

The Mediating Effects of Strategic Foresight on the Relationship of Management Control System with Firm Performance

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Abstract. The purpose of the present study was to examine the mediating effects of strategic foresight on the relationship of management control system with firm performance. A total of 63 samples was analyzed, the unit of analysis under study was large manufacturing companies in South Sulawesi and the respondents were company leaders at the middle to upper managerial levels. The analytical tool used to test the hypotheses was the Partial Least Square (PLS) assisted by the smartPLS version 3.0 software. Results showed that the present study successfully demonstrated that strategic foresight was capable of mediating the relationship between management control system and firm performance. Optimally achieved firm performance was inseparable from the implementation of an effective management control system and strategic foresight support. The findings of the present study substantiate the contingency theory that management control system can improve firm performance when considering strategies capable of adapting to their environment. Therefore, the follow-up of the results of this study is expected to be considered by the management of companies in designing and implementing management control systems and strategies effectively to improve firm performance.

Keywords: Corporate foresight activity · Firm performance · Management control system

1 Introduction

In the current era of globalization, manufacturing companies are very focused on performance. Measures of company success can be seen from the achievement of a firm performance. Firm performance is an important concept related to how to manage financial, material and human resources available in an organization and wisely used to achieve the company's overall goals [1]. Firm performance must be measured, reported and accounted for by the company's management. 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. Performance can be measured by financial and operational (non-financial) indicators. Financial performance is related to economic factors such as profitability and sales growth (*eg.*,

return on investment, return on sales and return on equity) and operational performance are related to non-financial success factors such as quality, market share, satisfaction, development of new products and market effectiveness [25].

The company's success in achieving improved performance is inseparable from the selection and implementation of the right strategy. Management control systems (MCS) and strategic foresight are the right strategies that have an impact on improving firm performance. MCS and strategic foresight address the paradigm shift in design, strategy selection, strategy implementation and strategy control to achieve optimal performance improvement. MCS is a tool that helps companies identify weaknesses, clarify the strategies set to provide value, by facilitating the implementation of strategies to improve organizational performance [13] [24]. While strategic foresight is the ability to create and maintain various views that have high quality in implementing strategies that are beneficial to the organization.

Empirical research on the effect of MCS on firm performance still contains irregularities resulting in research gaps (for example, [14] [15] [1] [20] and [5]) found that MCS influences firm performance. However, the results of research conducted by [11] and [24] found that MCS had a negative effect on firm performance. [6] argues that MCS has a negative effect due to the dysfunctional behavior of managers in manipulating actual data for the sake of performance improvement. Therefore, MCS needs to be revised and modified to avoid dysfunctionality between company managers, in this way MCS will have a positive impact on improving firm performance.

Based on these descriptions, this study aims to examine the relationship between management control systems and firm performance mediated by strategic foresight. This research was conducted at large manufacturing companies in South Sulawesi Province, with the consideration that South Sulawesi is one of the provinces that provides the largest contribution in Indonesia in the manufacturing industry. Therefore, it is important to know the development performance of manufacturing companies in South Sulawesi.

2 Literature Review

Management control system (MCS) as a set of formal and informal inputs, processes and output controls used by management to achieve organizational goals, control is connected by many complementary relationships [4]. MCS becomes more complex if the company has a lot of control that depends on the environmental context and organization. Conventionally, MCS is seen as a passive tool in providing information to help managers with the aim of providing information that is useful in making decisions about planning, controlling and evaluating [18] [24]. Whereas MCS is traditionally seen as a tool to exploit existing resources, MCS can be used to support exploration of potential resources and new opportunities [22] [9].

Empirical research on MCS shows that the concept of MCS can be linked to corporate strategy and performance. For example, [17] tested the effect of MCS on strategy formation. [24] links the elements of strategy with MCS and their effects on performance. [14] examines the role of MCS on firm performance. [15] relates MCS with strategies in achieving firm performance and performance targets, and research conducted [3] focuses on MCS testing and its strategy and impact on firm performance.

The implementation of strategic foresight can provide information for companies to help decision making and improve strategies in general to encourage growth/increase firm performance, because they are considered to have a more accurate view of the company's current environment and company's future, besides that strategic foresight can contribute to companies and individuals in strategic decision making. Strategic foresight is a strategy that helps companies deal with environmental uncertainty, helps free themselves from path dependency, helps the decision making process and ultimately can help in improving firm performance [21]. Based on the description above, the hypothesis in this study is explained below.

Hypothesis: The effectiveness of implementing a management control system can improve firm performance if mediated by strategic foresight.

3 Methodology

This research is based on explanatory research, which is research that intends to examine and explain the relationship between MCS and firm performance mediated by strategic foresight. The focus of the study was conducted on large manufacturing companies in South Sulawesi, which amounted to 137 companies which also made a population. The technique of determining the sample is done by calculating the number of samples using the sloving formula. This study uses a questionnaire sent directly to respondents by going directly. Respondents in this study are company leaders at the manager level on the grounds that managers generally understand the control systems and strategies implemented by the company, in addition managers are considered to have professional knowledge about MCS implementation, strategy and firm performance.

