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The Dynamics of Organizational Performance: Deciphering Belief Systems, Diagnostic Controls, and Interactive Management

Mariyam Chairunisa[1], Yananto Mihadi Putra[2]: Ibrahim Musa Gani[3]
[1,2] Department of Accounting, Universitas Mercu Buana, Jakarta, Indonesia.
[3] Department of Economics, Isa Kaita College of Education Dutsinma, Katsina State, Nigeria.
(*) Corresponding Author: mariyam.chairunisa@mercubuana.ac.id

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Abstract

The performance of an organization can be influenced by the management control systems it adopts. This study aims to investigate the impact of such systems on organizational performance, with a particular focus on the role of innovation as a mediator. The research draws on the Contingency and Levers of Control theories and uses data collected from manufacturing companies in the West Java Area through post, electronic mail, and direct surveys. The data collected from managers and assistant managers was analyzed using PLS Structural Equation Modeling (SEM). The study found that a management control system that includes a trust system and an interactive control system has a positive and significant effect on innovation and, ultimately, on organizational performance. However, the diagnostic control system does not significantly influence innovation. It is important to note that this study only looks at the innovation capability construct.

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INTRODUCTION

Management control system (SPM) is a process of a manager in ensuring resources are obtained and used effectively and efficiently in an effort to achieve organizational goals (Anthony and Govindarajan, 2011). Simons (1990) states that SPM in organizations focuses on the human resources that run the organization and is an important aspect in supporting corporate strategy. SPM is used to manage the pressure between innovation creation and predictable goal achievement and balance the

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organization's basic dilemma between control and flexibility (Henri, 2006; Simons, 1995). Research that links SPM with corporate capability strategy considers that company capability as a competitive advantage is referred to as the company's main capability, namely innovation, organizational learning, market orientation, and entrepreneurship (Henri, 2006).

Organizations face difficulties in balancing the various uses of SPM (Ahrens &; Chapman, 2007; Speklé, 2001). Simons (1995) introduced four forms of control systems referred to as *levers of control* (*LOC),* namely *belief systems*, (e.g. core values), *boundary systems* (e.g. behavioral constraints), diagnostic control systems (e.g. monitoring), and interactive control systems (e.g. management involvement). The four control systems in business strategy are achieved by combining the four elements *of the Levers of Control*. This means that the power of these *elements of the Levers of Control* in implementing strategy is when used together rather than individually (Simons, 1995, 2000).

Innovation is one of the important sources of competitive advantage that contributes significantly to organizational performance (Henri, 2006; Davila et al., 2009). The importance of research that examines the relationship between SPM and innovation is also due to the findings of previous research that have not been consistent (Henri, 2006), which shows that SPM has a negative and positive effect.

Research conducted by Ismail (2011) on *Belief Systems, Diagnostic Control Systems, Interactive Control Systems, Organizational Learning*, and Organizational Performance where the results of the study stated that *belief systems, diagnostic control systems, interactive control systems, and organizational learning* have a positive and significant influence on organizational performance. The construct of organizational capabilities taken in Ismail (2011) is only limited *to organizational learning*, while according to Hult & Ketchen (2001), the main capabilities to achieve competitive advantage consist of innovation, organizational learning, market orientation, and entrepreneurship.

Agarwal, et al. (2003) investigated the effect of innovation on company performance both objectively and subjectively measured. The survey was conducted of 201 CEOs as a sample who work in the hospitality industry in America. The results of research tested using regression analysis show that innovation affects the performance of both objective and subjective performance.

Henri (2006) uses two types of management control systems derived from Simons (1995) in the form of diagnostic control systems and interactive control systems plus the interaction of the two types known as joint control systems. These three forms of control are associated with capabilities, the company concludes that diagnostic control has a negative influence on capabilities and vice versa, and interactive control has a positive influence. Henri (2006) stated that innovation has a positive effect on company performance.

Darroch (2005) conducted research by collecting data through surveys. Questionnaires were sent to CEOs working in several major industries in New Zealand. A total of 443 CEOs participated in the study. The research hypothesis was tested using *a structural equation model*. The results showed that there was no relationship between innovation and company performance.

The researcher reexamined previous research with a focus on three control systems in the LOC, by examining the relationship of *belief systems*, diagnostic control systems, and interactive control systems to innovation and organizational performance where innovation is another capability chosen by researchers as a mediating variable between the three LOC controls on organizational performance.

Departing from some of the problems that exist in previous studies, the research problems formulated in this study to be examined are: 1) Does *the belief system* affect Innovation, 2) Does the diagnostic control system affect Innovation, 3) Does the interactive control system affect Innovation, and 4) Does Innovation have an influence on Organizational Performance.

