

# The Relationship between Market Orientation and Business Performance in Manufacturing Industry: The Mediating, Green Economy Strategy and Moderating, Dynamic Capabilities and Socially Responsible Leadership

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## Abstract

*Objectives: The purpose of this study is to examine the relationship between a market orientation that influences green economy strategies and the businesses performance in Thailand manufacturing industry. It also explores the role of mediating variables such as green economy strategies and moderating variables socially responsible leadership and dynamic capabilities. Methods: The population used in this study was a group of 622 businesses in the Thailand's manufacturing industry that have been certified to ISO 14001 environmental standards, a sample of 320 (Wiratchai, 1999). Using the PLS model, a three-stage approach was used for direct path, mediation effect analysis, and moderation effect analysis. Results: Green economy strategy (GES) has a direct positive effect on business performance (BP), Market orientation (MO) has a direct positive effect on business performance (BP), Market orientation (MO) has direct impact green economy strategy (GES), Dynamic capabilities (DC) has direct impact business performance (BP), Socially responsible leadership (SRL) has a direct impact green economy strategy (GES), Market Orientation (MO) impact business performance (BP), Dynamic capabilities (DC) has no influence on the relationship between green economy strategy (GES) and business performance (BP), and Socially responsible leadership (SRL) has no influence on the relationship between market orientation (MO) and green economy strategy (GES) Conclusions: In light of these findings, we discuss the theoretical and practical implications, limitations of the study. This study underscores the importance of green economy strategy contribute to business performance. Including causal factors that affect corporate green economy strategy.*

**Keywords:** *Green economy strategy, Business performance, Market orientation, Dynamic capabilities, Dynamic capabilities, Manufacturing Industry.*

## Introduction

Due to the degradation of natural resources and the environment, a significant global issue that inevitably affects the existence of living beings both directly and indirectly, there has been a shift in the production and consumption paradigm towards sustainable practices. This shift has also led to stricter environmental conservation agreements and regulations, which are increasingly influencing international trade. This can be seen from the introduction of regulations and business operation guidelines, forcing Thai entrepreneurs to rapidly adapt to comply with these regulations and meet the demands of environmentally conscious consumers, whose influence on the global trade economy is growing. The concept of the green economy, therefore, plays a significant role and is increasingly emphasized globally. A green economy is developed with consideration for environmental sustainability, the appropriate use of resources, recognizing their value, and the equitable distribution of wealth. It represents economy activities that aim to develop the economy, society, and environmental preservation in a balanced manner to ensure stability and sustainability. Businesses in various industries are now prioritizing management under the green economy concept, which involves the efficient use of resources coupled with efforts to protect the environment, benefitting the business through a positive community and social image. A business operating under the green economy concept generally adheres to the principles as follows: 1) caring for the environment and the overall ecosystem, 2) aiming to improve human well-being and quality of life in society, and 3) focusing on energy and resource efficiency (National Science and Technology Development Agency, 2019). From the literature review, it was found that green economy strategies have an influence on organizational performance, such as: Liu et al. (2024) has studied the impact of green innovation on corporate

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performance: an analysis based on substantive and strategic green innovations. Found that substantive and strategic green innovations significantly impact firms' financial and environmental performance. Specifically, substantive green innovation leads to a significant improvement in financial performance. Corresponds to Luo et al. (2023) has studied the impact of green innovation strategy on the performance of new venture, mediating of organizational learning ability. Found that green innovation strategy has a significant positive impact on the performance improvement of new ventures. The research indicates that this proactive environmental strategy enhances business performance, with organizational learning capability serving as a mediating factor in the relationship between green innovation strategy and new venture performance. This synthesis of literature leads to hypothesis. Factors that lead to the determination of the organization's creative economy strategy include: market orientation, socially responsible leadership, and dynamic capabilities. Corresponds to Abrokwah-Larbi (2022) found that customer-focus has a positive and significant relationship with financial performance, customer performance, internal business process performance and learning and growth performance, thus supporting the literature on the positive impact of customer-focus on SME performance. Therefore, customer-focus determinants used in this study, including co-creation, networking ties, customer insight and artificial intelligence marketing (AIM), are critical to the optimization of SME performance. Leyva-Tapia (2024) indicates that dynamic capabilities significantly affect business performance by enhancing organizations' adaptability to technological changes. The study identified that high-performance organizations effectively manage capabilities such as opportunity sensing, seizing, organizational transformation, and resource reconfiguration. These organizations quickly adopt new technologies and reconfigure resources, leading to improved performance. Al-Amin (2021) found that socially responsible leaders, particularly those exhibiting ecocentric leadership, significantly influence green strategies within organizations. They motivate employees to achieve environmental goals and inspire them to engage in voluntary environmental behavior beyond expected levels.

From the above importance, it was studied the relationship between market orientation and business performance in manufacturing industry: the mediating, green economy strategy and moderating, dynamic capabilities and socially responsible leadership. The purpose of this study is to examine the relationship between a market orientation that influences green economy strategies and the businesses performance in Thailand manufacturing industry. It also explores the role of mediating variables such as green economy strategies and moderating variables socially responsible leadership and dynamic capabilities. The research results will contribute to academic benefits by investigating the relationship between market orientation, green strategies, and business performance, with dynamic capabilities and socially responsible leadership as moderating variables. Additionally, the findings will be useful in management practices to promote market orientation and the development of green economy strategies that lead to improved organizational performance.

