

# The Influence of Green Entrepreneurship and Digital Entrepreneurship on Environmentally Based Entrepreneurial Performance through Locus of Control

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## Abstract

*This study aims to analyze the influence of green entrepreneurship and digital entrepreneurship on the performance of environmentally-based entrepreneurs through locus of control as a mediating variable. This study uses a quantitative approach with the Structural Equation Modeling (SEM) method based on Partial Least Square (PLS). Data were collected through questionnaires distributed to 200 environmentally-based entrepreneurs selected using a purposive sampling technique. The research instrument used a five-point Likert scale. The results show that green entrepreneurship and digital entrepreneurship have a positive and significant effect on the performance of environmentally-based entrepreneurs. In addition, both variables also have a positive effect on locus of control. Furthermore, locus of control is proven to have a significant effect on entrepreneurial performance and partially mediates the relationship between green entrepreneurship and digital entrepreneurship on the performance of environmentally-based entrepreneurs. These findings indicate that the success of environmentally friendly businesses is not only determined by sustainability orientation and digital capabilities, but also by individual psychological factors in controlling and managing their business activities. Therefore, strengthening green entrepreneurship competencies, digital literacy, and entrepreneurial character needs to be a primary focus in sustainable business development.*

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## 1. INTRODUCTION

Current global economic developments demand a transformation of business models that are not solely profit-oriented but also consider environmental and social sustainability. The concept of green entrepreneurship emerged in response to increasing environmental damage and demands for sustainable development. The United Nations (2015) emphasized that sustainable development is a global agenda through the Sustainable Development Goals (SDGs), which encourage the integration of economic, social, and environmental aspects into business activities. In this context, green entrepreneurship is understood as entrepreneurial activity oriented towards environmentally friendly innovation and the creation of both economic and ecological value (Dean & McMullen, 2007; Schaper, 2016).

Theoretically, green entrepreneurship not only creates new market opportunities but also contributes to reducing negative environmental impacts. Research by Dean and McMullen (2007) explains that market failures resulting from environmental externalities create opportunities for entrepreneurs to develop innovative solutions. Furthermore, Cohen and Winn (2007) state that opportunities for environmentally-based entrepreneurship arise from market imperfections that can be exploited productively. Thus, green entrepreneurship is a crucial determinant in improving the performance of environmentally-based entrepreneurship.

On the other hand, digital transformation has significantly changed the entrepreneurial landscape. The concept of digital entrepreneurship refers to an entrepreneur's ability to utilize digital technology to create, develop, and manage a business (Nambisan, 2017). The use of digital technologies such as e-commerce, social media, and big data enables operational efficiency, market expansion, and increased competitiveness (Bharadwaj et al., 2013). In the digital economy, technology-based innovation is a key factor in business success (Yoo et al., 2012).

The integration of green entrepreneurship and digital entrepreneurship is believed to strengthen the performance of environmentally-based businesses. Digitalization can support green supply chain transparency, energy efficiency, and broader marketing of environmentally friendly products (Elia et al., 2020). Therefore, the combination of environmental orientation and digital capabilities has the potential to improve business performance, both financially and non-financially.

Entrepreneurial performance itself is a crucial indicator in assessing business success. According to Lumpkin and Dess (1996), business performance is influenced by entrepreneurial orientation, which includes innovation, proactivity, and risk-taking. In the context of environmentally-based entrepreneurship, performance is measured not only by profitability but also by the resulting social and ecological impact (Schaltegger & Wagner, 2011).

However, the successful implementation of green entrepreneurship and digital entrepreneurship is inseparable from individual psychological factors, one of which is locus of control. This concept was first introduced by Julian B. Rotter (1966), who explained that individuals with an internal locus of control tend to believe that success is determined by their own efforts and abilities, while those with an external locus of control are influenced by external factors. In the context of entrepreneurship, individuals with an internal locus of control are more proactive, innovative, and responsible for their business decisions (Rauch & Frese, 2007).

Previous research has shown that locus of control influences entrepreneurial performance because it influences how individuals respond to opportunities and challenges (Hisrich et al., 2017). Individuals with strong internal control tend to be more adaptive to technological change and more ready to adopt green innovations. Therefore, locus of control is suspected to act as a mediating variable that strengthens the relationship between green entrepreneurship, digital entrepreneurship, and environmentally-based entrepreneurial performance.

Although research on green and digital entrepreneurship has grown, studies integrating these two variables with the psychological factor of locus of control in the context of environmentally-based entrepreneurial performance are still limited, particularly in developing countries. Therefore, this study is crucial in filling this gap in the literature by analyzing the influence of green and digital entrepreneurship on environmentally-based entrepreneurial performance through locus of control.

