



The Influence of Green Organizational Culture, Green Intellectual Capital, and Green Marketing on the Business Performance of Culinary SMEs through Competitive Advantage in Yogyakarta

Aris Indri Yanti ^{1*},

Anggun Anggita Kinasih Sunowo Putri ²,

and Last Author ³

Management Study Program, YKP Yogyakarta College of Economics, Indonesia

Faculty of Economics, PGRI University Yogyakarta, Indonesia

ARTICLE INFO	ABSTRACT
ISSN: 2723-1097	Research Aims: The business performance of a company is affected by multiple elements, such as organizational culture, intellectual capital, and marketing strategy. This study examines the green indicators of organizational culture, intellectual capital, and marketing, which contribute to enhancing competitive advantage and performance in culinary SMEs at a period of economic hardship. This study aims to enhance comprehension of the impact of green variables on business performance and to discover effective strategic indicators that enhance the competitiveness and appeal of culinary SMEs in Yogyakarta. Design/methodology/approach: This research utilized a quantitative methodology with an associative issue formulation. The investigation utilized explanatory methodology. The sample comprised 250 respondents, all of whom were owners or managers of culinary SMEs in the Special Region of Yogyakarta. Data collection was executed by a face-to-face questionnaire. Data analysis was conducted utilizing Structural Equation Modeling (SEM) through AMOS. Research Findings: The research findings indicate that green organizational culture, green intellectual capital, and green marketing tactics positively and significantly impact competitive advantage and corporate performance. Moreover, competitive advantage acts as a mediator, connecting the impact of these green variables on the performance of culinary SMEs in Yogyakarta. Theoretical Contribution/Originality: This study contributes theoretically by illustrating the significance of incorporating green organizational culture, green intellectual capital, and green marketing tactics to enhance competitive advantage and corporate performance. The results additionally present new evidence that competitive advantage serves as a crucial mediating variable in this connection. Keywords: Green Organizational Culture; Green Intellectual Capital; Green Marketing; Competitive Advantage; Business Performance



Introduction

Small and Medium Enterprises (SMEs) have long been recognized as key drivers of the national economy in Indonesia. In the Special Region of Yogyakarta (DIY) Province, the contribution of SMEs is increasingly significant, with the number of business units reaching more than 327,000 by 2024, of which 12,625 are engaged in the culinary sector ((Dinas Lingkungan Hidup DIY, 2024). While this development demonstrates significant economic potential, the high number of business actors also gives rise to intense competition. This situation requires SMEs to focus not only on achieving optimal business performance but also on creating strategic differentiation to remain relevant and superior in an increasingly competitive market. Over time, economic and human activities have had negative impacts on the environment in various forms, such as climate change, air pollution, and the threat of extinction of flora and fauna (Chekima et al., 2016; Natakoesoemah & Adiarsi, 2020). This has prompted various parties to seek strategic solutions to create a more sustainable life, including in the food industry. The culinary sector itself is one of the largest contributors to waste, both organic and inorganic. According to a report from the Yogyakarta Environmental Agency, the average daily waste production in Yogyakarta reaches 2,000 tons, with 60% of this being food scraps and 17% being plastic waste, mostly originating from culinary SMEs. This context places culinary SMEs in a crucial position: they must address the dual challenge of maintaining business performance while sustainably managing environmental impacts.

In the era of globalization and increasingly visible climate change, business performance has become a strategic issue for culinary SMEs. Business performance is not only an indicator of efficiency but also a guideline for achieving business excellence and sustainability (Na-Nan, 2016). Improving business performance is closely related to the ability of SMEs to create a competitive advantage, namely a set of characteristics that differentiate an organization from competitors and position it in a unique position in the market (Udriyah et al., 2019). Competitive advantage can take the form of superior products, processes, resources, or marketing strategies, which ultimately have a positive impact on business performance (Sari & Nuvriasari, 2023). However, many culinary SMEs are still not optimally implementing competitive strategies due to limited intellectual capital, weak organizational culture, and inadequate marketing orientation. However, in many countries, corporate environmental management has become a priority through environmental protection regulations. Therefore, implementing a green organizational culture is crucial because pro-environmental organizational values, norms, and practices can improve business sustainability and performance (Chandra et al., 2021). Furthermore, effective management of green intellectual capital, including knowledge, skills, and intangible assets that support green innovation, can strengthen a company's competitiveness and performance (Chen & Ku, 2021; Sustrastanti & Rachmawati, 2023; Putri & Murtanto,

2023; Kinanti & Murwaningsari, 2024; Golo & Astuti, 2023 ; Huang & Benyoucef, 2017; Xu, 2020). On the other hand, green marketing strategies are also believed to be able to improve business performance through product design, packaging, labeling, and promotional strategies that emphasize environmental awareness (Osiako et al., 2022; Nandika et al., 2023; Nozari et al., 2021; Rodrigues & Franco, 2023).

Several previous studies, such as those conducted by Aris Indriyanti, (2022), have demonstrated the role of green organizational culture and green marketing in improving SME performance. A notable research gap that remains largely unexamined is the role of green intellectual capital in enhancing corporate performance and the function of competitive advantage as a mediating component in this dynamic. Most prior research have only partially analyzed these variables, so failing to present a comprehensive understanding of the relationship between green strategy and the success of culinary SMEs. This study illustrates the innovation of amalgamating green organizational culture, green intellectual capital, and green marketing into a unified conceptual framework that incorporates competitive advantage as a mediating variable. This model offers a novel perspective on elucidating how green initiatives might enhance the performance of culinary SMEs. Furthermore, the urgency of this research lies in the need for culinary SMEs in Yogyakarta to adapt to increasingly environmentally conscious consumer demands while facing intense market competition. Given limited resources and unique local characteristics, culinary SMEs need to adopt business strategies that are not only competitive but also oriented towards long-term sustainability. This study seeks to empirically investigate the impact of green organizational culture, green intellectual capital, and green marketing on the commercial performance of culinary SMEs in Yogyakarta, with competitive advantage serving as a mediating variable. The findings are anticipated to yield theoretical advancements in sustainable company strategy and furnish practical guidance for SMEs in devising adaptive, inventive, and competitively robust strategies.

Literature Review

Green Organization Culture

Green organizational culture (GOC) refers to a collection of values, norms, and practices that prioritize environmental sustainability within an organization's strategy, operations, and daily activities.. In the literature, GOC is reflected in mission statements, routines, and employee expectations that consistently shape members' thinking and actions toward environmental goals. This includes the explicit integration of green initiatives into both official organizational statements and daily operational practices (Imran et al., 2021; Aggarwal & Agarwala, 2023; Al-Swidi et al., 2021). This concept asserts that pro-environmental behavior is not a coincidental phenomenon but is institutionalized through a culture that values and normalizes sustainable actions. Furthermore, GOC is closely linked to organizational governance



and leadership attention to environmental issues (Sánchez-García et al., 2024). Overall, GOC is seen as a driver of environmental performance at the macro level through shaping the beliefs, motivations, and behaviors of organizational members (Aggarwal & Agarwala, 2023; Juo & Wang, 2022).

Green Intellectual Capital

Green intellectual capital refers to a strategically designed set of organizational assets that integrate knowledge and intangible capabilities to support environmentally friendly practices and drive green innovation. The literature consistently categorizes GIC into three interrelated components: green human capital, green structural capital, and green relational capital. This framework encompasses dimensions of knowledge, internal routines and processes, and external relationships, which collectively enable firms to mobilize green resources to improve environmental performance and achieve sustainability goals (Wang & Juo, 2021; Xi et al., 2023; Shehzad et al., 2023; Liu, 2021). Thus, green intellectual capital serves as a knowledge-based engine that enables organizations to translate environmental aspirations into tangible outcomes such as improved environmental performance, sustained green innovation, and enhanced long-term competitiveness (Wang & Juo, 2021; Liu, 2021).