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LITERATURE REVIEW

Contingency Theory

Contingency approaches are growing rapidly in the field of management accounting (Otley, 1980). Basically, contingency theory emerged as a very fundamental part because various studies were conducted to look for the nature of contingencies in accounting (Albernathy and Lillis, 1995). Several studies related to management accounting claim that contingency theory is a very dominant paradigm (Cadez and Guilding, 2008; Dent, 1990; Fisher, 1995). The contingency approach in management accounting was originally based on the premise that no accounting system is universally applicable and applied to all organizations under all conditions (Otley, 1980). Therefore, the exact model of an accounting system is highly dependent on the conditions of the organization itself (Otley, 1980). The development of the accounting system has resulted in developments in the contingency approach.

The main proposition of contingency theory is that contingency theory assesses firm performance and will depend largely on the compatibility between contextual factors of an organization (Cadez and Guilding, 2008). The basic essence of contingency theory also says that organizations must adapt to their contingency structures such as the environment, organizational size, and business strategy if the organization is well executed (Gardin and Greve, 2008). Chenhall (2003; 2007) then conducted a meta-analysis of various research that has been done and found that contextual factors are very influential in designing a management control system. These factors are environment, technology, organizational structure, organizational size, strategy, and organizational culture. Organizational strategy as a contextual factor in organizations is still considered new in the contingency approach (Gong and Tse, 2009). The implementation of organizational strategy also requires a manager to assess other contextual factors in order to achieve the desired organizational goals (Chenhall, 2007). Henri (2006) also shows that corporate capability is a strategy that can bring the company to competitive advantage which also has an impact on performance. Failure to implement a management control system will have an impact on organizational failure which ultimately has fatal consequences such as financial losses, loss of company reputation, and ends in organizational failure (Merchant and van der Stede, 2007).

The relationship between SPM, strategy (company capabilities), and company performance is very precisely explained by the contingency approach/theory. Thus, contingency theory becomes the basis for explaining the relationship of these variables used in this study.

Levers of Control

Management control systems are information-based formal routines and procedures used by managers to maintain or change patterns in organizational activities. Knowledge is power, especially when used to monitor and change behavior in an attempt to bring about desired results (Simon, 1995). Simons (2000) states that the Levers of Control (LOC) framework is needed to provide effective environmental control. Within the framework of the Levers of Control (LOC), there are four control systems that need to work together to provide effective environmental control. Lever of Control (LOC) explains that four control systems – belief system, boundary system, diagnostic control system, and interactive control system work together to benefit the company. The LOC framework is used to

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explore how managers seek to balance control and the use of management control systems to generate dynamic tensions that contribute to organizational capabilities (Simon, 2000).

Belief system

The belief system communicates core values to inspire and motivate employees to seek, explore, create, and undertake efforts related to appropriate action. This system is basically in implementing strategies related to strategy as a perspective (Simons, 1995; 2000). *The belief system* is the values of the organization and the direction of the organization will go (Kimura &; Mourdoukourtas, 2000). This system is used to inspire and direct employees to find opportunities, direct employees to seek new ideas, provide basic organizational values, and provide organizational goals and direction (Wongkaew, 2013; Hoque & Chia, 2012). *Belief systems* are intended to communicate the mission, creed, and goals of the organization, all of which help managers transform values that are still difficult for employees to understand while making them activities that focus on organizational goals (Bruining, Bonnet, & Wright, 2004). Through this system, leaders will be able to inspire employees while controlling their employees so as not to behave opportunistically (Ismail, 2013; Hoque & Chia, 2012).

Diagnostic Control System

Diagnostic systems are intended to motivate employees to perform and adapt their behavior to organizational goals. A diagnostic control system is a formal feedback system used to monitor organizational results and correct deviations from previously established performance standards (Simons, 1994; 2000). The system also reports information about important success factors that allow managers to focus their attention on the underlying direction of the organization and needs to be monitored so that the company knows its intended strategy. Thus the diagnostic control system in the implementation of the company's strategy is laid as a plan for how to carry out further work (Simons, 2000).

Interactive Control System

An interactive control system is a formal system used by top managers to regularly and personally involve themselves in the decision-making activities of subordinates (Simons, 1994; 2000). Interactive control systems are used to help companies find new ways to strategically position themselves in dynamic markets. According to Henri (2006), interactive control systems can stimulate the development of new ideas initiatives, and directions that emerge from the bottom up with a focus on strategy uncertainty, in contrast to diagnostic control systems, interactive control systems are used by managers as a tool to influence experimentation and the search for opportunities resulting from emerging strategies (Simons, 2000).

Capabilities - Innovation

Product innovation is one of the impacts of rapid technological change and high product variation will determine organizational performance (Hurley &; Hult, 1998). The main focus of innovation is the creation of new ideas, which in turn will be implemented into new products and new processes. The main goal of the innovation process is to provide and channel better customer value. Innovation can be viewed with a structuralist approach and a process approach. The structuralist approach views innovation as a unit with fixed parameters such as technology and management practices, while the process approach views innovation as a complex process, that often involves various social groups in organizations (Swan et al., 1999).

