

MEDIATION EFFECT OF ENVIRONMENTAL PERFORMANCE: THE RELATIONS WITH GREEN INNOVATION STRATEGY AND BUSINESS PERFORMANCE

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Abstract

The findings of the previous research that examine the relationship among green innovation strategy, environment performance, and business performance remain inconsistent. This research considers the relationship between green innovation strategy and business performance through mediation between environmental performance. The hypothesis of this research is that green innovation strategy affects the business performance which is mediated by environmental performance. This research is a quantitative research at the explanatory level. The population of this research is food manufacturers in East Java. There are 125 companies. The data was obtained through questionnaires. There are 48 questionnaires or response rate for 38%. The analysis unit is the business unit. The research respondent is the manager of a business unit in Manufacturing Company in East Java. The research result is proved that the environmental performance mediate partially the relation between green innovation strategy and business performance.

Keywords: Green innovation strategy, mediation, business performance, environmental performance.

INTRODUCTION

Companies must maximize the welfare of the owners with attention to the environment. Maximizing the wealth of company owners can be determined to maximize the value of the company (Brigham and Houston, 2001: 16). Increasing the value of the company can be achieved if a company has a good business performance. Business performance is multidimensional included non-financial performance and financial performance. Performance measurement with a single measurement dimension can no longer be provide a comprehensive understanding (Bhargava et al., 1994). Measurement of performance should integrate diverse measurement (Bhargava et al., 1994; Venkatraman and Ramunajam, 1986).

Companies are aware of environmental friendliness that is by trying to bring each other processed food products safe for companies concerned about the image of the company. Image of the company must be found in order to provide the best possible security for consumers who

use the processed food products. By providing security to the consumer, then the consumer can influence the selection of food products. Besides being able to affect consumers in terms of product selection, may also affect the marketing of its products. Consumers prefer a product that is responsible and friendly to the environment and are supported by the emergence of Green Consumerism, Green Product, and Green Marketing.

Green Productivity is a strategy for simultaneously enhancing productivity and environmental performance for overall socio-economic development that leads to sustained improvement in the quality of human life. It is the combined application of appropriate productivity and environmental management tools, techniques and technologies that reduce the environmental impact of an organization's activities, products and services while enhancing profitability and competitive advantage.

Green consumerism is global consumerism movement that began with the consumer awareness of their rights to obtain adequate product, safe, and environmentally friendly products. Environmentally friendly products are products that are produced through the process and using materials that can reduce the number of environmental damage (Haryadi, 2009). Green consumerism creates a balance between the expectations of consumer behaviour and businesses' profit motives - within the orbit of environmental protection. It is increasingly calls upon to look at the entire life cycle of a consumer's purchases - because a consumer does not just buys 'a' product, but also everything that went into its production, and everything that will happen in the future as a result of that product.

According to the American Marketing Association, Green marketing is to market a product in an environmentally friendly manner, including modifying the product, change the production process, change the packaging and even make changes to the way of promotion. However, Ottman (2006) proposed a slightly different concept, namely, the first regulation on green marketing is focused on consumer benefits. This may be because when consumers see the advantages of the purchase. They will be keen to make a purchase again. With this concept environmental factors become a connector for the purchase. According to the (Grant, 2007) includes intuitive green marketing, integrative, inviting, and informed.

In a green product, the product must have a higher quality, which is more related to the environment than similar products from competing companies. Otherwise the company will be declared a failure in the sale. Companies must provide information that is clear and open to products that will be marketed to consumers. In addition, it should also be monitored competitor to see if they are developing green products that match the same product, with lower prices or lower quality (Grant, 2007).

Business performance can be accomplished when the company has a competitive advantage by taking into account environmental factors. Relating to competitive strengths to achieve Business performance, then there is some underlying theory. Depending on the Theory of Industrial Organization (I/O), to achieve the performance of the organization or company must pay attention to factors and external environment (Porter, 1996). According to Resource Based Theory (RBT), to achieve the organization's performance is established by factors internal environment (Barney, 1991). In the stakeholder theory states that the company gets another entity that operates for its own sake, but must provide benefits to all stakeholders (Ghozali and

Chariri, 2007). The existence of a company is highly influenced by the support of stakeholders in the company.

To achieve the necessary competitive advantage through innovation strategy that fits through innovation strategy that prioritizes the environment, which is then referred to as green innovation strategy. Green Consumerism, Green Product, and Green Marketing is important in green innovation strategy. Environmental performance and accounting information management systems, that will either mediate green innovation strategy with business performance.

Some previous researches, green innovation strategy affected the business performance. However, it should be realized, that the strategy will affect the performance when through several aspects. The aspect was environmental performance as a part of CSR. According to the GRI standards, environmental performance using six indicators disclosures, namely economic aspects, environment, employment, human rights, society and the responsibility for the product.