The variables used in this study consisted of: a management control system as an independent variable, firm performance as the dependent variable, and strategic foresight as a mediating variable. Measurement of variables uses a 5-point Likert scale to measure respondents' perceptions. The following is the measurement of the variables used in this study. The analytical tool to test the hypothesis is Partial Least Square (PLS) using smartPLS software version 3.0. The reason for using PLS is because PLS is able to be used to test the causal relationships of research variables that have not received much theoretical support or the research is exploratory [8].

4 Results and Discussion

This study uses smart Partial Least Square (smart PLS) version 3.0 to determine the significance of the path coefficient in the prediction model or the significance of hypothesis support [10] [8]. If the t-statistic value is higher than the t-table means the hypothesis is accepted. This study uses a 95% confidence level (alpha 5%) or t-table of 1.96 for two-tailed testing. Testing the relationship between structural models and hypothesis testing can be done in two stages, namely testing the direct influence path coefficient, and testing the indirect influence path coefficient. Testing the direct influence of this research are MCS on firm performance, MCS on strategic foresight,

and strategic foresight on firm performance. While indirect testing is the MCS on firm performance mediated by strategic foresight.

MCS on strategic foresight has path coefficient with positive direction. The analysis showed that the path coefficient was 0.520 with a t-statistic of 6.396 ($t > 1.96$) or significant at the 5% level ($p < 0.05$). This shows that MCS has a positive relationship with strategic foresight. The effectiveness of the management control system can increase strategic foresight in achieving long-term goals [8].

Table 1. Results of Analysis of Direct and Indirect Relations.

	Path Coefficient	Standard Deviation	T statistics	P value
	(1)	(2)	(3)	(4)
MCS → SF	0,520	0,081	6,396	0,000***
SF → Performance	0,306	0,128	2,392	0,017**
MCS → Performance	0,419	0,107	3,928	0,000***
MCS → SF → Performance	0,159	0,077	2,070	0,039**

Note : the *t* statistics and *P* value in parentheses with ***, **, * denotes significant at 1, 5 and 10 percent level.

The relationship of strategic foresight to firm performance has a path coefficient with a positive direction of 0.306 with a t-statistic of 2,395 ($t > 1.96$) or significant at the 5% level ($p < 0.05$). This shows that strategic foresight has a positive relationship with firm performance. The better the implementation of strategic foresight, the firm performance will increase. The analysis shows that MCS has a relationship to firm performance. The path coefficient is positive at 0.419 with a t-statistic of 3.928 ($t > 1.96$) or significant at the 5% level ($p < 0.05$). These results indicate that the effectiveness of MCS implementation can improve firm performance. The results of indirect relationship testing (mediation) showed that the path coefficient had a positive value of 0.159 with a t-statistic of 2.070 ($t > 1.96$) or significant at the 5% level ($p < 0.05$). Positive coefficient has a direct relationship between MCS, strategic foresight and firm performance. The results of hypothesis testing which states that the effectiveness of the management control system can improve firm performance if mediated by strategic foresight. (*Be accepted*).

The analysis shows that MCS affects the company's performance if mediated by strategic foresight. This means that, the implementation of MCS will be more effective in improving firm performance if mediated by strategic foresight. The results of this study support the statement [23] that design to implementation of MCS makes it easy for companies to achieve good performance. For better performance there needs to be a match between MCS and company strategy. Strategic foresight strategy provides benefits for companies in making useful decisions in the future, so the company does not only focus on achieving short-term goals. The results of this study reinforce the contingency theory that the design and implementation of MCS can improve firm performance if it is associated with strategies that can adapt to their environment. Strategic foresight is a strategy that can detect the factors that cause changes in the environment. This is consistent with the statement [12] that strategic foresight activity has a role in observing, understanding and capturing factors that tend to encourage environmental changes in the future. In addition, strategic foresight can help management in making decisions about the company's future performance.

The results of this study are a solution to the gap in empirical research conducted by [14] [15] [1] and [5] who found a positive influence between MCS on firm performance. Research [11] and [24] which found a negative (weak) influence on the MCS relationship with firm performance. Thus, to strengthen the MCS relationship with firm performance, it is better to add strategic foresight as a mediating variable. This can indicate that the company's success in implementing MCS effectively to improve firm performance and achieve goals expected in the future must be mediated by a strategic foresight strategy.

5 Conclusion

The results of this study indicate that strategic foresight has a very important role in achieving company goals. Strategic foresight is able to mediate the relationship between MCS and firm performance. These results indicate that the implementation of MCS will be more effective in improving performance if mediated by strategic foresight. MCS applied by the company is substantial which leads to the achievement of increasing firm performance, for the achievement of that performance the company must use strategic foresight as a supporter of MCS. Strategic foresight is a contingency variable that can adapt to the environment.

The results of the study provide theoretical implications, namely, strengthening the contingency theory that a good implementation of MCS can improve performance if linked to strategy. On the other hand, the practical implications in this research can be a consideration for company management in designing and implementing MCS and strategies effectively in order to be able to improve firm performance. The limitations of this study only focus on one mediating variable, namely strategic foresight so that the issues raised focus on one problem. Therefore, it is recommended to further research to consider several contingency variables that can be used as mediating variables in testing MCS with firm performance.

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