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Innovation capability is an organization's ability to adopt or implement new ideas, processes and new products (Hurley &; Hult, 1998). The level of innovation is measured by measuring the continuum, where a low level of innovation describes an individual or unit in an organization as weak in adopting innovation, while a high level of innovation describes a strong adoption position of individuals or units in the organization (Daghfous et al., 1999). In this case, the various characteristics of the organization interact together with the various dimensions of the organization to determine the likelihood of adoption of innovation in the organization (Cooper, 1998). Prajogo & Sohal (2003) in their study, showed a causal relationship between innovation and product quality. The innovation of the company determines the quality of the product. The company's innovation determines the company's ability to create products according to specifications set by customers. The higher the company's innovation, the higher the suitability of the products produced by the company compared to the specifications set by customers.

Organizational Performance

Company performance is essentially an achievement achieved by a business organization that can be seen from the results. This performance result is not precise when viewed from one dimension. Researchers agree that measuring business performance is not enough to use a single measure (Day & Wensley, 1998; Jaworski & Kohli, 1993). In the research of Jaworski & Kohli (1993) and Chang (1998), the company's performance is measured by overall business performance compared to last year and overall performance compared to its main competitors, while in the research of Slater & Narver (2000) business performance is measured by profitability compared to predetermined targets. Jaworski & Kohli (1993) proved the strong relationship between objective and subjective response measurements. Many variations of dimensions are used in research, some of these dimensions are proposed by Robinson (1990), Kaplan &; Norton (1996), Walker & Ruekert (1987), and Ranchod (2004). Walker & Ruekert (1987) proposed three dimensions in measuring the performance of a company, namely *effectiveness*, *efficiency*, and *adaptiveness*. According to Ranchod (2004) effectiveness, efficiency, and adaptivity are the three main marketing attributes used in performance measurement. According to Agarwal et al., (2003) and Guo (2002), organizational performance has two dimensions consisting of appraisal and objective performance.

Previous Research

Ismail (2011) the purpose of the study was to examine the relationship between the use of management control systems (SPM) Levers *of Control* (LOC) framework on capabilities and their relationship with organizational performance. The focus of SPM used in this study is the LOC framework consisting of *belief systems*, diagnostic control systems, and interactive control systems. Where the construct of organizational capability is learning, this research uses structural equation models as an analysis tool and Smart PLS software to process data. The findings of this study are: *belief systems*, diagnostic control systems, and interactive control systems and the significant influence on organizational learning and organizational learning ultimately has a positive and significant impact on organizational performance. The limitation of this study is only to take the construct of organizational learning capabilities.

Henri (2006) conducted a management control system (SPM) study of the Levers of Control (LOC) framework on all four capabilities. The focus of SPM used in this study is the LOC framework

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consisting of a diagnostic control system, an interactive control system, and a combination of diagnostic and interactive control systems. This study uses SEM as a test tool. The findings of this study are that the interactive control system has a positive effect on the four capabilities, the diagnostic control system has a negative effect on the four company capabilities, and the combined control system has a positive effect on the four company capabilities.

Darroch (2005) conducted research by collecting data through surveys. Questionnaires were sent to CEOs working in several major industries in New Zealand. A total of 443 CEOs participated in the study. The research hypothesis was tested using *a structural equation model*. The results showed that there was no relationship between innovation and company performance.

Henri (2006) uses the management team as a sample working in the manufacturing industry in Canada. A total of 383 members of the management team participated in the study. Innovation is measured using indicators in the form of new ideas, fast-to-accept innovation, and management actively seeks innovation and ideas. The results prove that innovation has a positive effect on performance.

Hypothesis

The belief system communicates various core values in the company to all members of the company. Simons (1995; 2000) said that basically, *belief systems* help organizations to inspire and motivate employees to be able to carry out activities such as searching, exploring, creating, and doing business with appropriate actions. This statement is supported by the opinions of Simons (1995; 2000) and Henri (2006) who state that *the belief system* is a system that has positive energy.

Diagnostic control systems are essentially used as management tools to transform strategies (Simons, 2000). The focus of this system is on the achievement of company goals. This form of control allows managers to compare what is planned with what is achieved. The diagnostic control system aims to coordinate and monitor the implementation of the planned strategy (Simon, 2000). Diagnostic control systems intend to observe the results achieved and compare them with previously established performance, therefore Simons (1995; 2000) and Henri (2006) argue that this system can provide negative pressure for all company actors because this system focuses on errors and deviations and the results achieved need to be compared.

