Journal of Infrastructure, Policy and Development 2025, 9(1), 7427.
https://doi.org/10.24294/jipd7427

Article

Value creation in the green dynamic marketing capability: The role of organizational learning and green innovation

Ignasius Heri Satrya Wangsa, Sulastri Sulastri*, Muchsin Saggaff Shihab, Yuliani Yuliani

Doctoral Program in Management, Faculty of Economics, Sriwijaya University, Palembang 30128, Indonesia
*** Corresponding author:** Sulastri Sulastri, sulastri@unsri.ac.id

CITATION

Wangsa IHS, Sulastri S, Shihab MS, Yuliani Y. (2025). Value creation in the green dynamic marketing capability: The role of organizational learning and green innovation. Journal of Infrastructure, Policy and Development. 9(1): 7427. https://doi.org/10.24294/jipd7427

ARTICLE INFO

Received: 25 June 2024
Accepted: 3 September 2024
Available online: 22 January 2025

Abstract: The global agreement on environmentally friendly policies puts pressure on businesses to implement good practices to increase legitimacy in a competitive environment. This research aims to examine business dynamic capabilities and value creation processes through the concept of green dynamic marketing capabilities. This concept addresses the ability of businesses to absorb, manage information and accumulate new knowledge that fuels innovative endeavors. The dynamic capability view and customer value theory are integrated to theoretically explain the value creation process of market-orientated innovative products. A total of 58 global companies in Clean200 were sampled. A quantitative approach was conducted to measure the effect of organizational learning (environment management team, environment management training, environment supply chain management) on green innovation (environmental innovation score, eco design product). The results showed that the contribution of Model-1 (0.473 or 47.3%) explained the effect of organizational learning on environmental innovation score, respectively on the variables of environment management team (2.859/0.005), environment management training (−2.971/0.003), and environment supply chain management (7.786/0.000). The contribution of Model-2 (0.448/44.8%) explains the effect of organizational learning on eco-design product, respectively on the variables of environment management team (4.280/0.000), environment management training (−6.401/0.000), and environment supply chain management (7.910/0.000). Model-3 tested the structural association variables in organizational learning and green innovation. A significant influence can be seen with a probability value smaller than 0.05. This research shows that the concept of green dynamic marketing capabilities can be used to explain the ability of businesses in response to the pressure of green global norms through the development of organizational learning towards creation of green innovation product that has impact on market performance. The implication of this research is the creation of new mindset in which green global norms challenge becomes an opportunity for businesses to improve competitiveness.

Keywords: organizational learning; green innovation; new mindset

1. Introduction

The UN Agenda 2030 contains a global agreement for best practices to implement sustainable values. In the environmental aspect, this agreement has consequences for business, namely: 1) internal organizational environmentally friendly good practices (Aftab et al., 2023; Amaya Rivas et al., 2022) in the form of strategic resource allocation accumulate green knowledge; 2) the accumulation of green knowledge forms an attitude for efforts to make environmentally friendly oriented innovations; 3) there is a process of value creation of innovative products following the dynamics of market competitiveness.

Strategic resource management is directed at improving business performance. The pressure of green global norms in the midst of an era of competition is a challenge that is then transformed into an opportunity (Awan et al., 2019; Azadnia et al., 2021; Eiadat et al, 2008) for improving business performance so that it has an impact on competitiveness. In modern business practice, marketing philosophy has been applied in the management of strategic resources. Therefore, business performance and its impact on competitiveness are the achievements of business progress applying the marketing concept, namely the creation of exchangeable value.

Value creation efforts (Muisyo et al., 2022; Runco, 2015; Song et al., 2021) are the development of organizational learning capacity through the management of human resources as agents of change. Agents of change perform the function of creative and innovative mindset. The resulting output is products that have novelty value. The application of the marketing concept in this context is the novelty values but of products that can be exchanged. Externally, value creation is oriented towards the ability of the business to respond to changes in the dynamic environment of the market.

Challenge-to-opportunity transformation in the context of green global norms is imperative for businesses to maintain their sustainability (Awan et al., 2019; Azadnia et al., 2021; Eiadat et al., 2008). The implementation of marketing concepts, in the challenge-to-opportunity transformation, is the main alternative to encourage business' competitiveness. The results of previous studies show lack of the study on the effectiveness of the implementation of marketing concepts, especially in the context of green global norm pressures associated with: 1) organizational learning; and 2) green innovation. This study discusses on how dynamic capabilities and customer value theories can explain green dynamic marketing capabilities, with a focus on the influence of organizational learning on green innovation.

Therefore, the research question (RQ) can be addressed as follow:

How can organizational learning and green innovation be developed to enhance green dynamic marketing capabilities within the framework of dynamic capabilities and customer value theories?

2. Theoretical view

2.1. Dynamic capability view

The dynamic capability view is a concept in strategic management that focuses on a firm's ability to adapt and innovate in response to changing external environments. It suggests that it is not enough for a firm to simply have resources and capabilities, but it must also have the ability to reconfigure and develop new capabilities as needed.

