

THE EFFECT OF GREEN MANAGEMENT AND GREEN TRANSFORMATIONAL LEADERSHIP ON GREEN CREATIVITY IN MANUFACTURING COMPANIES IN THE RESIDENCY OF SOLO

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ABSTRACT

The purpose of this study is to analyze the direct effect of green management on green activity in manufacturing companies and the indirect effect of green management through green transformational leadership variables on green creativity in manufacturing companies in Solo Raya. The research method used a survey method. The method of determining respondents is purposive, namely manufacturing companies that apply green management, green transformational leadership and green creativity. The number of respondents as many as 120 employees in manufacturing companies. Data analysis used Structural Equation Modeling-Partial Least Square analysis with Smart-PLS program. The results of the analysis show that there is a direct effect of green management on green creativity in manufacturing companies, but there is no indirect effect of green management through the variable green transformational leadership on green creativity in manufacturing companies in the residency of Solo.

Keywords : green management, green transformational leadership, green creativity

BACKGROUND

Strict environmental regulations, increasing demand for green products and pressure to comply with international standards are a reflection of the stakeholder focus on environmental issues. In today's competitive business world, organizations produce green products in response to the consumer environment. To do so, green creativity serves as a competitive weapon to deal with increasing competition and customer demands. Experts argue that the adoption of green creativity leads to a first-mover advantage in the production of resource-efficient green products, which ultimately increases market share. It is important for companies to adopt eco-friendly policies to stimulate green creativity. Green creativity is defined as the development of new ideas about green products, green services, environmentally friendly processes, or environmentally friendly practices that are judged to be original, new and useful. Green creativity turns products into sustainable green products that fulfill the agenda of green organizations by reducing environmental degradation. To

increase understanding, different studies have explored some green creativity, both at the individual and organizational level. Research (Mittal and Dhar, 2016) identified that green transformational leadership stimulates green creativity in workers, while research (Song et al., 2020) argues that green human resource management (GHRM) promotes green innovation. This finding corroborates the view presented in various studies that green creative behavior can be fostered through many factors along with leadership (Li et al., 2020; Singh et al., 2020). Several studies have revealed the integrative effect of green human resource management practices and organizational strategies in stimulating green creativity through green transformational leadership. research (Luu, 2020) shows that green management initiatives produce a synergistic impact to improve the company's environmental performance.

The implementation of green management initiatives is highly dependent on the leadership style exhibited by managers. Nurturing green creativity among employees remains a major concern for organizational managers (Zhu et al., 2013). Green transformational leadership influences subordinates to achieve environmental goals and objectives through inspiration, which leads to performance beyond expectations and the resulting green creativity (Chen and Chang, 2013). Full support from top management along with HR practices that focus on a green agenda can lead managers to demonstrate green transformational leadership. The role of green transformational leadership in generating pro-environmental behavior among employees has been widely recognized in the literature (Robertson and Carleton, 2018; Zhang et al., 2020).

Green management is a concept that emerged last in the decade of the twentieth century, when the term “eco-efficiency” was coined and organizations started looking for innovative ways to reduce the use of materials, to utilize renewable energy (Haden et al., 2009). Since then, became very interested in organizational capabilities that support green management. Hart (1995) introduced this theme in the strategic management literature by proposing Green Managerial Concern (GMC): namely pollution prevention, product stewardship and sustainable development. The first is the capacity to reduce emissions and waste caused by the manufacturing process by eliminating sources of pollution in the process, not by controlling pollution with end-of-pipe technology. The second is product stewardship, namely the capacity to design new products by minimizing the impact of environmental cycles.

Finally, sustainable development is the organizational capacity to integrate environmental issues into strategic planning processes and decisions, thereby minimizing the environmental burden of the company's growth and development (Pimonenko, 2019).

Transformational leaders can encourage employees to act beyond direct self-interest through charisma, individualized consideration, intellectual stimulation and inspirational motivation. Transformational leadership can facilitate the introduction of new ideas by providing vision, motivation and intellectual stimulation to employees (Sun et al., 2022). Green transformational leadership is defined as leader behavior that motivates employees to achieve environmental goals and inspires employees to perform beyond the expected level of environmental performance. On the other hand, attentiveness is defined as the degree to which attention to detail, willingness to consider alternatives, and responsiveness to change (Peng et al., 2020). Leadership plays an important role to help employees to increase attention. Transformational leadership is a leadership style that is useful for instilling organizational awareness and influencing caring organizations because transformational leaders can stimulate employees to develop new ideas, apply knowledge and learn new technologies, thus, transformational leadership can create a context of organizational attention and enable the process of transformational leadership (Gupta & Zhang, 2020). Attentive organization. Inspirational motivation of transformational leaders can increase the meaningfulness of employees, because inspirational motivation can make employees think and understand the content and context of work. Green transformational leaders place more emphasis than usual on the green vision of the organization. Green transformational leaders are dedicated to delivering green values that benefit the organization and the environment, making employees perceive work as a reflection of their own values. The internal motivation of employees is involved with the realization of the organization's green goals rather than external motivation alone. This is because completing work tasks is an embodiment of the realization of employee values and this behavior is consistent with employee self-concept (Shamir et al., 1993), although green transformational leadership does not change employee values directly, but effectively relates values to employee value and job value, and continuously reduce differences in perceptions among employees, so that individual values perceptions tend to be congruent (Klein and House, 1995).

