

Management Control System and Firm Performance: A Strategic Approach

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This research aims to examine the relationship between management control systems and firm performance through firm capability. The research used a survey method in processing industrial companies with a population of 137. The number of samples analyzed was 63 samples. The analytical tool used to test the hypothesis is Partial Least Square (PLS) with the help of smart PLS software version 4.0. The research results succeeded in proving a direct relationship between the management control system affecting firm capability, the management control system on firm performance, and firm capability on firm performance. Apart from that, the results of this research also prove that firm capability can mediate the relationship between the management control system and firm performance. This indicates that the company's success in achieving optimal performance and achieving competitive advantage lies in the strategy of implementing the management control system and firm capability. Therefore, the company continues to improve its management control system and capability so that firm performance can improve and achieve competitive advantage.

1. INTRODUCTION

Performance assessment is one measure of company success. Firm performance will depend on the success of managers in managing the company. Managers are required to be able to manage the company well so that the company can survive and compete in this era of globalization. Managers are also required to understand management control systems and various forms of strategy because the effectiveness of implementing superior management control systems and strategies has an impact on firm performance. A management control system is a collection of processes and control mechanisms that management uses to achieve predetermined organizational goals and objectives (Jukka, 2021).

Empirical research on management control systems shows that the concept of management control systems has an impact on improving firm performance. This is by the findings of empirical research (for example Jamil & Mohamed (2013), Koufteros et al., (2014), Aliyu et al., (2014), Duréndez et al., (2016), Junqueira et al., (2016) and Nani et al., (2021) that the management control system influences firm performance. In contrast to the results of research conducted by Henri (2006) and Widener (2007) who found a weak relationship between the management control system and firm performance. This indicates that empirical research has not provided strong evidence about the relationship between management control systems and firm performance.

Otley, (2016) believes that empirical research linking management control systems to firm performance needs to be re-researched by adding contingency variables and considering strategies supported by management control systems in improving firm performance. Contingency variables are used with the intention that the company is able to achieve good performance conditions when the company faces environmental uncertainty. Contingency theory aims to understand how companies balance performance expectations with the internal and external business environment (Homburg et al., 2012). In particular, contingency theory focuses on emphasizing where contingency variables contribute to firm performance. This research uses firm capability as a contingency variable because firm capability can be a solution in dealing with uncertainty in the company's environment in achieving good performance.

Therefore, in this research, firm capability mediates the relationship between management control systems and firm performance.

Firm capability is a series of strategies that can create new ideas and innovations, market control, understanding customer needs, entrepreneurial orientation, and increasing organizational understanding and learning. The company's success in implementing capabilities has an impact on improving performance. Thus, firm capability is a strategy that can support and mediate the relationship between management control systems and firm performance. Based on the description that has been explained, the problem formulation in this research is as follows: (1) Does the management control system effect on firm capability? (2) Does the management control system affect the firm performance? (3) Does firm capability influence firm performance? (4) Is the firm capability of mediating the relationship between the management control system and firm performance? The specific objectives of this research are to (1) analyze the influence of management control systems on firm capability; (2) analyze the influence of the management control system on firm performance; (3) analyzing the influence of firm capabilities on firm performance and (4) analyzing the mediating influence of firm capabilities on the relationship between management control systems and firm performance. It is hoped that the results of this research can strengthen contingency theory and resource-based view (RBV) in research on management accounting, management control systems, and strategic management. In particular, the results of this research provide benefits in building a conceptual framework regarding firm capability as a mediating variable in the relationship between management control systems and firm performance.

Contingency Theory

Contingency theory is very important to explain how to design and implement an effective management control system to improve firm performance. (Tucker et al., 2009) stated that the suitability of contingency variables with management control system design makes it easier for companies to achieve good performance. For better performance, there needs to be a match between the management control system and company strategy. Contingency theory suggests that if a company makes a change in strategy, the management control system will also change (Jamil & Mohamed, 2013).