Improved performance is achieved through an increase in the company's operations, such as an increase in production capacity, cost savings and continuous innovation process. An increase in the company's operations have an impact on the earth's existence, human and economic. This concept is called sustainability. According to Elkington (1998), sustainability is a balance between people, planet, and profit is then known as the Triple Bottom Line. The Company shall be responsible for the positive and negative impact of the increase in operational activities to the economic, social and environmental.

Besides the environmental performance, which needs to be considered accounting information management systems that is reliable. Reliable information system is a system of information broad scope, aggregate, integration, and timelines. Business performance depends on the interaction between management accounting information systems and business strategies. Implementation of the strategy is in desperate need of information. The information provided by the Management Accounting Information System is needed for decision making. Accounting Information Systems Management needs information technology (Abernethy and Guthrie , 1994).

The focus of the study consisted of test the mediating effect of environmental performance to the relationship between green innovation strategy with the business performance in the manufacturing companies engaged in food processing in East Java. The motivation of this study were (1) Closing the gap theory and previous empirical studies on the model of the Resource -Based theory, the model I / O and stakeholders theory by incorporating variables as described contingency theory, (2) to test whether the variable environmental performance and accounting information management systems (as a contingency variables) are mediation variables on the relationship between green innovation strategy with business performance, (3) use the concept of green innovation strategy in implementation of strategy.

RESEARCH QUESTION

The research questions in this study are:

1. Is the green innovation strategy affect the business performance?
2. Is the environmental performance mediates the relationship between green innovation strategy with business performance?

THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

Theory I/O

Theory I/O explains that the external factor (industry) is more important than the internal factor to achieve the competitive advantage. The main consideration of theory I/O is competition. Power structures analysis is needed in the competition it is known as five forces model (Porter, 1985). There are five important things in five forces model. They are : (1) intensity of competitive rivalry, (2) threat of new entrants, (3) threat of substitute products or services, (4) bargaining power of suppliers and (5) bargaining power of customers.

Theory I/O explains that above average return (AAR) for the company is determined by the characteristics outside the company. This theory focuses on the industrial structures or external environment attractiveness which then focuses on the company internal sources. The external factors meant in the Theory I/O are: (1) economic strength, (2) social, cultural, demography, and environmental strength, (3) political, government, and law strength, (4) technological strength.

The previous studied which are related to the I/O model has been conducted by some researchers. The external environment factor plays a role in the business condition because the environmental factors really determine the strategy which will be run (Covin and Covin, 1990; Miller and Friesen, 1982). Ansoft (1991) and Moller and Friesen (1983) also stated that the relation between the environment changing and the strategy planning is very strong. It is in the numerous numbers to anticipate the inconsistent changing and condition. Bird (1990) stated that the complexity and the changing of the environment in the certain industry may affect the intensity of strategic planning. The research which is conducted by Hopkins and Hopkins (1997) concluded that the strategic planning does not affect the financial performance but the financial performance improves the strategic planning. The previous research shows that there are various result related to the performance achievement and Above Average Return which are expected by implementing fit strategy.

Stakeholder Theory

Based on stakeholder theory, organizational management is expected to perform activities that are considered important by stakeholder and report back on these activities on the stakeholder. Stakeholder theory, explaining that the management of the organization is expected to perform activities that are considered important by stakeholder and report back on these activities on the stakeholder.

The term stakeholder of Gray et al definition (2001) stated that the stakeholder are: ".....stakeholder in the company that may affect or be affected by the activities of the company, among other community stakeholder, employees, governments, suppliers, capital markets and others. "the survival of the company depends on the support of stakeholder and the support should be sought so that the activity of the company is to seek such support. The more powerful stakeholder, the greater the company's business to adapt. Social disclosure is considered as part of a dialogue between the company and stakehodernya (Ghozali and Chariri, 2007).

Stakeholder theory states that all stakeholder have the right to be given information about the activities of the company (such as pollution, social movements, business companies for

safety). The main purpose of the stakeholder theory is help corporate managers understand their stakeholder environment and to manage more effectively in the presence of relationships in their corporate environment.

The concept of stakeholder theory this helps corporate managers in increasing the value of the impact of their activities and minimize losses for the stakeholder. The focus of stakeholder theory lies in what happens when corporations and stakeholder carry out their relationship.

In a moral perspective, stakeholder theory emphasizes that all stakeholder have the right to be treated fairly by the company and that the issue of the power of stakeholder (stakeholder power) is not directly relevant. This theory sees the company not as a mechanism to improve financial returns stakeholder and as a vehicle for coordinating stakeholder interests and see that management has a fiduciary relationship (lien) not only with some stakeholder but with all stakeholder.