## Literature Review and Hypothesis

### *Concept of green economy strategy (GES)*

Green Economic is an economic system that affects the improvement of human livelihood and social equality. Meanwhile, it significantly reduces the risk of environmental harm and ecological scarcity by means of less carbon use and less carbon emission methods, effective use of resources and cooperation of people in the society (UNEP, 2011). Green economy is a resilient economy that provides a better quality of life for all within the ecological limits of the planet (Green Economy Coalition, 2010), and the International Chamber of Commerce defines green economy as an economy in which economic growth and environmental stability work together in a mutually reinforcing fashion while supporting progress on social development (International Chamber of Commerce, 2012). In addition, OECD (2011) defines green growth as fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which people well-being relies. Green growth is good economic progress for the environment on the basis of low greenhouse gas emissions and social participation support (UNESCAP, 2012). Green business means the efficient use of all resources together with efforts to protect the environment, which also benefits the business and produces a friendly image to

society and communities that deserve to receive better management. In summary, latent variables in green economy consist of 3 observed variables, namely, 1) concern for the environment and ecosystem as a whole, 2) the goal to improve the livelihood and to elevate the quality of life of people in society, 3) emphasis placed on the efficacy of energy and resources use (National Science and Technology Development Agency, 2019).

#### *Concept of market orientation (MO)*

Market orientation is the concept of responding to customer needs and satisfaction by shaping the behavior of personnel within an organization to create added value for customers, resulting in superior performance over competitors that maximizes customer satisfaction. Market pressure may arise from customers and consumers, especially the environmental movement, which encourages consumers to pay more attention to environmental protection. Market orientation involves systematically gathering customer and competitor information, analyzing that data to develop market knowledge, and using it to define strategies, create understanding, design, select, and adapt to respond to customers and competitors (Hunt & Morgan, 1995). The studies by Narver & Slater (1990); Rhee (2006) concluded that the components of market orientation can be categorized into three areas: customer orientation, competitor orientation, and inter-functional coordination. These components lead to the creation of activities between organizational units in terms of information that can respond to customer satisfaction, competitor performance analysis, and the importance of coordination among employees in the organization.

#### *Concept of dynamic capabilities (DC)*

Dynamic capabilities are recognize and consider changes in both internal and external business environments. These changes result from technological advancements, intense competition, and ongoing competitive challenges. This concept encompasses the following components: 1) Sensing Capability: The ability to perceive opportunities arising from changes, leading to an understanding of how to transition and develop new capabilities to respond to these opportunities (Teece, 2007). 2) Seizing Capability: The ability to select and align resources with emerging opportunities. This involves reflecting on past lessons and transforming them into improved knowledge that is specific and aligned with the changing opportunities. 3) Adaptive Capability: The dynamic capability to monitor external organizational conditions, including competitors, customers, and technology, and to introduce products or services to the market. This also involves managing existing resources effectively to quickly respond to emerging opportunities. Numerous empirical studies highlight the characteristics of dynamic capabilities, which are essential for developing the dynamic capabilities framework (Wang & Ahmed, 2007).

#### *Concept of socially responsible leadership (SRL)*

Socially responsible leadership integrates the theory of transformational leadership with awareness and attention to society and the environment. Being a socially responsible leader involves using personal behavior and both the science and art of creating a vision, motivating, influencing, and fostering positive behavior and thoughts in followers while being conscious of social and environmental responsibility. This leadership style aims to achieve the organization's ultimate environmental goals (Flannery & May, 1994; Berry & Gordon, 2012). Socially responsible leadership is a leadership style based on values that emphasize social responsibility, similar to responsible leadership, which is a moral and social phenomenon driven by the moral scandals in management, corporate greed, and the impact on human life from management. On the other hand, it also stems from the recognition that multinational corporations and their leaders have immense potential to make the world a better place (Pless, 2007).

#### *Concept of business performance (BP)*

Kaplan and Norton authored an article titled "The Balanced Scorecard: Measures that Drive Performance," published in the Harvard Business Review in 1992. In this article, they introduced the concept of measuring organizational performance through a balanced scorecard, a tool for assessing performance that goes beyond financial metrics. It includes non-financial measures such as customer satisfaction, internal business

processes, innovation, and learning. Since its introduction, the balanced scorecard has gained widespread popularity and success in performance measurement across various industries. The Balanced Scorecard comprises four key perspectives: 1) Financial Perspective: This answers the question, “How should we treat our shareholders to achieve financial success?” 2) Customer Perspective: This focuses on how customers perceive the organization and whether it can deliver the value that target customers demand. 3) Internal Business Perspective: This evaluates the internal processes that are critical for delivering value and meeting customer needs. It asks, “What are the key internal processes we must excel at to satisfy our customers?” 4) Learning and Growth Perspective: This considers how the organization can continuously improve and create value, ensuring it achieves its vision by fostering innovation and learning. (Kaplan & Norton, 2004)

#### *Relationship between green economy strategy (GES) and business performance (BP)*

Liu et al. (2024) has studied the impact of green innovation on corporate performance: an analysis based on substantive and strategic green innovations. Found that substantive and strategic green innovations significantly impact firms’ financial and environmental performance. Specifically, substantive green innovation leads to a significant improvement in financial performance. Corresponds to Luo et al. (2023) has studied the impact of green innovation strategy on the performance of new venture, mediating of organizational learning ability. Found that green innovation strategy has a significant positive impact on the performance improvement of new ventures. The research indicates that this proactive environmental strategy enhances business performance, with organizational learning capability serving as a mediating factor in the relationship between green innovation strategy and new venture performance. This synthesis of literature leads to hypothesis.