According to the dynamic capability view, firms can achieve competitive advantage and sustained performance by continuously building and refreshing their capabilities. This involves activities like sensing and seizing new market opportunities, integrating and coordinating different capabilities, and learning and knowledge creation.

The dynamic capability view emphasizes the importance of managerial skills in identifying and seizing opportunities, as well as managing the process of capability

development and change. It also recognizes the role of organizational structures and processes in enabling firms to adapt and respond quickly to new challenges (Yousaf, 2021).

Overall, the dynamic capability view highlights the need for firms to have a flexible and adaptive approach to strategy, as well as the ability to continuously learn and innovate. It suggests that firms that can effectively develop and deploy dynamic capabilities will be better equipped to navigate and thrive in complex and uncertain environments (Rodriguez-Espindola et al., 2022; Yousaf, 2021).

2.2. Customer value theory

Customer value theory is a concept that revolves around understanding how customers perceive and derive value from products or services they purchase or consume (Blocker et al., 2024; Ng et al., 2024). It emphasizes the idea that customers don't just buy products or services for their features or functions but also for the benefits and value they receive from them. The key components of customer value theory are: 1) value proposition; 2) perceived value; 3) customer needs and wants; (4) benefits versus costs; 5) differentiation; 6) customer satisfaction and loyalty; and 7) value co-creation (Muisyo et al., 2022; Runco, 2015; Song et al., 2021).

Value proposition is the promise of value to be delivered and acknowledged and appreciated by the customer. A clear value proposition communicates the unique benefits or solutions a product or service offers to meet customers' needs or solve their problems (Jin and He, 2024). Perceived value refers to how customers assess the benefits they receive from a product or service compared to its cost. It's subjective and can vary from one customer to another. Customers are likely to perceive higher value when the benefits they receive exceed the costs involved. Understanding customer needs and wants is crucial for creating value. Customers seek products or services that fulfill their needs or desires, whether functional, emotional, or social. Customers evaluate the benefits they receive from a product or service against the costs involved, including monetary cost, time, effort, and psychological costs. Value is perceived when benefits outweigh costs. Differentiation is related to providing unique benefits or attributes that set a product or service apart from competitors is essential for creating customer value. This can include features, quality, customer service, brand image, or convenience. Customer satisfaction and loyalty refers to delivering value leads to customer satisfaction, which, in turn, enhances customer loyalty. Satisfied customers are more likely to repurchase and recommend products or services to others. The value co-creation emphasizes that customer value is not solely determined by the company but is often co-created through interactions between the company and its customers. Engaging customers in the co-creation process can lead to the development of products or services that better meet their needs and preferences.

Customer value theory underscores the importance of understanding customers' perspectives, delivering superior value propositions, and fostering long-term relationships built on mutual value creation (Blocker et al., 2024; Ng et al., 2024;). It serves as a guiding principle for businesses to effectively attract, retain, and satisfy customers in competitive markets.

2.3. Organizational learning

Organizational learning is the process of acquiring new knowledge, including its interpretation and application to improve organizational performance and the ability to adapt to changing environments (Jenatabadi et al., 2023; Zhang et al., 2018). The meaning of organizational learning is explained using the assumption that companies accumulate knowledge through efforts to adapt to the competitive environment. Knowledge can come from other organizations where the entire company acquires valuable knowledge in large quantities. The relevance of organizational learning is that organizations need to learn from other organizations as external sources of knowledge in organizational efforts to obtain new knowledge.

Green innovation-oriented organizational learning is a high-cost project, requiring advanced knowledge and technology from various sources. Therefore, absorptive capacity is needed to achieve innovation performance (Huang et al., 2020; Jenatabadi et al., 2023; Song et al., 2021; Zhang et al., 2018). One model in achieving performance (Y. Zhang et al., 2018) explains the influence of learning resources on performance resources which is mediated by innovation efforts, especially innovation that is oriented towards environmentally friendly (green innovation).

Zhang et al. (2018)) reveal the conceptual framework for strategic integration of constructs in environmentally oriented pro-activity consisting of: 1) learning resources; 2) innovation efforts; and 3) performance resources. Each construct has two components according to the division of stakeholder orientation. The learning resource construct is built by the components of absorption capability (external stakeholder orientation) and transformative capability (internal stakeholder orientation). The construct of innovation efforts consists of green product innovation (external stakeholder orientation) and green process innovation (internal stakeholder orientation). Meanwhile, the construct of performance resources is formed through a green image (external stakeholder orientation) and competitive advantage (internal stakeholder orientation).

Two components in learning resources have a central role in the actualization of environmentally oriented pro-activities, respectively: 1) absorptive capability; and 2) transformative capability. This context emphasizes that organizational learning resources are organizational capabilities that are: 1) absorptive, namely all abilities to receive, access, obtain and recognize learning resources; and 2) carrying out transformation (transformative), namely the ability to change and divert learning resources towards practical application and contribution to the creation of superior organizational values.

