is intended to help managers to divert values that might be difficult for employees to understand, while making it an activity that focuses on company goals [24]. Therefore, through this belief system, managers are able to inspire and control employees to avoid opportunistic behavior. If an employee is aware of and understand the vision, missions, direction, and goals of the company or organization, then they will internalize the goals and focus towards the achievement of the goals that have been set. In addition, employee performance will also be more focused and they always comply with the rules and work discipline set by the company because the main objective of the belief system in the company will help managers to provide employees with an understanding of the company's core values, vision, mission, and company goals [19]. Second, diagnostic control system in a company is intended to provide motivation and encouragement to

employees to work in accordance with and adapt their behavior to the goals of the company. The implementation of diagnostic control system in a company is intended to serve as formal feedback with the aim of monitoring employee performance results and correcting any deviations from predetermined performance standards. This system also plays a role in reporting information on success factors that enable managers to focus their attention on company activities [20]. After monitoring employee performance in its entirety in the attainment of company goals, a manager/leader can then determine when and how much reward will be given to employees, which applies similarly to punishment. Based on the limitations of employee action and behavior at work, a manager can determine whether an action taken by an employee is deviant or not [26].

4 Conclusion

The partial results of the study (t-test) show that belief system has a significant effect on non-financial performance in MSMEs in Karawang Regency. It means that improved management control system with the belief system method leads to better non-financial performance, especially among employees of MSMEs in Karawang Regency. The partial results of the study (t-test) show that diagnostic control system has a significant effect on non-financial performance in MSMEs in Karawang Regency. It means that improved management control system with the diagnostic control system method leads to better non-financial performance, especially among employees of MSMEs in Karawang Regency. The results of the study simultaneously (f test) show that the four hypotheses are accepted. Thus, a conclusion can be drawn that belief system and diagnostic control system have a significant effect on non-financial performance in MSMEs in Karawang Regency. It means that if management control system in a company is properly implemented, it will improve the performance of the employees of the company. Therefore, the 2 management control system methods used in this study, namely the belief system and the diagnostic control system, simultaneously have a significant effect on non-financial performance in MSMEs in Karawang Regency. This study is the further development of [19] where qualitative methods were used, while this study uses quantitative methods.

Reference

1. L. Sulistyani, I. Ghozali, and J. Isgiyarta, "Organizational control and performance: An empirical study of financial institutions," Corp. Ownersh. Control, vol. 14, no. 3, pp. 51–63, 2017, doi: 10.22495/cocv14i3art6.

2. S. U. Rehman, H. Elrehail, K. Nair, A. Bhatti, and A. M. Taamneh, "MCS package and entrepreneurial competency influence on business performance: the moderating role of business strategy," Eur. J. Manag. Bus. Econ., 2021, doi: 10.1108/EJMBE-04-2020-0088.

3. T. Jukka, "Does business strategy and management control system fit determine performance?," Int. J. Product. Perform. Manag., 2021, doi: 10.1108/IJPPM-11-2020-0584.

4. W. Pan Fagerlin and E. Lövstål, "Top managers' formal and informal control practices in product innovation processes," Qual. Res. Account. Manag., vol. 17, no. 4, pp. 497–524, 2020, doi: 10.1108/QRAM-02-2019-0042.

5. P. Lill, A. Wald, and J. C. Munck, "In the field of tension between creativity and efficiency: a systematic literature review of management control systems for innovation activities," Eur. J. Innov. Manag., vol. 24, no. 3, pp. 919–950, 2020, doi: 10.1108/EJIM-11-2019-0329.

6. J. Gomez-Conde, E. Lopez-Valeiras, R. Malagueño, and R. Gonzalez-Castro, "Management control systems and innovation strategies in business-incubated start-ups," Account. Bus. Res., 2021, doi: 10.1080/00014788.2021.1986365.

7. A. Duréndez, D. Ruíz-Palomo, D. García-Pérez-de-Lema, and J. Diéguez-Soto, "Management control systems and performance in small and medium family firms," Eur. J. Fam. Bus., vol. 6, no. 1, pp. 10–20, 2016, doi: 10.1016/j.ejfb.2016.05.001.

8. C. Tahar, "Adding new elements to an MCS package: The necessity and difficulty of synchronization ," Comptab. Control. Audit, vol. 26, no. 3, pp. 7–34, 2020, doi: 10.3917/cca.263.0111.

9. S. Berthelot and J. Morrill, "Management control systems and the presence of a full-time accountant: An empirical study of small - And medium-sized enterprises (SMEs)," Advances in Management Accounting, vol. 27. Emerald Group Publishing Ltd., pp. 207–242, 2016, doi: 10.1108/S1474-787120160000027006.