Hypothesis H1: Green economy strategy (GES) has a direct positive effect on business performance (BP)

#### *Relationship between market orientation (MO) and business performance (BP)*

Abrokwah-Larbi (2022) has studied the impact of customer-focus on the performance of business organizations: evidence from SMEs in an emerging West African economy. The results show that customer-focus has a positive and significant relationship with financial performance, customer performance, internal business process performance and learning and growth performance, thus supporting the literature on the positive impact of customer-focus on SME performance. Therefore, customer-focus determinants used in this study, including co-creation, networking ties, customer insight and artificial intelligence marketing (AIM), are critical to the optimization of SME performance. Corresponds to Puspaningrum (2020) has studied market orientation, competitive advantage and marketing performance of small medium enterprises (SMEs). The results show that SMEs’ performance will increase if they can carry out processes and activities related to creating and satisfying customer needs. Besides, market-oriented SMEs contribute to competitive advantage by creating product uniqueness, product quality, and competitive prices, ultimately affecting the performance of SMEs. In order to improve SMEs’ performance, efforts must be made to develop marketing strategies, such as paying attention to market orientation, focusing on customer orientation, competitor orientation, and inter- functional coordination, and developing or innovating new products. This synthesis of literature leads to hypothesis.

Hypothesis H2: Market orientation (MO) has a direct positive effect on business performance (BP)

#### *Relationship between market orientation (MO) and green economy strategy (GES)*

Mansour et al. (2024) has studied developing green marketing strategies: a comprehensive analysis of consumer behaviour and business practices. The research indicates that market focus significantly influences green marketing strategies. Companies like Nike, Starbucks, Toyota, Apple, and Microsoft adopt varied approaches based on their target consumers’ environmental concerns and purchasing behaviors. While 70% of consumers consider environmental impact, only 45% are willing to pay a premium for green products. This disparity highlights the necessity for businesses to align their green strategies with consumer expectations and transparency to build trust and enhance brand loyalty, ultimately supporting sustainable development goals. Corresponds to Mourya & Verma (2024) has studied a comprehensive examination of

green marketing strategy implementation across diverse companies. The research indicates that market focus significantly influences the implementation of green marketing strategies. Companies that target eco-conscious consumers are more likely to adopt green practices, as these strategies align with customer values and preferences. This synthesis of literature leads to hypothesis.

Hypothesis H3: Market orientation (MO) has a direct positive effect on green economy strategy (GES)

*Relationship between dynamic capabilities (DC) and business performance (BP)*

Leyva-Tapia (2024) has studied dynamic capabilities in the industry and their impact on the introduction of technologies. The research indicates that dynamic capabilities significantly affect business performance by enhancing organizations' adaptability to technological changes. The study identified that high-performance organizations effectively manage capabilities such as opportunity sensing, seizing, organizational transformation, and resource reconfiguration. These organizations quickly adopt new technologies and reconfigure resources, leading to improved performance. Corresponds to Thi Yen Lieu (2024) has studied research model on the relationship between dynamic capabilities and business performance through the mediating variable of business model innovation: the case of enterprises in Binh Duong province. The study identified that Dynamic capabilities significantly affect business performance by enhancing business model innovation. The study highlights that elements such as absorptive capability, technological capability, adaptive capability, innovative capability, and knowledge management capability directly influence business model innovation. This synthesis of literature leads to hypothesis.

Hypothesis H4: Dynamic capabilities (DC) has a direct positive effect on business performance (BP)

*Relationship between socially responsible leadership (SRL) and green economy strategy (GES)*

Al-Amin (2021) has studied responsible human resource management and voluntary environmental behavior: the moderating effect of ecocentric Leadership. Found that socially responsible leaders, particularly those exhibiting ecocentric leadership, significantly influence green strategies within organizations. They motivate employees to achieve environmental goals and inspire them to engage in voluntary environmental behavior beyond expected levels. Corresponds to Ting et al. (2024) has studied how can organizational leadership promote environmental behaviors through corporate social responsibility policy adoption?: the moderating role of environmental awareness. Found that socially responsible leaders significantly influence the adoption of green strategies within organizations. The research highlights that top management teams, through their leadership, can promote corporate social responsibility policies that encourage employees to engage in environmental behaviors. The research highlights that managerial support is crucial in translating green initiatives and corporate social responsibility commitments into sustainable outcomes. Socially responsible leaders play a significant role in fostering an organizational culture that prioritizes green practices, thereby influencing the adoption of eco-friendly strategies. By aligning green initiatives with CSR objectives, these leaders can enhance sustainable business performance, demonstrating that effective leadership is integral to the successful implementation of environmentally sustainable strategies within the service sector. This synthesis of literature leads to hypothesis.