This capability is demonstrated by the learning capacity of existing human resources, including how human resources possess and empower a number of learning skills to accumulate knowledge.

2.4. Green innovation

In Zhang et al. (2018) green innovation is defined as innovation efforts aimed at reducing environmental impacts through green product innovation and green process innovation. This encompasses not only technological advancements but also organizational practices that contribute to sustainability, such as reducing waste,

improving resources efficiency and adopting environmentally friendly processes. Green innovation also involves leveraging organizational resources in innovative ways to achieve both ecological and financial goals. This includes activity beyond traditional manufacturing, like implementing paperless offices and electronic workflows, which help in environmental protection and enhance organizational performance and reputation.

Green innovation has a significant role in sustainable development. According to Ma et al. (2022) green innovation involves the integration of green dynamic capabilities and green knowledge sharing to foster green creativity. This process aims to develop environmentally friendly products and processes that reduce environmental impact while providing a competitive edge to organizations. In this context green dynamic capabilities can be any skills and processes that enable organizations to integrate and reconfigure internal and external resources to address environmental challenges. These capabilities, coupled with knowledge sharing and green creativity, significantly enhance an organization's ability to innovate in ways that are sustainable and environmentally friendly.

2.5. Green dynamic marketing capability

The era of green global norm poses challenges for business, especially when the market is still resistant to green products which are considered expensive. However, for long-term business interests, this challenge actually becomes an opportunity. Businesses can increase their competitiveness in a market that is resistant to green products. In the context of today's digital technology; businesses can benefit their capacity to acquire, share and utilize knowledge to improve their practices and adapt to changing environments. This capacity could lead into the improvement of marketing processes to enhance sustainability.

From this perspective businesses need to develop green dynamic marketing capability (Diagram-1 and Diagram-2) which is conceptualized as businesses' ability to continuously adapt and innovate its marketing strategies in response to environmental challenges and opportunities. This capability integrates principles of organizational learning (Huang et al., 2020; Song et al., 2021) and green innovation (Eiadat et al., 2008; Ruan et al., 2022), enabling firms to effectively market eco-friendly products and services while gainning their overall sustainability performance.

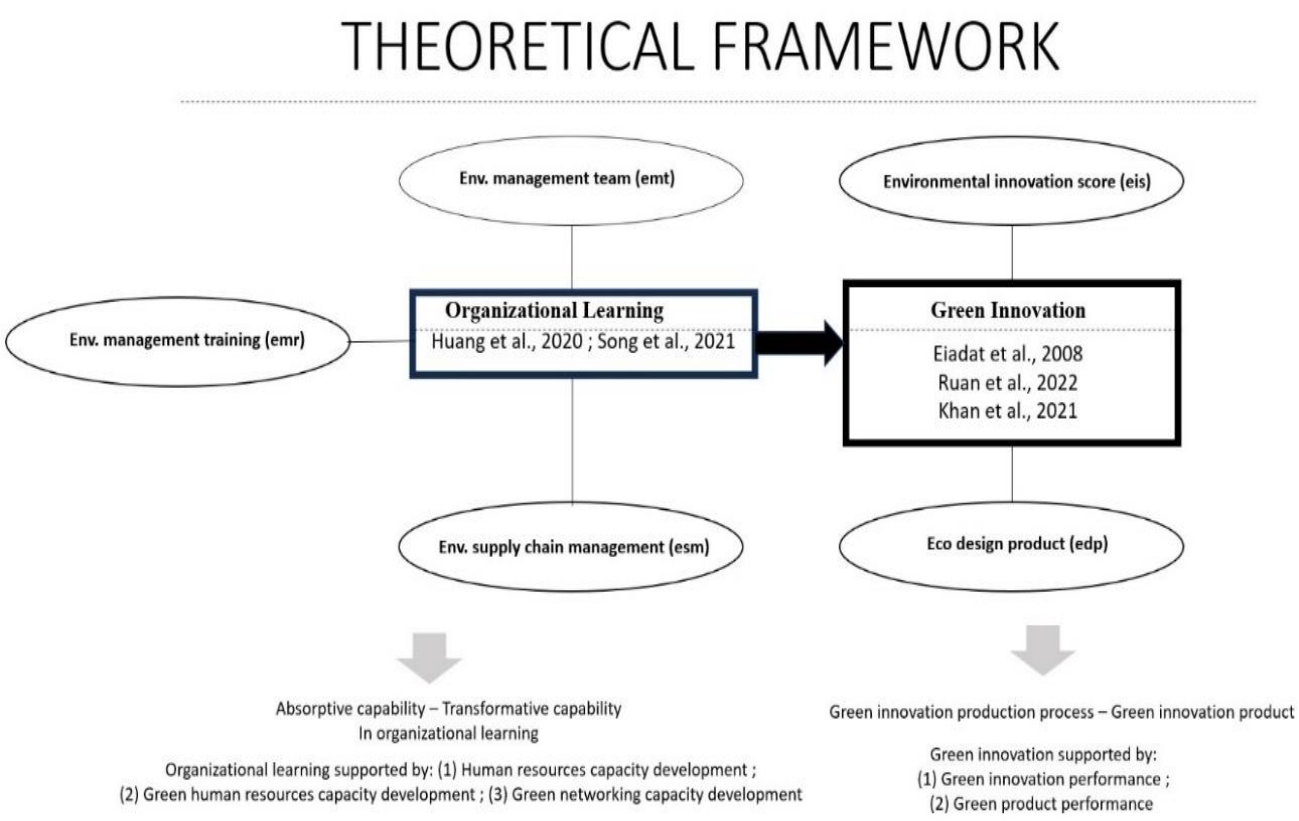

Figure 1. Theoretical framework (1).