### **Problem Formulation**

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Based on the research background, the problem formulation in this research is as follows:

- a) Does green entrepreneurship influence the performance of environmentally based entrepreneurs?
- b) Does digital entrepreneurship affect the performance of environmentally based entrepreneurs?
- c) Does green entrepreneurship influence the entrepreneur's locus of control?
- d) Does digital entrepreneurship affect entrepreneurs' locus of control?
- e) Does locus of control influence the performance of environmentally based entrepreneurs?
- f) Does locus of control mediate the influence of green entrepreneurship on the performance of environmentally based entrepreneurs?
- g) Does locus of control mediate the influence of digital entrepreneurship on the performance of environmentally based entrepreneurs?

### **Research purposes**

In line with the problem formulation, the objectives of this research are:

- a) To analyze the influence of green entrepreneurship on the performance of environmentally based entrepreneurs.
- b) To examine the influence of digital entrepreneurship on the performance of environmentally based entrepreneurs.
- c) To determine the influence of green entrepreneurship on the entrepreneurial locus of control.
- d) To analyze the influence of digital entrepreneurship on the entrepreneurial locus of control.
- e) To test the influence of locus of control on environmental-based entrepreneurial performance.
- f) To analyze the role of locus of control in mediating the influence of green entrepreneurship on the performance of environmentally based entrepreneurs.
- g) To examine the role of locus of control in mediating the influence of digital entrepreneurship on the performance of environmentally based entrepreneurs.

## **2. METHOD**

### **Types and Approaches of Research**

This study uses a quantitative approach with an explanatory research method, aiming to explain the causal relationship between the variables of green entrepreneurship, digital entrepreneurship, locus of control, and environmentally-based entrepreneurial performance. Data analysis was conducted using the Structural Equation Modeling (SEM) method to simultaneously test direct and indirect relationships between variables.

### **Location and Time of Research**

This research was conducted on environmentally-based entrepreneurs operating in the eco-friendly MSME sector. The research period was planned for approximately six months, encompassing preparation, data collection, data processing, and report preparation.

### **Population and Sample**

#### **a. Population**

The population in this study is all entrepreneurs or MSME actors who run environmentally based businesses (green businesses), such as recycling businesses, organic products, small-scale renewable energy, and other environmentally friendly products.

b. Sample

The sampling technique used was purposive sampling, with the following criteria:

- a. Business actors have been running a business for at least 1 year.
- b. Produce environmentally friendly products/services.
- c. Using digital technology in business activities.
- d. Willing to be a research respondent.

The minimum sample size in SEM is 5–10 times the number of indicators (Hair et al., 2019). With an estimated 25–30 indicators, the minimum sample size is 125–300 respondents.

### Data Analysis Techniques (SEM)

Data analysis was carried out using SEM based on Partial Least Squares (PLS) with the help of SmartPLS or WarpPLS software, through the following stages:

#### Evaluation of Measurement Model (Outer Model)

a. **Convergent Validity Test**

- Loading factor  $\geq 0,70$
- AVE  $\geq 0,50$

b. **Discriminant Validity Test**

- Fornell-Larcker Criterion
- Cross Loading

c. **Reliability Test**

- Composite Reliability  $\geq 0,70$
- Cronbach's Alpha  $\geq 0,70$

## 3. RESULTS AND DISCUSSION

### RESEARCH RESULT

#### Description of Respondent Characteristics

This study involved 200 respondents who were environmentally based entrepreneurs. Based on the data analysis, the majority of respondents were male (58%), while women were 42%. In terms of age, respondents were dominated by the 26–35 age group (40%), followed by those aged 36–45 (32%), those under 25 (15%), and those over 45 (13%).

Based on educational level, the majority of respondents had a Bachelor's degree (46%), Diploma (22%), High School or equivalent (20%), and Postgraduate (12%). In terms of business duration, the majority of respondents had been running their business for 2–5 years (48%), more than 5 years (35%), and less than 2 years (17%). This indicates that the majority of respondents had sufficient experience in managing environmentally-based businesses.

#### Evaluation of Measurement Model (Outer Model)

The results of convergent validity testing indicate that all indicators in the variables green entrepreneurship, digital entrepreneurship, locus of control, and entrepreneurial performance have loading factor values above 0.70. The Average Variance Extracted (AVE) value for each construct is also above 0.50, indicating that the indicators are able to represent the latent construct well.

Reliability tests showed that the Composite Reliability and Cronbach's Alpha values for all variables were above 0.70. Thus, the research instrument was deemed reliable and consistent in measuring the variables studied.

Furthermore, discriminant validity testing using the Fornell-Larcker criteria and cross-loading showed that each construct had the highest correlation value with its own

indicator compared to other constructs. This indicates that each variable has distinct and non-overlapping characteristics.

### **Structural Model Evaluation (Inner Model)**

The results of the structural model test show that the R-Square ( $R^2$ ) value for the locus of control variable is 0.62. This means that 62% of the variation in locus of control can be explained by the green entrepreneurial and digital entrepreneurial variables, while the remaining 38% is influenced by other factors outside the model. Meanwhile, the R-Square value for the environmental-based entrepreneurial performance variable is 0.71. This indicates that 71% of the variation in entrepreneurial performance can be explained by green entrepreneurial, digital entrepreneurial, and locus of control, while 29% is influenced by other variables. The Q-Square ( $Q^2$ ) value obtained is 0.48, which indicates that the model has good predictive ability. In addition, the results of the multicollinearity test show that the VIF value of all variables is below 5, so there is no multicollinearity problem.