Hypothesis H5: Socially responsible leadership (SRL) has a direct positive effect on green economy strategy (GES)

*Market Orientation (MO) has a direct positive effect on business performance (BP) through the mediation of green economy strategy (GES)*

Francis Peris et al. (2020) has studied green market orientation positively mediate the relation between green entrepreneurial orientation impact on environmental performance. studies where market orientation moderate and mediate the relationship between entrepreneurial orientation and business performance positively (Amin et al., 2016; Hussain et al., 2017; Vega-Vázquez et al., 2016). So as per resource-based view theory by focusing on green practice and action as a major resource of the organization, there is a possibility



to have significant relation among green entrepreneurial orientation, green market orientation, and business performance both financially and environmentally. Corresponds to Ngo (2024) has studied the impact of green market orientation and ambidextrous green innovation on organizational performance: empirical study on small restaurants in vietnam. The study indicates that green market orientation (GMO) has a direct positive effect on organizational performance (OP) in small restaurants, with ambidextrous green innovation (GI) serving as a mediator in this relationship. By aligning business operations toward sustainability, GMO enhances GI, which in turn contributes to improved OP. This research highlights the importance of integrating green strategies to foster innovation and achieve sustainable competitive advantages. This synthesis of literature leads to hypothesis.

Hypothesis H6: Market Orientation (MO) has a direct positive effect on business performance (BP) through the mediation of green economy strategy (GES)

*Dynamic capabilities (DC) has influence on the relationship between green economy strategy (GES) and business performance (BP)*

Begum & Swamy (2024) has studied harnessing green intellectual capital for sustainable development: the dynamic capabilities approach to environmental policy. Found that dynamic capabilities play a crucial mediating role in the relationship between green intellectual capital (GIC) and business sustainability in the Indian hotel industry. Consistent with Li (2022) finding green dynamic capability significantly influences the relationship between green innovation and enterprise performance. The study indicates that green dynamic capability, which includes green resource integration ability, organizational learning capability, and environmental insight capability, plays a moderating role in this relationship. This means that the effectiveness of green innovation in enhancing enterprise performance is strengthened by the presence of strong green dynamic capabilities within the organization, thereby directing the impact of the green strategy on performance outcomes. This synthesis of literature leads to hypothesis.

Hypothesis 7: Dynamic capabilities (DC) has influence on the relationship between green economy strategy (GES) and business performance (BP)

*Socially responsible leadership (SRL) has influence on the relationship between market orientation (MO) and green economy strategy (GES)*

Silva, & Coutinho (2023) has studied social responsibility as a strategy in business management. The paper discusses corporate social responsibility (CSR) as a crucial management tool that influences business strategies, including market focus and environmental preservation. It highlights that adopting a green strategy aligns with CSR principles, enhancing a company's reputation and customer loyalty. By prioritizing social responsibility, businesses can effectively integrate environmental concerns into their market strategies, ultimately benefiting both society and the organization. Thus, CSR serves as a variable that directs the relationship between market focus and green strategy. Hsu & Chen (2023) has studied the relationship between corporate social responsibility, external orientation, and environmental performance. The paper explores the relationship between corporate social responsibility (CSR) and environmental performance, indicating that CSR can influence how green strategies are implemented within organizations. It suggests that a strong external orientation, which includes CSR, enhances the effectiveness of green strategies, ultimately leading to improved organizational performance. Thus, social responsibility acts as a mediating variable that directs the relationship between green strategies and organizational performance, emphasizing the importance of integrating CSR into strategic planning for better outcomes.

From the study of these theories, the researcher developed a conceptual framework to illustrate the relationships between all variables and links them to hypotheses, as shown in the figure 1.

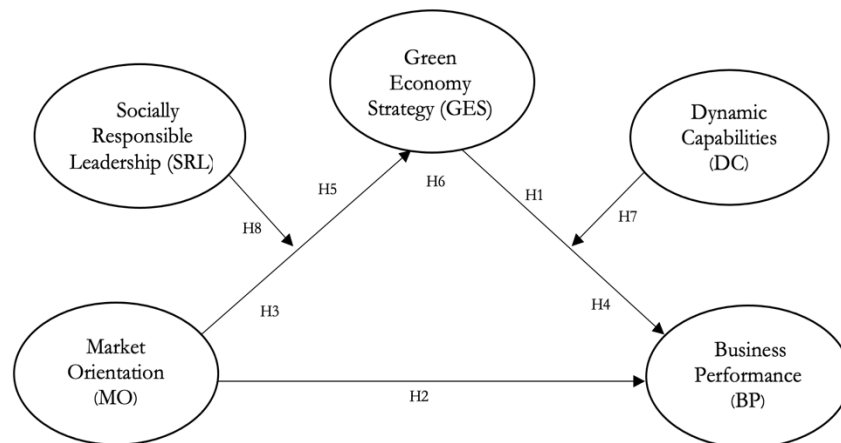


Figure 1 Conceptual Framework Showing Proposed Hypothesis

## Research Methodology

### *Data Collection and Sampling*

The population used in this study was a group of 622 businesses in the Thailand's manufacturing industry that have been certified to ISO 14001 environmental standards. (List of organizations that have received ISO 14001 environmental management system certification., Thai Industrial Standards Institute (TISI), 2023). This research used a postal data collection questionnaire, which has a response rate constraint to provide a good representation of information (Panayides, 2007). The researcher therefore studied the entire population. Determination of samples using G\*Power software, a program created with Cohen (1977) found that total sample size was 89 sample. By defining the sample of the analysis causal structural models with latent variable. Wiratchai, (1999) suggested that the appropriate sample size should be 1 observed variable per 10 - 20 times or the least acceptable sample can be determined by the Holster statistic, which must be greater than 200 (Hoelter, 1983). Therefore, it is considered that the causal relationship model is consistent with the empirical data. This study received 320 responses, which is 51.4 percent of all questionnaires and is a sufficient sample size for structural equation analysis.