Green Marketing

Green marketing is a strategy that incorporates environmental sustainability elements into the marketing mix, encompassing product design, packaging, promotion, and brand communications. This approach not only creates a positive image among consumers but also positions the company as a supporter of responsible consumption. Previous research has shown that green marketing, expressed through tangible offerings, such as environmentally friendly products and packaging, and consistent communication through CSR disclosures and environmental claims, has been shown to influence buyer attitudes and behavior across various sectors (Ramirez et al., 2020; Jamal et al., 2023; Witek, 2020; Nadanyiova et al., 2020). Furthermore, this integration helps companies align sustainability goals with competitive business performance, as evidenced by the use of scales and diagnostic instruments to assess consumer perceptions of a company's green orientation and its strategic implications (E. Ramirez et al., 2024; Nguyen et al., 2022).

Competitive Advantage

Competitive advantage refers to a company's capacity to provide distinctive value that is challenging for rivals to replicate. In recent research, the sources of this value are often explained through several interrelated key dimensions: product differentiation, process efficiency, technological capabilities or innovation, and customer proximity. Product differentiation is typically associated with innovations in design and marketing strategy, enabling companies to stand out in a competitive marketplace (Sukaatmadja et al., 2021; Ogundare & van der Merwe, 2024; Jeong &



Chung, 2023). Meanwhile, process efficiency stems from well-coordinated operations management, which reduces waste, accelerates production times, and increases reliability, thus strengthening a company's competitiveness (Huldt Navarro & Haag, 2024; Singagerda et al., 2024). Technological innovation is also a key driver through a company's ability to absorb knowledge, utilize digital integration, and create new innovations to maintain its competitive edge in a dynamic business environment (Flores et al., 2022 ; Senivongse & Bennet, 2024). Furthermore, customer engagement built through effective customer relationship management (CRM) and ongoing interactions has been shown to strengthen loyalty and enhance market insights, ultimately supporting superior performance and a company's competitive position (Otache, 2024); (Omidvar & Palazzo, 2023).

Business Performance

Business performance is today recognized as a multidimensional notion that evaluates not only financial profitability but also the attainment of a company's strategic objectives across economic, social, and environmental aspects, referred to as the triple bottom line. Recent research, in both SMEs and large corporations, shows that sustainability-oriented factors such as eco-innovation, environmental collaboration, corporate social responsibility (CSR), and green capabilities can both strengthen and mediate business performance. This confirms that company performance is increasingly determined by non-financial achievements and sustainability aspects, in addition to purely financial results (Achmad et al., 2023; Türkeş et al., 2024; Park et al., 2022). For example, environmental practices have been shown to influence financial, social, and environmental performance, while CSR has been found to play a mediating role between innovation and performance, highlighting the importance of sustainability initiatives (Becerra-Vicario et al., 2023; Türkeş et al., 2024). This pattern is increasingly relevant for SMEs, where performance measurement systems are expected to be able to capture broader value creation than just financial indicators (Saunila et al., 2024; Türkeş et al., 2024).

Green Organization Culture, Green Intellectual Capital and Green Marketing on Business Performance

Green organizational culture (GOC) is an essential factor that influences a company's reaction to environmental concerns while concurrently enhancing business success. GOC functions not only as an organizational attribute but also as a strategic capability that embeds environmental awareness in daily activities and decision-making, thus proving to enhance green innovation, environmental performance, and sustainable governance (Imran et al., 2021; Aggarwal & Agarwala, 2023). Conversely, green intellectual capital (GIC), which includes green human, structural, and relational capital, is regarded as an intangible asset that can generate sustainable competitive advantage. Various cross-sector studies have shown that investments in green knowledge, systems, and relationships positively impact financial performance, organizational sustainability, and environmental awareness, both directly and through green innovation (Shah et al., 2021; Marco-Lajara et al., 2023). Furthermore,



green marketing (GM) is a strategy that links environmentally friendly practices to business performance through green products, energy efficiency, sustainable supply chains, and green brand communications. GM has been shown to increase profitability, customer satisfaction, loyalty, and positive image, although its effects vary depending on cultural and regulatory factors (Lima et al., 2024; Zhang & Berhe, 2022). Overall, the literature confirms that GOC, GIC, and GM complement each other in shaping value, capabilities, and market strategy. When integrated, they can create a competitive advantage and improve business performance financially, operationally, and sustainably.

Competitive Advantage as a Mediator of Green Organizational Culture, Green Intellectual Capital and Green Marketing on Business Performance

Previous research indicates that green organizational culture (GOC) is positively related to competitive advantage (CA) because sustainability values embedded in organizational culture encourage environmentally friendly behavior, green innovation, and efficient management practices, making GOC an important foundation for superior performance (Malik et al., 2020; Aggarwal & Agarwala, 2023; Pham et al., 2025). Furthermore, green intellectual capital (GIC), encompassing human, structural, and relational capital, provides knowledge, systems, and networks that support innovation, brand image, and sustainable practices, with cross-sector evidence confirming its role in enhancing competitiveness and performance both directly and through green innovation and brand reputation (Martínez-Falcó et al., 2025; Atalla et al., 2024). On the other hand, green marketing (GM) also strengthens CA through environmentally friendly products, green promotions, and sustainable supply chains, which increase cost efficiency, consumer loyalty, and trust in green brands, although its effects may vary depending on cultural and regulatory contexts (Lima et al., 2024; (Zhang & Berhe, 2022; L. Liu et al., 2023). Overall, the literature confirms that GOC, GIC, and GM complement each other, with CA serving as the key link that translates green values, capabilities, and strategies into improved financial, operational, and environmental business performance.

This analysis permits a general description of the research model as follows (Figure 1):



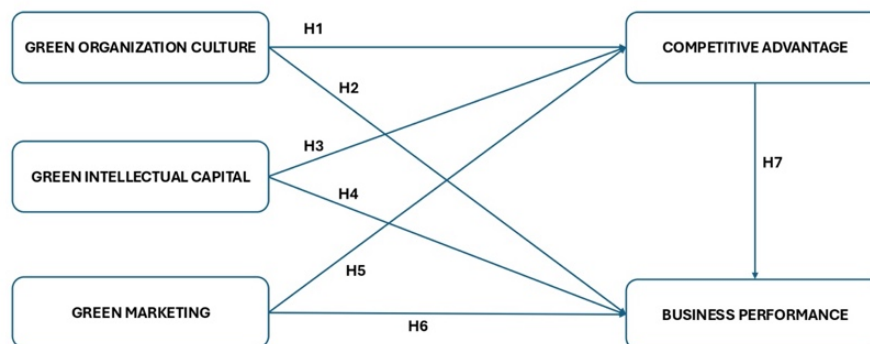


Figure 1. Research Model

Research Hypothesis:

- H1: Green Organizational Culture has a positive and significant effect on Competitive Advantage
- H2: Green Organizational Culture has a positive and significant effect on Business Performance
- H3: Green Intellectual Capital has a positive and significant effect on Competitive Advantage
- H4: Green Intellectual Capital has a positive and significant effect on Business Performance
- H5: Green Marketing has a positive and significant effect on Competitive Advantage
- H6: Green Marketing has a positive and significant effect on Competitive Advantage
- H7: Competitive Advantage has a positive and significant effect on Business Performance

Method

This study employs a quantitative research strategy including an associative problem formulation. The research conducted is explanatory, aimed at testing the relationship between hypothesized variables and elucidating the connections between two or more phenomena or variables (Leedy & JE, 2018). This study involved 250 participants, comprising owners and managers of culinary MSMEs in the Special Region of Yogyakarta Province. The researcher administered a face-to-face questionnaire for data collection.