Green creative thinking is green creative motivation is not enough to form green creativity, employees must also rely on creative thinking, such as cognitive style and flexibility. The second dimension, green creative thinking means cognitive capacity to develop new and useful ideas about green products. Personal creative thinking is the basis of creativity during the creative process, such as finding and solving problems and implementing solutions. In particular, employees need to think about green issues in a smooth, flexible, complex and lasting way. Employees exhibiting cognitive style creativity tend to seek and integrate creative problem-related information from various sources and redefine the problem. Employees with cognitive flexibility specialize in capturing creative insights and broadening cognitive categories.

This study aims to analyze the direct effect of green management on green creativity in manufacturing companies and the indirect effect of green management through the variable of intervening green transformational leadership on green creativity in manufacturing companies in the residency of Solo.

RESEARCH METHOD

This research method used descriptive quantitative research methods. The method of determining the location using the purposive method in a manufacturing company in the residency of Solo. The sample in this research is the employees of manufacturing companies as many as 120 employees. The sampling technique was carried out by means of proportional stratified random sampling (proportional stratified random sampling), namely the sampling was carried out based on the level or level of management of the agro-industry sector companies. The basis for sampling according to Arikunto (2006) is that if the subject is less than 100, it is better to take all so that the research is a total population study, and if the number of subjects is greater than 100 it can be taken between 10-15% or 20-25% or more in accordance with researcher ability.

The data analysis method used Structural Equation Modeling-Partial Least Square analysis with the Smart-PLS version 3.2.9 program. The variables in this study are green management (X), green transformational leadership (Z) and green creativity (Y). This study was conducted to analyze the direct and indirect effects of green management on green creativity. The indirect effect of green management on green creativity uses the green transformational leadership variable as an intervening (intermediary) variable. The green

management variable consists of 6 indicators, the green transformational variable consists of 6 indicators and the green activity variable consists of 8 indicators.

RESULT AND DISCUSSION

The results of the analysis of each variable, namely green management showed a total score of 3067, the green transformational leadership variable showed a total score of 2997 and green creativity showed a total score of 4113. Green management consists of 6 statements, namely having exclusive relationships with suppliers for the acquisition of environmentally friendly raw materials (having a legal cooperative relationship); having exclusive relationships with distributors / retailers to distribute finished goods; having superior knowledge to manage business processes / produce quality products at lower costs; have a strong market position compared to competitors; have a good reputation with consumers; have a must produce environmentally friendly products. Green transformational leadership consists of 6 statements, namely The leader of the green product development project inspires the project members with the environmental plans; The leader of the green product development project provides a clear environmental vision for the project members to follow; The leader of the green product development project gets the project members to work together for the same environmental; The leader of the green product development project encourages the project members to achieve the environmental goals; The leader of the green product development project acts with considering environmental beliefs of the project members; The leader of the green product development project stimulates the project members to think about green ideas. Green creativity consists of 8 statements, namely: This subordinate suggest new ways to achieve environmental goals; This subordinate propose new green ideas to improve environmental performance; This subordinate promote and champion new green ideas to others; This subordinate develop adequate plans for the implementation of new green ideas; This subordinate would rethink new green ideas; This subordinate would find out creative solutions to environmental problems; I can realize green-related novel and useful ideas with great value; I can share green-related creative knowledge and skills with others.

The results of the Structural Equation Modeling-Partial Least Square analysis show that the loading factor value for each indicator has a value > 0.7 , meaning that each latent variable has a reliable construct. The composite reliability of X, Y and Z is > 0.8 , meaning that it has internal consistency to ensure. The AVE value for X, Y and Z > 0.5 means that each latent construct has a valid measurement model. Structural Equation Modeling-Partial Least Square The three variables in the research model are presented in Illustration 1.