The stakeholder theory normative view, management should provide balanced consideration to the interests of all stakeholder. When stakeholder have different perceptions so that a conflict of interest, then the manager should manage the company properly so as to achieve an optimal balance between them. Managerial perspective view in this stakeholder theory, trying to explain when the management company intends to achieve the expectations of certain stakeholder (in particular having strength), so that it can be said in this view is more likely to organizational perspective. Gray et al. (1996 in Deegan, 2004) states that the stakeholder are identified through the company's attention. The company believes that the interplay between managers and stakeholder should be managed in order to achieve the interests of the company that should not be restricted to the conventional assumption that for profit only. For companies increasingly important stakeholder, the more work done to manage the relationship. The company sees a major element of information that can be used to manage or manipulate the stakeholder in order to seek their approval or support and resistance and to divert their disapproval. In this context, the concerned stakeholder to influence the management in the process of exploiting the full potential of the organization. Because only with proper management and the maximum over all this potential organization will be able to create value added and then push the company's financial performance which is the orientation of the stakeholder in the management intervenes

Contingency Theory

According to Otley (1980) prior thesis of the Contingency Theory is the absence of organizational concept or design which can be applied universally everywhere or in every condition effectively. An organizational design is only appropriate or fit for certain context or condition the use of contingency theory should support the researcher to identify the appropriate condition to design the certain organization and develop the theory which can support it (Riyanto, 1999). The Contingency theory identifies the optimal form to control the organization under different operating condition and try to explain the operating procedure of controlling the organization.

Otley (1980) argues that Contingency approach can explain why accounting system can be different with certain condition to another condition. Based on its findings, it can be concluded that there are three concepts which affects the affectivity of the accounting system.

There are: (1) technology, organizational structures, and (3) environment. Contingency approach in the management accounting is based on the premise that there is none of the accounting system in universal which is always appropriate to be applied in every organization. However, it depends on the condition or situation in that organization. The researchers have applied the contingency approach to analyze and design the control system especially in the management accounting system. Some of the researchers in the management accounting examine it to find the relation between contextual variables such as inconsistency environment, inconsistency task, organizational structures and cultures, inconsistency strategy by using management accounting system design.

The Green Innovation Strategy

Innovation is a critical factor for the company to compete effectively in domestic and global markets and is regarded as one of the most important components of an organization's strategy (Davila, 2000; Hitt et al., 2001). Organizations that have a high degree of innovation is able to develop a competitive advantage and achieve higher levels of performance (Hurley and Hult, 1998; Davila, 2000; Weerawardena, 2003). Innovation strategy adopted by the company should pay attention to environmental factors or the so-called green innovation strategy. Strategy includes: Green Consumerism, Green Product, and Green Marketing.

Green marketing is a hot topic at the moment. Everyone believes that green marketing is a good idea and the potential for the future. Green marketing is the process of selling products or services on the basis of the environmental advantages. Such as products or services that are environmentally friendly by way of production or packaging. In the study conducted by Grant (2007), green marketing is a new focus in the business, which is a strategic marketing approach that starts to rise and the concern of many parties start late 20th century this condition requires marketers (marketers) to be more careful in decisions involving the environment. Attention to environmental issues is characterized implementation of international standards or better known as ISO-14000. ISO-14000 is an environmental management system that can provide assurance to producers and consumers that with the system apply both waste products produced, the products have been used, or its services has been through a process that takes into account the rules or environmental management efforts (Chandra and Cristian, 2002).

According to the (Grant, 2007) had five first green marketing are:

- a. Intuitive – Making better alternative accessible and easy to grasp
- b. Intergrative – Combining commerce, technology, social; effects ecology
- c. Inviting – A positive choice not a hair shirt
- d. Informed – Lack of knowledge is what most, distorts people behaviour

Junaedi (2005) defines, Green products (Green products) is a product that is not harmful to humans and the environment, not wasteful of resources, does not produce excessive waste, and does not involve cruelty to animals. Green product must consider environmental aspects in the product life cycle so as to reduce negative impacts on nature. The minimization efforts to encourage all parties to assume a role in technology development towards environmentally friendly products. In the production sector, various ways can be made to produce an environmentally friendly product that is one of them by using the concept of sustainable green product.

The resulting product should have a higher quality, which is more related to the environment and compared to the competition among companies. Otherwise the company would be deemed unsuccessful in sales. Companies must provide information that is clear and open to products that will be sold to consumers. In addition it should also be monitored competitors to see if they are developing green products that match the same product, with lower prices or lower quality (Grant, 2007). Characteristics of green product, according to some researchers:

- a. The product does not contain toxic (poison).
- b. Products are more durable.
- c. Products using raw materials from recycled materials.
- d. Products using raw materials in the recycling buffer.
- e. The product does not use materials that can damage the environment .
- f. Using a simple packaging and provides refill products.
- g. Not harmful to human and animal health.
- h. Do not spend a lot of energy and other resources during the processing , use and sale.
- i. Does not produce waste that is not useful due to the packaging in a short time frame.

Green Consumerism, as a continuation of global consumerism movement that starts from consumer awareness of their rights to obtain adequate and safe product that demands on environmentally friendly products is getting stronger. While Green Consumers have confidence that there is a real environmental problem, the problem should be taken seriously and addressed in a way that is active, they feel they have enough information in their daily lives, every individual can and should contribute to save the planet from environmental disaster scary (Grant, 2003).