Interactive control systems are basically used to expand the search for opportunities and learning. The main characteristic is that senior managers have strong involvement (Simons, 1995; 2000). Bisbe and Otley's (2004) research uses interactive control from Simons (1995). Toumela (2005) states that the use of interactive control to measure performance is more likely to improve the quality of strategic management and increase commitment to strategy achievement. Simons (2000) argues that the purpose of interactive control systems is to improve managers' ability to anticipate and effectively manage future uncertainty.

The main focus of innovation is the creation of new ideas, which in turn will be implemented into new products and new processes. The main goal of the innovation process is to provide and channel better customer value. Innovation can be viewed with a structuralist approach and a process approach. The structuralist approach views innovation as a unit with fixed parameters such as technology and management practices, while the process approach views innovation as a complex process, that often involves various social groups in organizations (Swan et al., 1999). Innovation capability is an organization's ability to adopt or implement new ideas, processes and new products (Hurley &; Hult, 1998). The level of innovation is measured by measuring the continuum, where a low level of innovation describes an individual or unit in the organization as weak in adopting

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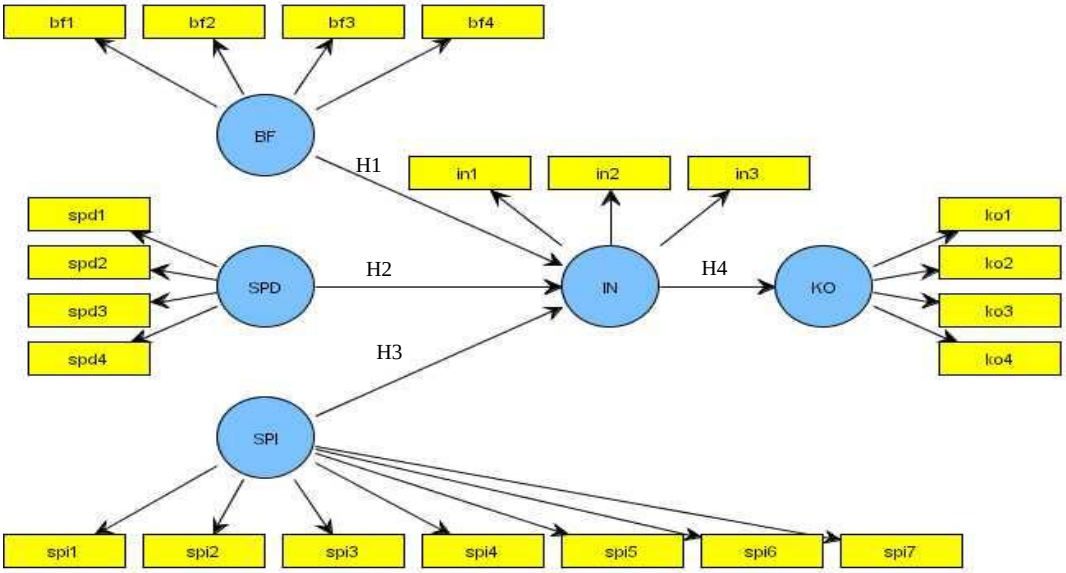
innovation, while a high level of innovation describes a strong adoption position of individuals or units in the organization (Daghfous et al., 1999)

Company performance is essentially an achievement achieved by a business organization that can be seen from the results. This performance result is not precise when viewed from one dimension. Researchers agree that measuring business performance is not enough to use a single measure (Day & Wensley, 1998; Jaworski & Kohli, 1993). Deshpande, et al. (1993) and Slater and Narver (1995) say that innovation is an important factor because innovation improves the relationship between market orientation and firm performance. Therefore, innovation is a key factor in improving company performance.

The above description leads to the formation of the following hypothesis:
H1: There is a positive influence between belief systems and innovation
H2: There is a positive influence between diagnostic control systems and innovation
H3: There is a positive influence between interactive control systems and innovation
H4: There is a positive influence between Innovation and Organizational Performance.

Figure 1. Research Model



Information:
BS = *Belief System*
SPD = Diagnostic Control System
SPI = Interactive Control System
IN = Innovation
KO = Organizational Performance

RESEARCH METHODS

This study is a causal study because it aims to test hypotheses about the influence of one or several variables (independent variables) on other variables (dependent variables). This study

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examines the influence of *belief systems*, diagnostic control systems, and interactive control systems as an independent variable on organizational performance as a dependent variable mediated by innovation as a mediation variable.