### *Measure of Constructs*

The development and validation of instruments involved the use of a questionnaire designed based on the intended conceptual framework and operational definitions. The questionnaire is divided into 6 sections: Section 1 consists of questions related to personal information, utilizing both checklist formats. Section 2 relates to green economy strategy, including (1) concern for the environment and ecosystem as a whole (2) the goal to improve the livelihood and to elevate the quality of life of people and (3) emphasis placed on the efficacy of energy and resources use. Section 3 relates to market orientation, including (1) maintaining old customer base and (2) seeking new customers. Section 4 relates to dynamic capabilities, including (1) adaptive capability (2) absorptive capability and (3) innovative capability. Section 5 relates to socially responsible leadership, including of (1) green leadership vision, (2) environmental attitude, and (3) values. Section 7 relates to business performance, including of (1) financial perspective (2) customer perspective (3) process perspective, and (4) learning and growth perspective. Variables of section 2 – 7 using a 5-point Likert-type scale (1 = not at all, 5 = very much), and validated questionnaires from previous studies were modified and adapted to fit the context of this study.

### *Data Analysis*

To validate the proposed research model, we used partial least squares structural equation modeling (PLS-SEM, also referred to as composite-based structural equation modeling). Generally, PLS is frequently

utilized in exploratory studies as it necessitates a more conservative interpretation of results compared to traditional VB-SEM (Hair et al. 2017). A PLS path model analysis was conducted using SmartPLS (v.4, SmartPLS GmbH, Bönningstedt, Germany). First, confirmatory factor analysis was performed to eliminate all items with a value below the 0.7 threshold. Next, the internal consistency, reliability, and validity of the theoretical model were assessed with the remaining items. Finally, the structural model was estimated, and the proposed model was verified. To evaluate reliability, Cronbach's alpha and composite reliability were utilized, while convergent validity was assessed. The average variance extracted (AVE) was examined to ensure it exceeded the 0.5 threshold. Additionally, discriminant validity was analyzed by comparing the correlation value and the square root of AVE to determine if the square root of AVE was greater than the correlation value between the latent variables. The comprehensive research hypothesis test was conducted using bootstrapping (5,000 iterations, 95% significance level) with the PLS algorithm.

## Results

### *Evaluation of the Measurement Model*

Analysis results descriptive statistic, normality assessment, and validity variables as shown in the table 1 shows that data from all observed variables have a normal distribution. This is because the values of skewness (Skewness) and kurtosis (Kurtosis) are close to 0, which if considered from the criteria of Schumocker saw that both values were not more than  $\pm 1.00$  and  $\pm 1.50$  respectively, indicating that the data collected were suitable data for analysis with parametric statistics. For the convergent validity of the latent variables based on the average of the extracted variables (AVE), it was found that every latent variable had a value higher than 0.50 (Henseler et al, 2015). Therefore, it can be concluded that Every scalable variable of the variable model is valid in its own use as a latent variable. And when considering confidence (reliability) by considering the Cronbach's alpha coefficient ( $\alpha$ ), component reliabilities (Composite reliability), both PA and PC, all latent variables have all reliabilities higher than 0.70 (Henseler et al. 2015). Therefore it can be concluded that The observed variables used to measure each latent variable have high internal relationships and are suitable for explaining the latent variable well.

Table 1 Descriptive statistic, Normality assessment, and Validity of variables

| Validity                              | Mean  | SD.   | kurtosis | Skewness | Loading | R-sq  | Conbach's alpha | PA    | PC    | AVE   |
|---------------------------------------|-------|-------|----------|----------|---------|-------|-----------------|-------|-------|-------|
| Market Orientation (MO)               |       |       |          |          |         |       | 0.852           | 0.886 | 0.91  | 0.772 |
| MO1                                   | 3.981 | 0.388 | 3.076    | 0.185    | 0.918   | 0.842 |                 |       |       |       |
| MO2                                   | 3.993 | 0.390 | 3.275    | 0.261    | 0.792   | 0.627 |                 |       |       |       |
| MO3                                   | 3.967 | 0.366 | 4.474    | -0.400.  | 0.920   | 0.846 |                 |       |       |       |
| Socially responsible leadership (SRL) |       |       |          |          |         |       | 0.838           | 0.856 | 0.903 | 0.756 |
| SRL1                                  | 3.845 | 0.504 | 0.351    | -0.275   | 0.891   | 0.793 |                 |       |       |       |
| SRL2                                  | 3.946 | 0.498 | 0.95     | -0.149   | 0.909   | 0.826 |                 |       |       |       |
| SRL3                                  | 3.972 | 0.491 | 1.130.   | -0.083   | 0.806   | 0.649 |                 |       |       |       |
| Dynamic Capabilities (DC)             |       |       |          |          |         |       | 0.860           | 0.862 | 0.916 | 0.784 |
| DC1                                   | 3.983 | 0.491 | 1.095    | -0.043   | 0.92    | 0.846 |                 |       |       |       |
| DC2                                   | 4.005 | 0.521 | 0.674    | -0.038   | 0.921   | 0.848 |                 |       |       |       |
| DC3                                   | 4.093 | 0.492 | 0.915    | 0.190    | 0.812   | 0.65  |                 |       |       |       |
| Green Economy Strategy (GES)          |       |       |          |          |         |       | 0.858           | 0.891 | 0.913 | 0.778 |
| GES 1                                 | 4.078 | 0.461 | 1.070.   | 0.087    | 0.953   | 0.908 |                 |       |       |       |
| GES 2                                 | 3.904 | 0.481 | 0.856    | 0.281    | 0.877   | 0.769 |                 |       |       |       |
| GES 3                                 | 4.201 | 0.44  | 0.337    | 0.773    | 0.811   | 0.657 |                 |       |       |       |
| Business Performance (BP)             |       |       |          |          |         |       | 0.855           | 0.859 | 0.902 | 0.699 |
| BP1                                   | 3.795 | 0.533 | -0.059   | -0.146   | 0.774   | 0.599 |                 |       |       |       |
| BP2                                   | 4.005 | 0.477 | 1.449    | 0.014    | 0.839   | 0.703 |                 |       |       |       |
| BP3                                   | 4.088 | 0.469 | 1.335    | 0.286    | 0.901   | 0.811 |                 |       |       |       |
| BP4                                   | 4.112 | 0.479 | 1.035    | 0.306    | 0.825   | 0.680 |                 |       |       |       |