Green Consumerism is defined as "The use of individual consumer preference environmentally less damaging to promote products and services" (Ottman, 2011). What's interesting about this definition is that the green Consumerism arises from the consciousness of every individual. Furthermore, the desired product is not really "green" but enough that slightly reduced the level of damage that may occur.

Environment Performance

Environmental performance is measured results of the environmental management system, which is linked to the control aspects of environmental aspects. According to the company's environmental performance Suratno et al. (2006) is the company's performance in creating a good environment. The company's environmental performance is measured by PROPER. Measurement of environmental performance has been implemented by the government since 2002. The program is used by the Ministry of Environment to measure the level of compliance of companies based on legislation that berlaku. Program digunakan untuk also assess the performance of the company in the implementation of various activities related to environmental management activities.

In this study, environmental performance is measured by using the GRI-G3 Guidelines. Corporate environmental disclosure is a disclosure made by the company to the stakeholders in the form of a report environmental activities undertaken by the company. CSR disclosure standards were developed in Indonesia using standards developed by GRI (Global Reporting Initiatives). GRI is a non-profit organization that spearheaded economic performance,

environmentally and socially sustainable. This study used the GRI standard for measuring corporate environmental disclosure (CED). GRI provides to all companies with a comprehensive sustainability reporting framework that is used throughout the world (www.globalreporting.org). List of social disclosure by using six indicators GRI standard disclosure, namely:

1. Economic

This theme contains nine items that included company profits were distributed to shareholders bonus, compensation of employees, government, finance activities due to climate change and other economic related activities.

2. Environment

This theme contains 30 items which included the environmental aspects of the production process, which included control of pollution in running business operations, prevention and repair of environmental damage caused by the processing of natural resources and the conversion of natural resources.

3. Employment

This theme contains 14 items which included the impact of the company's activities on the people in the company. The activity included recruitment, training, salaries and demands, transfer and promotion, and other.

4. Human Right

This theme contains nine items that included how much investment -related treaties involving human rights, suppliers and contractors who uphold human rights, incidents involving accidents or crimes against underage employees, and other activities.

5. Social

This theme contains eight items that included social activities, followed by the company, such as activities related to health, education and the arts as well as the disclosure of other community activities.

6. Responsibility for Products

This theme contains nine items involving qualitative aspects of a product or service, among other uses durability, service, customer satisfaction, honesty in advertising, clarity/completeness of the content on the packaging, and others.

RESEARCH MODEL AND MEASUREMENTS

Model

Based on theoretical foundation, a research model is developed and presented in figure 1. The model illustrates that business performance is affected by green innovation strategies mediated by environmental performance.

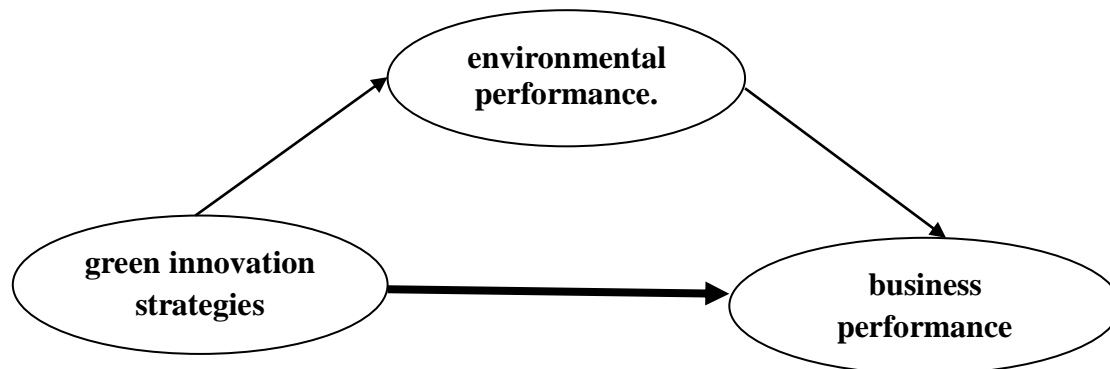


Figure 1: Research model

Research Design

We designed this research as a causal study (Cooper and Emory, 1995), quantitative research at the explanatory level. The main objective was to show empirically the mediating effect of Environmental Performance and accounting information management systems to the relationship between innovation strategy and financial performance. Data were collected using questionnaires. The unit of analysis was a strategic business unit. Respondents were managers of strategic business units in food manufacturing in the East Java Province.

Population and Sample

We derived the sample for this research from 125 manufacturing companies in the East Java Province. Because there were not so many companies in the population, we decided to send faxes and emails to all of these companies. The response rate was 38 percent.

Variable and Its Measurement

The variables in the study were classified as follows: (1) business performance was the dependent variable; (2) green innovation strategy was the independent variable, (3) environmental performance was mediating variable.