Construct Measurement

Organizational performance is an indicator of the level of success in achieving organizational goals. Good performance shows the success and efficiency of company behavior (Suliyanto, 2009). Govindarajan and Fisher (1990) provide several reasons for the difficulty of measuring company performance using objective measures, namely first; The same performance measure is difficult to use for different business units, No objective performance measure can capture some critical factors for successful strategy certainty, and third; Objective performance data from compared business units is difficult to measure. Colvin and Slevin (1989) stated that the use of subjective performance measures is based on management perceptions to anticipate the unavailability of business performance data objectively because some researchers have proven that subjective performance measures have a very high level of reliability and validity. Company performance is an indicator of organizational performance measurement seen from financial and non-financial measures as a whole. The organizational performance indicators used by Widener (2007) are 1) overall organizational performance, 2) overall organizational profits, 3) market share receiving primary products, and 4) overall productivity of the delivery system.

The belief system communicates core values to inspire and motivate employees to seek, explore, create, and undertake efforts related to appropriate action. This system is basically in implementing strategies related to strategy as a perspective (Simons, 1995; 2000). *The belief system* is a control that inspires employees to take the desired action (Widener, 2007), namely: 1) communicate the mission clearly, 2) managers communicate organizational values, 3) employee awareness of organizational values, and 4) mission motivates employee morale.

Simon (1994; 2000) states that diagnostic control systems are formal feedback systems used to monitor organizational results and correct deviations that occur from previously established performance standards. The diagnostic control system in the implementation of the company's strategy is laid as a plan for how to carry out further work. These indicators used by Henri (2006) and tested again by Widener (2007) are, 1) reviewing progress for organizational goals, 2) monitoring the results achieved, 3) comparing the results achieved with those planned, and 4) testing the key steps of success.

An interactive control system is a formal system used by top managers to regularly and personally involve themselves in the decision-making activities of subordinates (Simons, 1994; 2000). According to Henri (2006), interactive control systems can stimulate the development of new ideas initiatives, and directions that emerge from the bottom up with a focus on strategy uncertainty. The indicators used are 1) develop discussions in meetings with superiors, subordinates, and partners, 2) develop challenges and debates based on data, assumptions, and action plans, 3) provide a general view of the organization, 4) commitment to the organization, 5) focus on the main problem, 6) focus on success factors, and 7) develop a common language in the organization.

Innovation is defined as an organization's openness to new ideas, products, and processes and its orientation toward innovation. Innovation capability is an organization's ability to adopt or implement new ideas, processes and new products (Hurley &; Hult, 1998). Henri (2006) uses Innovation measured using indicators in the form of 1) new ideas, 2) fast to accept innovation, and 3) management actively seeks innovation and ideas.

Sample and Population

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Researchers use the Interval scale. The measurement of respondents' answers uses a Likert scale which is given a score that is divided into 5 scales (1 = strongly disagree, 5 = strongly agree).

Researchers took a population of manufacturing companies located in West Java. The reason for choosing manufacturing companies as a population is because manufacturing companies are considered to have more complex characteristics (Anthony and Govindarajan, 2011). Researchers took a sample of 100 respondents and the number met the adequacy in conducting research according to Roscoe (1975) in Sekaran and Bougie (2010). Respondents in this research sample are managers/assistant managers for finance and accounting, production, marketing, information, and personnel with the criteria of managers/assistant managers who have worked for at least 2 years in the company. This study used primary data obtained through the distribution of questionnaires to managers/assistant managers working in manufacturing companies. The distribution of questionnaires is carried out by sending questionnaires by post, electronic mail, and delivered directly to respondents. This research uses *structural equation modeling* as an analysis tool and *PLS Smart software* used to process data.

RESULTS OF RESEARCH AND DISCUSSION

This study distributed questionnaires to 40 manufacturing companies spread across West Java. The distribution of questionnaires was carried out in several stages, first by sending questionnaires by post with several deliveries to 32 companies, second by electronic mail to 5 companies, and third delivered directly to 3 companies. From Table 1, it can be seen from the number of 214 questionnaires that came back and completed amounting to 100 questionnaires or only 46.73% of respondents. The requirement for using PLS Structural Equation Modelling (SEM) is a minimum sample size of 30 and this study has met these requirements. The questionnaires that did not return amounted to 111 questionnaires or 51.87%. Received but incomplete questionnaires amounted to 3 questionnaires or 1.40%. Questionnaires that do not return may be due to the questionnaire not reaching the intended respondent or because of the busy respondent.

Respondents who filled out the questionnaire in Table 2 consisted of managers/assistant managers who had worked at least 2 years in finance and accounting as many as 23 respondents or 23%, in the production department as many as 36 respondents, or 36%, in the marketing department as many as 15 respondents or 15%, in the information technology section as many as 9 respondents or 9%, and in the personnel department as many as 17 respondents or 17%. From the data above, it can be seen that the respondents who filled out and returned the questionnaire the most were the manager/assistant manager of the production department.

Table 1. Distribution of Questionnaire Data

No.	Description	Number	Percentage
1	Questionnaires distributed	214	100%
2	Returned and completed questionnaires	100	46.73%
3	Unreturned questionnaires	111	51,87%
4	Returned and incomplete questionnaires	3	1.40%
5	Processable questionnaire	100	46.73%

(Source: Data processed by researchers, 2016)

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Table 2. Distribution of Respondents' Profession Types

No.	Description	Number	Percentage
1	Finance and accounting manager/assistant manager	23	23%
2	Production manager/assistant manager	36	36%
3	Marketing manager/assistant manager	15	15%
4	Information technology manager/assistant manager	9	9%
5	Human resource manager/assistant manager	17	17%
	Quantity	100	100%

(Source: Data processed by researchers, 2016)

Test the Assumption and Quality of Research Instruments

Validity Test

Testing the validity of the data in this study is by using PLS software with the Outer Model, namely *Convergent Validity* by looking at the correlation between the indicator score and the construct score. An indicator is considered valid if it has a correlation value above 0.7. However, in the development stage, a correlation of 0.5 to 0.6 is still acceptable (Ghozali, 2014). *Discriminant Validity* can be seen by the *square root value of the average variance extracted* from each construct or AVE value where the value of each construct must be greater than 0.5. Test results on *outer loading* all variables, there is no construct that has an *outer loading* value below 0.5. This shows that each indicator in all constructs is considered valid so that no elimination is needed and produces Smart PLS output as shown in Figure 2

Table 3 describes the value of AVE and the AVE roots of *belief system* constructs, diagnostic control systems, interactive control systems, innovation, and organizational performance. It can be seen that each construct (variable) has an AVE value above 0.5. This shows that each construct has a good validity value from each indicator or questionnaire used to determine the relationship between *belief systems*, diagnostic control systems, interactive control systems, innovation, and organizational performance can be said to be valid.

Table 3 Validity Test Result

	AVE	√AVE
Belief System	0.692	0.832
Sistem Pengendalian Diagnostik	0.736	0.858
Sistem Pengendalian Interaktif	0.602	0.776
Inovasi	0.796	0.892
Kinerja Organisasi	0.751	0.867

(Source: Data processed by researchers, 2016

Figure 2: *Full Model Structural Partial Least Square*

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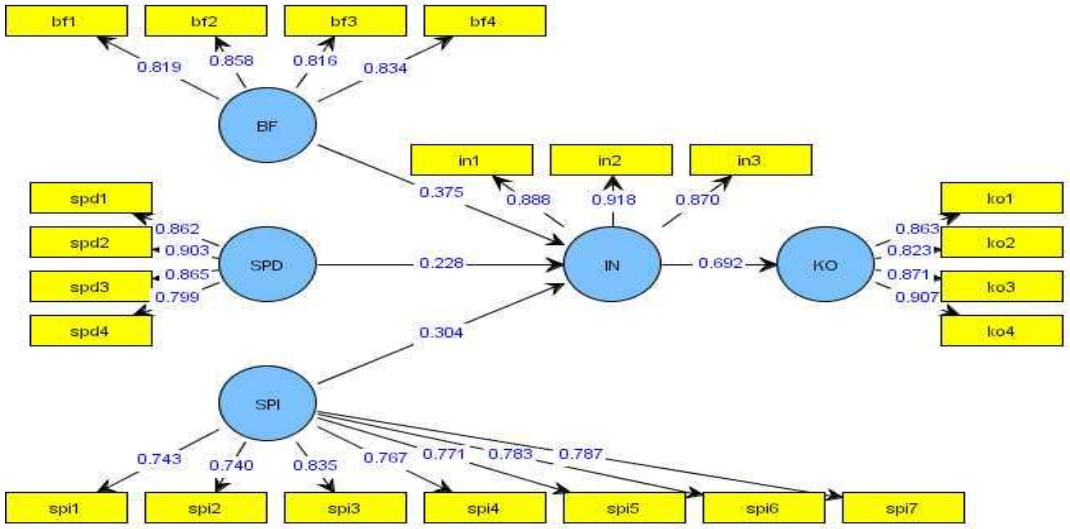

Information:

BS	= *Belief System*	IN	= Innovation
SPD	= Diagnostic Control System	KO	= Organizational Performance
SPI	= Interactive Control System		

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Table 4
0.923

	Composite Reliability
Belief System	0.900
Sistem Pengendalian Diagnostik	0.918
Sistem Pengendalian Interaktif	0.914
Inovasi	0.921
Kinerja Organisasi	0.923

(Source: Data processed by researchers, 2016)

Reliability Test

Data is said to be reliable if the *composite reliability* is more than 0.7. From Table 4 it can be seen that each latent construct or variable has a *composite reliability* value above 0.7 which indicates that *the internal consistency* of the variables has good reliability.