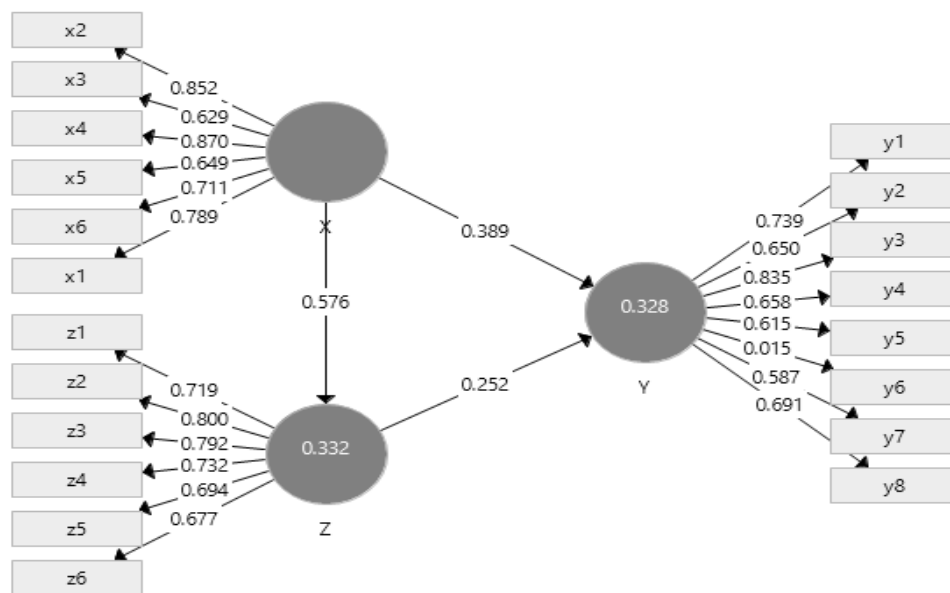


Figure 1. *Structural Equation Modelling-Partial Least Square*

The green transformational leadership (Z) construct has an R² value of 0.328, meaning that the transformational leadership (Z) variable can be explained by the green management variable (X) by 32.8%, while 67.2% is explained by other variables outside the model. The green activity variable construct (Y) has an R² value of 0.332, meaning that the green activity variable construct (Y) can be explained by 33.2% green transformational leadership (Z) variables, while 66.8% is explained by variables outside the model. Significant direct effect on the green creativity variable.

The green management variable has a significant direct effect on the green creativity variable in manufacturing companies in the residency of Solo with a significance value of 0.0006 ($p < 0.01$). Green creativity in manufacturing companies is influenced by green management. This is in accordance with the opinion of Haden et al (2009), which states that

Green management is a concept that emerged last in the decade of the twentieth century, when the term “eco-efficiency” was coined and organizations began to look for innovative and creative ways to reduce the use of materials, to utilize renewable energy. Creativity refers to the ability to generate new and appropriate ideas. A model that assesses creativity in four different ways, including people, processes, press, and products. Specifically, the term person refers to an individual’s creative attributes such as personality, thinking style, and intelligence. The term process describes personal behavior to achieve creative goals, for example, learning, perception, and communication, while the term press means the creative environment, such as external and internal sources. Product terms reflect creative outcomes, such as new and useful ideas, solutions, and products. According to Lee and Klassen (2008) adopting a holistic view of supply chain operations, five green product environmental management (capacity to provide green products to customers through the environment), process environmental management (capacity to maintain manufacturing processes that comply beyond environmental regulations), organizational management (the capacity to integrate environmental concerns into the organization’s daily business routine by establishing an environmental management system that clearly assigns environmental responsibilities within the organization and provides environmental training and education to employees), environmental management supply chain.

The green management variable through transformational variables (intervening variables) has no indirect effect on the green creativity variable in manufacturing companies in the residency of Solo with a significance value of 0.130 ($p > 0.05$). This is not in accordance with the results of research by Mittal and Dhar (2016), who identified that green transformational leadership stimulates green creativity in workers. Green transformational leadership influences subordinates to achieve environmental goals and objectives through inspiration, which leads to performance beyond expectations and resulting green creativity (Chen and Chang, 2013). Transformational leadership is a leadership style that is useful for instilling organizational awareness and influencing caring organizations because transformational leaders can stimulate employees to develop new ideas, apply knowledge and learn new technologies, thus, transformational leadership can create a context of organizational attention and enable the process of transformational leadership. Attentive organization.

CONCLUSION

The result showed that there was a direct effect management on green creativity in manufacturing companies, but there was no indirect effect of green management through the variable green transformational leadership on green creativity in manufacturing companies in the residency of Solo.

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