Note. AVE, average variance extracted; CR, composite reliability; CA, Cronbach's alpha.  $p < .001$ .

From the analysis to assess discriminant validity between latent variables by Fronell-Larcke method (Fornell & Larcker, 1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50. The results of the analysis appear in table 2. Shows that Relationships between latent variables (Cross-latent variables) have values no higher than the diagonal values. (The square root of the AVE of the latent variable). Therefore, it can be concluded that all latent variables have discriminant validity.

Table 2 Discriminant validity

| Fronell-Larcker criterion |       |       |       |       |       |
|---------------------------|-------|-------|-------|-------|-------|
| Variables                 | MO    | SRL   | DC    | GES   | BP    |
| MO                        | 0.878 |       |       |       |       |
| SRL                       | 0.585 | 0.870 |       |       |       |
| DC                        | 0.603 | 0.780 | 0.886 |       |       |
| GES                       | 0.425 | 0.384 | 0.296 | 0.882 |       |
| BP                        | 0.600 | 0.547 | 0.579 | 0.383 | 0.836 |

### *Evaluation of the Structural Model*

Analysis results to assess the predictive relevance. A Q<sup>2</sup>-value greater than 0 for a specific endogenous latent variable indicates that the PLS path model possesses strong predictive relevance for that latent variable. As demonstrated in Table 3, the cross-validated redundancy of the latent variables indirectly forecasts the endogenous item based on the prediction of the corresponding latent variable utilized in the structural model. The predictive relevance for the resistance latent variables GES was all classified as 'medium' (Q<sup>2</sup> > 0.15), BP was all classified as 'high' (Q<sup>2</sup> > 0.35). The cross-validated commonality of latent variables evaluates the path model directly from the latent variables, by latent variables MO, SRL, DC, and BP exhibited high (Q<sup>2</sup> > 0.35), except GES was all classified as 'medium' (Q<sup>2</sup> > 0.15).

Analysis results to predictive power, verifying that the model had substantial predictive power. In this study, the overall goodness-of-fit (GOF) of the structural model is assessed by calculating the square root of the product of the mean coefficient of determination (R<sup>2</sup>) and the mean communality (AVE value). A GOF value of 0.516 was obtained. In PLS-PM analysis, the GOF is typically employed to evaluate the overall model fit. A higher GOF value indicates a better model fit; a GOF between 0.1 and 0.25 signifies a low model fit, a GOF between 0.25 and 0.36 indicates a medium model fit, and a GOF of 0.36 or higher represents a high model fit (Tenenhaus, Vinzi, Chatelin, & Lauro, 2005). As shown in Table 3, all GOF indices exceeded the threshold, leading to the conclusion that the structural fit of this research model was excellent. As shown in Table 4, all GOF indices exceeded the threshold, leading to the conclusion that the structural fit of this research model was excellent.

Table 3 Predictive relevance (Q-sq)

|     | Cross-validated redundancy Q-sq | Cross-validated communality Q-sq |
|-----|---------------------------------|----------------------------------|
| MO  |                                 | 0.468                            |
| SRL |                                 | 0.618                            |
| DC  |                                 | 0.639                            |
| GES | 0.186                           | 0.189                            |
| BP  | 0.416                           | 0.425                            |

Note. Low (Q<sup>2</sup> > 0), medium (Q<sup>2</sup> > 0.15) and high (Q<sup>2</sup> > 0.35).

Table 4 Goodness-of-Fit (GOF) results

| Variables | AVE   | R-sq |
|-----------|-------|------|
| MO        | 0.772 |      |

|                        |              |       |
|------------------------|--------------|-------|
| SRL                    | 0.756        |       |
| DC                     | 0.784        |       |
| GES                    | 0.778        | 0.241 |
| BP                     | 0.699        | 0.463 |
| Mean value             | 0.758        | 0.352 |
| Multiply of mean value | 0.267        |       |
| <b>GOF</b>             | <b>0.516</b> |       |

Note. AVE, average variance extracted. GOF = low (0.10 - 0.02), medium (0.25 - 0.36) and high (> 0.36).

