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The Effects of Company Size, Corporate Strategy, Implementation of Environmental Management System (EMS) on the Application of Environmental Management Accounting and its Impact on Corporate Innovation

(A Survey on Manufacturing Companies in Bekasi and Karawang, Indonesia)

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Abstract: This research is aimed to test and verify the influence of firm size, corporate strategy and implementation of environmental management systems toward the environmental management accounting and its impact on corporate innovation. The research methodology refers to previous theories and research in order to solve the problem of applying environmental management accounting and innovation in Indonesia. The population of this research is a manufacturing company located in Bekasi and Karawang, Indonesia. Based on the random sample selection method, the questionnaire was distributed to 300 companies, the statistics software SEM PLS is applied to analyze the data. The results of the research indicate empirical evidences that the application of environmental management accounting influences significantly on the innovation. Furthermore, determinant factor of the environmental management accounting are the corporate strategy and implementation of environmental management system. Unexpectedly, for this research data context, the firm size does not influences to the enviromental management accounting. These findings suggests that the problems of application of environmental management accounting can be maximized if the company focuses on recording and reporting the physical activity and monetary activity of the environment. Companies must internalize social, economic and environmental aspects into company policy. Innovation will increase if management implements environmental management accounting that stimulates the emergence of environmentally friendly innovations.

Keywords: firm size, corporate strategy, implementation of environmental management system and application of environmental management accounting.

BACKGROUND OF RESEARCH

To begin, companies indeed have a big role to the economy of a country especially for the community. On the contrast of having a positive impact, companies also create negative impacts on the environment such as air and water pollution as well as damage to the biological ecosystem. Some actual cases related to the environment such as PT Usaha Loka and PT Kasin are proven to pollute Badek River in Ciptomulyo Village, Malang, East Java. Furthermore, the Ministry of Environment plans to sue a textile industrial company polluting agricultural land in Rancaekek District, Bandung with estimated 752 ha of contaminated area from the total rice field area of 983 ha. From June to October 2015, it was estimated that more than 100,000 fires spent millions of hectares of forest in Indonesia with losses to environmental impacts of more than US$ 15 billion.

Greed to exploit the environment and resources and efforts to pursue high economic growth are clearly blamed as the prime cause of the negative impact from companies known as externalities (European Commission, 2000; Helbling, 2001; Choi, 2009). Due to many arising negative impacts of companies, it is necessary to provide a system or mechanism that can oversee a company so that those negative impacts from company activities can be minimized (Ikhsan, 2009). Most companies in modern industry are fully aware that environmental and social issues are also an important part of the company (Pfleiger, *et al.,* 2005). As a result, increased awareness of the environment causes many companies in the world now beginning to implement environmental management accounting (EMA).

Environmental management accounting has been developed to provide information on financial and physical aspects of environmental impacts and company performance (Christ and Burritt, 2013). It is immediately evident that environmental management accounting (EMA) can be used as a tool to record and allocate environmental costs in order to improve environmental and economic performance (Doorasamy and Garbharran, 2015). In fact, the application of environmental management accounting creates many advantages, such as reducing environmental costs, reducing waste, increasing long-term benefits, gaining prestige in the eyes of consumers, improving financial and stock performance and improving environmental and economic performance (Klassen and McLaughlin, 1996; Graff *et al.,* 1998 Buritt, 2002; Leal *et al.,* 2003; Perron *et.,* 2006; Sulaiman and Nik Achmad, 2006).

It is generally believed that company size influences the application of environmental management accounting in the company (Hackston and Milne, 1996; Frost and Toh, 1998; Frost and Seamer, 2002). Even though larger corporations get more pressure from public than do small companies (Deegan and Gordon, 1996), they have the ability to pay resources to generate information for financial statement users rather than the small ones (Owusu-Ansah, 1998). Above all, larger companies tend to disclose more information in their financial statements as part of competitive advantage (Lang & Lundholm, 1993; Lobo & Zhou, 2001).