Management Control System

The management control system is a concept that can support the company's success in achieving competitive advantage. This is supported by research conducted by Simons (2019) that to achieve a competitive advantage companies must implement a good management control system. The management control system introduced by Simons (1994) is known as the levers of control dimension which consists of belief, interactive, boundary, and diagnostic control systems. Empirical research on management control systems (For example, Bisbe and Otley, (2004), Henri (2006), Widener (2007), Jamil and Mohamed (2013), Koufteros et al., (2014), Junqueira et al., (2016) Su et al., (2017) use the dimensions of levers of control because they consider that belief, interactive, boundary and diagnostic control systems influence on firm performance. This is different from the statement of Tessier and Otley (2012) that a good management control system is a control system that has a long-term strategic performance and operational performance. This is what prompted Tessier and Otley (2012) to revise the management control system in the levers of control dimension.

Firm Capability

Capability are a complex collection of skills and knowledge that are embedded in organizational processes that a company carries out well and relative to competitors, thereby converting company resources into valuable output. The resources owned by a company include all assets, capabilities, organizational processes and information controlled by the company Firm capability in the resource-based view (RBV) theory is one of the important internal factors in managing the resources it already has so that the company is able to achieve competitive advantage and achieve good firm performance (Barney, 1991). When the capabilities within the company are good, resource management will be good (Mulyono, 2013). This is reinforced by Grant (1991) statement that firm capabilities are the main source for achieving good firm performance and whether or not the implementation of capabilities is good depends on the available resources.

Firm Performance

Firm performance is an important component in various empirical research, especially business policy. This construct is often used by researchers in investigating phenomena such as structure, strategy and planning. On the other hand, firm performance is basically a complex and multidimensional

phenomenon. Firm performance includes marketing performance, financial performance and human resource performance. Firm performance is an indicator of the level of success in achieving company goals. Therefore, good firm performance shows the success and efficiency of company behavior. Aliyu et al. (2014) Firm performance is related to the information to be obtained. The main purpose of performance measurement is to encourage management to be more proactive in carrying out company activities, so that company goals can be achieved.

The Relationship between Management Control Systems and Firm Capability

Management control systems are traditionally considered as a tool for exploiting existing resources, in addition, management control systems can be used to support the exploration of potential resources and new opportunities (Simons, 2019; Gschwantner & Hiebl, 2016). The company is considered to have reliable and potential resources in implementing strategies and has access to information about the company's internal environment, including the types of resources it has.

Resource-based view (RBV) views that the key to a company's success in designing and implementing strategies lies in the capabilities and resources owned by the company. RBV examines how resources can drive competitive advantage. Competitive advantage is the ability to create more value compared to competitors, resulting in a higher rate of return on investment (Almarri & Gardiner, 2014). MCS and firm capability are an important part of the organization's internal environment that is needed to support the company in achieving competitive advantage.

Empirical research by Bisbe and Otley (2004) shows that interactive control systems influence innovation, but it is very dependent on the level of product innovation. Interactive control can reduce the risk of innovation if the organization has high innovation. Henri (2006) uses diagnostic and interactive control systems and interacts between diagnostic and interactive systems which is called dynamic tension of firm capability. The results of this research found that the interactive control system had a positive effect on the firm capability and the diagnostic control systems influence organizational learning as a firm capability. Koufteros et al. (2014) found that diagnostic and interactive control systems influence firm capability. Based on this description, the following hypothesis is formulated:

H1: The management control system has a positive effect on the firm capability

The Relationship between Management Control Systems and Firm Performance

Management control system contain various accounting-based controls consisting of monitoring activities, performance measurement and integrative mechanisms. Apart from that, the management control system also functions as a separator between strategic control and operational control. If the management control system is implemented well, it will have a positive impact on firm performance (Langfield-smith, 1997). Simons (1994) divides management control systems into four types, namely: belief control systems, boundary systems, diagnostic control systems, and interactive control systems. The advantages of this system must be used together to have strength. Tessier and Otley (2012) offer a management control system that is oriented towards managerial goals which consists of a control system for strategic performance, operational performance, strategic limits, and operational limits.

Empirical research by Aliyu et al. (2014), Duréndez et al. (2016), and Nani et al. (2021) found a positive relationship between management control systems and firm performance. Other research also finds the same thing (for example, Henri, 2006; Widener, 2007). Therefore, if a company implements a management control system well, it will have a direct impact on increasing firm performance. Based on this description, the following hypothesis is formulated:

H2: The management control system has a positive effect on firm performance

The Relationship between Firm Capability and Firm Performance

Firm capability in the resource-based view (RBV) theory is one of the internal factors that are very important in managing the resources it already has so that the company can achieve a competitive advantage. When the firm capability is good, resource management will be good (Mulyono, 2013). Competitive advantage and superior firm performance rest on specific firm capabilities (Barney, 1991). This is reinforced by the statement by Grant (1991) that firm capabilities are the main source for achieving good firm performance and whether or not the implementation of capabilities is good depends on the available resources.

