



## THE CONTINGENT FIT BETWEEN MANAGEMENT CONTROL SYSTEM AND CAPABILITIES ON SUSTAINABILITY PERFORMANCE

 Iin Rosini<sup>1+</sup>

 Juniati Gunawan<sup>2</sup>

 Dani Rahman

Hakim<sup>3</sup>

<sup>1,2</sup>Pamulang University, South Tangerang, Indonesia.

<sup>1</sup>Email: [dosen0001+@unpam.ac.id](mailto:dosen0001+@unpam.ac.id) Tel: 082112140095

<sup>2</sup>Email: [danirahmanhak@gmail.com](mailto:danirahmanhak@gmail.com) Tel: 082216586720

<sup>3</sup>Trisakti University, Jakarta, Indonesia.

<sup>3</sup>Email: [yuni\\_gnw@hotmail.com](mailto:yuni_gnw@hotmail.com)



(+ Corresponding author)

### ABSTRACT

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#### Keywords

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This study aims to analyze the contingent fit between the management control system (MCS) with capabilities to improve the company's sustainability performance. The final sample was 185 environmental managers, human resources, marketing, operational, and corporate social responsibility (CSR) managers from 45 listed companies on the Indonesia Stock Exchange that published the annual report. Primary research data were taken by questionnaire. The data analysis method uses structural equation models with the help of the Smart PLS application. The results of this study indicate that 1) MCS has a direct effect on sustainability performance. 2) MCS affects capability. 3) Capability influences sustainability performance, and 4) contingent fit between MCS and capability has a proven impact on sustainability performance. Based on these results, future studies are expected to focus not only on the influence of MCS and capabilities on sustainability performance but also on the contingent fit between MCS and these capabilities. Thus, companies need to use MCS that has a contingent fit with their capabilities to improve sustainability performance

**Contribution/Originality:** This study uses a new estimation methodology in the form of a management control system package with proven capabilities to improve sustainability performance. The contingent fit resulting from this study can help companies determine the right strategy in improving their sustainability performance.

### 1. INTRODUCTION

Indonesia's natural destruction due to the exploitation of resources by companies is alarming. There are 10 environmental issues that are quite serious in Indonesia, namely waste production, forest destruction, and soil pollution (source: sindonews.com). Not to mention the issue of forest fires and waste pollution, which until now has not been handled optimally. Wahana Lingkungan Hidup (source: Walhi), an environmental activist organization in Indonesia, states that there are more than 300 environmental and agrarian conflicts and environmental damage, which is quite alarming.

Based on environmental issues that tend to be of concern, governments, companies, producers, and consumers are required to pay more attention to sustainability performance (Wang, Pan, Wang, & Zhou, 2020). But in the Indonesian context, sustainability performance tends not to be the focus. The proof is that until 2016 alone, only 6% of companies reported sustainability performance (source: financial services authority). In fact, the sustainability report is critical because it indicates the actual sustainability performance (Papoutsis & Sodhi, 2020).

Concerning a company's performance, including sustainability performance, Simons (2005) explains that a management control system (MCS) model is needed with 4 elements or levers of control, namely diagnostic control, interactive, belief systems, and boundary systems. If these four elements are used together, it can be beneficial for the implementation of the company's strategy to improve performance. Based on that, MCS is deemed necessary to be the basis for the company's strategy. This opinion (Simons, 2005) is in accordance with Langfield-Smith (1997) which also states that MCS can influence corporate strategy.

Some of the studies were delivered from Malmi and Brown (2008); Sandelin (2008) and Chenhall (2008) revealed that elements in MCS need to be used as a package so that they can be used to improve performance. While for Bedford, Malmi, and Sandelin (2016) MCS needs to be fit with the strategy and with the elements in the MCS itself to improve performance optimally. In this context, the strategy is referred to by Calantone, Cavusgil, and Zhao (2002) and Henri (2006) as capability. Based on this terminology, this study seeks to analyze the contingent fit between MCS and capabilities to improve sustainability performance in manufacturing companies in Indonesia. Manufacturing companies are chosen because they tend to have a high risk of 'damaging' the environment (Henri, 2006). Sustainability performance is used as a dependent variable with MCS, capability, and contingent fit between MCS and capability is used as a variable that is thought to influence it.