10. M. Tanner and S. Singh, "The Influence of Locus of Control in the Actualisation of Mobile Dating Applications Affordances to Mitigate Privacy and Security Concerns," vol. 437 LNBIP. Springer Science and Business Media Deutschland GmbH, University of Cape Town, Rondebosch, Cape Town, South Africa, pp. 333–345, 2022, doi: 10.1007/978-3-030-95947-0_23.

11. K. Baird, "Levers of control, management innovation and organisational performance," Pacific Account. Rev., vol. 31, no. 3, pp. 358–375, 2019, doi: 10.1108/PAR-03-2018-0027.

12. M. Abdo, K. Feghali, and M. A. Zgheib, "The role of emotional intelligence and personality on the overall internal control effectiveness: applied on internal audit team member's behavior in Lebanese companies," Asian J. Account. Res., vol. 7, no. 2, pp. 195–207, 2022, doi: 10.1108/AJAR-04-2021-0048.

13. D. A. Bortoluzzi, R. J. Lunkes, E. A. dos Santos, and A. C. A. Mendes, "Effect of online hotel reviews on the relationship between defender and prospector strategies and management controls," Int. J. Contemp. Hosp. Manag., vol. 13, no. 12, pp. 3721–3745, 2020, doi: 10.1108/IJCHM-04-2020-0297.

14. M. Salehi, M. Ali Mirzaee, and M. Yazdani, "Spiritual and emotional intelligences, financial performance, tax avoidance and corporate disclosure quality in Iran," Int. J. Law Manag., vol. 59, no. 2, pp. 237–256, 2017, doi: 10.1108/IJLMA-11-2015-0059.

15. M. Salehi and A. Arianpoor, "The relationship among financial and non-financial aspects of business sustainability performance: evidence from Iranian panel data," TQM J., vol. 33, no. 6, pp. 1447–1468, 2021, doi: 10.1108/TQM-08-2020-0175.

16. M. Kuroki and K. Motokawa, "Do non-financial performance and accrual-based cost information affect public sector budgeting?," J. Public Budgeting, Account. Financ. Manag., vol. 34, no. 6, pp. 95–116, 2021, doi: 10.1108/JPBAFM-03-2021-0056.

17. N. A. Nuhu, K. Baird, and S. Su, The association between the interactive and diagnostic use of financial and non-financial performance measures with individual creativity: The mediating role of perceived fairness, vol. 33, no. 3. Springer Berlin Heidelberg, 2022.

18. Yanti, "Analisa Pengaruh Faktor-Faktor Pembentuk Fee Ijarah (Psak 107) Terhadap Portofolio Rahn Emas Di Bank Syariah," J. Buana Akunt., vol. 3, no. 1, pp. 24–55, 2020, doi: 10.36805/akuntansi.v3i1.1168.

19. B. Pešalj, A. Pavlov, and P. Micheli, "The use of management control and performance measurement systems in SMEs: A levers of control perspective," Int. J. Oper. Prod. Manag., vol. 38, no. 11, pp. 2169–2191, 2018, doi: 10.1108/IJOPM-09-2016-0565.

20. B. García Osma, J. Gomez-Conde, and E. Lopez-Valeiras, "Management control systems and real earnings management: Effects on firm performance," Manag. Account. Res., vol. 55, no. December 2021, p. 100781, 2022, doi: 10.1016/j.mar.2021.100781.

21. T. Johansson, "Testing for control system interdependence with structural equation modeling: Conceptual developments and evidence on the levers of control framework," J. Account. Lit., vol. 41, no. 2010, pp. 47–62, 2018, doi: 10.1016/j.acclit.2018.02.002.

22. A. Heinicke, T. W. Guenther, and S. K. Widener, "An examination of the relationship between the extent of a flexible culture and the levers of control system: The key role of beliefs control," Manag. Account. Res., vol. 33, pp. 25–41, 2016, doi: 10.1016/j.mar.2016.03.005.

23. V. I. Danilov and A. Lambert-Mogiliansky, "Preparing a (quantum) belief system," Theor. Comput. Sci., vol. 752, pp. 97–103, 2018, doi: 10.1016/j.tcs.2018.02.017.

24. T. Ismail, Meutia, and N. Ummi, "Enabling management control in improving the performance of SMEs," Manag. Sci. Lett., vol. 9, no. 11, pp. 1823–1832, 2019, doi: 10.5267/j.msl.2019.6.009.

25. B. García Osma, J. Gomez-Conde, and E. Lopez-Valeiras, "Management control systems and real earnings management: Effects on firm performance," Manag. Account. Res., vol. 55, no. September 2020, p. 100781, 2022, doi: 10.1016/j.mar.2021.100781.

26. O. Sakka, H. Barki, and L. Côté, "Interactive and diagnostic uses of management control systems in IS projects: Antecedents and their impact on performance," Inf. Manag., vol. 50, no. 6, pp. 265–274, 2013, doi: 10.1016/j.im.2013.02.008.