

GREEN DINAMIC CAPABILITY IN ENHACING PERFORMA PRODUCT INNOVATION IN THE CREATIVE INDUSTRY SECTOR : THE MODERATING EFFECT OF GREEN CREATIVITY

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ABSTRACT

This study explores the importance of human resource dynamic capabilities to create product innovation through the mediating role of green creativity in handicraft organizations in Malang-East Java by utilizing natural resources and local wisdom. The purpose of this study is to determine the role of green dynamic capabilities in creating long-term environmentally friendly creativity that will improve the performance of green product innovation. This research method uses a quantitative approach, namely testing the influence of green dynamic capability variables in creating environmentally friendly creativity so that they can create green product innovation performance. The research sample consisted of 96 respondents who met the criteria for creative industry entrepreneurs, then the data analysis stage used PLS-SEM. The results of the study indicate that green dynamic capabilities have a significant effect on environmentally friendly creativity and green product performance, while environmentally friendly creativity also has a significant effect on product performance and is able to mediate the relationship between green dynamic capabilities and product innovation performance.

Keywords: Green dynamic capabilities, green creativity, product innovation performance, creative Industry SMEs

ABSTRAK

Penelitian ini mengeksplorasi pentingnya kapabilitas dinamis sumberdaya manusia untuk menciptakan inovasi produk melalui mediasi kreativitas hijau pada Usaha Kecil Menengah (UKM) penghasil kerajinan tangan di Malang-Jawa Timur dengan pemanfaatan sumberdaya alam dan kearifan lokal. Tujuan penelitian ini untuk mengetahui peran kapabilitas dinamis hijau dalam menciptakan kreativitas ramah lingkungan yang jangka panjang akan meningkatkan performa inovasi produk hijau. Metode penelitian ini menggunakan pendekatan kuantitatif yaitu menguji pengaruh variabel kapabilitas dinamis hijau dalam menciptakan kreativitas ramah lingkungan sehingga mampu menciptakan performa inovasi produk hijau. Sampel penelitian terdiri dari 96 responden yang memenuhi kriteria pengusaha industri kreatif, selanjutnya tahapan analisis data menggunakan PLS-SEM. Hasil penelitian menunjukkan bahwa kapabilitas dinamis hijau berpengaruh signifikan terhadap kreativitas ramah lingkungan dan performa produk hijau, sementara kreativitas ramah lingkungan juga berpengaruh signifikan terhadap performa produk dan mampu memediasi hubungan antara kapabilitas dinamis hijau dengan performa product innovation.

Kata Kunci: kapabilitas dinamis hijau, kreativitas hijau, performa inovasi produk, UKM Kerajinan

Introduction

Resource capability is an important factor in business performance and sustainability. (Al Mamun et al., 2019; Jebran & Chen, 2022; Murtianingsih et al., 2023). In line with research (Lara & Salas-Vallina, 2017) that managerial competence will play an important role in determining innovation for organizational sustainability, but on the other hand, managerial capability is also an important problem in the small and medium industry sector which includes resource quality, production continuity, marketing access, product packaging and managerial aspects. (Naqshbandi & Jasimuddin, 2022) Although the leverage of this sector on the national economy is very large, in 2023 it will be 60.4% based on data collected by the Ministry of Cooperatives, Micro, Small and Medium Enterprises.

The Small and Medium Enterprises sector in the Malang area has the potential to continue to grow, among them are creative industries, namely fashion, culinary and including the handicraft industry, many handicraft industries that promote local wisdom values, including bamboo crafts, cobek, Malangan Masks, Malangan Batik, and various other crafts. In line with Malang which has many tourist destinations, this sector has the opportunity to continue to grow and develop, but this industry also has a level of vulnerability to business sustainability, it needs continuous innovation (Ha et al., 2021; Raghuvanshi & Garg, 2022) Innovation in an organization depends on managerial and operational capabilities. (Ali et al., 2019; Mamun, 2018).

The highly dynamic and ever-evolving competitive conditions require business actors to be adaptable. In the context of dynamic capability theory (Asad et al., 2023) states that the need for green practices for business actors that have an impact on decision making. In relation to strategic management science, organizational capabilities are a consequence of manager behavior in making plans and making decisions to achieve better performance. Managerial capabilities are intangible assets that are the most important determinant of a company's success. (Do et al., 2022) and is dynamic. Dynamic capabilities based on resource theory specifically in the capabilities and assets owned which are used to achieve sustainable competitive advantage (Ellström et al., 2022). Kareem, (2019) in his research, he stated that the dynamic capabilities of an organization, including learning capabilities and reconfiguration, have an effect on the effectiveness of business performance, while sensitivity capabilities do not have a significant positive effect on business performance.