Empirical research examines the relationship between firm capability and firm performance (for example Agarwal et al. (2003), Widener (2007), Bisbe and Otley, (2004), Bhuian et al. (2005), Henri (2006), Rosli and Sidek (2013), Hussein et al. (2014), Gupta and Chauhan (2021). Research by Agarwal et al. (2003) examine market orientation and innovation on the company's objective and subjective performance. The

results of this research found that market orientation and innovation have a positive effect on firm performance both objectively and subjectively. Widener (2007) uses organizational learning as a firm capability. The results of this research found that organizational learning effects firm performance. Research by Bisbe and Otley (2004) examines the influence of innovation on performance. The results of this research found that there is a significant positive influence between innovation and firm performance. Research Gupta and Chauhan (2021) found that firm capability using innovation indicators, networks, and marketing capability has an impact on performance. Therefore, the firm capability is seen as being able to encourage management to implement strategies optimally to improve firm performance. H3: Firm capability has a positive effect on firm performance

Relationship between Management Control System, Firm Capability and Firm Performance

Firm capability is a complex collection of skills and knowledge in organizational processes that the company carries out well and relative to competitors, thereby converting company resources into valuable output. Barney (1991) argues that the resources owned by a company include all assets, capabilities, organizational processes, and information controlled by the company. Firm capability in the resource-based view (RBV) theory is one of the important internal factors in managing the resources it already has so that the company can achieve a competitive advantage. When the capability within the company is good, resource management will be good (Mulyono, 2013). When a company can identify, develop, use, and maintain its resources, the company can maintain ownership and competitive advantage.

H4: Firm capability mediates the relationship between management control systems and firm performance

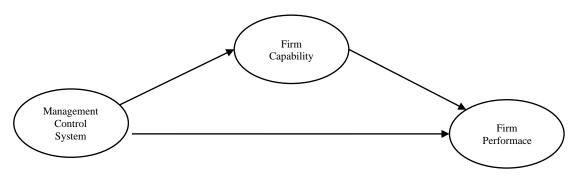


Figure 1: Conceptual Framework of the Research

3. METHODS

This research uses a quantitative approach to answer research problems. The variables studied are quantitative and the data collection process uses a perception approach to facilitate measurement. This research uses a survey method. The survey was conducted at all large manufacturing companies in South Sulawesi province while the respondents in this research are representatives of company managers who are the object of research. For data collection, questionnaires were distributed using two methods, namely visiting respondents directly and via Google Form. After the data is obtained, analysis and hypothesis testing are carried out and the results are empirical findings. The research instruments used in this research are explained as follows:

- a. Management control system variables are reflected by four research indicators adopted from Tessier and Otley (2012) namely: (1) strategy performance. Strategy performance uses five statement items consisting of product development, new market share, new technological developments, customer needs and understanding market conditions. (2) Strategy boundary. The strategic boundary has two statement items consisting of: communicating strategic risks and sanctions for risky strategic activities outside company policy. (3) Operational performance. Operational performance has five statement items consisting of: Innovation of work practices, development of integrated solutions, promotion of operational performance, productivity of operational performance and employee performance. (4) Operational boundary. Operational boundary have two statement items, namely: establishing a code of ethics and guidelines for determining boundaries
- b. Firm capability variable is reflected by four research indicators adopted from Henri (2006). The firm capability indicators consist of: (1) Market Orientation. Market orientation has three statement items consisting of: customer needs, measuring customer satisfaction, commitment, integration of market

needs, customer interests, competitive strategy strengths. (2) Innovation. Innovation has five statement items, namely: new innovation, project management innovation, technical innovation, avoiding risky innovation and tracking innovation and new ideas. (3) Organizational Learning. Organizational learning has four statement items consisting of: learning ability, basic value of organizational learning, risks without organizational learning and learning is an investment.

c. Firm performance variable is reflected by two research indicators using instruments from Lee et al. (2015) namely: (1) Financial performance. Financial performance has three statement items, namely: achieving sales goals, achieving net profit goals and success in financing company activities (2) Non-financial performance. Non-financial performance has three statement items, namely: increasing new products and services, increasing human resource job satisfaction and increasing customer satisfaction.