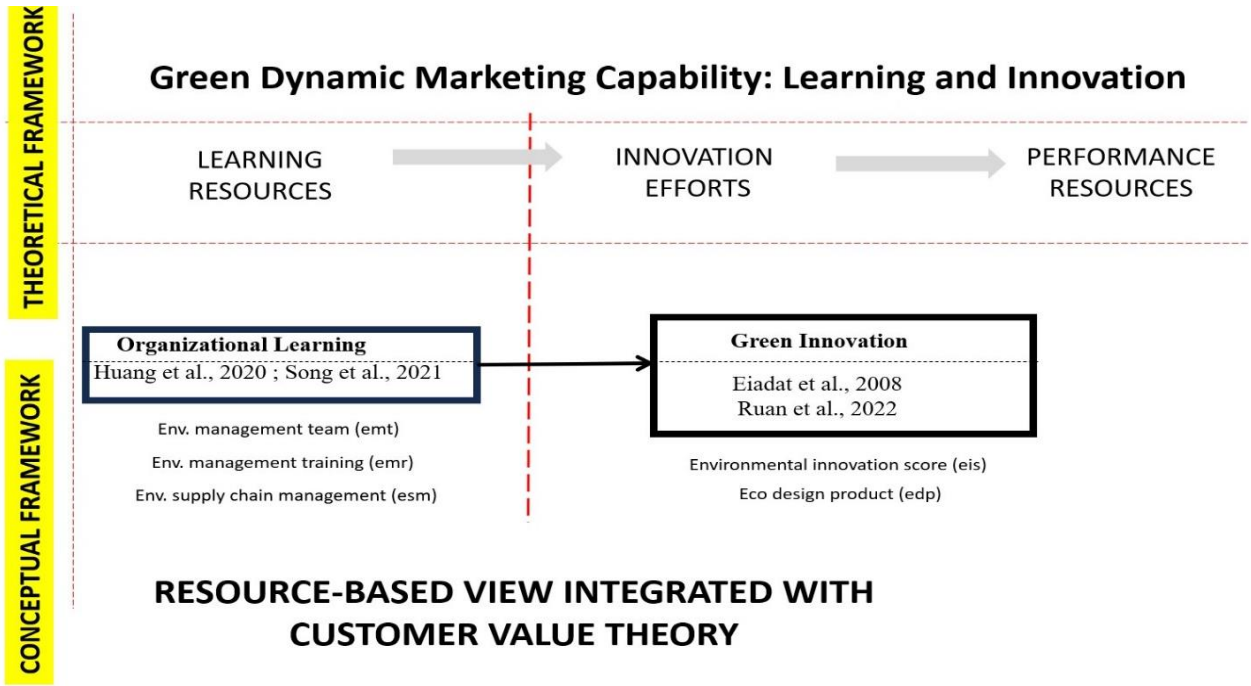

Figure 2. Theoretical framework (2).

Source: Eiadat et al., 2008; Huang et al., 2020; Ruan et al., 2022; Song et al., 2021; Zhang et al., 2018.

3. Methods

This research uses a quantitative approach to test the associative relationship of variables in organizational learning and green innovation. A total of 58 companies in the Clean200 database were used as research samples.

The Clean200 comprises of 200 public companies ranked by clean revenue. The ranking was first calculated on 1 July 2006, and publicly released on 15 August 2016, by Corporate Knights and As You Sow *(https://www.asyousow.org/)*. The data set is developed through assessment of a company's revenue that aligns with the definitions laid out in the Corporate Knights Sustainable Economy Taxonomy (https://www.corporateknights.com/resources/corporate-knights-sustainable-taxonomy/), primarily sourced from Corporate Knights research. To be eligible, a company must earn more than 10% of total revenues from clean sources.

The measurement scale for research data is ratio, accessed from Thomson Reuters Refinitiv Eikon, and processed by Eviews (for panel data) and SmartPLS (for cross-sectional data). There are three models tested in this research, respectively: 1) Model-1 measures the direct influence of variables in Organizational Learning, i.e., Environment Management Training (EMR), Environment Management Team (EMT), and Environment Supply Chain Management (ESM) on the Environmental Innovation Score (EIS) variable; 2) Model-2 measures the direct influence of variables in Organizational Learning, i.e., Environment Management Training (EMR), Environment Management Team (EMT), and Environment Supply Chain Management (ESM) on the Eco Design Product (EDP) variable; 3) Model-3 takes the form of Structural Equation Modeling (SEM) to measure the simultaneous influence of variables in Organizational Learning on Green Innovation. Those all variables used in this research are provided by Thomson Reuters Refinitiv Eikon *(see Appendix)*.