In relation to today's environmental issues, dynamic capabilities are not only related to organizational sustainability but must also pay attention to environmental sustainability, which is referred to as green dynamic capabilities. Various studies related to capabilities have been carried out, but related to dynamic capabilities in the small and medium business

sector, there are still not many found, especially green dynamic capabilities (Joshi & Dhar, 2020). Green dynamic capability is a managerial aspect that is very relevant to current environmental issues, but is still a major problem for business actors, especially Small and Medium Industries (SMEs). Understanding environmental concerns for business actors is a key factor for sustainability. Various obstacles related to environmental issues in the SMEs sector are related to resources, attitudes and organizational culture and concerns. Low concern and support systems for the environment, the perception that the environment is less relevant to the status of the business being run.

“Green Dynamic Capability” refers to the continuous development and improvement of an organization’s ability to adapt, innovate, and integrate sustainable practices into its operations and strategies. This concept involves developing the capabilities needed to continuously improve environmental performance, respond to changing environmental regulations, and meet the growing demand for sustainable products and services. Green dynamic capability in its research (Joshi & Dhar, 2020) can be achieved through green training for all employees of the organization to increase green creativity, while (Endiana et al., 2023) states that green intellectual capital is determined by green human capital, green capital structure, and green relational capital which are able to improve the performance of MSMEs. Kiranantawat & Ahmad, (2023) in forming a conceptual framework for research that green dynamic capabilities can create green creativity and green innovation which then improves organizational performance.

An organization's green creativity is not only in the aspect of new products but also environmentally friendly innovations for sustainability (Joshi & Dhar, 2020). Henriques & Laranjeira, (2023) in his research stated that business sustainability can be achieved with environmentally friendly creativity. The resource capability of an organization does not only think about achieving short-term profits but also long-term sustainability, adaptable to environmental changes so that dynamic capabilities are very necessary (Pundziene et al., 2021). Green creativity is the hope of the current generation in the form of ideas that are still original and aim to minimize environmental impacts, which are manifested in products and eco environments. Green creativity is formed from the quality of human resources of an organization, (Jiang et al., 2021) In his research, he measured green creativity with four aspects, namely green creative motivation, green creative thinking, green creative behavior, and creative results, meanwhile (Abdelwahed et al., 2023) who conducted research on the SMEs sector in Saudi Arabia stated that green entrepreneurial skills and green entrepreneurial independence can create green entrepreneurship. While different from

(Setyaningrum et al., 2023) who in his research stated that green creativity has a significant negative effect on business performance.

Several research results that have been presented show different results and in the current research will try to examine the managerial aspects, especially those related to environmentally friendly creativity because of the lack of understanding and low managerial aspects of business actors in this sector, so the research hypothesis is formulated as follows:

H1 : Green dynamic capability can improve the performance of environmentally friendly product innovation

H2 : Green dynamic capability can improve green creativity

H3 : Green creativity can create environmentally friendly product innovation performance

H4 : Green dynamic capability can create environmentally friendly product innovation performance through the mediation of green creativity

Method

This study uses a quantitative approach that is associative causal, namely testing the influence of green dynamic capability variables in creating green creativity so that they can create green product innovation in the long term. The research stages include: 1) Literature study and reviewing empirical phenomena in the handicraft industry, 2) Distribution of questionnaires to respondents who meet the research sample criteria of 96 respondents, 3) questionnaires using a linkert scale of 1-5 and then the data analysis stage using PLS-SEM, with the variables measured Product Innovation Performance (Y), Green dynamic capability (X), and Green Creativity (Z) with the operational definition of the variables as follows:

Table 1 Operational definition of variables

Variable	Dimension	Source
Green Dynamic Capability	<ol style="list-style-type: none"> 1. The company has the ability to monitor new green environmental opportunities 2. The company routinely identifies and develops green insights 3. The company has the ability to develop green products/technologies 4. The company has the ability to assimilate and share transform green insight information 5. The company has successfully integrated and managed employees with green insights 6. The company has successfully allocated resources with green innovation 	(Joshi & Dhar, 2020; Kareem, 2019; Kiranantawat & Ahmad, 2023; Pundziene et al., 2021)

Green Creativity	<ol style="list-style-type: none"> 1. The company has a goal and commitment to create a green environment 2. The company has goals and ideas for developing a green environment 3. The company supports creative green ideas 4. The company develops green environment-oriented plans 5. The company tries to find ideas related to environmental problems 	(Abdelwahed et al., 2023; Jiang et al., 2021; Joshi & Dhar, 2020)
Performa Inovasi Produk	<ol style="list-style-type: none"> 1. Green Product 2. Green Process 3. Green Service 4. Green Practices 	(Henriques & Laranjeira, 2023; Kiranantawat & Ahmad, 2023; Phong & Adomako, 2023; Xiao et al., 2023)