### *Path Analysis and Hypothesis Testing*

Examining the significance of path coefficients between the latent variables in the structural model. To determine significance, we generated a bootstrap subsample (5,000) in PLS and utilized the t-value and p-value to test if the path coefficient  $\beta$  is statistically significant at a 5% error probability. As displayed in figure 2 and table 5, it was found that GES has a direct impact BP, MO has direct impact BP, MO has direct impact GES, DC has a direct impact BP, and SRL has a direct impact GES (H1, H2, H3, H4, H5) were deemed statistically significant, the hypothesis is supported. The results of the mediation influence test found that, the hypothesis that MO impact BP through the mediation of GES (H6) was supported. Results of the influence test found that, DC has no influence on the relationship between GES and BP, and SRL has no influence on the relationship between MO and GES (H7, H8) were not supported. Moreover, when considering the f-sq that reflects the magnitude of influence that the causal variable has on the dependent variable, it can be seen that (1) the BP variable is affected by a small magnitude from the GES variable. (2) The BP variable was affected by a high magnitude from the DC variable. (3) The GES variable was affected by a small magnitude from the SRL variable. (Cohen, 1988) Considering the variance of internal variables that are explained by cause variables (R-sq), it is found that GES and BP variables have 24.1 and 45.0 percent of the variance, respectively.

Table 5 Results of path analysis and hypothesis testing

| H  | Path            | B     | STDEV | t-test | P value | f-sq  | Supported |
|----|-----------------|-------|-------|--------|---------|-------|-----------|
| H1 | GES -> BP       | 0.140 | 0.062 | 2.256  | 0.024   | 0.043 | Yes       |
| H2 | MO -> BP        | 0.340 | 0.077 | 4.385  | 0.000   | 0.091 | Yes       |
| H3 | MO -> GES       | 0.338 | 0.084 | 4.011  | 0.000   | 0.097 | Yes       |
| H4 | DC -> BP        | 0.332 | 0.068 | 4.898  | 0.000   | 0.121 | Yes       |
| H5 | SRL -> GES      | 0.204 | 0.071 | 2.864  | 0.004   | 0.036 | Yes       |
| H6 | MO -> GES -> BP | 0.117 | 0.028 | 1.969  | 0.047   |       | Yes       |
| H7 | DC x GES -> BP  | 0.001 | 0.038 | 0.026  | 0.979   | 0.005 | No        |
| H8 | SRL x MO -> GES | 0.111 | 0.064 | 1.750  | 0.080   | 0.042 | No        |

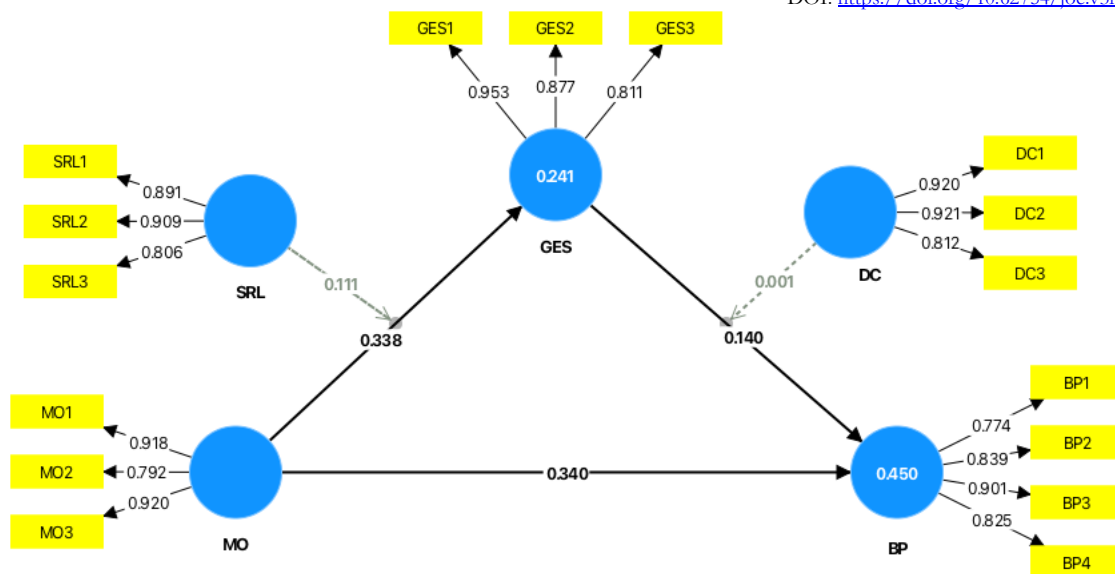


Figure 2 Measurement Model

## Discussion

### *Discussion of the findings*

The relationship between market orientation and business performance in manufacturing industry: The mediating, green economy strategy and moderating, dynamic capabilities and socially responsible leadership. The results of the study are as follows.

1) Green economy strategy (GES) has a direct positive effect on business performance (BP). Consistent to Liu et al. (2024) found that substantive and strategic green innovations significantly impact firms' financial and environmental performance. Specifically, substantive green innovation leads to a significant improvement in financial performance. And Luo et al. (2023) found that this proactive environmental strategy enhances business performance, with organizational learning capability serving as a mediating factor in the relationship between green innovation strategy and new venture performance.

2) Market orientation (MO) has a direct positive effect on business performance (BP). Consistent to Abrokwah-Larbi (2022) found that customer-focus has a positive and significant relationship with financial performance, customer performance, internal business process performance and learning and growth performance. As well as Puspaningrum (2020) found that SMEs' performance will increase if they can carry out processes and activities related to creating and satisfying customer needs.