This study encompassed three categories of variables: independent variables, mediating variables, and dependent variables. The independent factors included green organizational culture, green intellectual capital, and green marketing; the mediating variable was competitive advantage; and the dependent variable was company performance. All characteristics were assessed on a Likert scale from 1 to 5, indicating levels of agreement from "strongly disagree" to "strongly agree." Data analysis was performed utilizing the Structural Equation Modeling (SEM) technique with AMOS software.

The green organizational culture variable was measured through indicators that included an understanding of the importance of environmental conservation, the existence of clear policies to promote environmental awareness, prioritizing environmental conservation, making environmental conservation a core value, the link between environmental goals and business objectives, and efforts to minimize environmental impacts in processes and product development (C.-H. Wang, 2019). Furthermore, the green intellectual capital variable included participation in environmentally friendly production activities and environmental awareness, adequate capabilities related to environmental issues, the creation of quality and environmentally friendly products and services, teamwork in achieving environmental awareness, and full support for environmental awareness activities (Yusoff et al., 2019). The green marketing variable is measured through increasing turnover and profits by utilizing environmental aspects in marketing, making the environment the main basis of marketing strategies, maximizing the use of natural products, saving energy and materials, using recyclable packaging, and implementing safety measures (Zhang & Berhe, 2022). The mediating variable, competitive advantage, is assessed based on superior product and service quality compared to competitors, strength in research and development (R&D), better managerial competence, higher business profitability, a more positive corporate image, and competitive advantages that are difficult for competitors to imitate, as well as the ability to innovate (Qiu et al., 2020). The dependent variable, business performance, is assessed through consistent sales growth, satisfactory profit levels, effective market share management, overall business efficacy, customer satisfaction, customer retention, and the capacity to attract new customers. (Nuvriasari et al., 2020).

Result and Discussion

Respondent Profile Description

A descriptive analysis of 250 respondents from culinary MSMEs in Yogyakarta showed that the majority of respondents were managers or administrators (87.6%), while only 12.4% were business owners. In terms of business experience, the majority of MSMEs had been operating for more than five years: 27.2% for 6–10 years, 40% for 11–15 years, 14.4% for 1–5 years, and 18.4% for more than 15 years. In terms of workforce, 44.4% of MSMEs managed 5–10 employees, 38.8% employed 1–4 people, and 16.8% more than 10 people. In terms of assets, 86.4% of businesses had assets of



IDR 50 million–IDR 500 million, while 13.6% reported assets of more than IDR 500 million. Meanwhile, in terms of annual turnover, 63.6% earned between Rp100 million and Rp500 million, while 36.4% reported revenues above Rp500 million. Overall, these characteristics confirm that culinary MSMEs in Yogyakarta are dominated by businesses with extensive experience, limited assets and resources, yet still possess significant growth opportunities.

Validity and Reliability Test

Validity Test

The outcomes of the validity assessment utilizing AMOS software are presented in the table below.

Table 6. Validity Test Results

Variable	Indicator	Loading Factor	Limit	Description
Green Organization Culture	GOC1	0.800	> 0.5	Valid
	GOC2	0.764		Valid
	GOC3	0.747		Valid
	GOC4	0.719		Valid
	GOC5	0.765		Valid
	GOC6	0.727		Valid
Green Intellectual Capital	GIC1	0.909	> 0.5	Valid
	GIC2	0.841		Valid
	GIC3	0.591		Valid
	GIC4	0.944		Valid
	GIC5	0.925		Valid
Green Marketing	GM1	0.878	> 0.5	Valid
	GM2	0.800		Valid
	GM3	0.828		Valid
	GM4	0.787		Valid
	GM5	0.833		Valid
Competitive Advantage	CA1	0.901	> 0.5	Valid
	CA2	0.910		Valid
	CA3	0.863		Valid
	CA4	0.857		Valid
	CA5	0.889		Valid
	CA6	0.869		Valid



Variable	Indicator	Loading Factor	Limit	Description
Business Performance	CA7	0.840	> 0.5	Valid
	BP1	0.854		Valid
	BP2	0.762		Valid
	BP3	0.843		Valid
	BP4	0.739		Valid
	BP5	0.769		Valid
	BP6	0.787		Valid
	BP7	0.806		Valid

According to Table 6, the validity test findings including 250 respondents and 30 questionnaire items indicate that all items possess factor loading values over 0.50. Consequently, all items in the questionnaire instrument satisfy the validity criteria.

Reliability Test

To test reliability, use the following formula:

$$\text{Construct Reliability} = \frac{(\sum \text{Factor Loading})^2}{(\sum \text{Factor Loading})^2 + \sum \text{Measurement Error}}$$

$$\text{Variance Extracted} = \frac{\sum \text{Factor Loading}^2}{\sum \text{Factor Loading}^2 + \sum \text{Measurement Error}}$$

$$\text{Measurement Error} = 1 - \text{Factor Loading}^2$$

Table 7. Reliability Test Results

Variable	CR	Limit	AVE	Limit	Description
Green Organizational Culture	0.888	> 0.7	0.569	> 0.5	Reliable
Green Intellectual Capital	0.928		0.726		Reliable
Green Marketing	0.915		0.682		Reliable
Competitive Advantage	0.958		0.767		Reliable
Business Performance	0.923		0.632		Reliable

Reliability testing indicated that all five research variables exhibited CR values exceeding 0.7 and VE values surpassing 0.5. Consequent to these findings, all research tools may be deemed reliable and appropriate for application in this study.

SEM Analysis

This work employed Structural Equation Modeling (SEM) for data analysis, utilizing the AMOS tool, and followed the SEM procedures outlined by Ghazali Imam (2017). The research model was constructed using an analytical framework that includes three exogenous variables: Green Organization Culture, Green Intellectual Capital, and



Green Marketing, alongside two endogenous variables: Competitive Advantage and Business Performance. The conceptual model illustrated in the flowchart was subsequently represented as a structural equation (Figure 2).

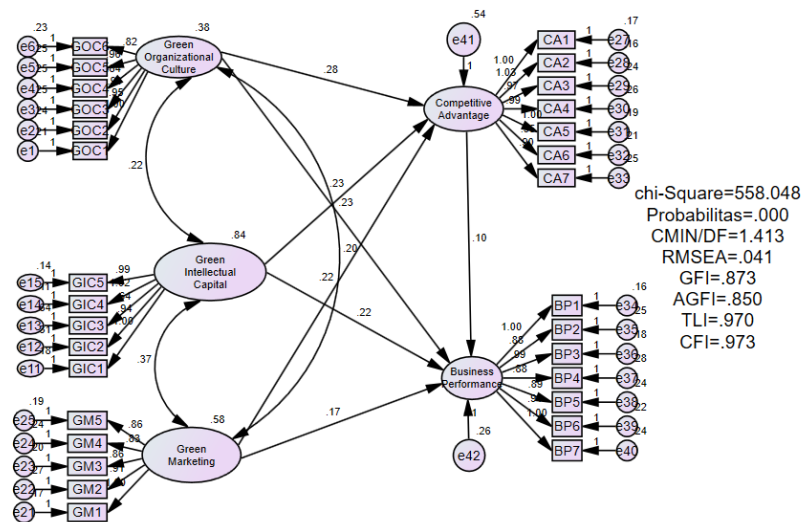


Figure 2. Structural Equation

The structural equation analysis yielded a chi-square value of 558.048, a probability of 0.000, an RMSEA of 0.041, a GFI of 0.873, an AGFI of 0.850, a CMIN/DF of 1.413, a TLI of 0.970, and a CFI of 0.973. Figure 2 illustrates a robust correlation between variables, represented by a linear trajectory.