Business performance was described as the perception of respondents regarding the Business conditions of the SBUs compared to previous years. To measure the Business performance, we used financial indicators developed by Kaplan and Norton (1992), namely: (1) improve cost structure, (2) increase asset utilization, (3) expand revenue opportunities, (4) and enhance customer value. Likert scale from 1 to 7 was used as the measure.

Green Innovation strategy was defined as the perception of respondents regarding their unique ways to achieve sustainable competitive advantage and excellent performance. To measure the innovation strategy, we used three indicators developed by Grant (2007), namely: (1) green marketing, (2) green product, (3) green consumerism. Likert scale from 1 to 7 was used as the measure.

Environmental performance is the measurable results of the environmental management system, which is associated with the control aspects of environmental aspects. In this study,

environmental performance is measured by using the GRI-G3 Guidelines. Corporate environmental disclosure is a disclosure made by the company to the stakeholder in the form of a report environmental worked on the company. CSR disclosure standards developed in Indonesia using standards developed by GRI (Global Reporting Initiative). This standard covers the economic, environmental, labor, human rights, social and product responsibility. By using a 5-point Likert scale, respondents were questioned about the company's position compared to other companies with these aspects.

ANALYSIS, RESULTS AND DISCUSSIONS

Analysis

This research focused on the mediating effect of environmental performance to green innovation strategy-business performance relationship. The data was analyzed using the structural equation modeling (SEM) and processed using the Partial Least Square (PLS) WARP version 4.0 to test the hypotheses.

These two procedures were conducted to test the hypotheses. First, we tested the direct effect of green innovation strategy to business performance. Second, if the direct effect was significant, we continued with the second test to prove the mediating effect of environmental accounting and management accounting information systems to green innovation strategy-business performance relationship. Testing the mediating effect was carried out using beta coefficient difference approach. The steps were as follows: (a) to examine the magnitude of beta value as a measure of direct effect of independent variable to dependent variable without involving mediating variables. (b) to examine the magnitude of beta value as a measure of direct effect involving mediating variables, (c) to check the effect of independent variables to mediating variables, and (d) examine the effect of mediating variables on the dependent variable (Solimun, 2011; Hair et al., 2010; Kock, 2010, 2011, 2014).

Results

Direct Effect Test

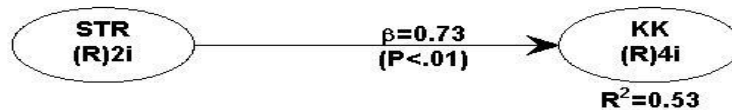
This direct effect test was conducted to test hypothesis 1 stating that green innovation strategy significantly affects business performance. Table 1 showed the results of validity, reliability, and fit tests.

==== **Insert Table 1** =====

Results showed that loading value of green innovation strategy (STR) and business performance (BP) indicators were more than 0.70 with a p-value of less than 5% (significant). This convinced that measurement of the innovation strategy and financial performance constructs had qualified convergent validity. Convergent validity could also be seen from the values of AVE. The AVE value of more than 0.50 means that measurements construct has qualified convergent validity. The values of composite reliability coefficients and Cronbach's alpha coefficients of innovation strategy and financial performance were greater than 0.70. This showed that those variables were reliable.

The value AVE measures colinearity problem. Results showed that the AVE values of innovation strategy and financial performance were less than 3.3. It showed that the model was free from vertical colinearity, lateral and common method bias. Furthermore, the average path coefficient (APC) and the average value of R-Square (ARS) were used to test model fit. Result showed that APC coefficient was 0.658 and significant (less than 5%). The value of R-Square (ARS) was 0.433 and significant (less than 5%). Average value of variance inflation factor (AVIF) was 1 (less than 5). Thus, it was concluded that goodness of fit of the model was fulfilled

Figure 2 showed the direct effect of innovation strategy on financial performance. Innovation significantly affected financial performance with beta value of 0.73 (p-value less than 0.01). This means 1 variance increase in innovation strategy increase 0.73 variance in financial performance. Table 2 showed that the value of r-squared was 0.53 meaning that data variation in innovation strategy explained 53% data variation in financial performance.



Source: Output of PLS WARP

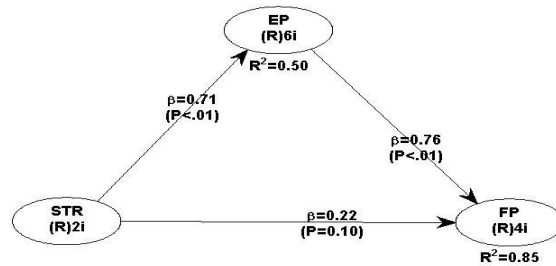
Figure 2: Direct effect of STR-KK relationship

=== Insert Table 2 ===

In conclusion, results confirmed that green innovation strategy significantly affected business performance. Therefore, the hypothesis 1 was supported.