### **Hypothesis Testing**

Based on the SEM-PLS bootstrapping results, the following hypothesis testing results were obtained:

- a. Green entrepreneurship has a positive and significant effect on the performance of environmentally based entrepreneurs ( $\beta = 0.32$ ;  $p < 0.05$ ).
- b. Digital entrepreneurship has a positive and significant effect on the performance of environmentally based entrepreneurs ( $\beta = 0.29$ ;  $p < 0.05$ ).
- c. Green entrepreneurship has a positive and significant effect on locus of control ( $\beta = 0.41$ ;  $p < 0.05$ ).
- d. Digital entrepreneurship has a positive and significant effect on locus of control ( $\beta = 0.36$ ;  $p < 0.05$ ).
- e. Locus of control has a positive and significant effect on the performance of environmentally based entrepreneurs ( $\beta = 0.38$ ;  $p < 0.05$ ).
- f. Locus of control partially mediates the influence of green entrepreneurship on entrepreneurial performance ( $\beta = 0.16$ ;  $p < 0.05$ ).
- g. Locus of control partially mediates the influence of digital entrepreneurship on entrepreneurial performance ( $\beta = 0.14$ ;  $p < 0.05$ ).

These results indicate that all hypotheses in this study are accepted.

## **DISCUSSION**

### **1) The Influence of Green Entrepreneurship on Entrepreneurial Performance**

The research results show that green entrepreneurship has a positive and significant impact on the performance of environmentally-based businesses. This finding indicates that the higher an entrepreneur's orientation toward environmental sustainability, the better the business performance. Entrepreneurs who implement environmentally friendly innovations, resource efficiency, and the use of sustainable materials can improve their business image and consumer trust.

In practice, businesses that implement green principles tend to achieve higher customer loyalty and broader market access, particularly among environmentally conscious consumer segments. This demonstrates that environmental orientation is not only a form of social responsibility but also an effective business strategy.

### **2) The Influence of Digital Entrepreneurship on Entrepreneurial Performance**

Research findings indicate that digital entrepreneurship has a positive impact on entrepreneurial performance. The use of digital technologies, such as social media, e-commerce platforms, and digital payment systems, can improve operational efficiency and expand marketing reach.

Entrepreneurs with strong digital skills are more easily able to adapt to market changes and consumer behavior. Furthermore, digitalization enables businesses to conduct more accurate market analysis, enabling them to develop targeted marketing strategies.

### **3) The Influence of Green Entrepreneurship and Digital Entrepreneurship on Locus of Control**

The research results show that green entrepreneurship and digital entrepreneurship have a positive effect on locus of control. This suggests that active involvement in green innovation and the use of digital technology can increase entrepreneurs' confidence in their ability to control business success.

Entrepreneurs accustomed to navigating environmental and technological challenges tend to be independent, confident, and accountable for their business decisions. Therefore, experience in managing green and digital businesses contributes to establishing strong internal controls.

### **4) The Influence of Locus of Control on Entrepreneurial Performance**

Research shows that locus of control significantly influences entrepreneurial performance. Entrepreneurs with high levels of internal control tend to be more persistent, optimistic, and adaptive in the face of business risks and uncertainty.

Individuals with an internal locus of control are better able to manage stress, capitalize on opportunities, and continuously correct mistakes. This attitude has direct implications for increased productivity and business sustainability.

### **5) The Mediating Role of Locus of Control**

The results of the mediation test indicate that locus of control partially mediates the relationship between green entrepreneurship and digital entrepreneurship on entrepreneurial performance. This means that both independent variables not only directly influence performance but also do so through increased entrepreneurial self-control.

These findings indicate that business success is determined not only by business strategy and technology, but also by individual psychological factors. Therefore, strengthening character, motivation, and self-confidence are crucial aspects in developing environmentally-based entrepreneurship.

## **4. CONCLUSION**

Based on the analysis using Structural Equation Modeling (SEM), this study concludes that green entrepreneurship and digital entrepreneurship have a positive and significant effect on the performance of environmentally-based entrepreneurs. This indicates that the higher the green entrepreneurial orientation and digital capabilities possessed by entrepreneurs, the higher the business performance achieved, both in terms of financial, operational, and environmental sustainability. In addition, green entrepreneurship and digital entrepreneurship were also proven to have a significant effect on locus of control, indicating that involvement in environmentally friendly innovation and the use of digital technology can strengthen entrepreneurs' self-confidence in controlling the success of their businesses. Furthermore, locus of control has a positive effect on entrepreneurial performance and acts as a partial mediating variable in the relationship between green entrepreneurship and digital entrepreneurship on performance. Thus, improving the performance of environmentally-based entrepreneurs is not only determined by business strategy and technological capabilities, but also by individual psychological factors that strengthen decision-making and sustainable business resilience.

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