The matrices utilized in this analysis are covariance and correlation. The employed model estimation technique is Maximum Likelihood (ML). This maximum likelihood estimate approach adheres to the following assumptions:

a. Sample and Data Normality Test

This study utilized 250 respondents, above the minimum threshold typically mandated for SEM analysis. Kline (2016) and Hair et al. (2019) assert that SEM analysis necessitates a minimum of 200 samples or a ratio of 5 to 10 observations per estimated parameter. Consequently, the sample size is deemed sufficient. Normality tests for data were conducted utilizing skewness and kurtosis values, and the critical ratio (CR) was computed using the AMOS software.

Table 8. Normality Test Results



Variable	min	max	skew	c.r.	kurtosis	c.r.
BP7	2.000	5.000	.112	.726	-.675	-2.177
BP6	2.000	5.000	.331	2.137	-.142	-.460
BP5	2.000	5.000	.266	1.716	-.283	-.915
BP4	2.000	5.000	.114	.739	-.617	-1.990
BP3	2.000	5.000	.183	1.182	-.522	-1.683
BP2	2.000	5.000	.188	1.212	-.468	-1.509
BP1	2.000	5.000	.344	2.222	-.181	-.586
CA7	1.000	5.000	-.688	-4.440	.402	1.296
CA6	1.000	5.000	-.702	-4.532	.308	.996
CA5	1.000	5.000	-.703	-4.537	.080	.257
CA4	1.000	5.000	-.594	-3.833	-.063	-.202
CA3	1.000	5.000	-.751	-4.848	.292	.943
CA2	1.000	5.000	-.664	-4.284	.065	.209
CA1	1.000	5.000	-.773	-4.991	.353	1.139
GM5	2.000	5.000	.135	.871	-.430	-1.389
GM4	2.000	5.000	-.137	-.886	-.476	-1.537
GM3	1.000	5.000	-.065	-.418	-.208	-.671
GM2	1.000	5.000	.035	.223	-.547	-1.765
GM1	1.000	5.000	.084	.545	-.513	-1.655
GIC5	1.000	5.000	-.161	-1.041	-.289	-.933
GIC4	1.000	5.000	-.269	-1.739	-.217	-.700
GIC3	1.000	5.000	-.094	-.610	-.737	-2.380
GIC2	1.000	5.000	-.381	-2.459	-.250	-.806
GIC1	1.000	5.000	-.224	-1.446	-.302	-.975
GOC6	2.000	5.000	-.283	-1.828	-.177	-.573
GOC5	2.000	5.000	.066	.429	-.382	-1.231
GOC4	2.000	5.000	-.075	-.481	-.286	-.922
GOC3	2.000	5.000	.017	.112	-.335	-1.081
GOC2	2.000	5.000	-.027	-.173	-.368	-1.189
GOC1	2.000	5.000	.082	.529	-.368	-1.188
Multivariate					-10.451	-1.886

At a significance level of 0.01, the critical value is established as ± 2.58 . Ghazali Imam, 2017. The outcomes of the multivariate normality test presented in Table 8 demonstrate that the data satisfies the normality assumption, as the value of -1.886 resides within the critical value range.

a. Outlier Identification

Multivariate outlier detection was conducted using the Mahalanobis Distance results in AMOS, with a significance threshold of $p < 0.001$. Distance computations were executed utilizing the Chi-Square (X^2) distribution, with degrees of freedom corresponding to the quantity of measured variables. This study included 30 questionnaire items; hence, probability calculations and variable counts were conducted using the Excel application, with the results presented as follows:

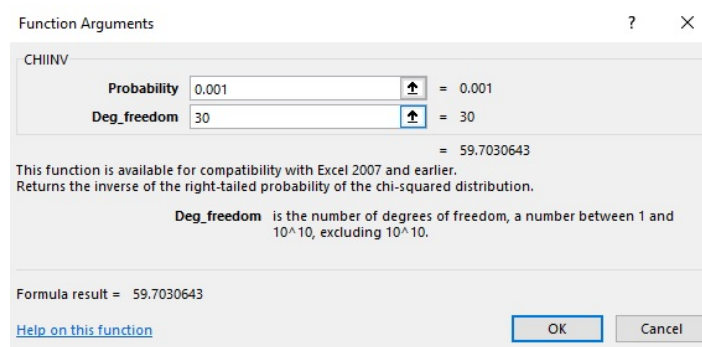


Figure 2. Mahalanobis Distance Limit Value



Data processing using AMOS revealed no values beyond 73.40. Consequently, it may be inferred that the dataset is devoid of outliers.

b. Identification of Structural Models

The identification phase is conducted by examining the degree of freedom (df) value of the calculated model.

Table 9. Structural Model Identification

Number of distinct sample moments:	465
Number of distinct parameters to be estimated:	70
Degrees of freedom (465 - 70):	395

The AMOS report yielded a modal value of 395. This conclusion verifies that the model falls into the over-identified category, characterized by a positive degree of freedom (df) value.

c. Assessing the Goodness of Fit Criteria

The outcomes of the fit are presented in the subsequent data:

Table 10. Assessing Goodness of Fit

<i>The goodness of the fit index</i>	<i>Cut-off value</i>	Result	Evaluation Model
<i>Chi-square</i>	$\leq 487,583$ (df=395)	558,048	Marginal
<i>Significant Probability</i>	≥ 0.05	0,000	Marginal
RMSEA	≤ 0.08	0,041	Fit
GFI	≥ 0.90	0,873	Marginal
AGFI	≥ 0.90	0,891	Marginal
CMIN/DF	≤ 2.0	1,413	Fit
TLI	≥ 0.90	0,970	Fit
CFI	≥ 0.90	0,973	Fit

The SEM results utilizing AMOS indicated a Chi-Square value of 558.048 (df = 395; p = 0.000). The model is deemed marginal due to its substantial deviation from the data, a discrepancy potentially affected by the Chi-Square test's sensitivity to sample size. Consequently, a different measure is more suitable for evaluating model fit. An RMSEA value of 0.041 signifies an excellent model fit. The GFI is 0.873 and the AGFI is 0.891, both classified in the marginal category. The CMIN/DF index was documented as 1.413, adhering to the acceptable requirements (<2). Simultaneously,



the TLI (0.970) and CFI (0.973) demonstrated exceptional outcomes, as they surpassed the threshold of >0.90. In summary, while the Chi-Square suggests importance, most model fit indicators—particularly the RMSEA, CMIN/DF, TLI, and CFI—have satisfied or surpassed the threshold conditions. Consequently, it may be inferred that the tested structural model has a high degree of adequacy.