Indirect Effect Test

After the goodness of fit model has been fulfilled, then the next calculation of the estimated coefficients in the model lines Indirect Effect. Statistical test results with a full model that can be seen in Figure 3 below:



Source: Output of PLS WARP

Figure 3: Contingency Model of STR-EP-FP

The second hypothesis of this study is the Green Innovation Strategy affects the Business Performance (BP), which mediated the Environmental Performance (EP). The Effect of mediation Environmental Performance (EP) to the relationship of green innovation strategy (STR) with Business Performance (BP) are statistically at a significance level of 5% can be seen from the following lines (figure 3):

1. Innovation strategy (IS) effect on Environmental Performance (BP) and statistically significant at the 5% level with coefficient 0.71.
2. Environmental Performance (BP) effect on Business Performance (FP) is statistically at a significance level of 5% with a coefficient of 0.76

Of the two pathways, the identification of the Environmental Performance (EP) partially mediates the relationship between Green Innovation Strategy affects the Business Performance (BP). This is because there are all significant mediation lines namely Environmental Performance (EP) Therefore, the second hypothesis in this study proved.

Discussion

Green Innovation strategy is a strategy that focuses on process innovations that promote the sustainable development. According to Grant (2007) include green product, green marketing and green Consumerism. Awareness of the impact of the innovation process makes manufacturing company in East Java more attention to its environmental performance. Company manufacturing companies in East Java, especially in the field of processed food in their activities pay more attention to aspects of Economics, Environment, Employment, Human rights,

Community, responsible for the product. The sixth aspect according to the GRI environmental performance. Attention to environmental issues is marked by the proliferation of businesses in applying international standards, or better known as ISO-14000. ISO-14000 is an environmental management system that can provide assurance to producers and consumers that with the system apply both waste products produced, the products have been used, or its services has been through a process that takes into account the rules or environmental management efforts (Chandra and Cristian, 2002). International Organization for Standardization (ISO) has developed a series of international standards for Eco Labelling (ISO-14000). Eco labeling is labeling activities in the form of symbols, attributes or other forms of a product and services. This label will provide assurance to the consumer that the product or service that has been consumed by the process that takes into consideration the principles of environmental management (Rudi Haryadi, 2009).

Strategies in innovating with memorisation environmental performance will have an impact on the information needs. This is the same as the research conducted by Bromwich (1990) argues that the information in Information Systems Management Accounting help companies face the challenges of a competitive market. Information management accounting system as one product management accounting role in helping to predict the possible consequences of various alternative measures, such as planning, control, and decision making as well as environmental organizations.

Characteristics of the information available to the organization to be effective if it can be used by decision makers. Research conducted by Gerloff (1991) which concluded that the correspondence between the information needs of decision makers will improve the quality of the decisions to be adopted, and in turn can improve the performance of the company. The strategy adopted is also an impact on the needs of a reliable information system including management accounting information systems. Information reliable accounting system according Chenhall and Morris (1986) is a broad scope of information, aggregation, timeliness, and integration. Therefore, innovation in the implementation of strategies to determine the needs of management accounting information systems that are reliable.

Green innovation strategy influence on business performance through the implementation of environmental performance and accounting information management systems. Based on the research results of environmental performance and accounting information management systems partially mediate the relationship between Green innovation strategy with business performance. This suggests there are still other variables (variables contingency) that mediate the relationship between Green innovation strategy with business performance.

CONCLUSION

Results of this research can be concluded as follows :

- (1) Green Innovation strategy Significantly Affects Business performance ;
- (2) Environmental Performance (EP) partially mediate between innovation strategy (IS) with financial performance (FP) .

This research has several limitations. Including: (1) does not take into account the life cycle of a business; (2) study presented only in manufacturing companies in the field of food processing. For their next study should incorporate other mediating variables considering the

results of this study indicate a relationship green innovation strategy and business performance partially mediated by environmental performance.

REFERENCES

- Abernethy, M. A., and C. H. Guthrie. 1994. An empirical assessment of the “fit” between strategy and management information system design. *Accounting & Finance*, 34(2), 49-66.
- Ansoft, H.I 1991. Critique Henry Mintzberg. The Design School : Reconsidering the Basic Premise of Strategies Management. *Strategic Management Journal*12 (6): pp.449-461
- Bird, A. 1990. A 1990 Twist On Strategic Planning. *Banker’s Magazine Pp 66-69 (March-April 1990)*
- Chandra, H.P & Cristian, D. (2002). Analisa Sistem Manajemen Lingkungan (ISO 14000) dan Kemungkinan Implementasinya oleh Para Kontraktor Kelas A di Surabaya. *Dimensi* Vol. 4 No. 2 September 2002 pp: 77-84.
- Chang, Nai-Jen. (2010). “Green Product Quality, Green Corporate image, Green Customer Satisfaction, And Green Customer Loyalty”. *African Journal of Business Management* Vol. 4 (13), October 2010.
- Chamarro, A., & Miranda, F.J. (2009). “Characteristics of Research on Green Marketing”. *Journal Business, Strategy and The Environment*, Vol. 18, No. 4.
- Bhargava, M., C. Dubelaar, dan S. Ramaswami. 1994. Reconciling diverse measures of performance: a conceptual framework and test of a methodology. *Journal of Business Research*, 31(2), 235-246.
- Barney, J.B. 1991. Firm Resources and sustained Competitive Advantage. *Journal of Management* 17(1): pp. 99-120.
- Barney, J., M. Wright, and D. J. Ketchen. 2001. The resource-based view of the firm: Ten years after 1991. *Journal of Management*, 27(6), 625-641.
- Bontis, N. 2002. National intellectual capital index: Intellectual capital development in the Arab Region. *Institute for Intellectual Capital Research, Ontario*.
- Chenhall, R. H., dan D. Morris. 1986. The impact of structure, environment, and interdependence on the perceived usefulness of management accounting systems. *Accounting Review*, 16-35.