Variable measurement uses a 5-point Likert scale. Point value 1 indicates a very unsupportive attitude (strongly disagree), point 2 (disagree), point 3 (neutral), point 4 (agree), and point 5 a very strong supportive attitude (very agree) (Cooper & Schindler, 2014). The analytical method used to test the hypothesis is Partial Least Square (PLS) by looking at the significance value of the bootstrapping analysis results on the Smart PLS output (path coefficients, specific indirect effects, total effects). The significance values used (two-tailed) t-table are 1.96. If the value t > 1.96 (P < 0.05) then the hypothesis is accepted, and if t < 1, 96 (p > 0.10) then the hypothesis is rejected (Ghozali & Latan, 2015).

4. RESULTS AND DISCUSSIONS

Results

Outer Model Testing

The results of the outer model testing for the four variables used in this research consisting of management control system, firm capability, and firm performance are presented in Table 1. The test results in Table 1 show that the AVE and communality values range from (0.601 – 0.910) for the three variables with values above 0.5 so that the model meets validity and converges. The results of reliability testing show that all variables have a Cronbach's alpha of (0.693 - 0.901) which is greater than 0.60 and a composite reliability value of (0.831 - 0.953) which is greater than 0.70. Thus, all the items used in this variable are valid and reliable.

Indicator	Loading Factor	AVE	Composite Reliability	Cronbach's Alpha	Communality
Panel A (Management Control System)					
Strategic Performance	0,821	0,601	0,857	0,777	0,601
Strategic Boundary	0,471	0,782	0,877	0,772	0,782
Operational Performance	0,806	0,695	0,872	0,780	0,695
Operational Boundary	0,728	0,910	0,953	0,901	0,910
Panel B (Firm Capability)					
Market Orientation	0,809	0,630	0,836	0,706	0,630
Innovation	0,702	0,800	0,889	0,750	0,800
Organizational Learning	0,818	0,622	0,831	0,693	0,622
Panel C (Firm Performance)					
Financial Performance	0,923	0,727	0,887	0,811	0,727
Non-financial Performance	0,920	0,679	0,864	0,762	0,679

Table 1. Results of Construct Validity Analysis

Source: Data processing results

Inner Model Testing

The results of testing the inner model can be seen in the R-square (R2) for the dependent construct, and the t-value path coefficient for each path between constructs. The results of the R2 calculation can be seen in Table 2. The R2 value for the firm performance variable is 0.596. This value shows that variations in company performance can be explained by the CFA variable and firm capability by 59.6%, while the rest is explained by other variables.

No	Variable	R ²
1	Management Control System	-
2	Firm Capability	0,202
3	Firm Performance	0,471

Table 2. Results of R-Square (R2) Measurement Analysis

Source: Data processing results

The structural model measured by PLS is expected to have Q-square (Q2) predictive relevance. Q-square (Q2) predictive relevance measures how well the observation values produced by the model and parameter estimates are (Ghozali & Latan, 2015). Q2 value greater than zero indicates that the inner model has predictive relevance. The Q2 value is calculated by the formula:

Q2 = 1 - (1 - R12) .. (1 - Rn2) Q2 = 1 - (1 - 0.202) (1 - 0.471) O2 = 0.578

The analysis results show that the Q2 value for the inner model is 0.578, which means that this research model has great predictive relevance because the value is greater than zero so it is suitable for use for hypothesis testing.

Hypothesis test

Hypothesis testing is carried out to describe the relationship between each variable tested using Smart PLS software. This research uses four hypotheses. The following explains each hypothesis testing result.