Hypothesis Testing

Hypothesis testing is used to address research inquiries and examine the interrelations within the structural model. This study employs standardized regression weights, which denote the size of the coefficients of impact among variables, as illustrated below:

Table 11. Hypothesis Testing Results

No.	Hipotesis	Estimate	S.E.	C.R.	P	Result
H1	Green Organization Culture → Competitive Advantage	0.281	0.098	2.882	0.004	Significant
H2	Green Organizational Culture → Business Performance	0.232	0.072	3.217	0.001	Significant
H3	Green Intellectual Capital → Competitive Advantage	0.231	0.067	3.451	0.000	Significant
H4	Green Intellectual Capital → Business Performance	0.223	0.050	4.461	0.000	Significant
H5	Green Marketing → Competitive Advantage	0.215	0.084	2.550	0.011	Significant
H6	Green Marketing → Business Performance	0.170	0.062	2.740	0.006	Significance
H7	Competitive Advantage → Business Performance	0.104	0.049	2.113	0.035	Significance

The Influence of Green Organization Culture on Competitive Advantage

The hypothesis test validated that a green organizational culture exerts a favorable and significant impact on competitive advantage. This is evidenced by a CR value of 2.882, beyond the crucial limit of 1.96, and a p-value of 0.004, which is below the 0.05 barrier. The results validate and affirm the first hypothesis. The results of this study align with prior studies demonstrating that a robust green corporate culture significantly enhances competitiveness (Juo & Wang, 2022; Martínez-Falc et al, 2025; Rehman et al., 2023; Adusei et al., 2024; Aggarwal & Agarwala, 2023; Guedes & Rezende, 2024). A robust corporate culture emphasizing environmental sustainability enhances the competitive edge of culinary SMEs. This culture include the



establishment of stringent environmental policies, a collective consciousness regarding sustainability, and the integration of commercial objectives with environmental goals. This combination promotes the development of high-quality products with eco-friendly attributes that are challenging for competitors to replicate.

The Influence of Green Organization Culture on Business Performance

The hypothesis test results indicate that green corporate culture positively and significantly influences business performance. This is evidenced by a CR value of 3.217, exceeding 1.96, and a p-value of 0.001, which is below 0.05. Consequently, the second hypothesis is affirmed. This finding aligns with prior research indicating that a robust green organizational culture enhances business performance (Imran et al., 2021; Aggarwal & Agarwala, 2023; Al-Swidi et al., 2021; Khan & Terason, 2022; Anser et al., 2024). The findings suggest that an environmentally conscious organizational culture enhances competitiveness and directly boosts business performance by fostering customer happiness, market loyalty, and a favorable image, hence facilitating revenue development and profitability.

The Influence of Green Intellectual Capital on Competitive Advantage

Hypothesis testing demonstrates that green intellectual capital positively and significantly influences competitive advantage. Empirical evidence is indicated by a C.R. value of 3.451, surpassing the threshold of 1.96, and a p-value of 0.000, which is below 0.05. Consequently, the third hypothesis is validated and acknowledged. The findings align with prior studies that affirm the significant importance of elevated green intellectual capital in enhancing competitive advantage (Atalla et al., 2024; Hermawan et al., 2024 ;Turi et al., 2023 ; W. Wang et al., 2023). Green intellectual capital, encompassing employee knowledge, skills, and creativity in the development of environmentally sustainable products or services, constitutes a vital intellectual asset that enhances competitive advantage. Small and medium-sized enterprises (SMEs) with a creative workforce dedicated to environmental sustainability can achieve product differentiation and enhance their research and development (R&D) capabilities.

The Influence of Green Intellectual Capital on Business Performance

The hypothesis testing results demonstrate that green intellectual capital exerts a favorable and significant impact on corporate performance. Empirical proof is demonstrated by a C.R. value of 4.461 (>1.96) and a p-value of 0.000 (<0.05). Consequently, the fourth hypothesis is affirmed. The study's findings corroborate prior research indicating that elevated levels of green intellectual capital significantly contribute to the enhancement of business performance (Anser et al., 2024; Chawewong & Naipinit, 2023; Van Vo & Nguyen, 2023; Kumar et al., 2025). The possession of robust green intellectual capital allows SMEs to uphold product quality, foster innovation, and enhance customer awareness of eco-friendly products. Thus,



this affects enhanced client happiness, sales expansion, and revenue consistency, which ultimately fortify corporate performance.

The Influence of Green Marketing on Competitive Advantage

The hypothesis testing results demonstrate that green marketing exerts a favorable and significant impact on competitive advantage. Empirical evidence is indicated by a CR value of 2.550 (>1.96) and a p-value of 0.011 (<0.05). Consequently, the fifth hypothesis is affirmed. This research corroborates prior empirical findings indicating that effective solid green marketing implementation substantially enhances competitive advantage (He et al., 2023; Malik et al., 2020; Wang & Juo, 2021). The application of environmentally conscious marketing techniques, such as the use of environmentally friendly packaging, energy efficiency, and the use of natural materials, can generate a positive image for SMEs and become a source of competitive advantage. This distinctiveness gives a unique added value that is tough for competitors to reproduce.

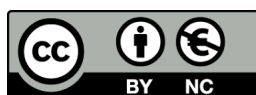
The Influence of Green Marketing on Business Performance

The hypothesis test results indicate that green marketing positively and significantly influences business performance. The CR value of 2.740, exceeding 1.96, and the p-value of 0.006, falling below 0.05, substantiate this claim. Consequently, the sixth hypothesis is affirmed. The results of this study align with prior research indicating that robust green marketing implementation enhances business performance (Nguyen et al., 2025; Ramirez et al., 2024; Khan et al., 2022; Tuan Tran et al., 2025; Al-Ahmed et al., 2025). Green marketing enhances competitive advantage, fosters customer loyalty, broadens market reach, and stimulates sales growth. Thus, its impact is directly manifested in the operational performance of culinary SMEs.

The Influence of Competitive Advantage on Business Performance

Hypothesis testing validated that competitive advantage positively and significantly influences business performance. The CR value of 2.113 above the essential threshold of 1.96, and the p-value of 0.035 is below 0.05. Consequently, the seventh hypothesis is validated and acknowledged. This finding aligns with prior studies indicating that a robust competitive advantage significantly enhances corporate performance (Lichtenthaler, 2022; Suandi et al., 2023; Pakpahan et al., 2023; Tuan Tran et al., 2025; (Waktola et al., 2024; Otache, 2024). Competitive advantage, manifested in product quality, a strong reputation, and research and development capabilities, has demonstrated the ability to enhance corporate performance. Highly competitive SMEs exhibit more resilience in competition, sustain profitability, and enhance customer satisfaction levels.

Conclusion



The analysis of the research findings indicates that enhanced implementation of green organizational culture, green intellectual capital, and green marketing in culinary SMEs in Yogyakarta correlates with an increase in competitive advantage and business performance. Culinary entrepreneurs can engage in diverse activities, including fostering organizational cultural values that prioritize environmental stewardship, enhancing human resource capabilities to develop eco-friendly products, utilizing natural raw materials, employing recyclable packaging, and conveying environmental commitments through marketing strategies. These techniques have demonstrated the capacity to establish distinctiveness that is challenging for competitors to replicate, enhance market share, bolster consumer loyalty, and stimulate sales growth and business profitability.

This study's results reveal that competitive advantage significantly mediates the impact of green culture, green intellectual capital, and green marketing tactics on firm performance. Culinary SMEs possessing competitive advantages, like superior product quality, a favorable reputation, and innovative capabilities, are more adept at competing in a competitive industry. Culinary SMEs in Yogyakarta must cultivate a pro-environmental organizational culture, enhance green intellectual capacity, and regularly implement green marketing to bolster their competitiveness and commercial performance. Moreover, the results of this study offer practical insight that sustainability is not merely a moral imperative but also a business strategy capable of creating additional value. Culinary SMEs might employ green solutions to uphold environmental sustainability while enhancing their competitive standing in a progressively challenging industry.