- Chong, V. K., dan K. M. Chong. 1997. Strategic choices, environmental uncertainty and SBU performance: a note on the intervening role of management accounting systems. *Accounting and Business Research*, 27(4), 268-276.
- Covin, J. G., dan Covin, T. 1990. Competitive aggressiveness, environmental context, and small firm performance. *Entrepreneurship: Theory and Practice*, 14(4): 35-50.
- Choo, C. W., dan N. Bontis. 2002. The strategic management of intellectual capital and organizational knowledge: *Oxford University Press*.
- Davila, T. 2000. An empirical study on the drivers of management control systems' design in new product development. *Accounting, Organizations and Society*, 25(4), 383-409.
- Edvinsson, L., dan M. Malone. 1997. Intellectual Capital: Realizing Your Company's True Value by Finding its Hidden Brainpower. NY: *Harper Business, New York: ISBN 0-66730-841-4*.
- Gerloff, E. A., N. K. Muir, dan W. D. Bodensteiner. 1991. Three components of perceived environmental uncertainty: An exploratory analysis of the effects of aggregation. *Journal of Management*, 17(4), 749-768.
- Grant, John. (2007). *The Green Marketing Manifesto*. John Wiley & Sons, Ltd., West Sussex, England. *Journal of Business Ethics*, Vol. 29.
- Grant, R.M. (2003). "The Greening of Business: The Role of Green Consumerism, the limits of Earth". *Department of Marketing, University of Southern California*.
- Gordon, L. A., and Narayanan, V. K. 1984. Management accounting systems, perceived environment uncertainty and organization structure: an empirical investigation. *Accounting, Organizations and Society*, 9(1):33-47.
- Haryadi, R. (2009). "Pengaruh Strategi Green Marketing Terhadap Pilihan Konsumen Melalui Pendekatan Marketing Mix".
- Hitt, M. A., R. D. Ireland, S. M. Camp, dan D. L. Sexton. 2001. Strategic entrepreneurship: entrepreneurial strategies for wealth creation. *Strategic Management Journal*, 22(6-7), 479-491.
- Hopkins dan Hopkins. 1997. "Strategic Planning – Financial Performance Relationship in Bank ; A Causal Examination" *Strategic Management Journal*, Vol 18:8,pp:635-652
- Hurley, R. F., dan G. T. M. Hult. 1998. Innovation, market orientation, and organizational learning: an integration and empirical examination. *The Journal of Marketing*, 42-54.

- Junaedi, S.M.F. (2005). "Pengaruh Kesadaran Lingkungan pada Niat Beli Produk Hijau: Studi Perilaku Konsumen Berwawasan Lingkungan" *Benefit Jurnal Manajemen dan Bisnis*, Vol. 9, No. 2, hal. 189-201.
- Kock, N. 2010. Using WarpPLS in E-collaboration Studies: An Overview of Five Main Analysis Steps. *International Journal of e-Collaboration*, 6(4): 1-11.
- Kock, N. 2011. Using WarpPLS in e-Collaboration Studies: Mediating Effects, Control and Second Order Variables, and Algorithm Choices. *International Journal of e-Collaboration*, 7(3): 1-13.
- Kock, N. 2014. Advanced mediating effects tests, multi-group analyses, and measurement model assessments in PLS-based SEM. *International Journal of e-Collaboration*, 10(1), 1-13
- Miller, D., dan P. H. Friesen. 1982. Innovation in conservative and entrepreneurial firms: two models of strategic momentum. *Strategic Management Journal*, 3(1), 1-25.
- Nazaruddin, I. 1998. Pengaruh desentralisasi dan karakteristik informasi sistem akuntansi manajemen terhadap kinerja manajerial. Universitas Gadjah Mada.
- Otley, D. T. 1980. The contingency theory of management accounting: achievement and prognosis. *Accounting, Organizations and Society*, 5(4), 413-428.
- Ottman, J.A., et al. (2006). "Green Marketing Myopia: Ways to Improve Consumer Appeal for Environmentally Preferable Products". *Environment* Volume 48, Number 5 pp 22-36 Heldref Publications, 2006.
- Ottman, J.A., et al. (2011). "Green Marketing: Challenges and Opportunities For The New Marketing Age". NTC Business Books, Lincolnwood.
- Porter, M. E. 1985. Competitive Advantage :Creating and Sustaining superior performance. New York : *Free Press*
- Riyanto, B. 1999. Identifikasi Isu Penelitian Akuntansi Manajemen: Pendekatan Kontinjensi. *Media Akuntansi*.
- Shapiro A, Katherine Sierra, and Nathan Hultman (2012), Innovation and Technology for Green Growth. The 2012 Brookings Blum Roundtable Policy Briefs.
- Teece, D. J., Pisano, G ., dan Shuen, A. 1997. Dynamic capabilities and strategic management. *Strategic Management journal* 18(7), 509-533