Data Analysis

The results of processing using Smart PLS in Table 5 of *outer loadings* indicator values of all variables do not contain values less than 0.5 and show the outer model value or correlation with the variable as a whole has met *Convergent validity*. In addition, based on Table 5, each indicator of all variables has a T-statistic value greater than the t-count (1.96) so it can be concluded that all variables have met the requirements of the adequacy of the model or *Discriminant validity*.

Table. 5
38.205 *Results*

	original sample estimate	***mean of subsamples***	***Standard deviation***	***T-Statistic***
BF				
bf1	0.819	0.809	0.069	11.801
bf2	0.858	0.856	0.044	19.418
bf3	0.816	0.823	0.051	15.930
bf4	0.834	0.828	0.045	18.563
SPD				
spd1	0.862	No.	Information	Sum
Percentage	1	Distributed questionnaires	214	100%
2	Return and complete the questionnaire	100	46.73%	3
Questionnaires that do not return	111	51,87%	4	Returned and incomplete questionnaires
3				
46.73%	0.743	0.765	0.079	9.386
spi2	0.740	0.748	0.088	8.376
spi3	0.835	0.830	No.	Information

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Sum	Percentage	1	Manager/assistant manager of finance and accounting	23
23%	2	Production manager/assistant manager	36	36%
3	Marketing manager/assistant manager	15	15%	4
Information technology manager/assistant manager	9	9%	5	Manager/assistant personnel manager
17				
100%	0.888	0.879	0.044	20.064
in2	0.918	0.918	0.030	31.019
in3	0.870	0.873	0.042	AVE
AVE				
0.736	0.858	Interactive Control System	0.602	0.776
Innovation	0.796	0.892	Organizational Performance	0.751
0.867	0.871	0.867	0.044	19.895
ko4	0.907	0.912	0.024	38.205

(Source: Data processed by researchers, 2016)

Research Model Feasibility Testing

Figure 2 shows the overall correlation of each variable indicator across all constructs. Where the model is not eliminated, this is because there is no construct indicator less than 0.5 so that each variable meets the criteria of *convergent validity*.

In assessing the structure of the PLS model, it can be seen based on the *R-Square* value for each latent variable. Table 6 shows the *R-square value* of the Innovation construct of 0.711 and the Organizational Performance construct of 0.478. The higher *the R-square*, the greater the independent variable can explain the dependent variable so the better the structural stability. The Innovation variable has an *R-square value* of 0.711 which means 71.1% of the variance in Organizational Performance is explained by the Innovation variable while the rest is explained by other variables outside the variables studied in this study (Ghozali, 2014).

Table 6
0.478

	R-square
Belief System	
Sistem Pengendalian Diagnostik	
Belief System	
Diagnostic Control System	0.918

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Interactive Control System	0.914

(Source: Data processed by researchers, 2016)

Hypothesis Testing

Table 7
9.821

	0.921	***Organizational Performance***	***0.923***	***T-Statistic***
BF -> IN	0.375	0.353	0.173	2.162
SPD -> IN	0.228	0.234	0.167	1.368
Original Sample Estimate	mean of subsamples	Standard deviation	T-Statistic	BF
IN -> KO	0.692	0.692	0.070	bf1

(Source: Data processed by researchers, 2016)

Hypothesis 1 states that *belief systems* have a positive and significant relationship to innovation as shown by the original sample estimate value of 0.375 and T-statistic of 2.162 (greater than t-count, 1.96). This finding is consistent with Marginson's (2002) research which states that *belief systems* open up to new ideas, actions, and initiatives. Overall managerial perception of SPM is an important factor in determining the influence that SPM requires managers for strategy activities. *The belief system* influences managers in initiating decisions.

Hypothesis 2 states that the diagnostic control system has a positive relationship but from the results of the study it was found that the diagnostic control system did not significantly affect the innovation shown by the *original sample estimate value* of 0.228 and T-statistics of 1.368 (smaller than t-count, 1.96). This finding is in accordance with Henri's (2006) findings that the use of diagnostic systems tends to negatively affect innovation.

Hypothesis 3 states that interactive control systems have a positive and significant relationship to innovation as shown by the *original sample estimate* value of 0.304 and T-statistic of 2.030 (greater than t-count, 1.96). This finding is consistent with Henri's (2006) research which states that interactive control systems have a positive correlation with innovation.

Hypothesis 4 states that innovation has a positive and significant relationship to performance as indicated by an *original sample estimate value* of 0.692 and a t-count value of 9.821 which is greater than the t-table (1.96). Thus it can be said that the H4 Hypothesis is accepted because the relationship of innovation to Organizational Performance is positively significant (t count is greater than t table). This finding is in accordance with the findings of Deshpande, et al. (1993) and Slater and Narver (1995) say that innovation is an important factor, because innovation increases the relationship between market orientation and firm performance.