4. Results and discussion

4.1. Results

4.1.1. Model-1: Organizational learning and environmental innovation capacity

Model-1 (**Table 1**) tested direct effect of organizational learning on green innovation, i.e., the capability to allocate internal and external learning resources that has impact on environmental innovation capacity. The variables tested in Model-1 are organizational learning (environment management team, environment management training, and environment supply chain management) and green innovation (environmental innovation score).

Table 1. Model-1: Organizational learning and green innovation (1).

Category	Variable/Statistic	Value
Coefficients	EMT	0.676311
	EMR	-0.750968
	ESM	1.178858
Standard Error	EMT	0.236510
	EMR	0.252749
	ESM	0.151391
t-Statistic	EMT	2.859548
	EMR	-2.971198
	ESM	7.786855

Probability (Prob)	EMT	0.0051
	EMR	0.0036
	ESM	0.0000
Weighted Stat.	Root MSE	16.51452
	R-squared	0.473457
	Adjusted R-squared	0.464138
	Mean dependent var	54.50380
	S.D. dependent var	23.11017
	S.E. of regression	16.73230
	Sum squared resid	31636.61
	Durbin-Watson stat	0.280853

*) EMT= Environment Management Team ; EMR= Environment Management Training ; ESM=Environment Supply Chain Management
Source: Eviews 11.

The results showed the contribution of Model-1 (0.473 or 47.3%) explained the effect of organizational learning on environmental innovation score, respectively on the variables of environment management team (2.859/0.005), environment management training (−2.971/0.003), and environment supply chain management (7.786/0.000).

4.1.2. Model-2: Organizational learning and green product

Model-2 (**Table 2**) tested direct effect of organizational learning on green innovation, i.e., the capability to allocate internal and external learning resources that has impact on business' capacity for green product. The variables tested in Model-2 are organizational learning (environment management team, environment management training, and environment supply chain management) and green innovation (eco design product).

Table 2. Model-2: Organizational learning and green innovation (2).

Category	**Variable/Statistic**	**Value**
Coefficients	EMT	0.751988
	EMR	-1.171568
	ESM	0.855898
Standard Error	EMT	0.175662
	EMR	0.183002
	ESM	0.108197
t-Statistic	EMT	4.280872
	EMR	-6.401950
	ESM	7.910539
Probability (Prob)	EMT	0.0000
	EMR	0.0000
	ESM	0.0000
Weighted Stat.	Root MSE	11.91898
	R-squared	0.448094

	Adjusted R-squared	0.438326
	Mean dependent var	18.21455
	S.D. dependent var	16.08449
	S.E. of regression	12.07616
	Sum squared resid	16479.19
	Durbin-Watson stat	0.290902

*) EMT= Environment Management Team ; EMR= Environment Management Training ; ESM=Environment Supply Chain Management
Source: Eviews 11.

The contribution of Model-2 (0.448/44.8%) explains the effect of organizational learning on eco-design product, respectively on the variables of environment management team (4.280/0.000), environment management training (−6.401/0.000), and environment supply chain management (7.910/0.000).

4.1.3. Model-3: Organizational learning and green innovation

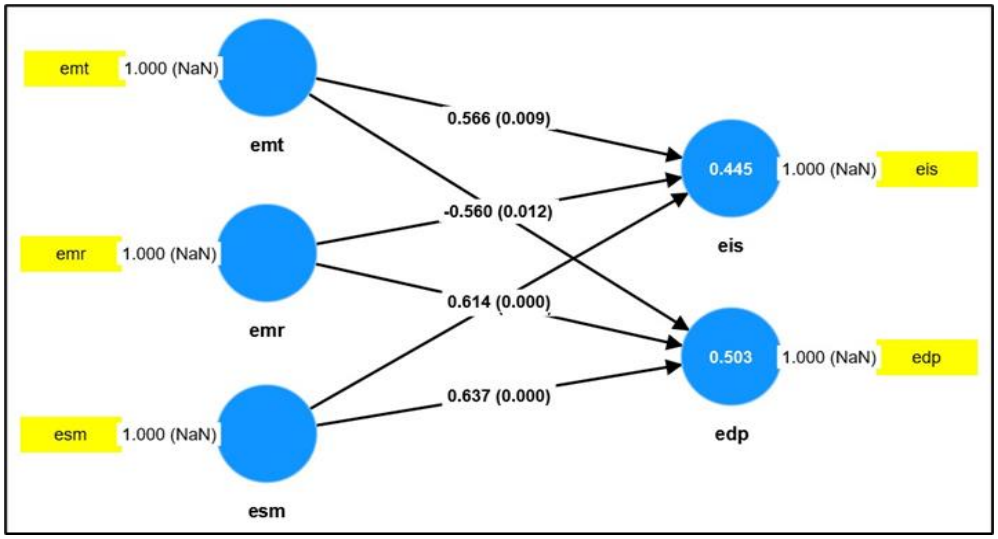

Figure 3. Model-3: Organizational learning and green innovation (3).