Terziovski, M. 2002. Achieving performance excellence through an integrated strategy of radical innovation and continuous improvement. *Measuring Business Excellence*, 6(2), 5-14.

Venkatraman, N., dan V. Ramanujam. 1987. Measurement of business economic performance: an examination of method convergence. *Journal of Management*, 13(1), 109-122.

Weerawardena, J. 2003. The role of marketing capability in innovation-based competitive strategy. *Journal of Strategic Marketing*, 11(1), 15-35.

TABLE 1
DIRECT EFFECT
Validity Test (Direct effect)

* Combined loadings and cross-loadings *					

	STR	FP	Type (a	SE	P value
str1	0.876	0.114	Reflect	0.068	<0.001
str2	0.876	-0.114	Reflect	0.068	<0.001
fp1	-0.188	0.836	Reflect	0.068	<0.001
fp2	-0.130	0.855	Reflect	0.068	<0.001
fp3	0.081	0.917	Reflect	0.068	<0.001
fp4	0.216	0.895	Reflect	0.068	<0.001
Value of AVE					
	STR	FP			
	0.768	0.768			

Reliability Test (Direct effect)

<i>Composite Reliability Coefficients</i>		<i>Cronbach's Alpha Coefficients</i>	
STR	FP	STR	FP
0.869	0.930	0.698	0.899

Goodness of fit (Direct effect)

Model fit indices and P values

 Average path coefficient (APC)=0.658, P<0.001
 Average R-squared (ARS)=0.433, P<0.001
 Average block VIF (AVIF) not available
 Average full collinearity VIF (AFVIF)=1.692, acceptable if <= 5, ideally <= 3.3

Result of path coefficient and Effect Size (Direct effect)

Path coefficients		P values	
STR	FP	STR	FP
STR		STR	
FP	0.658	FP	<0.001

Effect sizes for path coefficients	
STR	FP
STR	
FP	0.433

INDIRECT EFFECT

Table 2

Validity Test (In Direct effect)

* Combined loadings and cross-loadings *						

	STR	EP	FP	Type (a	SE	P value
str1	0.876	0.067	0.070	Reflect	0.068	<0.001
str2	0.876	-0.067	-0.070	Reflect	0.068	<0.001
ep1	0.308	0.796	-0.162	Reflect	0.068	<0.001
ep2	-0.207	0.851	-0.299	Reflect	0.068	<0.001
ep3	0.028	0.835	-0.370	Reflect	0.068	<0.001
ep4	0.191	0.830	0.075	Reflect	0.068	<0.001
ep5	-0.116	0.813	0.401	Reflect	0.068	<0.001
ep6	-0.189	0.829	0.367	Reflect	0.068	<0.001
fp1	-0.249	0.107	0.836	Reflect	0.068	<0.001
fp2	-0.092	-0.106	0.855	Reflect	0.068	<0.001
fp3	0.060	0.082	0.917	Reflect	0.068	<0.001
fp4	0.259	-0.083	0.895	Reflect	0.068	<0.001

Value of AVE		
STR	EP	FP
0.768	0.682	0.768

Reliability Test (In Direct effect)

<i>Composite Reliability Coefficients</i>			<i>Cronbach's Alpha Coefficients</i>		
STR	EP	FP	STR	EP	FP
0.869	0.928	0.930	0.698	0.907	0.899

Goodness of fit (In Direct effect)

Model fit indices and P values ----- Average path coefficient (APC)=0.534, P<0.001 Average R-squared (ARS)=0.615, P<0.001 Average block VIF (AVIF)=1.964, acceptable if <= 5, ideally <= 3.3
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Result of path coefficient and Effect Size (In Direct effect)

<i>Path coefficients</i>			<i>P values</i>		
STR	EP	FP	STR	EP	FP
STR			STR		
EP	0.731		EP	<0.001	
FP	0.155	0.718	FP	0.012	<0.001
* Effect sizes for path coefficients *					
	STR	EP	FP		
STR					
EP	0.534				
FP	0.102	0.594			
<i>Indirect effects</i>			<i>P values</i>		
STR	EP	FP	STR	EP	FP
STR			STR		
EP			EP		
FP	0.525		FP	<0.001	