3) Market orientation (MO) has direct impact green economy strategy (GES). Consistent to Mansour et al. (2024) found that market focus significantly influences green marketing strategies. Companies like Nike, Starbucks, Toyota, Apple, and Microsoft. As well as Mourya & Verma (2024) found that market focus significantly influences the implementation of green marketing strategies. Companies that target eco-conscious consumers are more likely to adopt green practices, as these strategies align with customer values and preferences.

4) Dynamic capabilities (DC) has direct impact business performance (BP). Consistent to Leyva-Tapia (2024) found that high-performance organizations effectively manage capabilities such as opportunity sensing, seizing, organizational transformation, and resource reconfiguration. These organizations quickly adopt new technologies and reconfigure resources, leading to improved performance. And Thi Yen Lieu (2024) found that dynamic capabilities significantly affect business performance by enhancing business model innovation. The study highlights that elements such as absorptive capability, technological capability,

adaptive capability, innovative capability, and knowledge management capability directly influence business model green innovation.

5) Socially responsible leadership (SRL) has a direct impact green economy strategy (GES). Consistent to Al-Amin (2021) found that socially responsible leaders, particularly those exhibiting ecocentric leadership, significantly influence green strategies within organizations. As well as Ting et al. (2024) found that socially responsible leaders significantly influence the adoption of green strategies within organizations. The research highlights that managerial support is crucial in translating green initiatives and corporate social responsibility commitments into sustainable outcomes.

6) Market Orientation (MO) impact business performance (BP). through the mediation of green economy strategy (GES). Consistent to Francis Peris et al. (2020) found that market orientation moderate and mediate the relationship between entrepreneurial orientation and business performance positively. So as per resource-based view theory by focusing on green practice and action as a major resource of the organization, there is a possibility to have significant relation among green entrepreneurial orientation, green market orientation, and business performance both financially and environmentally. And Ngo (2024) found that green market orientation has a direct positive effect on organizational performance in small restaurants, with ambidextrous green innovation serving as a mediator in this relationship.

7) Dynamic capabilities (DC) has no influence on the relationship between green economy strategy (GES) and business performance (BP). The interaction between the independent variable (GES) and the moderating variable (DC) on the dependent variable (BP) was not statistically significant. This shows that the business performance (BP) of manufacturing industry businesses is driven by green economy strategy (GES) and Dynamic capabilities (DC) separately. This is not the result of the combined influence of green economy strategy (GES) and Dynamic capabilities (DC). Therefore, business executives in the manufacturing industry focusing on business performance should give importance to both green economy strategy and Dynamic capabilities simultaneously. Which the results of this research are not consistent with Begum & Swamy (2024) found that dynamic capabilities play a crucial mediating role in the relationship between green intellectual capital (GIC) and business sustainability in the Indian hotel industry. And Li (2022) finding green dynamic capability significantly influences the relationship between green innovation and enterprise performance.

8) Socially responsible leadership (SRL) has no influence on the relationship between market orientation (MO) and green economy strategy (GES). The interaction between the independent variable (MO) and the moderating variable (SRL) on the dependent variable (GES) was not statistically significant. This shows that the Green Economy Strategy (GES) of manufacturing industry businesses is driven by market focus (MO) and socially responsible leadership (SRL) separately. This is not the result of the combined influence of market focus (MO) and socially responsible leadership (SRL). Therefore, business executives in the manufacturing industry focusing on green economy strategies leading to positive organizational performance should give importance to both market orientation and socially responsible leadership simultaneously. Which the results of this research are not consistent with Silva, & Coutinho (2023) found that corporate social responsibility as a crucial management tool that influences business strategies, including market focus and environmental preservation. It highlights that adopting a green strategy aligns with CSR principles, enhancing a company's reputation and customer loyalty.

### **Implications of the Research**

The implications of this research can be divided into theoretical and managerial perspectives. The overall discussion can be as follows.

First, this study expands the scope of green economy strategy research by examining how market orientation factors and socially responsible leadership factors influence green economy strategy. Examining how green economy strategy factors influence business performance in Manufacturing Industry. Including knowing the role of the mediating and moderating.

Second, this study expands the scope of green economy strategy research by examining how green economy strategy factors influence business performance. The research results found that green economy strategy has a direct positive effect on business performance. Therefore, business executives in the manufacturing industry focusing on business performance should give importance to green economy strategies. Green

economy strategy include (1) concern for the environment and ecosystem as a whole, (2) the goal to improve the livelihood and to elevate the quality of life of people in society, (3) emphasis placed on the efficacy of energy and resources use.

Third, this study expands the scope of green economy strategy research by examining how market opportunity factors socially responsible leadership factor influence green economy strategy. The research results found that market orientation and socially responsible leadership were direct impact green economy strategy, market orientation has a direct positive effect on business performance. In addition market orientation impact business performance through the mediation of green economy strategy. Therefore, business executives in the manufacturing industry focusing on green economy strategies leading to positive business performance should give importance to both market orientation and socially responsible leadership simultaneously. Market opportunity include (1) orientation, (2) competitor orientation, and (3) inter-functional coordination. Socially responsible leadership include (1) green leadership vision, (2) environmental attitude, and (3) values.

Fourth, this study expands the scope of business performance research by examining how dynamic capabilities factors influence business performance. The research results found that dynamic capabilities has a direct positive effect on business performance. Therefore, business executives in the manufacturing industry focusing on business performance should give importance to dynamic capabilities. Dynamic capabilities include 1) Sensing Capability, 2) Seizing Capability, and 3) Adaptive Capability

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