Source: SmartPLS.

Table 3. Structural model: Organizational learning and green innovation.

	O	**M**	**STDEV**	**O/STDEV**	***P* values**
EMR → EDP	−1.296	−1.287	0.287	4.508	0.000
EMR → EIS	−0.560	−0.566	0.223	2.512	0.012
ESM → EDP	0.637	0.644	0.123	5.176	0.000
ESM → EIS	0.614	0.616	0.127	4.838	0.000
EMT → EDP	1.083	1.068	0.306	3.545	0.000
EMT → EIS	0.566	0.567	0.217	2.602	0.009

*) O = Original sample; M = Sample mean; STDEV = Standard deviation; O/STDEV = *T* Statistics.
Source: Smart PLS.

Model-3 tested the structural association variables in organizational learning and green innovation. The model measures the simultaneous influence of variables in

organizational learning on green innovation. Through the structural model, a significant influence can be seen with a probability value smaller than 0.05.

4.2. Discussion

Global companies that have a reputation for environmentally oriented good practices are relatively able to increase their competitiveness through the ability to manage organizational learning capacity internally and externally. Both direct (Model-1 = 0.473 or 47.3%; Model-2 = 0.448 or 44.8%) and simultaneous (Model-3 = Sig. < 0.05) influences shown by the existing models are organizational learning capacity in directing businesses to innovate while producing environmentally friendly products.

Customer value orientation is formed through managing organizational learning capacity, creating new innovative habits, producing green products that can be accepted by the market. The creation of customer value is a product of organizational learning commitment, company openness, and business responsiveness to the dynamics of the internal and external environment.

The company manages knowledge assets through empowering investment in green entities, implementing green knowledge sharing programs, as well as integrating capacity development programs for adapting to global green norms in its value chain network. Performance in this area is demonstrated by high scores on environmental innovation (EIS) and eco design product (EDP).

As the dynamic capability view focuses on an organization's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments. It emphasizes an organization's adaptability, agility, and resourcefulness in generating green innovation. An environmental management team (EMT) as a source of dynamic capabilities can be seen as a crucial asset that contributes to building dynamic capabilities, particularly in sustainability and environmental innovation. These teams are responsible for managing environmental issues such as reducing carbon footprints, managing waste, and ensuring compliance with environmental regulations. While within customer value theory the environmental management team (EMT) plays a vital role in aligning a company's environmental strategies with customer expectations of value. By green innovation, the environmental management team helps develop products and services that meet growing customer demands for sustainability.

Environmental management training (EMR) is crucial for enhancing environmental innovation scores. The strong impact of EMR on environmental innovation score (EIS) shows the effective training programs enable companies to innovate in ways that benefit both the environment and the business. This, in turn, improves their environmental innovation score and positions them as leaders in sustainable development. Within dynamic capability view EMR helps develop a firm's ability to absorb new knowledge about sustainability, environmental standards, and eco-friendly practices. This training equips employees with the skills and knowledge necessary to recognize opportunities for environmental innovation, such as new green technologies or sustainable processes. The training enhances the "sensing" capability by making the organization more ware of eco-friendly innovations that can be developed. As marketing dynamic capability hinges on how well an organization can

develop internal marketing competencies that align with external environmental demands, EMR fosters this by improving competencies related to sustainability such as waste reduction, energy efficiency, or cleaner production techniques. Employees with this knowledge can better identify areas within their work where environmental improvements can be implemented. These competencies contribute to a stronger innovation culture and push for higher environmental performance, raising EIS. The perspective of customer value emphasizes EMR as strategic assest in which companies can develop more sustainable products or services, thereby differentiating themselves from competitors. Customer who value environmentally responsible practices may perceive greater value in companies that prioritize environmental innovation. This differentiation enhances the company's brand and customer loyalty, thus contributing positively to customer value creation and ultimately increasing the environmental innovation score.

Environment supply chain management (ESM) plays crucial role in shaping a firm's environmental innovation performance. The significant impact of ESM on environmental innovation score (EIS) shows better resources reallocation towards sustainable operations, fostering innovation in processes and product development. Firms can gain access to new knowledge about sustainable technologies, materials, and practices. They are more attuned to regulatory changes, customer preferences for green products, and technological advancements which trigger to innovate mode effectively in response to environmental demands. As EIS is a metric used to evaluate the degree to which a firm adopts and develops new technologies aimed at reducing environmental impact, the relationship between ESM and EIS indicates firm's ability to share environmental goals. Firms can engage in co-innovation with suppliers, resulting in higher EIS. Firms are also better positioned to meet stricter environmental regulations. From the perspective of customer value theory ESM could promote innovation in sourcing, production, logistics, and waste management.