The findings of this study can assist culinary SMEs in incorporating sustainable practices into their operations, including the utilization of eco-friendly packaging, the selection of natural ingredients, and environmentally-focused marketing communications. Investment in green intellectual capital via training and human resource capacity development can enhance product quality, operational efficiency, and foster a favorable image among consumers. Moreover, the adoption of green marketing can enhance market share and bolster client loyalty. These results furnish local governments and SME groups with a foundation for designing support programs that encompass training, incentives, and environmental certification to promote more consistent sustainable practices. Consequently, green techniques enhance environmental conservation while simultaneously bolstering the competitiveness and operational efficacy of culinary SMEs in Yogyakarta.

This study possesses limitations. The study's scope was limited to culinary SMEs in Yogyakarta, hence the findings cannot be applied to other sectors or regions. Secondly, this study employed a cross-sectional methodology, therefore the link between variables was assessed solely at one specific moment in time. This study exclusively examined competitive advantage as a mediating variable, neglecting other characteristics, such as innovation capabilities or customer involvement, which may also affect the examined correlations. Consequently, subsequent study may be broadened to encompass various sectors and areas, employing a longitudinal



methodology and incorporating additional mediating and moderating variables to yield a more thorough understanding.

Acknowledgment

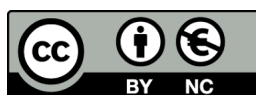
The introductory Lecturer Research program is organized by BIMA Kemendikbudtistek.

References

- Achmad, G. N., Yudaruddin, R., Budiman, P. W., Nor Santi, E., Suharsono, ., Purnomo, A. H., & Wahyuningsih, N. (2023). Eco-Innovation and SME Performance in Time of Covid-19 Pandemic: Moderating Role of Environmental Collaboration. *Emerging Science Journal*, 7, 251–263. <https://doi.org/10.28991/ESJ-2023-SPER-018>
- Adusei, E., Demah, E., & Mensah, H. K. (2024). Does going intellectually green matter? Accentuating the role of eco-innovation speed and quality in a competitive post-Covid 19 emerging market. *International Journal of Innovation Science*, 16(5), 910–931. <https://doi.org/10.1108/IJIS-01-2023-0019>
- Aggarwal, P., & Agarwala, T. (2023). Relationship of green human resource management with environmental performance: mediating effect of green organizational culture. *Benchmarking: An International Journal*, 30(7), 2351–2376. <https://doi.org/10.1108/BIJ-08-2021-0474>
- Al-Ahmed, H., Alshaketheep, K., Shajrawi, A., Mansour, A., Zraqat, O., Deeb, A., & Hussien, L. (2025). The impact of green marketing strategies on the accounting performance: the moderating role of AI utilization. *Heritage and Sustainable Development*, 7(1), 289–300. <https://doi.org/10.37868/hsd.v7i1.1074>
- Al-Swidi, A. K., Gelaidan, H. M., & Saleh, R. M. (2021). The joint impact of green human resource management, leadership and organizational culture on employees' green behaviour and organisational environmental performance. *Journal of Cleaner Production*, 316, 128112. <https://doi.org/10.1016/j.jclepro.2021.128112>
- Anser, M. K., Naeem, M., Ali, S., Huizhen, W., & Farooq, S. (2024). From knowledge to profit: business reputation as a mediator in the impact of green intellectual capital on business performance. *Journal of Intellectual Capital*, 25(5/6), 1133–1153. <https://doi.org/10.1108/JIC-01-2024-0025>
- Aris Indriyanti. (2022). Improving Institutional Performance Management Through Training, Leadership And Commitment . *International Journal of Progressive Sciences and Technologies (IJPSAT)* , 32(1), 288–299.
- Atalla, A. D. G., Elbassal, N. A. M. M., Kandil, F. S., El-Ashry, A. M., Mohamed, I. A. I., Behilak, S. E. G., & Elseesy, N. A. M. (2024). Green intellectual capital: The secret ingredient for organizational competitive advantage in the nursing profession—a cross-sectional study from Egypt. *Belitung Nursing Journal*, 10(3), 304–311. <https://doi.org/10.33546/bnj.3306>
- Becerra-Vicario, R., Ruiz-Palomo, D., León-Gómez, A., & Santos-Jaén, J. M. (2023). The Relationship between Innovation and the Performance of Small and Medium-Sized Businesses in the Industrial Sector: The Mediating Role of CSR. *Economies*, 11(3), 92. <https://doi.org/10.3390/economies11030092>
- Chandra, K., K., A. W., & Basri, Y. Z. (2021). nalysis of the effect of green organizational culture on organizational performance and competitive advantages of green through green innovation in manufacturing industries. *Journal of Hunan University Natural Sciences*, 48(6).
- Chawewong, K., & Naipinit, A. (2023). The influence of top management green commitment and green intellectual capital on sustainable business performance of Thailand's thrift and credit cooperatives. *Uncertain Supply Chain Management*, 11(3), 1047–1056. <https://doi.org/10.5267/j.uscm.2023.4.017>



- Chekima, B., Chekima, S., Syed Khalid Wafa, S. A. W., Igau, O. A., & Sondoh, S. L. (2016). Sustainable consumption: the effects of knowledge, cultural values, environmental advertising, and demographics. *Journal of Sustainable Development & World Ecology*, 23(2), 210–220.
- Chen, C. Der, & Ku, E. C. S. (2021). Diversified Online Review Websites as Accelerators for Online Impulsive Buying: The Moderating Effect of Price Dispersion. *Journal of Internet Commerce*, 20(1), 113–135. <https://doi.org/10.1080/15332861.2020.1868227>
- Dinas Lingkungan Hidup DIY. (2024). *Dinas Lingkungan Hidup*. <https://Dlhk.Jogjaprovo.go.id/>.
- Flores, J. C. Q., Daza-Moran, F., Ramírez-Alva, A., & Collao-Díaz, M. (2022). Improving service level performance by implementing lean six sigma in SMEs of the gaming peripherals industry in Peru: a case study. *South African Journal of Industrial Engineering*, 32(2). <https://doi.org/10.7166/33-2-2710>
- Ghozali Imam. (2017). *Aplikasi Analisis Multivariate dengan Program SPSS*. Universitas Diponegoro.
- Golo, A. K. T. G., & Astuti, C. D. (2023). Pengaruh Pengungkapan Green Intellectual Capital dan Sustainability Reporting Disclosure Terhadap Kinerja Perusahaan. *Jurnal Ilmiah Wahana Pendidikan*, 9(9), 45–61.
- Guedes, T. de A., & Rezende, B. R. P. de. (2024). Intellectual capital and human resources: A 26-year thematic systematic review. *Human Resources Management and Services*, 6(4), 3461. <https://doi.org/10.18282/hrms3461>
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- He, B., Cai, H., Ji, Y., & Zhu, S. (2023). Supply Chain Green Manufacturing and Green Marketing Strategies under Network Externality. *Sustainability*, 15(18), 13732. <https://doi.org/10.3390/su151813732>
- Hermawan, S., Tawfeeq Yousif Alabdullah, T., Sriyono, S., Sudarso, S., & Utomo, P. (2024). Green perspective on intellectual capital, corporate social responsibility, and competitive advantage: The role of firm performance. *Environmental Economics*, 15(1), 97–107. [https://doi.org/10.21511/ee.15\(1\).2024.08](https://doi.org/10.21511/ee.15(1).2024.08)
- Huang, Z., & Benyoucef, M. (2017). The effects of social commerce design on consumer purchase decision-making: An empirical study. *Electronic Commerce Research and Applications*, 25, 40–58. <https://doi.org/https://doi.org/10.1016/j.elerap.2017.08.003>
- Huldt Navarro, P., & Haag, L. (2024). Pursuing sustained competitive advantage through the use of process management. *International Journal of Lean Six Sigma*, 15(6), 1290–1315. <https://doi.org/10.1108/IJLSS-12-2023-0219>
- Imran, M., Arshad, I., & Ismail, F. (2021). Green Organizational Culture and Organizational Performance: The Mediating Role of Green Innovation and Environmental Performance. *Jurnal Pendidikan IPA Indonesia*, 10(4), 515–530. <https://doi.org/10.15294/jpii.v10i4.32386>
- Jamal, F. N., Othman, N. A., Fitriani, D., Rohmah, W., Leuveano, R. A. C., & Fahmi, A. A. (2023). Integrated Model of Brand Trust for Green Marketing. *International Journal of Sustainable Development and Planning*, 18(6), 1823–1831. <https://doi.org/10.18280/ijstdp.180617>
- Jeong, S. W., & Chung, J.-E. (2023). Enhancing competitive advantage and financial performance of consumer-goods SMEs in export markets: how do social capital and marketing innovation matter? *Asia Pacific Journal of Marketing and Logistics*, 35(1), 74–89. <https://doi.org/10.1108/APJML-05-2021-0301>
- Juo, W., & Wang, C. (2022). Does green innovation mediate the relationship between green relational view and competitive advantage? *Business Strategy and the Environment*, 31(5), 2456–2468. <https://doi.org/10.1002/bse.3037>
- Khan, K. U., Atlas, F., Arshad, M. Z., Akhtar, S., & Khan, F. (2022). Signaling Green: Impact of Green Product Attributes on Consumers Trust and the Mediating Role of Green Marketing. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.790272>
- Khan, M. S., & Terason, S. (2022). Encouraging pro-environmental behavior in university employees: An approach toward environmental sustainability as moderated by green organizational culture. *Journal of Community Psychology*, 50(3), 1454–1469. <https://doi.org/10.1002/jcop.22726>