Mediation Variable Testing

Product of coefficient *mediation testing* tests the significance of indirect *effects* (multiplication of the direct effect of the independent variable on the mediator, a and *direct effect* of the mediator on the dependent variable, b or ab). The significance test of the indirect *effect* coefficient ab is recognized as providing a more direct test of the mediational hypothesis. The indirect *effect ab significance test*

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is carried out based on the ratio between the ab coefficient and its standard error which will produce a statistical z value (z-value). *The standard error* coefficient ab (Sab) is calculated based on the Aroian version of the Sobel test popularized and recommended by Baron and Kenny (1986). A mediation variable is said to be significant if it has a p-value value of < 0.05.

Table 8
0.2104

	0.809	***0.069***	***11.801***	***bf2***
0.858	0.856	0.044	19.418	bf3
0.816	0.823	0.051	15.930	bf4
0.834	0.828	0.045	18.563	SPD

Based on Table 8, *testing the indirect effect of belief systems* on innovation has a p-value value of 0.0342 where the p-value value < 0.05, this shows that *the indirect effect* of innovation has a significant effect in mediating *belief systems* and organizational performance. Testing *the indirect effect* of the diagnostic control system on innovation has a p-value value of 0.1762 where the p-value value > 0.05, this shows that *the indirect effect of* the innovation variable does not have a significant effect in mediating *belief systems* and organizational performance. Indirect *effect* testing of interactive control systems on innovation has a p-value value of 0.0471 where the p-value value < 0.05, this shows that *the indirect effect* of innovation variables has a significant effect in mediating *belief systems* and organizational performance.

Based on Table 8 it can be seen that the direct path mediation (*direct effect*) that has the greatest value is the *belief system* towards innovation, this shows that *the belief system* is the main path in mediating direct channels to organizational performance.

Discussion

The logical explanation of the relationship between *belief systems* and innovation is that organizations that can implement *belief systems* consistently can increase innovation. With the implementation of *the belief system*, employees are given the motivation to continue to strive towards the main goal, mission achievement, and in looking for opportunities. Through *the belief system*, managers can communicate organizational values to all employees to motivate and inspire employees in creating and exploring ideas and ideas in an appropriate way for organizational goals.

A logical explanation of the relationship between diagnostic control systems and innovation where diagnostic control systems include action plans derived from strategies, detailed financial targets, comparisons of actual results with targets, and explanations of variants. The formal use of SPM provides a mechanistic approach to decision-making that results in a lack of organizational attention to shifting circumstances and the need for innovation (Van de Ven, 1986). Discussions to be interested in topics that are not productive, such as focusing too much on believing in numbers or why things are not good, and ultimately not triggering any action so corrective action is not enough to maintain ability and create new ideas.

The logical explanation of the relationship between interactive control systems and innovation is that organizations that implement interactive control systems facilitate top managers to involve themselves regularly and personally in the decision-making activities of subordinates so that

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innovation in the organization can be facilitated by interactive control systems. In addition, the existence of an interactive control system can signal to subordinates the importance of proposing and implementing new ideas, therefore innovation in the organization increases along with the implementation of a consistent interactive control system.

The logical explanation of the relationship between innovation and organizational performance is that an organization that innovates has expertise in creating, retrieving, and transferring knowledge, and modifying its behavior to reflect new knowledge and experience, which ultimately impacts organizational performance. With innovation, the organization makes improvements in internal and external activities. Success in managing and integrating innovation has an impact on success in developing the organization's ability to achieve competitive advantage, namely organizational performance. This shows that high innovation will increase the success of organizational performance.

Conclusion

The levers *theory of control* has integrated the role of SPM as a means of implementing strategies and formulating new strategies. The findings of this study suggest support for the mediating relationship between SPM, innovation, and performance. The conclusions obtained from the test results in this study are as follows: 1) *Belief System* has a positive and significant effect on innovation. 2) Diagnostic Control System has no significant effect on innovation. 3) Interactive Control Systems have a positive and significant effect on innovation, and 4) Innovation has a positive and significant effect on organizational performance.

Limitations and Advice

This study still has the following limitations: 1) The Management Control System with *levers of control* (LOC) theory used by researchers is only three of the four proposed by Simon (1995), namely the *belief system, boundary system*, diagnostic control system, and interactive control system. The four control systems in business strategy are achieved by combining the four elements of the LOC. 2) The construct of organizational capabilities taken is only limited to innovation, while according to Hult & Ketchen (2001), the main capabilities to achieve competitive advantage consist of innovation, organizational learning, market orientation, and entrepreneurship. The limitations of this study provide an opportunity for future quantitative research to examine the relationship of the four elements of the LOC to other capability constructs. Further research related to *levers of control* on the construct of company capabilities still needs to be carried out on both the influence of SPM directly and indirectly on organizational performance to increase insight and knowledge related to SPM, Capability, and Organizational Performance along with the development of the organization today.

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