Source: Research mapping, 2024

Result and Discussion

Descriptive Statistics

The research data is based on the results of a questionnaire that has been distributed with a demographic profile level that includes gender, education level, Firm establish, and type of business. Based on gender, 60% of the business managers of this craft business are men and 40% are managed by women. While the level of education is 60% diploma / bachelor's level, 33% have a high school education level and 7% have a junior high school education level. The age of business continuity is in the range of 1-5 years as much as 25%, 6-10 years 39%, 11-15 years as much as 23% and more than 15 years as much as 13%. While the type of creative industry business in this study is 35% in the culinary field, 26% in the craft field, 29% in the fashion field and 6% printing. This description is presented in the following table:

Table 2: Demographic Profile

Discription	N	%	Discription	N	%
Gender			Education		
Male	58	60%	Diploma/Bachelor Degree/Equivalent	58	60%
Female	38	40%	Senior high school	32	33%
Total	96	100%	Junior High School	6	7%
			Total	96	100%
Firm Establish			Type of firm		
1-5 years	24	25%	Handicraft Industry	25	26%
6-10 years	38	39%	Fashion	28	29%
11-15 years	22	23%	Culinary	34	35%
More than 15 years	12	13%	Printing	9	6%
Total	96	100%	Total	96	100%

Data source: processed data 2024

Next, the model assumption test includes convergent validity and construct reliability, the convergent validity test is intended to determine the validity of the relationship between each indicator and other constructs or variables. While construct reliability is used to measure the level of accuracy, consistency, and precision of the indicators used. The convergent validity test and construct reliability are presented in tables 3 and 4.

Table 3: Convergent Validity Test

Indicator	Loading factor	T Statistic	P-Value	Description
Green Dynamic Capability (GDC)				
GDC1	0,706	8,912	0,000	Valid
GDC2	0,742	11,347	0,000	Valid
GDC3	0,805	14,016	0,000	Valid
GDC4	0,766	12,152	0,000	Valid
GDC5	0,758	14,374	0,000	Valid
GDC6	0,667	8,726	0,000	Valid
Green Creativity (GC)				
GC1	0,603	6,755	0,000	Valid
GC2	0,655	7,775	0,000	Valid
GC3	0,905	35,198	0,000	Valid
GC4	0,897	37,043	0,000	Valid
GC5	0,681	8,383	0,000	Valid
Performa Product Innovation				
PP1	0,807	17,593	0,000	Valid
PP2	0,873	30,639	0,000	Valid
PP3	0,773	11,424	0,000	Valid
PP4	0,766	12,253	0,000	Valid

Data source: processed data 2024

Table 3 shows that all measurement indicators of the variables green dynamic capability, green creativity, and product innovation performance have a factor loading value of more than 0.500 with a p-value of 0.000 and are declared to meet the validity requirements.

Tabel 4 : Uji Reliabilitas Konstruk

Variable	Composite Reliability		Cronbachs Alpha		Description
	Test Value	Criteria	Test Value	Criteria	
Green Capability Dinamic	0.840		0.836		Accepted
Green Creativity	0.877	≥ 0.600	0.813	≥ 0.600	Accepted
Performa product Innovation	0.838		0.821		Accepted

Data source: processed data 2024

Table 4 shows that the construct reliability test where the composite reliability and Cronbach Alpha values obtained results greater than 0.600 and were declared to meet the reliability requirements for all variables.

Table 6 Determination Coefficient Results

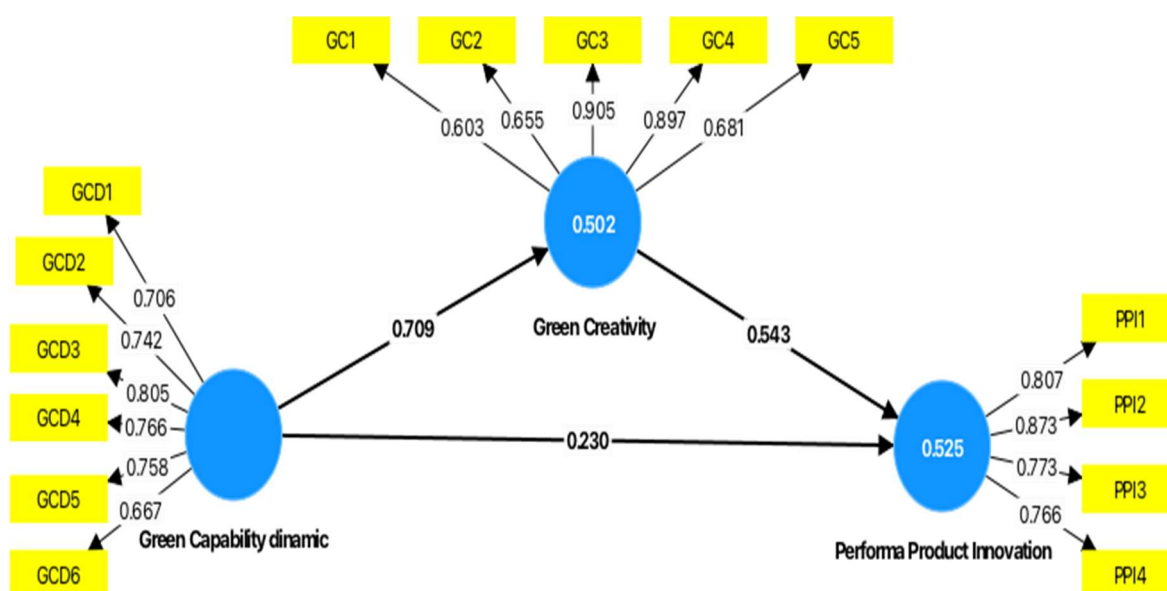
Variable	R Square
Green Creativity	0.502
Performa Product Innovation	0.525