- Kinanti, S. A., & Murwaningsari, E. (2024). Pengaruh Green Human Capital, Green Structural Capital dan Green Relational Capital terhadap Kinerja Perusahaan. *Jurnal Ekonomi Trisakti*, 4(1), 245–252.
- Kline, R. B. (2016). *Principles and Practice of Structural Equation Modeling (4th ed.)*. New York, NY: The Guilford Press.
- Kumar, J., Rani, V., Rani, M., & Rani, G. (2025). Linking green intellectual capital and firm performance through green innovation and environmental performance in small and medium-sized enterprises. *Journal of Intellectual Capital*. <https://doi.org/10.1108/JIC-10-2024-0345>
- Leedy, P. D., & JE, O. (2018). Practical research. Planning and design (11th ed.). Boston, MA: Pearson. *The Irish Journal of Psychology*, 1(2), 73–4.
- Lichtenthaler, U. (2022). Explicating a sustainability-based view of sustainable competitive advantage. *Journal of Strategy and Management*, 15(1), 76–95. <https://doi.org/10.1108/JSMA-06-2021-0126>
- Lima, L. A. de O., Santos, A. F. dos, Nunes, M. M., Silva, I. B. da, Gomes, V. M. M. da S., Busto, M. de O., Oliveira, M. A. M. L. de, & João, B. do N. (2024). Sustainable Management Practices: Green Marketing as A Source for Organizational Competitive Advantage. *Revista de Gestão Social e Ambiental*, 18(4). <https://doi.org/10.24857/rgsa.v18n4-087>
- Liu, H. (2021). COVID-19 information overload and generation Z's social media discontinuance intention during the pandemic lockdown. *Technological Forecasting and Social Change*, 166. <https://doi.org/10.1016/j.techfore.2021.120600>
- Liu, L., Cui, H., & Nie, Y. (2023). Cite Space-Based Bibliometric Analysis of Green Marketing. *Sustainability*, 15(12), 9840. <https://doi.org/10.3390/su15129840>
- Malik, S. Y., Cao, Y., Mughal, Y. H., Kundi, G. M., Mughal, M. H., & Ramayah, T. (2020). Pathways towards Sustainability in Organizations: Empirical Evidence on the Role of Green Human Resource Management Practices and Green Intellectual Capital. *Sustainability*, 12(8), 3228. <https://doi.org/10.3390/su12083228>
- Marco-Lajara, B., Zaragoza-Sáez, P. C., Martínez-Falcó, J., & Sánchez-García, E. (2023). Does green intellectual capital affect green innovation performance? Evidence from the Spanish wine industry. *British Food Journal*, 125(4), 1469–1487. <https://doi.org/10.1108/BFJ-03-2022-0298>
- Martínez-Falcó, J., Sánchez-García, E., Marco-Lajara, B., & Visser, G. (2025). The Influence of Green Intellectual Capital on Competitive Advantage: A Mediation Analysis in Spanish Wineries. *Journal of the Knowledge Economy*. <https://doi.org/10.1007/s13132-025-02811-9>
- Martínez-Falcó, J., Sánchez-García, E., Marco-Lajara, B., & Zaragoza-Sáez, P. (2025). Green intellectual capital and sustainable competitive advantage: unraveling role of environmental management accounting and green entrepreneurship orientation. *Journal of Intellectual Capital*, 26(1), 104–129. <https://doi.org/10.1108/JIC-07-2024-0204>
- Nadanyiova, M., Gajanova, L., & Majerova, J. (2020). Green Marketing as a Part of the Socially Responsible Brand's Communication from the Aspect of Generational Stratification. *Sustainability*, 12(17), 7118. <https://doi.org/10.3390/su12177118>
- Na-Nan, K. (2016). Performance Management For Small and Medium Enterprises (SMEs) in Thailand. *International Journal of Economic Research*, 13(4), 1641–1658.
- Nandika, T. S., Sadat, A. M., & Febrilia, I. (2023). Pengaruh Digital Marketing, E-WOM, Destination Branding dan Green Marketing Terhadap Visit Intention Desa Wisata. *Jurnal Bisnis Manajemen Dan Keuangan*, 4(1), 188–197.
- Natakoeseomah, S., & Adiarsi, G. R. (2020). The Indonesian Millenials Consumer Behaviour on Buying Eco-Friendly Products : The Relationship Between Environmental Knowledge and Perceived Consumer Effectiveness. *International Journal of Multicultural and Multireligious Understanding*, 7(9), 292–302.
- Nguyen, T. Q. H., Nguyen, T. T. H., & Ha, X. B. (2025). Impact of green marketing on competitive capabilities and business performance of tourism enterprises in Vietnam. *International Journal of Innovative Research and Scientific Studies*, 8(1), 543–563. <https://doi.org/10.53894/ijirss.v8i1.4401>
- Nguyen, Y. T. H., Tapanainen, T., & Nguyen, H. T. T. (2022). Reputation and its consequences in Fintech services: the case of mobile banking. *International Journal of Bank Marketing*, 40(7). <https://doi.org/10.1108/IJBM-08-2021-0371>