## 2. THEORETICAL BASIS AND HYPOTHESIS DEVELOPMENT

### 2.1. Contingency Theory

Contingency theory holds that organizational effectiveness is generated by fitting or matching organizational characteristics with contingency factors that reflect organizational situations (McAdam, Miller, & McSorley, 2019). In the field of management accounting, contingency theory is essentially about the concept of fit (suitability) or suitability (Burkert, Davila, Mehta, & Oyon, 2014). The form of conformity is referred to as contingency fit, which in this case has two forms, namely as a selection form of fit and the effect of the MCS-contingency combination on performance. In this second form, Donaldson (2001) classifies it into 2, namely matching fit and moderating fit. While Gerdin and Greve (2004) added it by mediating fit.

Contingency theory has tried to explain various management accounting practices since developing in 1970. This theory explains that the form of an organizational structure needs to be appropriate for certain circumstances. Contingency theory also identifies specific aspects of an accounting system that are associated with certain circumstances to determine the right adjustment (Otley, 2016). Research Otley (2016) reviews the literature using contingency theory for management accounting research from 1980-2014. The results of his research explain the development and change of management control into a package, which is called a management control package.

Contingency theory becomes very important in organizational theory, which views organizations as open systems that do not have an optimal general structure. On the contrary, the company's external and internal context factors such as size, technology, and competitive environment actually determine the optimal organizational structure design (Burkert et al., 2014). Based on this, in the context of management accounting, researchers argue that there is no optimal design of management control systems. Instead, contingency factors such as size, technology, environmental uncertainty, or strategy determine the specific optimal design (Chenhall, 2003).

In management accounting research, companies face poor performance due to misfit in MCS. A study from Burkert et al. (2014) recommends the use of moderating fit between management control systems on performance as a contingent fit or form of fit resulting from contingency theory. Based on that, contingency theory can be used to explain the relationship between MCS and capabilities, which, when borrowing language (Henri, 2006) are called strategies, as well as their relation to sustainability performance.

Contingency theory is widely used by environmental accounting research. For example, research Ganescu (2012) that uses this theoretical basis to analyze the contingency of factors consisting of business models, organizational culture, and total quality management of a company's CSR performance. While Morton and Hu

(2008) use it to analyze the implications of fit between organizational structure and enterprise resource planning (ERP). Research Yu, Chavez, Feng, Wong, and Fynes (2020) positions contingency theory to analyze green human resource management and environmental cooperation. While in this study, contingency theory is used to analyze MCS contingent fit and capability for sustainability performance. Research Jermias and Gani (2005) explains that a match or contingent fit between management control systems and company capabilities can improve sustainability performance.

### *2.2. Resource Based View Theory*

Resource-based view (RBV) theory is a business management theory that tests the market based on heterogeneity and impaired mobility of company resources to determine the competitiveness and sustainability of company excellence. Based on the relationship between the company's internal characteristics and its competitive advantage, the RBV becomes an ideal theory for analyzing performance (Miguel & Haugan, 2019). The RBV theory explains the diversity of resources possessed by each organization can be a differentiation of the level of organizational performance and direct it towards competitive advantage (Sedera, Lokuge, Grover, Sarker, & Sarker, 2016).

The RBV focuses on creating competitive advantages that can be achieved by creating activities between organizations, capabilities, and integration as well as a combination of available resources (Sedera et al., 2016). Referring to Bowman and Toms (2010) proponents of the RBV theory are of the view that human or cultural resources are above normal resources that cannot be traded into physical assets. It is because physical inputs such as computers or machines can usually be traded by company competition, which in the purchase of computers or machines can be a competitive advantage for the company. But not with skilled human resources cannot be imitated by other companies so as to enable the company to maintain a high level of profit. However, the RBV recognizes that resources can be built or purchased, where the creation of resources will be a managerial activity of the company, referred to as dynamic capabilities (Teece, 2010).

The RBV explains that compatibility is needed between company resources and capability-based enterprise resource planning (ERP) to improve company performance and increase competitive advantage (Ruivo, Oliveira, & Neto, 2015). In some studies, the RBV can be used to explain the relationship between the suitability of management control systems and capabilities to improve performance, including sustainability performance. In research (Henri, 2006) explained that, in essence, the RBV theory explains that the strategies in the management control system package can be measured using capabilities. The organizational capabilities used in the study include market orientation, entrepreneurship, organizational learning, and innovation.

### *2.3. The Concept of Sustainability Performance*

According to research Epstein, Buhovac, Elkington, and Leonard, (2017) the concept of sustainability refers to responsible economic growth while protecting natural resources for future generations. Various studies basically point out that sustainability performance is an integration of economic, environmental, social, and communication dimensions into the supply chain. Measuring sustainability performance can be from four dimensions namely economic, environmental, social, and communication (Staniškis & Arbačiauskas, 2009).

According to Wang et al. (2020) sustainability performance is evaluated based on multi aspects among three frameworks, namely economic, environmental, and social. This sustainability performance is here to complement information that cannot be revealed in the financial statements. According to Staniškis and Arbačiauskas (2009) that information from the company's financial statements cannot entirely reflect aspects of the resources owned and used by the company. Among them, aspects of human resources, environmental responsibility, and social impact. Companies need to report sustainability reports to reveal these aspects, especially those related to economic, social, and environmental performance (Eikelenboom & Jong, 2019).

#### 2.4. The Concept of Management Control Systems

Management control systems (MCS), according to research by Gschwantner and Hiebl (2016) need to be made as a package to maintain the sustainability and performance of the company. The package referred to is a fit between MCS and capabilities. Referring to Bedford et al. (2016) that capability is a strategy to improve the company's sustainability performance.

According to the research of Gschwantner and Hiebl (2016) it is explained that the management control system needs to be used as a package to sustain the survival and increase company performance. The package referred to in this context is that the management control system needs to be carried out integrally, which includes specific dimensions in the management control system with capability dimensions. On that basis, management control systems need to be matched with capabilities.

When referring to Bedford et al. (2016) research, the capability referred to is a strategy that can be used to improve the company's sustainability performance. Bedford et al. (2016) research tested the contingent-fit management control system package with strategy. Contingent-fit itself is part of contingency theory that has often been used in accounting and management research. Research by Staniškis and Arbačiauskas (2009) and Simons (2005) explain that economic performance and social performance of companies will increase the effectiveness in decision making and facilitate assessment. On that basis, MCS will affect performance if done together, not separately. Based on that, the first hypothesis set in this study, namely: MCS Influences Sustainability Performance (H1).

#### 2.5. Sustainability Performance

MCS is based on research Ismail (2013); Theriou, Maditinos, and Theriou (2017); Henri (2006) and Acquah (2013) can improve capabilities when done together or in a package. This is also justified by the RBV theory, which states that a company needs to maximize its resources through managerial control efforts to achieve a competitive advantage. On that basis, the second hypothesis of this study is: MCS Influences Capability (H2).

#### 2.6. The Concept of Capability

Corporate capability in Henri (2006) is referred to as strategy. Capability is a company's ability to use resources in its operational processes (Henri, 2006). According to Carmeli and Tishler (2004) capability is understood as a basic process that has 4 cores, namely managerial skills, organizational culture, organizational communication, and organizational reputation. In this context, the concept of capability develops into dynamic capability. According to Gupta and Misra (2016) dynamic capabilities have 3 classifications namely technical, human, and organizational factors.

Dynamic capability is considered as the company's needs in facing market competition so that these companies can adapt and compete (Rehman & Saeed, 2015). Dynamic capability refers to a company base to create a sustainable competitive advantage (Eisenhardt & Martin, 2000). A number of researches view capability can strengthen a management control system to improve company performance (Acquah, 2013; Henri, 2006; Ismail, 2013; Nikolaos, Dimitrios, & Georgios, 2015). While according to Zehir, Can, and Karaboga (2015) the dimensions of entrepreneurial orientation that exist in capabilities can affect performance. While Rehman, Mohamed, and Ayoup (2019) states that organizational capabilities have proven to impact company performance significantly.

The capability in Henri (2006) is considered as one of the measuring tools to assess the implementation of management control systems. Organizational capabilities in Barney (2000); Obeidat, Tarhini, Masa'deh, and Aqqad (2017) and Rehman et al. (2019) have been shown to improve the relationship between organizational resources and performance. Moreover, several studies prove that capabilities can influence sustainability performance. Among them are Hult and Ketchen (2001); Lee, Lee, and Pennings (2001); Spanos and Lioukas (2001) and Garrett, Covin,

and Slevin (2009). Based on that, the third hypothesis in this study, namely: Capability Influences Sustainability Performance (H3).

When referring to the contingency theory, a contingent fit between MCS and capabilities is needed. According to Burkert et al. (2014) the use of contingent fit that is moderating between MCS and strategies can improve performance, including sustainability performance. As for Ismail, Zainuddin, and Sapiei (2010) states the fit between MCS and contingency-based capabilities when producing good fit results in an increase in performance. According to Jermias and Gani (2005) contingent fit between strategy and contextual variables has a positive relationship with business unit performance. Based on this, the fourth hypothesis in this study is contingent fit MCS with capabilities that affect the performance of sustainability (H4).

The theoretical model in this study can be seen from the following figure :

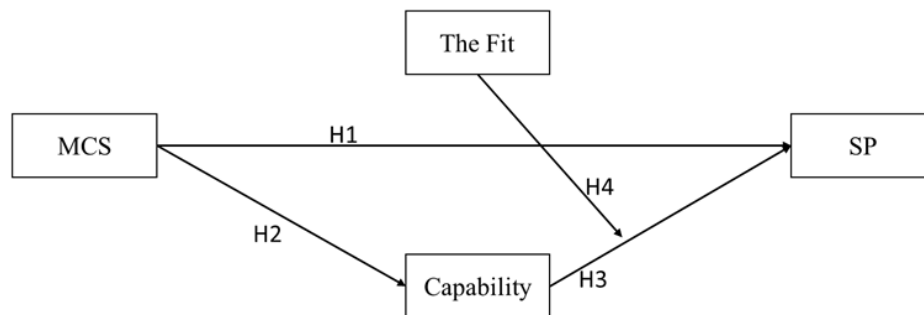


Figure-1. Theoretical model

Source: The theoretical model in this study modifies the moderation form of fit model based on Burkert et al. (2014).

Figure 1 shows that the contingent fit between MCS with the capabilities is hypothesized to affect sustainability performance.

### 3. METHODS

The final sample in this study were 185 company leaders, marketing, operations, production, strategic managers, and corporate social responsibility managers from 45 manufacturing companies that published sustainability reports. Data collection methods used were questionnaires on a scale of 1 to 7. The collected data was then analyzed using Partial Least Square (PLS) structural equation modeling.

The management control system variable in this study is understood as a control that is carried out as a whole within the company (Bedford et al., 2016). The questionnaire to measure the management control system was prepared to adapt the study (Bedford et al., 2016). Organizational capability in this study is understood as a foundation in competitiveness and the way a company uses resources in the organization and its operational processes to achieve company goals and maintain a competitive advantage (Henri, 2006). The sustainability performance is defined as the company's responsibility in allocating its resources so that it can assess the company's overall performance (Staniškis & Arbačiauskas, 2009).