Within perspective of dynamic capability the environment management team (EMT) provides the necessary environmental insights and guidelines to the product design team to ensure that new products are developed with sustainability in mind. This collaboration enables the creation of eco-design products that meet environmental standards and align with sustainability goals. The eco-design process often requires innovation in materials, processes, and technologies. The environment management team can help identify sustainable alternatives, enabling the design team to develop product that appeal to environmentally conscious consumers. While EMT engages with knowledge sharing programs, environment management training (EMR) might support in providing the foundation for the design team, engineers, and marketers to integrate sustainability into their work. Employees trained in environmental management understands the principles of eco-design and are better equipped to incorporate eco-friendly practices intro product development. This contributes to marketing dynamic capability by enabling the organization to pivot quickly toward sustainable innovations.

The introduction of concept of green dynamic marketing capability (GDMC) in this research revolves around a firm's ability to dynamically adapt its marketing strategies in response to environmental challenges, emphasizing sustainability and eco-friendliness. In this context, organizational learning and green innovation are

intricately connected, reinforcing each other to enhance a firm's competitive advantage and environmental performance.

Organization learning refers to the ability of an organization to acquire, share, and apply knowledge to adapt to changing conditions. It involves the continuous improvement of organizational processes, structures, and culture through experience, experimentation, and the integration of new information. In the context of GDMC, organizational learning is essential for understanding environmental issues, consumer preferences for green product, and regulatory changes. While green innovation refers to the development of new products, services, or processes that reduce environmental impact, improve resource efficiency, and contribute to sustainability. It is not limited to technological advancements but also includes eco-friendly marketing strategies, sustainable supply chain practices, and green business models.

GDMC requires firms to be dynamic and adaptable to rapidly changing environmental conditions. Organizational learning equips firms with the ability to anticipate changes, such as shifts in regulations or market trends toward sustainability, and respond proactively with green innovations. This adaptability enables firms to stay competitive by continuously innovating and updating their green strategies, ensuring they remain aligned with environmental goals and consumer expectations.

5. Conclusion

This research attempts to examine corporate learning capacity with green innovation in the context of global corporations. The dynamic capability perspective integrated with customer value theory is used in the research to see the allocation of company resources based on customer value orientation.

Organizational learning enhances a firm's dynamic capabilities, which are crucial for sensing, seizing, and transforming opportunities related to green innovation. This view suggests that organizations with strong learning mechanism can better adapt to environmental changes, anticipate market needs, and integrate new technologies and processes that support sustainable practice. By continuously improving their knowledge base and competencies, these organizations can develop innovative green products and services that offer competitive advantages.

From the customer value perspective, organizational learning allows firms to better understand and respond to evolving customer preferences for sustainable products. As customers increasingly prioritize environmental responsibility, organizations that leverage their learning capabilities to innovate green solutions can deliver higher value. This alignment with customer values not only enhances customer satisfaction and loyalty but also positions the firm as a leader in sustainability, further driving demand for its products.

The integration of these perspectives highlights a synergistic relationship where organizational learning not only fosters the development of green innovations but also ensures these innovations are closely aligned with customer expectations and market trends. Firms that excel in both areas are likely to experience enhanced performance, as they can more effectively navigate the complexities of the market and sustain their competitive edge through continuous innovation and customer-centric strategies.

This research contributes to the introduction of green dynamic marketing capability which integrate the concept of dynamic capability and customer value theory in the strong association between organizational learning and green innovation. It is hopefully could offer reference on the effort to develop dynamic capabilities, and enable firms to adapt and thrive in present changing environment.

Author contributions: Conceptualization, IHSW; Methodology, YY; software, MSS; validation, IHSW and SS; formal analysis, IHSW, YY, and MSS; investigation, SS; investigation, IHSW; resources, MSS; data curation, SS and MSS; writing – original draft preparation, IHSW. All authors have read and agreed to the published version of the manuscript.

Conflict of interest: The authors declare no conflict of interest.

References

Aftab, J., Abid, N., Cucari, N., Savastano, M. (2023). Green human resource management and environmental performance: The role of green innovation and environmental strategy in a developing country. Business Strategy and the Environment, 32(4), 1782–1798.

Amaya Rivas, A., Liao, Y. -K., Vu, M. -Q., Hung, C. -S. (2022). Toward a Comprehensive Model of Green Marketing and Innovative Green Adoption: Application of a Stimulus-Organism-Response Model. Sustainability, 14(6). https://doi.org/10.3390/su14063288

Awan, U., Sroufe, R., Kraslawski, A. (2019). Creativity enables sustainable development: Supplier engagement as a boundary condition for the positive effect on green innovation. Journal of Cleaner Production, 226. https://doi.org/10.1016/j.jclepro.2019.03.308

Azadnia, A., Geransayeh, M., Onofrei, G., Ghadimi, P. (2021). A weighted fuzzy approach for green marketing risk assessment: Empirical evidence from dairy industry. Journal of Cleaner Production, 327. https://doi.org/10.1016/j.jclepro.2021.129434

Blocker, C. P., Cannon, J. P., Zhang, J. Z. (2024). Purpose orientation: An emerging theory transforming business for a better world. Journal of the Academy of Marketing Science, 1–27.

Clean200. (n.d.). Available online: https://www.asyousow.org/clean200 (accessed on 2 June 2024).

Eiadat, Y., Kelly, A., Roche, F., Eyadat, H. (2008). Green and competitive? An empirical test of the mediating role of environmental innovation strategy. Journal of World business, 43(2), 131–145.

Huang, S. -Z., Chau, K. Y., Chien, F., Shen, H. (2020). The impact of startups' dual learning on their green innovation capability: The effects of business executives' environmental awareness and environmental regulations. Sustainability, 12(16), 6526.

Jenatabadi, H. S., Radzi, C. W. J. W. M., AbdManap, N., Abdullah, N. A. (2023). Factors That Boost the Technological Capability of Malaysian Food Manufacturing Industry. Sustainability, 15(8). https://doi.org/10.3390/su15086365

Jin, S., He, J. (2024). Research On Value Chain Optimization Path Based on Customer Value Theory: Taking Modern China Tea Shop as An Example. Frontiers in Business, Economics and Management, 13(3), 99–102.

Ma, L., Ali, A., Shahzad, M., Khan, A. (2022). Factors of green innovation: The role of dynamic capabilities and knowledge sharing through green creativity. Kybernetes, 54(1). https://doi.org/10.1108/K-06-2022-0911

Muisyo, P., Su, Q., Ho, T. H., et al. (2022). Implications of green HRM on the firm's green competitive advantage: The mediating role of enablers of green culture. Journal of Manufacturing Technology Management, 33(2), 308−333. https://doi.org/10.1108/JMTM-01-2021-0033

Ng, P. M., Cheung, C. T., Lit, K. K., et al. (2024). Green consumption and sustainable development: The effects of perceived values and motivation types on green purchase intention. Business Strategy and the Environment, 33(2), 1024−1039.

Nurqamarani, A. S., Priyanto, A., Fadilla, S. (2022). Technology Adoption Strategy of Social Media in Micro Small Medium Enterprises. Research Journal of Accounting and Business Management, 6(2), 139–150.

Rodríguez-Espíndola, O., Cuevas-Romo, A., Chowdhury, S., et al. (2022). The role of circular economy principles and sustainable-oriented innovation to enhance social, economic and environmental performance: Evidence from Mexican SMEs. International Journal of Production Economics, 248, 108495.

Runco, M. A. (2015). Meta-Creativity: Being Creative About Creativity. Creativity Research Journal, 27(3), 295–298. https://doi.org/10.1080/10400419.2015.1065134

ScienceDirect. (n.d.). Sustainable Development Goals. Available online: https://www.sciencedirect.com/topics/earth-and-planetary-sciences/sustainable-development-goals (accessed on 2 June 2024).

Song, S., Hossin, M. A., Yin, X., Hosain, M. S. (2021). Accelerating Green Innovation Performance from the Relations of Network Potential, Absorptive Capacity, and Environmental Turbulence. Sustainability, 13(14), 7765. https://doi.org/https://doi.org/10.3390/su13147765

Yousaf, Z. (2021). Go for green: Green innovation through green dynamic capabilities: Accessing the mediating role of green practices and green value co-creation. Environmental science and pollution research, 28(39), 54863–54875.

Zhang, Y., Sun, J., Yang, Z., Li, S. (2018). Organizational Learning and Green Innovation: Does Environmental Proactivity Matter? Sustainability, 10(10). https://doi.org/10.3390/su10103737

Appendix

Variable definition (*from Thomson Reuters Refinitiv Eikon*):

1) **Environment management team** (EMT)

Does the company have an environmental management team? In scope are any team that perform the functions dedicated to environmental issues—an individual or team at any level composed of employees, even if the name of the team is different performing implementation of the environmental strategy—it is important to understand that the members of the team include employees of the company, who are operational on a day to day basis and are not the board committees (directors).

2) **Environment management training** (EMR)

Does the company train its employees on environmental issues?—employee environmental (resource reduction & emission reduction) related training provided by the company or external trainers—in focus include the code of conduct training encompasses environmental aspects.

3) **Environmental supply chain management** (ESM)

Does the company use environmental criteria (ISO 14000, energy consumption, etc.) in the selection process of its suppliers or sourcing partners? —data can also be on existing suppliers who were selected using some environmental criteria.

4) **Environmental innovation score** (EIS)

Environmental innovation category score reflects a company's capacity to reduce the environmental costs and burdens for its customers, and thereby creating new market opportunities through new environmental technologies and processes or eco-designed product.

5) **Eco-design product** (EDP)

Does the company report on specific products which are designed for reuse, recycling or the reduction of environmental impacts?—products that have been specifically designed with the goal of being recycled, reused or which are disposed of without negatively impacting the environment- there must be some discussion of environmental concerns during the product design.