Without doubt, strategy is the setting of companies' long-term goals and objectives, and it also sets the direction of action and allocation of resources needed to achieve the goals and objectives (Craig & Grant, 1996). Surprisingly, companies that have incorporated environmental issues into their business strategy will tend to be more viable in long term (Banerjee, 2002a). Environmental strategies implemented by companies can be in the form of green products, implementing the use of environmentally friendly technology, investing in research and development of green products and processes, and being more intense to invest in markets with more environmental care (Fraj-Andres *et al.*, 2009).

In accordance, environmental management system is a guide that provides information on the roles and responsibilities of company in managing its waste. In addition, it is equipped with the timing of implementation, benefits and stages of waste management (Environmental Protection Agency, 2004). EMS implementation can enhance companies' competitive advantage, more efficient business processes and new market opportunities (Porter and Linde, 1995; Testa *et al.,* 2008). Implementation of EMS also influences corporate environmental disclosure in which it requires relevant information including environmental management accounting system (Ribeiro and Guzman, 2010).

Last but not least, innovation can mean new products, new ways of production, opening new markets, new organizational models or supply of new sources (Ahmad, 2011). Innovation is an important aspect that must be carried out by a company because it can increase competitive advantage (Porter, 1985). Companies should strive to develop new products and stages of production processes to improve efficiency and to minimize the use of potentially damaging resources of the environment (Ferreira *et al.,* 2010). Increased public awareness of environmental issues has forced companies to develop more environmentally friendly products and business processes with the aim of meeting strict environmental regulations and overcoming consumers with differentiation strategies (Pujari, 2006; Lin *et al.,* 2013).

THEORY REVIEW AND HYPOTHESIS DEVELOPMENT

The Effect of Company size on Application of Environmental Management Accounting

The size of a company is marked by the profit levels and stable corporate operating activities for both large companies and small companies. Company size is used to represent the characteristics of the company which can also be marked by the number of employees, total sales and market capitalization (Aramburu and Saenz, 2011). Thus, company size is a widely researched variable to show its influence on the application of environmental accounting (Ribeiro and Gusman, 2010). Studies found that there was a positive and significant influence between company size and the application of environmental accounting (Hackston and Milne, 1996; Frost and Toh, 1998a; Frost and Seamer, 2002).

Influence between large companies and the application of environmental accounting is because they generally have financial capability and resources that can reduce the environmental impact of their business activities (Ribeiro and Gusman, 2010). Deegan and Gordon's (1996) study explains that company size affected public pressure, in which the larger the size of the company, the greater the public pressure on it. This is related to public fund management used for environmental damage prevention and conservation. Ribeiro and Guzman (2010) who examined medium and small companies in local entities in Portugal found that company size influenced the implementation of environmental accounting. By contrast, research by Prasojo and Purwanto (2013) found that the size of organization had no effect on the implementation of environmental accounting.

H_1: Company size affects the application of environmental management accounting

The Effect of Corporate Strategy on Application of Environmental Management Accounting

Strategy is a company's management decision that has medium and long-term impact on the company's operations, including resource-led analysis and decision execution to create value for key stakeholders and

to outperform competitors (Hubbard and Beamish, 2011). Current business environment is characterized by high competitive pressures, so companies must adopt strategies to manage costs and reduce those costs not only in the short term, but also in the long run (Nimocks *et al.,* 2005). The adoption of business practices by combining ongoing efforts will create a competitive advantage leading to excellent economic performance (Ferrell, 2010).

What's more, market-oriented companies must adapt their strategies to the needs and desires of customers and other stakeholders (Lafferty and Hult, 2001). Therefore, firms with strong market orientation such as supporting environmental sustainability, making eco-friendly products, have reasonable competitive advantage in the market rather than non-implementing companies (Wilburn *et al.,* 2015). Interestingly, Ferreira *et al.,* (2010) explained that the prospector strategy had no effect on the application of environmental accounting.

In addition to finding that prospector strategies can be linked to the implementation of activity management, Gosselin (1997) concluded that the strategy followed by an organization determined the environmental requirements associated with management activities and tends to adopt environmental accounting. Similarly, research conducted by Rustika and Prastiwi (2011) shows that there was a positive influence between prospector strategy and EMA implementation in which manufacturing companies implementing prospective strategies tend to apply EMA as a part of corporate accounting innovation. Apparently, Ramadhani *et al.,* (2011) explained that strategy enabled companies to achieve more effective environmental management accounting in designing corporate goals, such as cost efficiency, prestige and increased corporate profits.

H_2: Corporate strategy affects the application of environmental management accounting

The Effect of Environmental Management System Implementation on Application of Environmental Management Accounting

Environmental Management System (EMS) is a set of processes from a management system that includes organizational structures, plans, responsibilities, procedures and resources designed to assist, assess and manage environmental impacts caused by business activities (ISO 14001, 2004). The environmental management system provides an overview of the roles and responsibilities as well as period of environmental management, including benefits and lessons on managing company's waste facilities (Environmental Protection Agency, 2004). Companies are required to focus on pollution prevention by investing in a systematic environmental protection system to be able to reduce the impact of pollution and environmental damage caused by production activities and to use environmentally friendly products (*Ding et al.,* 2015). Effective environmental management is increasingly required to address the issues of global environmental degradation growth (Craig and Dibrell, 2006; Huang *et al.,* 2009; Marcus and Fremeth, 2009). As a consequence, companies can increase competitive advantage and improve production processes by applying the use of raw materials technology so that it results in low waste or no waste at all (Radonjic and Tominc, 2007). Measurement and accounting for waste and emissions are required for clean production and EMA projects (Doorasamy and Garbharran, 2015).

Both research conducted by Bouma & Wolters (1999b) in private sector and Frost & Seamer's (2002) research on public sector showed an influence between environmental management practices and the level

of environmental disclosure. Companies that implement a good and structured environmental management system are urged to increase the disclosure activities of environment. To support disclosure activities, companies must choose accounting information systems capable of producing and providing information regarding the company's environmental activities (Ribeiro and Gusman, 2010). Research conducted by Wilmshurst & Frost (1998) as well as Bouma & Wolters (1999a) explain that accounting systems contributed to environmental management. Similarly, Ribeiro and Gusman's (2010) research in Portugal found that the application of environmental management had an effect on the implementation of environmental management accounting in Portugal.

H3: Implementation of environmental management system affects the application of environmental management accounting

The Effect of Environmental Management Accounting Implementation on Corporate Innovation

Corporate innovation is truly essential in order to change the company profile to be more concerned about sustainable economic and social as well as the environment (Doorasamy and Garbharran, 2015). In fact, innovative companies have higher growth due to increased product turnover (Souto, 2012). Increasing growth is mainly achieved through a combination of product innovation, process innovation, marketing innovation and innovation in corporate organizations (Bessant and Tidd, 2009). Zhu *et al.,* (2012) suggests that green innovation practices can help companies minimize waste that will stimulate market share and new business opportunities. The process of green innovation refers to efforts to make changes to systems and manufacturing processes in order to produce eco-friendly products to meet eco-targets, such as energy savings, pollution prevention and waste recycling (Meeus and Edquist, 2006; Kammerer, 2009).

Companies that implement green innovations benefit better by demanding higher prices for their eco products, improving the company's image in the eyes of consumers and expanding access to new markets (Peattie, 2001; Chen *et al.,* 2006). Tseng *et al.,* (2013) indicates that companies are doing green innovations in order to strengthen their competitiveness. Green innovation is believed to be a reliable tool for companies to develop sustainable development through improving environmental performance (Awasthi *et al.,* 2010; Chiou *et al.,* 2011; Lin *et al.,* 2013). Ramadhani *et al.,* (2011) also found that there was an influence between the application of environmental management accounting system and corporate strategy. Furthermore, research by Bisbe and Otley (2004) explains that there was a significant relationship between the use of Management Control System (MCS) and product innovation. Lastly, Ferreira *et al.,* (2010) stated that the application of environmental management accounting had an influence on innovation processes that lead to increased production processes (Bartolomeo *et al.,* 2000, Ditz *et al.,* 1999; Hansen and Mowen, 2005) as well as cost reductions (Adams and Kuasirikun, 2000).

$H4_a$: the application of environmental management accounting affects product innovation

$H4_b$: the application of environmental management accounting affects process innovation

The Effect of Corporate strategy on Corporate Innovation

Crawford & De Benedetto (2000) explains that product innovation is renewal of an idea which is applied into overall company operational activities by creating a new product that has added value. Process innovation is a systematic, structured and measurable set of activities designed to produce the latest output that is

expected to add value to customers or specific markets (Davenport, 1996). Innovation in green supply chains is a strategy to minimize environmental impacts that include best practices for reducing or eliminating carbon emissions across the supply chain, from sourcing products and services through design, production, distribution, delivery and ultimately to the end of disposal (Zhu *et al.,* 2004). Customers are beginning to care about the importance of sustainability of the social environment and demanding companies to create environmentally friendly products and business processes, including by applying eco-friendly system designed to improve the organization's environmental performance by reducing air emissions, solid waste and toxic use (Wilburn *et al.,* 2015).

Clearly, corporate strategy influences innovation, and it has a distinctive influence on product innovation and process innovation in achieving its competitive advantage (Etlie, 1983; Hull *et al.,* 1985). Organizations that use prospector strategies aim to be the first in the market (Miles and Snow, 1978). At the same time, the company aims to respond quickly to opportunities in the market (Ferreira *et al.,* 2010). Therefore, the greater the chances of a company to create new products or services in the market, the higher the level of product innovation expected (Ferreira *et al.,* 2010). To improve superior and new products and services in the market, companies will undertake efficiency measures in production, cutting non value-added activities and product delivery (Ferreira et al., 2010). Research by Ferreira *et al.,* (2010) and Ramadhani *et al.,* (2011) found that prospector strategy had no effect on product innovation and process innovation. On the other hand, research by Rustika and Prastiwi (2011) found that prospector strategy had an effect on product and process innovation.

H_{5a}: the application of environmental management accounting affects product innovation

H_{5b}: the application of environmental management accounting affects process innovation

RESEARCH METHODS

Questionnaire Development

Company size is measured using natural logarithms of corporate strategy assets measured by questionnaire adopted from Miles and Snow (1978). The corporate strategy measurement model used two typologies: prospector strategy and defender strategy. Two typologies of the strategy which are widely used are two extremes (Hambrick, 1983, Barret & Wildham, 1984). The measurement of the environmental management system implementation was adopted from the research of Ribeiro and Guzman (2010). The variables were measured using Environmental Management Practices Index (EMPI) consisting of 18 indicators. The application of environmental management accounting used a model developed from the Global Reporting Initiative (GRI) G4 (2013) with 17 items of indicators. Product innovation questionnaire and process innovation were adopted from Tseng *et al.,* (2012).

Control variables in this research are research and development as well as industry. Research and development (R & D) businesses use the amount ratio of R & D organization expenditure and sales turnover for both current and previous year (Ferreira *et al.,* 2010). The use of R & D variables as control variables is mainly due to most of innovations within the company come from research and development efforts. Research and development are important factors in gaining and maintaining competitive advantage in the company (Ireland *et al.,* 2008). Being measured using dummy variables, industry is measured by being given a score of 1 if the company belongs to high profile industry and score of 0 if it goes to the low profile one.

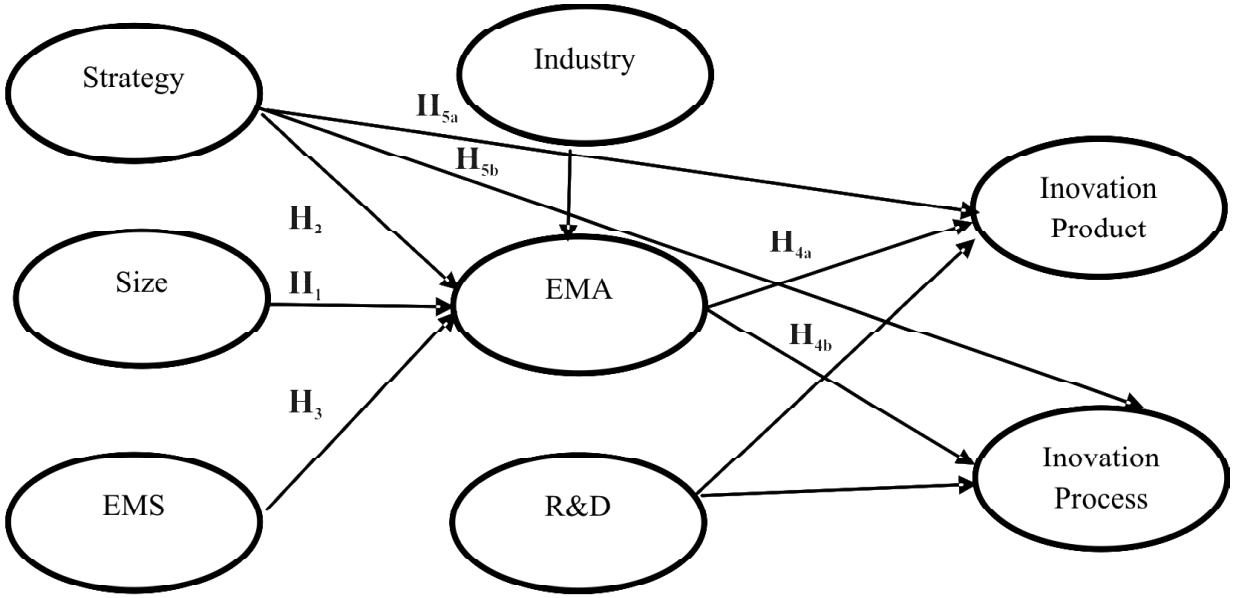

Figure 1: Research framework with control variables

Population, Population Target, and Sampling Frame

Sampling frame is manufacturing companies registered in Bekasi and Karawang regencies, and simple random sampling technique was used in this research. The observation unit in this research was financial manager and/or production/Environmental Health and Safety (EHS) manager at manufacturing companies in Bekasi and Karawang regencies.

Statistical Analysis

PLS model can be evaluated by looking at Q-square predictive relevance to measure how well the observation values are generated by the model. Value of Goodness of Fit (GOF) is 0.681 so that the value of Q2 = 0.094 since Q2> 0 indicates that the model has predictive relevance. First, the variables in the application of environmental management accounting (EMA) have R square value of 0.465, and this shows that 46.5% of the variables in the application of environmental management accounting (EMA) can be explained by firm size variables (Size), corporate strategy (*SP*), implementation of EMS and industry type. Second, product innovation variables have R square value of 0.628, and this shows that 62.8% of product innovation variables can be explained by the variables of application of environmental management accounting (EMA), corporate strategy (*SP*) and R & D. Last, process innovation variable has R square value of 0,528, and this shows that 52.8% of product innovation variables can be explained by variables of environmental management accounting (EMA), corporate strategy (*SP*) and R & D.

Hypothesis Testing

The value of t_{count} of company size (0.656) is smaller than t_{table} (1.96). Since the value of t_{count} is smaller than t_{table}, then at margin of error of 5% , it can be concluded that firm size does not affect the application of environmental management accounting. The value of t_{count} of the corporate strategy (4,644) is greater than

the t_{table} (1.96). Because the value of t_{count} is bigger than t_{table}, then at margin of error of 5%, it can be concluded that corporate strategy has significant effect on the application of environmental management accounting.

The value of t_{count} of the implementation of the environmental management system (2,704) is greater than the t_{table} (1.96). Because the value of t_{count} is bigger than t_{table}, then at margin of error of 5%, it is concluded that the implementation of environmental management system has significant effect on the application of environmental management accounting. The value of t_{count} of the application of environmental management accounting (3.769) is greater than t_{table} (1.96). Since the value of t_{count} is bigger than t_{table}, then at margin of error of 5%, it is concluded that the application of environmental management accounting has significant effect to product innovation. The t_{count} value of the application of environmental management accounting variables (3.323) is greater than t_{table} (1.96). Because the value of t_{count} is bigger than t_{table}, then at margin of error of 5%, it can be inferred that the application of environmental management accounting has significant effect to process innovation.

The value t_{count} of the corporate strategy (3.630) is greater than the t_{table} (1.96). Because the value of t_{count} is greater than t_{table}, then at margin of error of 5%, it can be concluded that corporate strategy has significant effect to product innovation. The value t_{count} of the corporate strategy (3.868) is greater than the t_{table} (1.96). Because the value of t_{count} is greater than t_{table}, then at margin of error of 5%, it is concluded that corporate strategy has significant effect to process innovation.

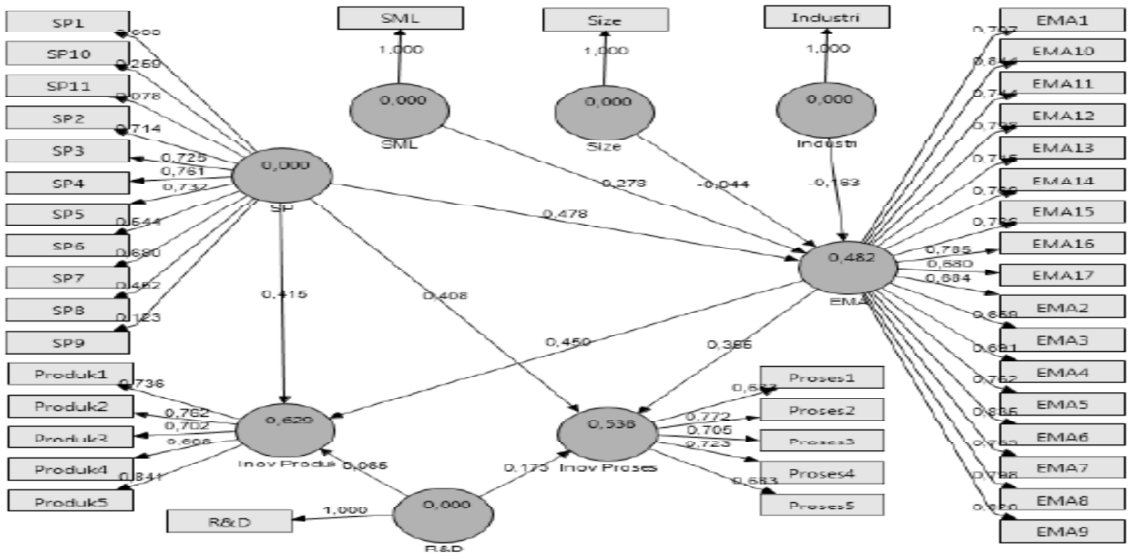

Figure 3: Estimated PLS Path Model Discussion

The Effect of Company size on Application of Environmental Management Accounting

Apparently the results of this study are not in accordance with the explanation of the theory of legitimacy: the larger the size of the company, the stronger the influence on the application of environmental management accounting. Rather, the results of this study are consistent with previous research conducted by Ribeiro and Gusman (2010) and Prasodjo and Purwanto (2013). The low influence of firm size on the

application of environmental management accounting is due to companies perceive their responsibility only directed to the effort to economically generate profit share (shareholder-based approach) as expected from investors. The Companies consider that social and environmental issues are the responsibility of the government.

This principle is getting stronger as performance standards still focus on the company's ability to provide both short-term and long-term benefits. Financial performance still dominates performance measurement as many firms and investors assume that there is no correlation between the application of environmental management accounting and financial performance. The companies consider that their investors do not really regard environmental performance as valuable as the company's financial performance. Similarly, the company considers that the implementation of EMA makes the company to allocate relatively large environmental costs. Should EMA become a periodic liability, then the expense of the firm inevitably increases resulting in reduced profits for shareholders. Implementation of EMA is merely seen as a moral obligation, not as a mandatory law obligation, so the company is not obliged to implement EMA.

The Effect of Corporate strategy on Application of Environmental Management Accounting

The results of this study indicated that companies consider the application of EMA as an important business strategy to do. What's more, the results of this study are in line with the research conducted by Rustika and Prastiwi (2011) and Ramadhani et al. (2011). It appears that high pressure on business makes companies implement strategies that can increase their value. Some of the pressures that companies face are low product costs, environmentally friendly products, corporate reputation and increased stakeholder's awareness of environmental issues. As a result, market-oriented companies must adapt their strategy to stakeholder interests. The application of green strategy encourages companies to adopt environmental management accounting.

Since customers have high levels of environmental awareness and require companies to apply environmental concerns in their business processes, companies beginning to apply green products have been started to be ogled by consumers. Consumers tend to be more critical of products sold by the companies, making them more selective in choosing products offered by the companies. A company implements EMA as a business strategy to improve its reputation (good brand image) in the eyes of stakeholders. Investors will then choose companies that care about the environment because it has low risk business that will benefit investors for long term investment. In addition, companies that have good reputation have a high stock price trend. Banks will prefer to finance corporate loans that have low business risk. The application of environmental management accounting reinforces the corporate strategy with regard to cost leadership. Eventually, EMA is able to provide information about the costs that appear on the company, so it can serve as the basis for making decisions that improve finance and environment.

The Effect of Environmental Management System Implementation on Application of Environmental Management Accounting

Implementation of environmental management system has an effect on the level of environmental management accounting implementation. The results of this study are in line with previous research in Portugal conducted by Ribeiro and Gusman (2010). The company's management implements the environmental management system because environmental issues affect the state of various groups. NGOs

and environmentalists, including stakeholders, are increasingly critical of the companies' environmental performance. Moreover, the government also supports this matter by issuing legislation containing the obligations of agencies and companies to maintain environmental sustainability so that pressure on the implementation of environmental management and the implementation of environmental accounting is getting stronger.

The government firmly imposes sanctions for companies that do not implement environmental management properly. Furthermore, the government requires companies to make reports on their production activities and their impact on the environment. The government through the Environmental Agency (*BLH*) strictly oversee companies' business running. In addition to making an Environmental Impact Assessment (EIA) analysis, companies are also required to provide a report on Environmental Management Efforts and Environmental Monitoring Efforts (*UKL-UPL*) at least twice a year.

Investors, consumers and government of the company's sales destination also require ISO 14001 certification test on Environmental Management System. Consumers, governments and critical investors question the issue of raw material procurement, production process and even whether or not the products are produced free from environmental problems such as unsafe products, environmentally damaging business processes, ecosystem damage, and water, air or noise pollutions. To support these activities, companies must have an accounting information system that is able to provide information about the companies' environmental activities. This need can be met by the application of environmental management accounting. Environmental management accounting can provide monetary information.

The Effect of Application of Environmental Management Accounting on Corporate Innovation

The results of this study indicate that companies that implement EMA will conduct products and process innovations to minimize environmental costs and to minimize the environmental impact that might come up. The results of this study are in accordance with the research conducted by Ramadhani *et al.,* (2011) and Fereira *et al.,* (2010). EMA helps companies focus more on efforts to minimize resource waste used in business processes by generating process analysis and cost management. The challenges of global competition are marked by the emergence of new management and production techniques, cost control and reduction of resource waste in production process. Thus, EMA can help companies to solve those challenges arising in the production process by producing quality products at a cost that can be reduced so that it has a substantial effect on the companies' business processes. EMA is directed at value creation through the effective use of resources (cost effectiveness). In addition, EMA provides many advantages if its implementation is done more strategically because EMA has an excellent catalyst function for the company. Its nature that interacts with various aspects both outside and inside the company is able to lead the creation of corporate strategy to a better direction.

The Effect of Corporate strategy on Corporate Innovation

The test results show that the corporate strategy affected the corporate innovation. The results of this study are in line with the research conducted by Rustika and Prastiwi (2011), but they are different from Ramadhani *et al.,* (2011) and Fereira *et al.,* (2010). The companies execute their business strategy in order to survive in an increasingly competitive market. To maintain their existence in the market, companies did many new innovations be it in the form of product innovation or in the form of business process. This

strategy is considered very effective to win the market because it will enhance companies' competitiveness. Besides, innovation by a company can create value by inducing customers to pay more for a quality product, saving money or providing greater benefits. Innovation by companies must be able to create added value, such as making products that are environmentally friendly, easier or more comfortable when used, better quality, or even cheaper.

CONCLUSIONS AND SUGGESTIONS

Based on the results of this study, the researcher draw sums up that company size had no effect on the application of environmental management accounting, yet the corporate strategy affected the application of environmental management accounting. The implementation of Environmental Management System (EMS) apparently affected environmental management accounting (EMA), and the implementation of environmental management accounting had an effect on corporate innovation. EMA was directed at value creation through effective use of resources (cost effectiveness). Ultimately, corporate strategy had an effect on corporate innovation. Strategies focusing on efforts to meet customer desires tend to innovate to improve the quality of products and services offered in order to achieve competitive advantage.

Companies are advised to establish an integrated policy related to environmental management, which covers the policies of structuring, utilizing, developing, maintaining, restoring, monitoring and controlling the environment. Company should shift the focus of waste treatment from end-of-pipe treatment to preventive strategy, which is done by eliminating & reducing waste sources, recycling, waste treatment, waste disposal and remediation. In addition, companies must increase conservation and energy diversification efforts so that they can maintain the sustainability of industrial sector. The Environment Agency (*BLH*) and Industry Office are expected to be more active in conducting training, mentoring and guidance to companies. The government is expected to make rules on tax compensation for companies that care about the environment and actively compile a catalog of environmentally friendly input materials.

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Tabel 1
The PLS Measurement Model

Indicator	*Loading Factor*	*T Statistics*	*CR*	*AVE*
Size <- Size	1,000	-	1,000	1,000
Strategy 1 <- Strategy	0,677	7,786	0,872	0,495
Strategy 2 <- Strategy	0,738	10,704		
Strategy 3 <- Strategy	0,731	9,894		
Strategy 4 <- Strategy	0,766	13,734		
Strategy 5 <- Strategy	0,737	8,514		
Strategy 6 <- Strategy	0,586	5,083		
Strategy 7 <- Strategy	0,675	9,610		
SML <- SML	1,000	-	1,000	1,000
EMA1 <- EMA	0,707	8,934	0,958	0,572
EMA10 <- EMA	0,844	21,984		
EMA11 <- EMA	0,744	8,380		
EMA12 <- EMA	0,798	19,367		
EMA13 <- EMA	0,715	7,965		
EMA14 <- EMA	0,760	11,901		
EMA15 <- EMA	0,786	13,774		
EMA16 <- EMA	0,784	14,435		
EMA17 <- EMA	0,680	8,621		
EMA2 <- EMA	0,684	11,045		
EMA3 <- EMA	0,659	5,853		
EMA4 <- EMA	0,690	8,006		
EMA5 <- EMA	0,762	10,201		
EMA6 <- EMA	0,835	19,976		
EMA7 <- EMA	0,753	10,873		
EMA8 <- EMA	0,798	19,145		
EMA9 <- EMA	0,820	23,743		
Product 1 <- Inov Product	0,735	10,171	0,852	0,538
Product 2 <- Inov Product	0,761	12,300		
Product 3 <- Inov Product	0,703	12,854		
Product 4 <- Inov Product	0,608	5,768		
Product 5 <- Inov Product	0,842	19,503		
Process 1 <- Inov Process	0,688	7,588	0,839	0,511
Process 2 <- Inov Process	0,772	13,898		
Process 3 <- Inov Process	0,711	7,953		
Process 4 <- Inov Process	0,719	10,301		
Process 15 <- Inov Process	0,679	7,149		

Tabel 2
Relationship of Variables from PLS Inner Model

Model	*Relationship*	*Path*	*T Statistics*	*R square*
1	Strategy -> EMA	0,469	4,644	0,465
	Size -> EMA	-0,061	0,656	
	SML -> EMA	0,273	2,704	
	Industry -> EMA	-0,155	1,932	
2	EMA -> Inov Process	0,458	3,769	0,628
	Strategy -> Inov Process	0,409	3,630	
	R&D -> Inov Process	0,070	0,752	
3	EMA -> Inov Process	0,370	3,323	0,528
	Strategy -> Inov Process	0,388	3,868	
	R&D -> Inov Process	0,179	1,581	