

Management Control Systems and Firm Performance: The Mediating Role of Motivation, Market Orientation and Organisational Learning

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ABSTRACT

Management control systems (MCS) is a set of formal and informal systems used to help management to direct the company toward its goals. In particular, this study applied Simon's Levers of control (beliefs systems, boundary systems, interactive control systems and diagnostic control systems) to reveal the role of MCS in generating motivation; in clear market orientation; in facilitating organisational learning; and in increasing firm performance. This study aims to examine the effect of MCS on motivation, market orientation, organisational learning, and firm performance. The population in this study was all 32 Conventional Rural Bank (in Indonesia, BPR) in Riau Province, - Indonesia. Data was collected through questionnaires which were distributed to 116 respondents consisting of the top- and middle- management of BPRs. Data of this study was analysed by using WarpPLS 5.0. The results showed that management control system have an influence on motivation, market orientation and organisational learning. Further analysis found that motivation, market orientation and organisational learning mediate the relationship between MCS and firm performance.

Keywords: Firm performance, management control systems (MCS), motivations, market orientation, organisation learning, partial least squared (PLS), rural bank

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INTRODUCTION

Micro-finance institutions in the Indonesian economy, as well as in other developing countries, is important for communities

and for small and medium enterprises to provide funding. One type of microfinance institutions in Indonesia is rural banks (in Indonesian, termed Bank Perkreditan Rakyat - BPR). The number of BPRs in 1.635 BPR, with 6.024 offices spread throughout Indonesia. In 2016, 71% of BPRs were unhealthy and only 29% showed good performance. This requires serious attention, not only from BPRs but also from the Indonesian government, to improve their performance.

Management control systems (MCS) have an important function within the firms. Failures in implementing MCS will lead to great economic loss and damage to reputation, and can even cause failure of a firm (Merchar & Van der Stede, 2014). Therefore, every company has to design and implement MCS in order to produce a good performance (Lekatompessy, 2011). Simons (1995) was the first to introduce the concept of MCS, which is known as levers of control. It is composed of four dimensions: beliefs system, boundary system, diagnostic control system, and interactive control system. These four dimensions of control have different objectives, and to produce an effective overall control, all four systems must be applied together (Simons, 1995). On the other hand, market orientation and organisational learning also plays an important role in enhancing firm performance (Henri, 2006). In addition, the theory of motivation emphasises the importance of motivation as a driver for better performance (Guo, 2007).

Based on the above and the important role of the rural bank in assisting SMEs, it is important to study the performance of BPRs. In particular, it is important to see the effect of MCS on the performance of the firms and the role of motivation, market orientation, and organisational learning as variables that mediate the relationship between MCS and firm performance.

LITERATURE REVIEW

Management Control System

Management control systems (MCS) are the formal, information-based routines and procedures used by managers to maintain or alter patterns in organisational activities (Simons, 1994). It has four levers of control. The first lever is called beliefs systems. These systems are used by top managers to define, communicate, and reinforce the basic values, purpose, and direction for the organisation. The second lever, boundary systems, is used by top managers to establish explicit limits and rules that must be respected. Diagnostic control systems, the third lever, are used to monitor organisational outcomes and correct deviations from pre-set standards of performance. Interactive control systems are the last of the levers. This lever is used by top managers to regularly and personally involve themselves in the decision making activities of subordinates (Simons, 1994). The implementation of levers of control in the organisation can provide motivation to all its members to learn various things in the organisation cooperatively to achieve high

organisational performance and is ultimately able to reach the goals of the organisation.