There are 5 dimensions used to measure management control systems, namely diagnostic control, interactive control, compensation, organizational structure, and organizational culture (Bedford et al., 2016). Meanwhile, to measure capability, 4 dimensions are used, namely, market orientation, innovation, organizational learning, and entrepreneurship (Henri, 2006). As for sustainability performance, they were using 4 dimensions, namely social, environmental, economic, and communication performance (Staniškis & Arbačiauskas, 2009).

### 4. RESULT

The data in this study were obtained through the distribution of online questionnaires. Of the 200 questionnaires distributed, 193 of them were filled out in full, and 185 were taken as final samples. Respondents

have the characteristics of being educated with average educational qualifications of masters and holding positions as managers, whether it's financial managers, operations, production, to corporate social responsibility.

#### 4.1. Validity and Reliability Construct

The validity and reliability of the construct of this study was seen from the value of composite reliability and AVE. The instrument is declared reliable if the composite reliability value is more than 0.7, Cronbach alpha is more than 0.7, and AVE is more than 0.5 (Ghozali, 2016; Jogiyanto, 2011).

**Table-1.** Test results of construction validity and reliability.

| Dimensions | Composite Reliability | AVE   | Remark   |
|------------|-----------------------|-------|----------|
| OC         | 0,928                 | 0,763 | Reliable |
| Fit        | 0,881                 | 0,602 | Reliable |
| IN         | 0,926                 | 0,758 | Reliable |
| SP         | 0,965                 | 0,582 | Reliable |
| C          | 0,912                 | 0,723 | Reliable |
| En         | 0,936                 | 0,784 | Reliable |
| MO         | 0,914                 | 0,727 | Reliable |
| OL         | 0,913                 | 0,725 | Reliable |
| DC         | 0,926                 | 0,556 | Reliable |
| IC         | 0,895                 | 0,682 | Reliable |
| OS         | 0,917                 | 0,735 | Reliable |

Table 1 shows that all dimensions of the variables measured in this study are valid and reliable

#### Caption:

OC: Organizational Culture

En: Entrepreneurship

FIT: The Contingent Fit

MO: Market Orientation

IN: Innovation

OL: Organizational Learning

SP: Sustainability Performance

DC: Diagnostic Control

C: Compensation

IC: Interactive Control

OS: Organizational Structure

#### 4.2. Structural Model Testing (Inner Model)

Structural model testing in this study was conducted by looking at the R-Square value from the results of the analysis. This concept refers to the opinion (Ghozali, 2016) which states that structural model testing can be done by using R-Square, which is a test of goodness of fit model. The results are:

**Table-2.** Inner model test results.

| Description                | R Square |
|----------------------------|----------|
| Innovation                 | 0,722    |
| Sustainability Performance | 0,805    |
| Entrepreneurship           | 0,810    |
| Market Orientation         | 0,752    |
| Organizational Learning    | 0,689    |

Table 2 is the result of inner model testing to determine whether the structural model in this study has a match between the observed frequency and the theoretical frequency. The R Square value for all dimensions of capability and MCS towards sustainability performance tends to be more than 0.67, so it shows that the inner model of this study has a goodness of fit.

#### 4.3. Descriptive Analysis Results

General description of the data in this study can be seen from the following table:

**Table-3.** Statistic descriptive.

| Dimensions | N   | Minimum | Maximum | Mean  | Std. Deviation | Variance |
|------------|-----|---------|---------|-------|----------------|----------|
| DC         | 185 | 16      | 60      | 47,34 | 7,330          | 53,724   |
| IC         | 185 | 5       | 24      | 19,01 | 3,493          | 12,201   |
| C          | 185 | 4       | 24      | 18,47 | 3,280          | 10,761   |
| OS         | 185 | 6       | 24      | 19,34 | 3,564          | 12,702   |
| OC         | 185 | 5       | 24      | 19,23 | 3,598          | 12,948   |
| IN         | 185 | 7       | 24      | 18,77 | 3,376          | 11,397   |
| OL         | 185 | 5       | 24      | 17,95 | 3,262          | 10,638   |
| MO         | 185 | 7       | 24      | 18,45 | 3,665          | 13,433   |
| En         | 185 | 5       | 24      | 18,84 | 3,641          | 13,256   |
| SP         | 185 | 33      | 120     | 94,68 | 16,430         | 269,936  |
| <i>FIT</i> | 185 | 7       | 30      | 24,15 | 3,592          | 12,901   |

From [Table 3](#), it can be seen that the respondents' answers for each dimension and variable in this study indicate the MCS, capabilities, and sustainability performance carried out by companies in Indonesia, which are the object of this research tends to be in moderate conditions.

#### 4.4. Hypothesis Test Result

**Table-4.** Recapitulation of hypothesis testing result.

| Influence Between Variables | Original Sample | t      | Sig. |     |
|-----------------------------|-----------------|--------|------|-----|
| MCS → SP                    | .345            | 2.378  | .018 | *** |
| MCS → Capability            | .871            | 48.206 | .000 | *** |
| Capability → SP             | .644            | 7.235  | .000 | *** |
| Fit → SP                    | .561            | 7.132  | .000 | *** |

Note: \*\*\*significant at 0,05 level.

Based on [Table 4](#), it appears that the influence of MCS on sustainability performance is significant which indicates the first hypothesis is accepted. Likewise, the second, third, and fourth hypotheses are also accepted. That is, MCS has a significant effect on sustainability performance, MCS has an effect on capabilities. Capabilities have a significant effect on sustainability performance. Contingent fit between MCS and capability has a significant effect on sustainability performance.

## 5. DISCUSSION

### 5.1. Effect of MCS on Sustainability Performance

The influence of MCS on sustainability performance in this study proves the relevance of contingency theory in the context of Indonesian manufacturing companies. These results are also in line with the arguments of [Staniškis and Arbačiauskas \(2009\)](#) which explain that the industrial world currently requires the disclosure of information on environmental improvement in a sustainable manner so that economic performance and social performance of the company will increase the effectiveness in decision making and facilitate assessment.

This study also supports the argument ([Simons, 2005](#)) that management control systems will affect performance if carried out together, not separately. Based on the contingency theory that control systems are only effective for certain situations or organizations or companies, where the suitability between management control systems and organizational contextual variables is hypothesized to conclude that there is an increase in the performance of the organization and the individuals involved in it. In this context, the control system that is influenced by contextual factors in the company will affect the performance of a company. Companies must be able

to carry out the process of adaptation to the environment, organizational size, and business strategies, and this can be run if the company is run well (Gerdin & Greve, 2008).

However, the results of this study indicate that the management control system needs to be used as a package to improve sustainability performance. On that basis, these results are relatively less supportive of the arguments Bedford et al. (2016) and Rehman. et al. (2019) which explain that not all relevant management control systems are used together.

### *5.2. Effect of MCS on Capability*

This study shows that MCS has a significant effect on capabilities. This finding supports the results of research conducted by Ismail (2013); Theriou et al. (2017); Henri (2006) and Acquaah (2013) which states that when MCS elements are carried out together, it will increase the capabilities of the company. The results of this study also tend to prove the relevance of the RBV theory that internal resources owned by companies need to be maximized to achieve excellence. The success of a company is largely determined by the resources it has and the capability of the company to be able to convert these resources into economic benefits.

The RBV theory explains that companies must-have resources that provide economic excellence so that companies can have advantages (Sherman, 2007). Companies can compete if they have unique resources that are created and formed themselves throughout the period in the form of capabilities.

### *5.3. Effect of Capability on Sustainability Performance*

The results of this study prove that capabilities affect the performance of sustainability. When viewed from the indicators, innovation and entrepreneurship are indicators of a significant effect on sustainability performance. The innovations made by the company include using environmentally friendly materials in product packaging and in the production process. Innovation in this context is also related to waste control and the use of more environmentally friendly technologies. Innovation by the company is the maximization of the potential and the resources they have.

On that basis, the results of this study reinforce the RBV theory, which explains that if a company has resources that come from within and developed over a long period of time, it will increase the company's sustainable competitive advantage. Thus, the results of this study tend to support previous research by Hult and Ketchen (2001) Lee et al. (2001); Spanos and Lioukas (2001); and Garrett et al. (2009).

As for entrepreneurship, related to the company's ability to respond to market opportunities and implement business strategies that are right to win the competition. Entrepreneurship is also an internal capability of a company that appears by maximizing the potential of its resources by trying to see the possibilities that occur in the market. The effect of entrepreneurship on sustainability performance in this study also strengthens the RBV theory and supports previous research conducted (Zehir et al., 2015). However, market orientation does not affect sustainability performance. This condition is because Indonesian manufacturing companies tend not to maximize commitment and orientation to totality to meet consumer needs. Meanwhile, organizational learning that does not affect the company's sustainability performance shows that the company has relatively not focused its efforts to continue learning in generating new ideas and the company considers that if it provides learning to employees, it becomes a cost, not an investment.

### *5.4. Effect of Contingent Fit between MCS and Capability on Sustainability Performance*

This study found evidence that MCS contingent fit with capabilities significantly affected sustainability performance. This finding supports the argument (Burkert et al., 2014), which recommends the use of moderating contingent fit between MCS and strategy on performance. This study also supports the argument (Ismail et al., 2010), which states that contingency-based management control systems are intended to test the fit between MSS



with contextual variables and outcome variables (outcome) as the dependent variable. If a good fit means an increase in performance is moderate if poor fit means a decrease in performance.

The results of this study also support the argument (Jermias & Gani, 2005) that contingent fit between strategy and contextual variables has a positive relationship with business unit performance. In line with the results of the study Rehman et al. (2019) that the management control system that is used as a package will influence performance by moderating capabilities. This finding is also suitable but does not fully support the research carried out (Bedford et al., 2016) whose argument states that management control systems are not only compatible with capabilities but must be how the two must match each other. More detail about the fittest capabilities with management control systems with contextual variables that have an impact on performance it can be seen in partial testing.

## 6. CONCLUSION

This study concludes that in the context of Indonesian manufacturing companies, MCS if used as a package, is proven to be able to influence capability and also sustainability performance. Likewise, capabilities that also affect the performance of sustainability. Furthermore, the contingent fit between MCS and capabilities has been shown to affect sustainability performance.

There are 3 aspects that are new in this study; first, there is the development of valid and reliable instruments to measure sustainability performance, MCS, and capabilities in the Indonesian context. Second, there is evidence of the effect of MCS as a package on sustainability performance. Third, there is evidence of contingent fit between MCS and capabilities and their effects on sustainability performance. While the limitations of this study include, among others, the existence of bias from respondents' answers due to the method of data collection that only uses online questionnaires. On that basis, researchers are then expected to formulate better research instruments by also using qualitative data to be more accurate in measuring MCS, capability, and company sustainability performance.

## 7. IMPLICATIONS

The theoretical implications of this study have consequences for the new paradigm regarding the contingent fit between MCS and capabilities that must be appropriate to improve sustainability performance. This study also implies that contingency theory and RBV, which are commonly used to analyze MCS, capabilities, and performance in general, can also be used in the context of sustainability performance.

The practical implication is for company leaders. Specifically, managers are expected to evaluate the application of MCS and capabilities so that they experience a contingent fit in the context of the company to improve its sustainability performance. As for regulators, it is expected to reinforce the company's obligations in reporting sustainability reports for companies.

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