Table 3. Hypothesis Testing Results

No	Variable	Loading Factor	STDEV	T Statistics	Notes
Dire	ct Relationship				
1	MCS 🗲 Firm Capability	0,449	0,106	4,228	Accepted
3	MCS → Firm Performance	0,457	0,127	3,698	Accepted
2	Firm Capability 🗲 Firm Performance	0.346	0.111	3.126	Accepted
Indir	ect Relationship (mediation)				
4	MCS → Firm Capability → Firm	0.150	0.070	2.215	Assembled
	Performance	0,156	0,070	2,215	Accepted
MCS	Management Control System				

MCS: Management Control System

Source: Data processing results

Based on Table 3, it shows that the results of testing the effect of the management control system on firm capability show a loading factor of 0.449 with a positive sign with a t-statistic of 4.228 > 1.96 (P < 0.05). A positive coefficient means a unidirectional relationship between the management control system and the firm capability. The results of testing hypothesis 1 (H1) which shows that the management control system has a positive effect on firm capability are **accepted**. The results of testing the effect of the management control system on firm performance show that the loading factor is 0.457 with a positive t-statistic of 3.698 > 1.96 (P < 0.05). A positive coefficient means a unidirectional relationship between the management control system and firm performance. The results of testing hypothesis 2 (H2) which show that the management control system has a positive effect on firm performance are **accepted**.

The results of testing the effect of firm capability on firm performance show a loading factor of 0.346 in a positive direction and a t-statistic of 3.126 < 1.96, which means it is significant (P < 0.05). A positive coefficient means a unidirectional relationship between firm capability and firm performance. The results of testing hypothesis 3 (H3) which states that firm capability has a positive effect on company performance are **accepted**. The test results stated that firm capability was able to mediate the relationship between the management control system and company performance, showing a positive loading factor value of 0.156, t-statistic of 2.215 < 1.96 (P < 0.05). The results of testing hypothesis 4 (H4) which states that firm capability mediates the relationship between management control systems and firm performance are **accepted**.

Discussion

The results of this research analysis show that the management control system influences the firm capability. Companies that implement management control systems effectively have an impact on increasing firm capability. Management control systems are very important in formulating and implementing strategy. The results of this research support research conducted by Bisbe and Otley (2004), that the management control system influences innovation as a firm capability. Widener (2007) found a positive relationship between the management control system and organizational learning capability. Apart from that, the results of this research also support research by Henri (2006) and Koufteros et al. (2014), that the management control system has a positive effect on capability companies in achieving competitive advantage.

The test results in this research show that the management control system has a positive effect on firm performance. These results indicate that companies that implement management control systems effectively can improve firm performance. Improving firm performance depends on the design and implementation of a management control system. Apart from that, companies must also consider other strategies that can support the effective implementation of a management control system so that the company can improve performance optimally. The results of this research support research conducted by Aliyu et al. (2014) and Duréndez et al. (2016) which found an influence between management control systems on firm performance.

The results of the analysis show that firm capability influences firm performance. This indicates that firm capability has become an important concern for management in designing and implementing strategies so that the company can improve performance and achieve a competitive advantage. The results of this study support research conducted by Agarwal et al. (2003), Widener (2007), Bisbe and Otley (2004), Bhuian et al. (2005), Rosli and Sidek (2013), Hussein et al. (2014) and Gupta and Chauhan (2021) that firm capability influences firm performance.

The test results state that firm capability can mediate the relationship between management control systems and firm performance. The management control system on firm performance through firm capability has a coefficient in a positive direction. This indicates that the implementation of a management control system can improve firm performance by using a superior strategy, namely maximum utilization of firm capability. In this way, the firm performance will continue to improve and achieve competitive advantage. The results of this research support research conducted by Koufteros et al. (2014) that firm capability significantly mediates the relationship between management control systems and firm performance.

5. CONCLUSION

The findings of this research prove that the management control system effect on the firm capability, the management control system effect on the firm performance, the firm capability effect the firm performance and the firm capability mediates the relationship between the management control system and company performance. The more effective the implementation of the management control system, the more impact it will have on increasing the firm capability in improving long-term performance and achieving competitive advantage. Competitive advantage rests on specific firm capability. The specific capabilities in question must be valuable, rare, inimitable, and non-substitutable. Firm capability in this research is measured using market orientation, innovation, and organizational learning. Increasing firm capability cannot be separated from the design and implementation of an effective management control system in achieving competitive advantage and improving firm performance

The results of this research provide benefits to contingency theory, which focuses on the design and implementation of an effective management control system that can improve firm performance. Suitability of contingency variables with management control system design makes it easier for companies to achieve good performance (Tucker et al., 2009). For better performance, there needs to be a match between the management control system and company strategy. Practically beneficial, the results of this research can be used as input for companies in managerial decisions making.

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