MCS and Motivation

In the process of control, management must generate interaction among members/employees wherein there is communication that creates important information in making decisions. Such control can thereby provide motivation to employees. In the self-determination theory of motivation, in terms of creating and maintaining a proactive, innovative and happy workforce, the management must adopt an organisational design that fosters employee motivation autonomously (intrinsic) and in a controlled manner (extrinsic) (Ryan & Deci, 2000). Intrinsic motivation is defined as the performance of an activity for inherent satisfaction and not for some separable consequences (Ryan & Deci, 2000). Extrinsic motivation is a related concept, that is, whenever an activity is performed in order to achieve some separated results (Ryan & Deci, 2000). It can be concluded that motivation is an encouragement of the self both because of internal factors (such as pleasure and satisfaction derived from self) as well as external factors (such as rewards, incentives, maintenance of self-esteem and considering oneself important). Where the combination of the two will produce positive motivation and an equal desire to show high self-will, it thus creates proactivity and invokes resources to seek better practices. With the implementation of MCS integrated into the belief system levers of control employees are given motivation

to continue to work towards the main goal, achieve the mission, and seek opportunities (Ismail, 2011). The boundary system provides an opportunity for all members of the company to be motivated to seek new opportunities (Lekatompessy, 2011). With diagnostic control, employees are motivated to perform and align employee behaviour with organisational goals (Ismail, 2011). The use of diagnostics provides motivation and direction for achieving goals by focusing on correcting deviations from predetermined performance standards (Henri, 2006). Furthermore, interactive implementation will trigger employee motivation for involving themselves in the activities of decision-making. Thus, the management control system participates in the process to guide employee behaviour with motivation (Matei, Tole, & Nedelescu, 2012). According to Christiani and Hatane (2014), a strong MCS within the organisation will produce good employee motivation. Therefore, the following hypothesis is proposed:

H1: The implementation of MCS has a positive effect on motivation

MCS and Market Orientation

The belief system that is part of the MCS allows companies to find and investigate what consumers want. Therefore, market orientation becomes more focused both on behavior and corporate culture (Lekatompessy, 2011). Managers use strategic limits to convey to their employees activities deemed acceptable or prohibited, so that the latter do not waste organisational

resources (Schaltegger & Burritt, 2010). Furthermore, the diagnostic control system is one of the systems in MCS, monitoring the results achieved by the company. This diagnostic control system can determine customer needs and number of customers in the future, as well as measure level of customer satisfaction. In an interactive control system, managers focus more on the uncertainty of strategies, such as the nature of the customer, so as to provide an understanding of the needs of customers both now and in the future. According to a resource-based view, MCS is a system that can help and direct the company to achieve its objectives by controlling its resources and ability in choosing and defining market orientation clearly. The following research hypothesis is proposed as follows:

H2: The implementation of MCS has a positive effect on market orientation

MCS and Organisational Learning

Organisation learning involves an organisation skilled at creating, acquiring, and transferring knowledge, and modifying its behaviour to reflect new knowledge and insights. (Garvin, 1993). Organisations with high learning levels are usually accompanied by a high commitment to learning. For that, every member of the organisation must be controlled by beliefs system so that organisational learning becomes a culture for the company (Sinkula, Baker, & Noordewier, 1997). Management that implements a boundary system by setting constraints in avoiding risk provides an overview for individuals and management

for setting of these limits and also to create strategies to minimise risk. The diagnostic control system gives management the ability to minimise deviation by learning and updating the knowledge gained from experience and then creating new strategies. Managers engage in subordinate decision activities with the aim of encouraging learning and strategic considerations or alternative goals (Cuganesan & Donovan, 2011). The interactive control system basically illustrates the positive pressure of the MCS used to expand the search for opportunities and learning (Lekatompessy, 2011). Utilising resource-based view theory, MCS helps and directs a company to its goals by controlling the resources and capability to choose and define market orientation clearly. Therefore, the following hypothesis is proposed:

H3: MCS has a positive effect on organisational learning

MCS and Firm Performance

The MCS is designed to assist managers in planning and controlling organisational activities (Institute of Chartered Financial Analysts of India, [ICFAI], 2006). According to Armes and Salarzahi (2010), MCS is a system that collects and uses information to evaluate the performance of different organisational resources such as human, physical, and financial, and also the organisation as a whole, by considering organisational strategy. A good MCS ensures success for an organisation (ICFAI, 2006). The MCS should be designed to support the company's chosen strategy

in order to gain competitive advantage and high performance (Gani & Jermias, 2010). Lekatompessy (2011) failed to prove the existence of direct influence of MCS on company performance. Meanwhile Christiani and Hatane (2014); Henri (2006) reported the implementation of MCS had an influence on firm performance. Thus, the following hypothesis is proposed:

H4: MCS has a positive effect on firm performance

Motivation and Firm Performance

Attaining better employee performance, and subsequently better organisational performance requires high employee motivation, both of the intrinsic and extrinsic type. Organisational performance depends on individual performance. In other words, individual performance will contribute to organisational performance, meaning that the behavior of member organisations both individually and in groups gives strength for organisational performance (Brahmasari & Suprayetno, 2008). If employees are highly motivated, they will perform well. This combination will result in superior company performance (Fey, Morgulis-Yakushev, Park, & Bjorkman, 2009). According to the theory of motivation (self-determination theory), it (motivation) is the most important factor that drives an individual's performance as reflected in the company's performance. Hence, the following hypothesis is proposed:

H5: Motivation has a positive effect on on firm performance

Market Orientation and Firm Performance

Market orientation is the most decisive factor for achieving firm performance (Narver & Slater, 1990) and it is often used as a strong foundation for improving performance (Jaworski & Kohli, 1993). With the ability of the company to understand the needs of customers on an ongoing basis, be it for existing customers or new customers, the company can expand its business, seek new opportunities, and set strategies to deal with threats. Thus, the goals or targets that have been set can be achieved and reflect on the performance of the company. Some of the earlier researchers who examined the effect of market orientation on corporate performance reported inconsistent results. Jaworski and Kohli (1993); Panigyraski and Theodoridis (2007); Slater and Narver (2000) found that market orientation had an influence on firm performance while different results were documented by Jimenez and Cegarra-Navarro (2007). The latter could not prove the effect of market orientation on firm performance. Based on the above discussion, the following hypothesis is proposed:

H6: Market orientation has a positive effect on firm performance

Organisational Learning and Firm Performance

According to Slater and Narver (1995), organisational learning is very important to improve company performance. With organisational learning, the company will

gain new knowledge both from within and outside so that this knowledge can be used in an effort to improve organisational performance (Lekatompessy, 2011). Previous studies that examined the effect of organisational learning on firm performance concluded differently such as Hernaus, Skerlavaj and Dimovski (2005); Ismail (2016); Jimenez and Navarro (2007); Widener (2007). Hernaus et al. (2005); Ismail (2016); Jimenez and Navarro (2007); Widener (2007) and found that organisational learning has a positive effect on firm performance, while Jimenez, Valle and Espallardo (2008) failed to prove the effect of organisational learning on firm performance. To reconfirm the effect of organisational learning on firm performance, the following hypothesis is proposed:

H7: Organisational learning has a positive effect on firm performance

MCS, Motivation and Firm Performance

Based on the above discussion, it is assumed that MCS will affect firm performance if they can encourage strong motivation from members and the management. When MCS is designed in accordance with organisational objectives and defined boundaries, has considered the risks of the strategy selected, and considers the uncertainty of the firm's strategy, it will generate encouragement both internally and externally for members of the organisation as well as management, to demonstrate better performance. This in turn will yield optimal company performance. A comprehensive MCS is needed to ensure

employees are motivated to be efficient and effective (Christiani & Hatame, 2014). Until now, studies that discuss the role of motivation as a mediating variable that mediate MCS with firm performance are still limited. Christiani and Hatane (2014) could not prove the role of motivation as a mediating variable that relates MCS to firm performance. The following hypothesis is proposed to re-examine the role of motivation as a mediating variable.

H8: The effect of MCS on firm performance is mediated by motivation

MCS, Market Orientation and Firm Performance

Several previous studies have examined the effect of MSC on market orientation. Some have also examined the effect of market orientation on firm performance. In this study, we hypothesise that market orientation can mediate the influence of MCS on firm performance. This hypothesis is proposed with reference to the resource-based view. According to the theory of resource-based view (RBV), the competitiveness of an organisation is a function of its uniqueness and value of resources and capabilities possessed by it (Lekatompessy, 2012). A well-managed and systematised MCS can assist management in directing the firm to its objectives by controlling the firm's resources and capabilities to choose and define market orientation, both clearly and appropriately. This will have an effect on improving firm performance. Therefore, the following hypothesis is proposed:

H9: The effect of MCS on firm performance is mediated by market orientation

MCS, Organisational Learning and Firm Performance

Several previous studies have examined the effect of MCS on organisational learning. Earlier research (Ismail, 2011) has also examined the influence of organisational learning on the performance of the company. The present study argues organisational learning can mediate the effect of MCS on firm performance. According to resource-based view (RBV) theory, competitiveness is a distinctive function of valuable resources and capabilities controlled by the firm. Innovation, organisational learning, market orientation, and entrepreneurship are recognised as key capabilities for achieving competitive advantage, as well as creating and adapting to market changes (Henri, 2006). It can be concluded that MCS is basically designed to meet organisational needs and contribute to firm performance (Dent, 1990; Ismail, 2011; Samson et al., 1991). Understanding organisational needs appropriately is a learning process for the organisation. Therefore, the following hypothesis is proposed:

H10: The effect of MCS on firm performance is mediated by organisational learning

MCS, Motivation, Market Orientation, Organisational Learning and Firm Performance

Based on the theory of motivation and resource-based view theory, it can

be surmised that MCS plays a role in communicating company goals, providing restrictions or rules in the firm's activities, analysing the achievement of goals, and making some decisions or steps taken in the firm's activities. This can create employee motivation both intrinsically and extrinsically. The MCS are also proactively and innovatively capable of managing existing resources as well as providing the ability to set clear market targets and continuously learning from experience, thereby promoting improved firm performance. Therefore, it can be argued MCS will lead to motivation, market orientation and organisational learning which in turn can result in good company performance. Thus, the following hypothesis is proposed:

H11: The effect of MCS on firm performance is mediated by motivation, market orientation and organizational learning

METHODS

Population, Sample and Data Collection

The population in this study was the Conventional Rural Bank (BPR) in Riau Province - Indonesia. All of the BPR in Riau Province (32) were selected as a sample. Data for this study was collected through questionnaires distributed to 160 respondents consisting of top- (such as directors) and middle-managers (such as head of operations, marketing, credit, finance, and internal audit). The number producing final data was 116. The hypotheses of this study were analyzed using WarpPLS 5.0.

Research Variables and Method of Measuring

The research studied four construct: First, MCS (consisting of beliefs system, boundary systems, diagnostic control systems and interactive control systems). MCS was measured using 22 items from Chen, Lill and Vance (2014); Simons (1995); Widener (2007). Secondly, the motivation (intrinsic motivation and extrinsic motivation) was measured using the 8 items adopted from Chen et al. (2014); Guo (2007). Third, market orientation was measured by using 12 items from Henri (2006); Narver and Slater (1990). Fourth, organizational learning was measured by using 4 items from Garvin (1993) and Henri (2006). Finally, firm performance was measured by using 4 items from Roth and Jackson (1995); Widener (2007). All variables were measured by 9-point Likert scale. Data was analyzed by using structural equation modeling (using WarpPLS 5.0) with hierarchical analysis as two out of four constructs are second-order construct. In testing the indirect effect (mediation effects) we used variance accounted for (VAF).

RESULTS

Descriptive Statistic

Respondents who participated in the study consisted of 59 men (51%) and 57 women (49%). The educational backgrounds of the respondents were: diploma (20%), undergraduate (77%), master (3%), and doctorate (1%). The average age of respondents was 34 years. On average, the respondents had

worked in the BPR for 7 years. Respondents who participated in this study were: directors (17%), financial managers (9%), operational managers (22%), marketing managers (10%), credit managers (9%), internal audit (22%), and others (10%). The respondents had more than 2 years' experience in their current positions. The following table (table 1) presents the descriptive statistics of variables being studied.

Inferential Statistic Analysis

Inferential statistics help researchers to find out whether the results obtained from a sample can be generalized to the population. Therefore, in this research, the analysis of inferential statistical data is measured using the WarpPLS 5.0 (warp partial least square) program starting from model measurement (outer model), model structure (inner model) and hypothesis testing.

Outer Model

In a test of the outer model, tests of common method bias, convergent validity, and reliability were conducted. In the test of common methods for bias (table 1), all of the variables used were free from the problem of colinearity, specially, ranging between $1.241 - 2.947 < 3.3$ (Ghozali & Latan, 2014; Sholihin & Ratmono, 2013). To test the convergent validity it could be seen from loading an indicator value ranging between $0.743 - 0.966 > 0.70$, and then the value of AVE was obtained ranging between $0.611 - 0.900 > 0.50$, it proved instruments/ indicators used in this study may explain

each variable construct with a degree of validity. Furthermore, for a reliability test (Table 1), the values of Cronbach's alpha ranged between 0.745 - 0.963 and composite reliability values ranged between

0.887 - 0.973 > 0.70. This shows that all the instruments used were free of errors and consistent on each the variables of construct with a high level of reliability.

Table 1
Descriptive statistic, outer model

	MCS	MOT	MO	OL	FP
Theoretical Score	22 - 198	8 - 72	12 - 108	4 - 36	4 - 36
Actual Score	116 - 198	45 - 72	63 - 108	20 - 36	10 - 36
Mean per Indicator	7.62	7.59	7.29	7.43	6.06
Standar Deviasi per indikator	0.75	0.76	0.77	0.85	1.58
Full Collin. VIF	2.262	1.907	2.947	2.388	1.241
Avg. Var. Extrac	0.830	0.797	0.611	0.691	0.900
Cronbach's Alpha	0.918	0.745	0.942	0.851	0.963
Composite Reliab.	0.942	0.887	0.950	0.899	0.973

In Figure 1 below, seen R-square value of variables of MOT, MO, and OL consecutive are equal to 0.38 (38%), 0.51 (51%) and 0.46 (46%) could be affected by variable MCS while the rest influenced by other variables. Furthermore, the R-square value the variable

of FP is 0.22 (22%) and could be affected by variables MCS, MOT, MO, and OL while the rest influenced by other variables.

Inner Model

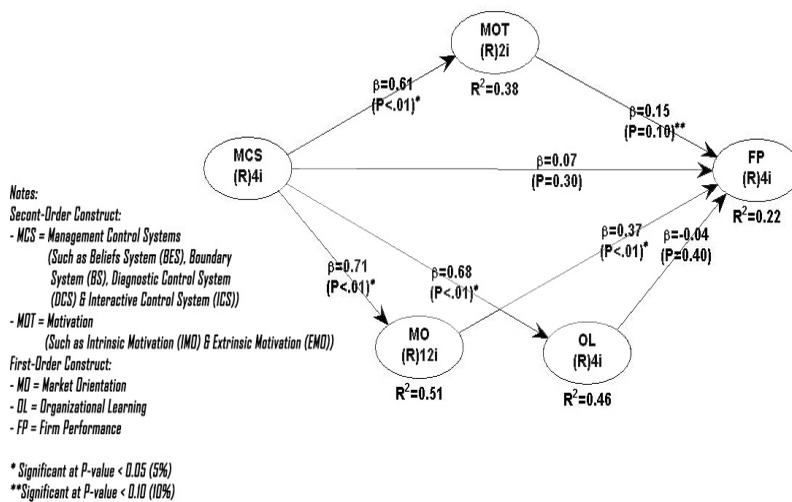


Figure 1. Full structural equation model

Direct Effect

Figure 1, above, indicates the results of testing the direct effect. They are as follows: MCS has a positive and significant effect on motivation ($\beta = 0.614$; $PV < 0.001$); MCS has a positive and significant effect on market orientation ($\beta = 0.713$; $PV < 0.001$); MCS has a positive and significant effect on organizational learning ($\beta = 0.697$; $PV < 0.001$); MCS has no effect on firm

performance ($\beta = 0.065$; $PV = 0.295$); motivation has a positive and significant effect on firm performance ($\beta = 0.148$; $PV = 0.096$); market orientation has a positive and significant effect on firm performance ($\beta = 0.375$; $PV < 0.005$); and organizational learning does not significantly influence firm performance ($\beta = -0.039$; $PV = 0.40$).

Indirect Effect

Table 2
Score of Variance Accounted For (VAF)

Path	a x b (1)	(a x b) + c (2)	VAF= (1)/(2) x 100	Effects
MCS --> MOT --> FP	0.614 x 0.148 = 0.091	0.091 + 0.287 = 0.378	20% < 24.07% < 80%	Partial Mediation
MCS --> MO --> FP	0.713 x 0.375 = 0.267	0.267 + 0.287 = 0.544	20% < 48.19% < 80%	Partial Mediation
MCS --> OL --> FP	0.679 x -0.039 = -0.026	-0.026 + 0.287 = 0.261	-9.96% < 20% or 0%	No Mediation
MCS --> MOT --> MO --> OL --> FP				Significant and small mediation
Path Coefficient= 0.332 ; P-Value= 0.010 ; Effect Size = 0.095				

Notes:

a = path coefficient value of predictor variable to mediator, with the significance of $P < 0.05$

b = path coefficient value of mediator variable to criterion, with the significance of $P < 0.05$

c = path coefficient value of the predictor variable on criterion before the mediator variable included in the model, with a significance of $P < 0.05$ (PV or $\beta = 0.287$; P Value < 0.01)

DISCUSSION

Figure 1, above, shows the results of hypothesis testing that has formulated direct effect. H1, H2, H3, H5, and H6 are statistically supported, while H4 and H7 are not statistically supported. H1 indicates that a well-managed MCS can form motivation and encourage members of the organization to carry out organizational activities. H2 indicates that conducive MCS can control firm ability in determining

market orientation. H3 indicates that MCS can provide learning for the company. H4 indicates that, although MCS has been well-managed, it cannot indicate that it is well-connected to the company's performance. This may be due to the company being unable to predict the environment quickly and appropriately, resulting in overall company performance such as profitability, market share, and service being decreased or poor. H5 indicates that the existence of

motivation shows the performance of BPR in managing and running the company's activities. H6 indicates that, with a clear and well-targeted market orientation, this will potentially result in a good firm performance. H7 indicates that the learning of organization has no impact on improving company performance. This may be due to the company's limited human resources in setting a strategy, e.g. in terms of seeking customers. Where there exist limitations of knowledge and low employee and management experience in projecting the risk that will occur, the company will experience losses that can reduce performance.

Table 2, above, shows the results of hypothesis testing of indirect effect. Statistically, H8 and H9 are partially supported, while H10 does not get statistical support. H8 indicates that the presence of MCS will encourage motivation in carrying out the control, so that it can improve the performance of the company. H9 indicates that the presence of MCS will encourage management to determine market orientation that is clearly and precisely targeted, which will impact the performance of the company. H10 indicates that the presence of MCS will trigger the spirit of management to learn, but the learning does not produce results that are reflected in the performance of the company. Limited resources owned by the company in terms of providing education/training to its employees result in improper handling of risks that will occur in the future. Simultaneously, H11 is

statistically supported, indicating that MCS will motivate management to determine a clear and precise market orientation, create a desire to improve skills and learn, and develop new things that will support the achievement of company performance.

CONCLUSION

This study reveals that the implementation of MCS could not directly influence the performance of the firm. This means that there are other variables that mediate the relationship between MCS and firm performance. The implementation of MCS has motivated managers to focus on market orientation and organisational learning which in turn leads to improved firm performance. The results of this study are expected to strengthen and support the theory of resource-based view and theory of motivation, as well as previous research. This study was built upon previous researches, namely Christiani and Hatane (2014); Henri (2006); Ismail (2016); Lekatompessy (2011); Widener (2007). By building one model that simultaneously studies MCS, motivation, market orientation, organisational learning, and firm performance, this study provides a comprehensive description of the effect of MCS on firm performance.

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