- Nozari, H., Jarosz, A. S., & Nahr, J. G. (2021). The Ideas of Sustainable and Green Marketing Based on the Internet of Everything – The Case of the Dairy Industry . *Future Internet*, 13(10), 266.
- Nuvriasari, A., Ishak, A., Hidayat, A., Mustafa, Z., & Haryono, S. (2020). The Effect of Market and Entrepreneurship Orientation on SME's Business Performance: The Role of Entrepreneurial Marketing in Indonesian Batik Industries. *European Journal of Business and Management*, 12(5), 29–37. <https://doi.org/10.7176/ejbm/12-5-04>
- Ogundare, J. A., & van der Merwe, S. (2024). The role of competitor orientation and proactiveness in competitive advantage for small- and medium-sized enterprises performance. *The Southern African Journal of Entrepreneurship and Small Business Management*, 16(1). <https://doi.org/10.4102/sajesbm.v16i1.786>
- Omidvar, M., & Palazzo, M. (2023). The Influence of Corporate Social Responsibility Aspects on Business Model Innovation, Competitive Advantage, and Company Performance: A Study on Small- and Medium-Sized Enterprises in Iran. *Sustainability*, 15(22), 15867. <https://doi.org/10.3390/su152215867>
- Osiako, P. O., Wikurendra, E. A., & Abdeljawad, N. S. (2022). Concept of green marketing in environment conservation: A literature review. *Environmental and Toxicology Management* 2. *Environmental and Toxicology Management* , 2(2), 8–13.
- Otache, I. (2024). Innovation capability, strategic flexibility and SME performance: the roles of competitive advantage and competitive intensity. *African Journal of Economic and Management Studies*, 15(2), 248–262. <https://doi.org/10.1108/AJEMS-06-2023-0221>
- Pakpahan, A., Lubis, A., Rini, E., Karina, & Sembiring, F. (2023). Business Unit Management Performance Analysis in PT. Perkebunan Nusantara II Medan-North Sumatra. *Quality - Access to Success*, 24(193). <https://doi.org/10.47750/QAS/24.193.17>
- Park, S. R., Kim, S. T., & Lee, H.-H. (2022). Green Supply Chain Management Efforts of First-Tier Suppliers on Economic and Business Performances in the Electronics Industry. *Sustainability*, 14(3), 1836. <https://doi.org/10.3390/su14031836>
- Pham, N. D., Pham, Q. T., Nguyen, T., Ho, V. H., & Tham, D. H. (2025). Green intellectual capital driving green competitive advantage: The mediation of green innovation and transformational leadership. *Edelweiss Applied Science and Technology*, 9(2), 984–999. <https://doi.org/10.55214/25768484.v9i2.4638>
- Putri, D. R., & Murtanto. (2023). Pengaruh Carbon Emission Disclosure, Carbon Performance, dan Green Intellectetual Capital terhadap Kinerja Perusahaan. *Jurnal Ekonomi Trisakti*, 3(1), 1069–1080.
- Qiu, L., Jie, X., Wang, Y., & Zhao, M. (2020). Green product innovation, green dynamic capability, and competitive advantage: Evidence from Chinese manufacturing enterprises. *Corporate Social Responsibility and Environmental Management*, 27(1), 146–165. <https://doi.org/10.1002/csr.1780>
- Ramirez, E., Moreno, G., & Hadjimarcou, J. (2024). Greening the bottom line: a new scale to discern consumer perceptions of a firm's green orientation. *Journal of Consumer Marketing*, 41(1), 49–60. <https://doi.org/10.1108/JCM-04-2022-5295>
- Ramirez, R., Bhatti, Y., & Tapinos, E. (2020). Exploring how experience and learning curves decrease the time invested in scenario planning interventions. *Technological Forecasting and Social Change*, 151, 119785. <https://doi.org/10.1016/j.techfore.2019.119785>
- Rehman, N., Majeed, N., Javaid, M. U., & Arooj, A. (2023). Assessing the sustainable development of firms: The moderating role of transformational leadership and firm size. *Business Strategy & Development*, 6(4), 957–971. <https://doi.org/10.1002/bsd2.290>
- Rodrigues, M., & Franco, M. (2023). Green Innovation in Small and Medium-Sized Enterprises (SMEs): A Qualitative Approach . *Sustainability* , 15(5), 4510.
- Sánchez-García, E., Montalvo-Falcón, J. V., Marco-Lajara, B., & Martínez-Falcó, J. (2024). Guiding organizations toward sustainable success: The strategic role of leadership in environmental corporate governance in the wine industry. *Corporate Social Responsibility and Environmental Management*, 31(6), 6438–6456. <https://doi.org/10.1002/csr.2925>
- Sari, G. M., & Nuvriasari, A. (2023). Improved Governance of Business Financial Reporting in MSMEs CV Gayatex Indo. *Asian Journal of Community Services*, 2(12), 931–942.



- Saunila, M., Ukko, J., & Jääskeläinen, A. (2024). The importance of performance measurement and management in sustainable supply chain governance among SMEs. *International Journal of Operations & Production Management*, 44(13), 229–250. <https://doi.org/10.1108/IJOPM-06-2023-0492>
- Senivongse, C., & Bennet, A. (2024). Unveiling the Triagonal Dynamics of Absorptive Capacity 4.0. *International Journal of Knowledge Management*, 20(1), 1–27. <https://doi.org/10.4018/IJKM.348958>
- Shah, S. M. M., Ahmed, U., Ismail, A. I., & Mozammel, S. (2021). Going Intellectually Green: Exploring the Nexus between Green Intellectual Capital, Environmental Responsibility, and Environmental Concern towards Environmental Performance. *Sustainability*, 13(11), 6257. <https://doi.org/10.3390/su13116257>
- Shehzad, M. U., Zhang, J., Dost, M., Ahmad, M. S., & Alam, S. (2023). Linking green intellectual capital, ambidextrous green innovation and firms green performance: evidence from Pakistani manufacturing firms. *Journal of Intellectual Capital*, 24(4), 974–1001. <https://doi.org/10.1108/JIC-02-2022-0032>
- Singagerda, F. S., Rahmawati, L., & Sabri, A. Z. S. A. (2024). Linking supply chain management practices with supply chain performance and food and beverage: Evidence from SMEs' competitive advantage. *Uncertain Supply Chain Management*, 12(2), 829–840. <https://doi.org/10.5267/j.uscm.2024.1.004>
- Suandi, E., Herri, Yuliasri, & Syafrizal. (2023). Evaluating the relationship between entrepreneurial marketing, competitive advantage, and Islamic banks performance. *Journal of Financial Services Marketing*, 28(3), 599–614. <https://doi.org/10.1057/s41264-022-00169-6>
- Sukaatmadja, I. P. G., Yasa, N. N. K., Rahyuda, H., Setini, M., & Dharmanegara, I. B. A. (2021). Competitive advantage to enhance internationalization and marketing performance woodcraft industry: A perspective of resource-based view theory. *Journal of Project Management*, 45–56. <https://doi.org/10.5267/j.jpm.2020.9.002>
- Sustrastanti, E., & Rachmawati, S. (2023). Pengaruh Budaya Organisasi Hijau, Modal Intelektual Hijau terhadap Kinerja Perusahaan dengan Inovasi Hijau sebagai variabel moderasi. *Jurnal Ekonomi Trisakti*, 3(2), 2349–2358.
- Tuan Tran, T., Van Vien, B., & Thi Tho, D. (2025). The impact of social responsibility on the competitive advantage of small and medium-sized enterprises in Hanoi, Vietnam. *Problems and Perspectives in Management*, 23(1), 325–338. [https://doi.org/10.21511/ppm.23\(1\).2025.24](https://doi.org/10.21511/ppm.23(1).2025.24)
- Turi, J., