
The Role of Feedforward Control System in Improving SMEs' Performance

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Abstract:

The purpose of this study is to investigate the effect of Management Control System process on outcomes in the SME industry.

Based on resource-based observation of the firm, emphasis capability can improve competitive advantage. Respondents in this study were managers from SMEs in the Banten Province.

Data collection was done by giving a questionnaire directly to 150 SME Managers. This study found that the feedforward control is the part of the management control system and has a strong influence on performance.

Besides, this research also found that feedforward control systems can increase creativity and cost cutting. Other findings from this study revealed the importance of a proactive attitude of SME managers to survive in the financial crisis.

Keywords: Management control system, cost cutting, SMEs.

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1. Introduction

Proactive Management is required to defend the company defend in crisis situations (Almeida *et al.*, 2015). Proactive personality is one attitude that determines the success of a company (Thompson, 2005; Li *et al.*, 2010). Proactive personality refers to the initiative shown by the person to influence their environment (Bateman and Crant, 1993). Managers who have a high proactive personality will have more ability to see opportunities and challenges, and to improvise compared with low proactive personality managers (Crant, 2000). A company led by a proactive manager will make a company act more efficiently (Claver-Cortes *et al.*, 2007, Meutia, 2017).

Despite strong evidence of a positive relationship between proactive personality and results, some issues have led to further investigation. First, despite the fact that a proactive personality is related with career success (Seibert *et al.*, 1999), career success constructs remains incomplete, especially in the era of limitless career success and the emphasis of mobility between companies which cannot be ascertained (Arthur and Rousseau, 1996). Researchers are debating the concept of career success and they think that this should be extended from what is usually studied (*e.g. Salary and Promotions*), There must be an emphasis on external measures for the purpose of career success (Parker and Arthur, 2000).

Second, previous research has shown the process through which proactive personality connected with the individual outcome (Thompson, 2005). It leaves doubt how proactive personality can affect career success. The main problem is, therefore to understand the variables that influence the process of how proactive personality leads to a successful career (Siebert *et al.*, 1999). Finally, to get the benefits associated with proactive personality, it is important to specify the boundary conditions of proactive personality (Li *et al.*, 2010).

Proactive personality refers to the enduring behavioral of people to take actions that affect their environment (Bateman and Crant, 1993). People with high proactive personality seek to improve the current state and identify opportunities and take action and show initiative and persist until the change happens (Crant, 2000). Conversely, people with low proactive personality do not challenge the status quo, fail to identify opportunities and show very few initiative. They also passively adapt to their working conditions. Proactive personality employees predict the various results of individuals and organizations including career success (Seibert *et al.*, 1999; Van Dyne and Le Pine, 1998; Van Scotter *et al.*, 2000; Fuller and Marler, 2009), Job performance (Crant, 1995; Thompson, 2005), creativity and innovation (Parker *et al.*, 2006), entrepreneurship (Becherer and Maurer, 1999), and socialization of new arrivals (Kammeyer-Mueller and Wanberg, 2003).

Small Medium Enterprises (SMEs) provide an interesting example. Despite the crisis in Indonesia, many SME's survive, and there is a tendency that their number

increases (Central Bureau of Statistics, 2016). The impact of financial crisis of 2017 is still being felt (Bronner and de Hoog, 2014), especially in Indonesia, and this can be seen from the declining value exchange of Rupiah to Dollar, the increasing amount of debt and that many companies are going bankrupt (Meutia, 2017). It is proven that this industry is more powerful to survive in the face of crisis (Ismail, 2016). Many researchers identified several business strategies to survive in uncertain environments (Okumus *et al.*, 2005; Wang, 2009; Kimes, 2009; Enz *et al.*, 2011; Ismail, 2016), but few researchers investigate business success strategies in a state of financial crisis (Almeida *et al.*, 2015).

The purpose of this study is to investigate the effect of the Management Control System (MCS) process on outcomes in the SME industry. Based on *resource-based view of the firm*, emphasizes capability can improve competitive advantage. MCS used creates feedback and feed forward as a control system that can exploit the capabilities (Grafton *et al.*, 2010). This study takes the capability as a variable mediating relationship between MCS and SME outcomes.

Both feed back and feed forward control system is part of MCS. The main difference is a feedback control system focuses on the actual assessment of outcomes, while feed forward control system is focused on formulations and predictions (Emmanuel and Otley, 1985). In the use of feedback control, managers test the variances between actual an expected outcome, then determine and look for the cause of the difference (Preble, 1992). Feedback control provides managers with mechanisms, through outcome information, that is not in line with expectations.

2. Literature review and hypothesis development

2.1 The influence of proactive personality and creativity

A creative manager is a manager who can create something of value, either in the form of products, services, ideas, procedures or processes (Woodman *et al.*, 1993). Managers who have a high proactive personality actively identify, create and influence the environment (Li *et al.*, 2010). A Manager who has a proactive personality has the initiative to make changes, take action and influence the environment (Bateman and Crant, 1993), by trying to find new information to improve company performance (Crant, 2000). Managers who have proactive personalities are finding more ways to achieve their goals and generate new ideas to improve their performance (Kim *et al.*, 2010). Proactive people have the ability to identified opportunity, working beyond the expected normal work expected of them (Siebert *et al.*, 201). They are always motivated to learn new things and develop their talent (Kim *et al.*, 2010; Fuller *et al.*, 2006). Proactive people are more open for opportunities beyond their normal work expectancy (Thompson, 2005).

During the financial crisis which is the general economic growth slowdown, only companies with high capability will survive (Ismail, 2016). Creativity is the one

capability that the manager of the company should have (Meutia, 2017). A proactive individual tends to associate with innovative people to develop new ideas and show innovations in a single job (Seibert *et al.*, 2001). Proactive individuals constantly update their knowledge, skills and work (Kim *et al.*, 2010). Thus is the conclusion of the following hypothesis:

H1: Proactive personality has a positive influence on creativity.

2.2 The influence of proactive personality on cost cutting

In a situation of financial crisis companies implement energy efficiency techniques and reduced material usage (Chang, 2011; Chen *et al.*, 2006). Proactive managers develop good relationships to reduce transaction costs and increase efficiency (Chen *et al.*, 2006; Chen and Huang, 2009). During the financial crisis restaurants in Slovenia increased their competitive advantage through cost cutting, so they have a small cost of production (Kukanja and Planinc, 2013). Entrepreneurial strategies in times of crisis will focus on business expansion, but still maintain a flat organizational structure, so it is easier to communicate and the cost becomes smaller (Sul and Khan, 2006).

The proactive managers do a careful analysis when in crisis and they implement high profitability business and focus on core business only (Pearce and Michael, 1997). In other words, proactive managers will remove high cost businesses. Proactive managers will use new technology that can help reduce production costs which means a faster production process and reduction in non-value-added activities (Almeida *et al.*, 2015). Proactive engine maintenance can save more money than passive engine maintenance (Silva *et al.*, 2008). Proactive maintenance policies reduce failure and may ultimately reduce production failures. In other words, proactive policies can eliminate unexpected costs. Based on the description, this study proposes the following hypothesis:

H2: Proactive personality has a positive influence on cost cutting.

2.3 The influence of feed forward control system on creativity and cost cutting

Following a resource-based view theory that emphasizes strategic capability management to gain competitive advantage, this study argues that the use of feed forward control, that is part of the MCS, can influence organizations in exploiting and identifying strategic capabilities (Grafton *et al.*, 2010). In this competitive global environment with a turbulent business environment, a manager's ability to control the organization of companies to exploit and identified capabilities is very important. Studies have found that there is an indirect relationship between management control and performance through organizational capabilities (Henri, 2006; Widener 2007). Resource based perspective is focused on strategy, and the importance of resource mobilization owned by the company to improve performance

(Barney, 1991; Kogut and Zander, 1992). Capability is defined as the power companies can use when they combine employed resources together (Grant, 1991).

Management accounting literature has explored the role of performance measurement system and management control to identify and improve organization capabilities (Henri, 2006; Widener, 2007; Iamail *et al.*, 2015; Ismail, 2016). For example, Henri (2006) investigate diagnostic and interactive control systems used to improve innovation, learning, market orientation and company entrepreneurship in a big manufacturing company in Canada. While Ismail (2016) found culture management can improve a company's organizational creativity in SMEs. By accomplishing a good control system a company can identify unfavorable costs, then it can make improvements to eliminate or reduce unnecessary costs (Ismail, 2016). Straight cost control is a company's strategy to compete the competition (Ismail and Ghozali, 2016). It's also agreed upon by Porter (1980) it needs straight cost control system to improve company's competitive advantage. This study is used management feedforward control system and it uses creativity and cost cutting capability. Formally this study hypothesizes the following:

H3: Feedforward control systems have a positive influence on creativity.

H4: Feedforward control systems have a positive influence on cost cutting.

2.4 The influence of feedforward control system on SME performance

In SMEs, feedback and feedforward are used to keep members of the organization from undesirable behavior (Grafton *et al.*, 2010). Resistance against such as undesirable behavior will affect the competitive advantage (Henri and Journeault, 2010). Competitiveness is gained advantages such as cost, material, process and production (Henri and Journeault, 2010). SMEs can improve performance by making improvements to accounting information (Kallunki *et al.*, 2011).

The use of feedforward control focuses on positioning conditions in the future and to serve as a catalyst for new opportunities (Grafton *et al.*, 2010). Feedforward control leads the company to have a competitive advantage by identifying new capabilities. Feedforward is a control system which can improve the ability of managers in anticipation, manage and organize uncertainty in the future (Grafton *et al.*, 2010). Formally this study hypothesizes the following:

H5: Feedforward control system has a positive influence on SME Performance.

2.5 The influence of creativity on innovation

Creativity is the actualization of potential, including the integrity of the logical side and the side of intuition (Young, 1985). This can involve an advancement in thought but can also maintain a relationship with the past (Fillis and Rentschler, 2006). Consider creativity as something imaginable and non-routine issue while building traditions to gain favorable results. Creativity is something which emerges

from the interaction between the individual and the situation, facilitated by an appropriate environment and climate (Hunter *et al.*, 2007).

Creativity describes imaginative ideas (Amabile *et al.*, 1996) while innovation requires a successful application (Tidd and Bessant, 2009). Innovation is the process of developing and bringing creative ideas into the finished product, thus making the product useable and marketable (Ismail, 2016). The conversion process that describes an invention which is turned into another business or a useful application is defined as the exploitation (Roberts, 2007) or Conversion capabilities (Chandy *et al.*, 2006).

Innovation is a process used by entrepreneurs to convert valuable ideas in profitable market opportunities. Innovation is the application of something creative which has a significant impact on an organization, industry, and society. Entrepreneur is the answer in response to perceived opportunities in the business environment. Based on the description, this study proposes the following hypothesis: H6 : Creativity has a positive influence on Innovation

2.6 The influence of cost cutting on SME performance

One of the successful solutions in a financial crisis, is the implementation of strategies followed by efficiency (Ismail and Ghazali, 2015). Therefore, many companies are improving their activities to reduce costs (Almeida *et al.*, 2015). The company is improving the strategies to increase its competitive position.. The company which is winning the competition during the financial recession is a company that performs marketing strategies accompanied by cost-cutting activities (Pearce and Michael, 1997). Defensive marketing strategies (e.g. cost leadership) will enhance the competitive advantage and company performance (Lotayif, 2004). Cost cutting (employees, energy and materials) has a positive influence on company performance in periods of crisis (Kukanja and Planinc, 2013). A recent empirical study of companies listed on Tehran Security Exchange shows that there is a positive and significant influence between cost reduction in the present to financial performance in the future (Birjandi *et al.*, 2014). Based on the description, this study proposes the following hypothesis:

H7: Cost cutting has a positive influence on SME performance.

2.7 The influence of innovation on SME performance

SMEs tend to focus on additional innovation rather than on the basis of existing innovation (Oke *et al.*, 2007). Innovation by SMEs is an active response to its main competitors by adopting new methods to make something (such as innovations in process) (Wang, 2009). SMEs who have a desire to use new methods of doing things, trying in an unusual way, solving problems in new ways, encouraging employees to think, and work in different ways, have a higher performance than

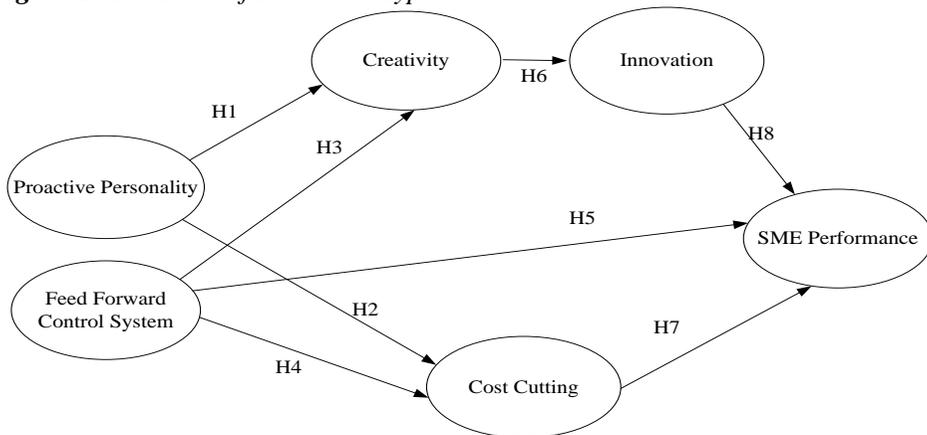
their competitors (Mark *et al.*, 2013). SMEs with a high level of innovation will achieve a high performance (Wang, 2009).

Innovation has been recognized as the ultimate capability to reach a competitive advantage, to occupy and create markets (Henri, 2006). Innovation refers to corporate disclosure for new ideas, new products and new processes (Hurley and Hult, 1998). Innovation is a valuable capability, difficult to duplicate and non-substitutable (Henri, 2006). Innovation has been considered by researchers as a critical factor for the company to win effective business competition (Hitt *et al.*, 2001). Companies which have a higher capacity to create innovation will have a higher performance than their competitors (Danneels, 2002). Based on the description, this study proposes the following hypothesis:

H8 : Innovation has a positive influence on SME performance.

In Figure 1 we present a flow of hypotheses related to the issues discussed in this research:

Figure 1. The Flow of Research Hypotheses



3. Methodology

Respondents in this study consisted of managers from SMEs in Banten Province. Data collection is done by giving a questionnaire directly to 150 SME Managers. Variables in the theoretical model proposed in this study is a latent variables. Structural equation modeling (SEM) was used to solve linkage between Latent Variables simultaneously. The next collected data is processed using Partial Least Square (PLS).

The author has selected SME managers as respondents because they are in a position that allows them to express their company's strategy (Brown and Iverson, 2004). Besides they become an important tool to define and form a strategic position for the organization (Porter, 1980). They also have a practical point of view of the larger

organizations, and possibly have the greatest impact on the outcome of an organization (Cycyota dan Harrison, 2006).

There are five constructs explored in this study: 1) *proactive personality*, (2) *creativity* (3) *cost cutting*, (4) *innovation* and (5) *SME performance*. *Proactive personality* was measured by ten indicators derived from the work of Seibert *et al.* (1999), previously also used by Yang and Chau (2016). The construct of *creativity* was measured by the indicators that come from Ismail (2016) with five questions. The construct of *cost cutting* was measured by six questions coming from the work results of Almeida *et al.* (2015). The indicators to measure the construct of *innovation* comes from work results of Henri (2006) with three questions. Finally, the *SME performance* is measured by four questions (Stam and Elfring, 2008). Respondents are asked to indicate the extent to which they agree or disagree with the statement (1 =strongly disagree, 7 =strongly agree). The reliability coefficient (α 's) for this scale is 0.90.

4. Results and discussions

Based on Table 1 below, proactive personality influences creativity with a loading of 0.34 and significant at the level of 0.001. It shows that creative managers are managers who are able to create something of value, either in the form of products, services, ideas, procedures or processes (Woodman *et al.*, 1993). Managers initiate to make change, take action, and influence their environment (Bateman and Crant, 1993). Many SME Managers execute new methods to achieve their objectives and generate new ideas to improve their performance (Kim *et al.*, 2010). They are motivated to learn new things and develop their talents (Kim *et al.*, 2010; Fuller *et al.*, 2006).

The results of hypothesis 2 show that there is a significant influence on the relationship between proactive personality and cost cutting as can be seen with the loading value of 0.14, significant at the 0.01 level. Proactive managers, in times of crisis, are focused on core business (Pearce and Michael, 1997). During a crisis, managers remove high cost business or use new technology that can help reduce production costs by faster production processes and less value-added activities (Almeida *et al.*, 2015). Proactive policies can eliminate unexpected costs.

This study found that feedforward control system will increase creativity and cost cutting. This is indicated by significant loading values at level 0.01 with a possibility of a positive relationship. Management controls are able to identify and enhance organizational capabilities (Henri, 2006; Widener, 2007; Ismail *et al.*, 2015; Ismail, 2016). By learning, through the use of a good control system, companies can identify unfavorable cost charges, then make improvements to eliminate or reduce unnecessary costs (Ismail, 2015). Tight control on costs is part of the company strategy to win the competition (Ismail and Ghazali, 2016). In this research the

control used is feedforward control system and the capability used is creativity and cost cutting.

The results of hypothesis 5 suggest that there is a positive and significant relationship between the feedforward control system and the performance of SMEs. The use of feedforward control is successful as a catalyst for new opportunities (Grafton *et al.*, 2010). Feedforward control causes the company to have a competitive advantage. Feedforward can increase the ability of managers to anticipate, manage and organize the uncertainty of the future (Grafton *et al.*, 2010).

The results of hypothesis 6 show a strong influence between creativity and innovation. Creativity is described as imaginative ideas, while innovation requires successful applications. Innovation is a process of developing and bringing creative ideas into finished goods so that this can make the product useable and marketable (Ismail, 2016). The process that describes the conversion of discovery into another business or a useful application is defined as exploitation (Roberts, 2007) conversion capabilities (Chandy *et al.*, 2006). Innovation is the application of something creative that has a significant impact on an organization, industry and society.

The relationship between cost cutting and SMEs performance shows a positive and significant direction at the 0.01 level. It shows that SMEs performance is strongly influenced by cost cutting (H7 accepted). Similarly, the effect of innovation on SMEs performance showed a positive and significant result at the 0.001 level.

Table 1. Output result

Hypoteses	exogenous Variables	endogenous Variables	Inner Loading	Test Result
H1	Proactive personality	Creativity	0.34 ***	Supported
H2	Proactive personality	Cost Cutting	0.14 **	Supported
H3	Feedforward control system	Creativity	0.25 *	Supported
H4	Feedforward control system	Cost Cutting	0.47 **	Supported
H5	Feedforward control system	SMEs Performance	0.23 *	Supported
H6	Creativity	Innovation	0.14 *	Supported
H7	Cost Cutting	SMEs Performance	0.31 **	Supported
H8	Innovation	SMEs Performance	0.51 ***	Supported

*Notes: Significant at = *0.05, **= 0.01, *** = 0.001*

5. Conclusion

The purpose of this research is to investigate the influence of feedforward control system in improving the performance of Small Medium Enterprises in Indonesia in financial crisis periods. This study found that the feedforward control as a part of management control system has a strong influence on performance. This research also found that feedforward control system can increase creativity and cost cutting. The other findings from this study were the proactive attitude of SME managers to survive in the financial crisis. A proactive personality is required so as SMEs can still have the creativity and innovation, although limited by cost.

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