Data source: processed data 2024

The R-Square table above shows that Green creativity is formed by green dynamic capability of 0.502 and product innovation performance is formed through green dynamic capability and green creativity of 0.525.

Research Model Development

Figure 1 : Research Model



In Figure 1 above, it shows that green dynamic capabilities are formed by six indicators with the most dominant factor loading value in the 3rd GDC, which is 0.805, meaning that the creative industry sector has the ability to develop green products or technologies, but the resource allocation factor loading for green technology is still lacking. Meanwhile, Green creativity is formed from five indicators where the most dominant indicator is in the 3rd Gc, which is 0.905, meaning that the handicraft industry has creative green ideas, although the commitment to a green environment still needs to be improved. Meanwhile, product innovation performance is formed through 4 indicators and the most dominant indicator is the 2nd PPI of 0.873, which shows that the average industry has implemented a green business process, although in practice it is not yet maximal. Furthermore, the results of the hypothesis testing are shown in the Table 7.

Table 7 Hypothesis Test Results

Hypothesis	Path	Path coefficient	T Statistics	P-value	Description
1	X -> Y	0.230	2.413	0.016	Significant
2	X -> Z	0.709	2.058	0.000	Significant
3	Z -> Y	0.543	5,394	0.000	Significant
4	X -> Z->Y	0.385	4,801	0.000	Significant

Data source: processed data 2024

Based on table 7, it shows that the first hypothesis and the second hypothesis, namely green dynamic capability, are able to improve the performance of product innovation and green creativity, where creative industry managers are able to monitor, identify green environmental insights and develop green technology even though they have not been maximized in their resource allocation, this has a great impact on green innovation which includes products, services, processes, and practices. This creative industry has an important role in the go green movement: the craft industry which in the packaging process has minimized plastic packaging, in the fashion sector, several industries have also processed recycled textile waste into unique fashion accessories and products. While in the culinary sector, it is manifested in the activity of using energy-efficient tools, environmentally friendly food packaging, water conservation, and reducing food waste or waste, while in the printing industry, environmentally friendly activities are reflected in activities in the form of reducing the use of chemical raw materials and optimizing the use of recycled materials. This research is in line with (Endiana et al., 2023; Joshi & Dhar, 2020; Kiranantawat & Ahmad, 2023; Xiao et al., 2023).

The third hypothesis related to green creativity also has a significant positive influence on product innovation performance and is able to mediate the relationship between green dynamic capabilities and innovation product performance. In relation to current environmental issues, the ideas and concepts of creative industry business actors encourage innovation of environmentally friendly products and services. Business actors understand the importance of a green environment and play a role in realizing it through environmentally friendly industrial activities. These creative ideas include, in the fashion industry, for example, industrial processes with more efficient technology, such as energy-efficient sewing machines, optimizing waste reduction in the use of materials, and promoting environmental values on product labels or packaging. In the culinary field, these creative ideas are realized by using organic raw materials for food processing, in line with research. (Afridi et al., 2023; Jiang et al., 2021; Maitlo et al., 2022; Muafi, 2015; Phong & Adomako,

2023). Green creativity in the creative industry includes commitments and ideas/concepts that are environmentally friendly and oriented towards issues related to environmental problems.

Conclusion

This study was conducted to test the green dynamic capabilities of creative industry business actors in the Malang area, where the results of the study showed that business actors already have green dynamic capabilities even though they have not been implemented optimally, limited resources in small and medium-scale industries are one of the obstacles, but capabilities that include the ability to identify and develop green products provide positive opportunities for this sector. The green dynamic capabilities possessed by business actors can encourage creative ideas related to environmental concerns so as to improve the performance of environmentally friendly product innovations. Synergy is needed from the local government, especially the cooperative and micro, small and medium Department, the environmental Department, and business actors in the creative industry sector in order to increase the growth of the green environment in the Malang area. Socialization and training related to green environmental insights need to be carried out continuously.

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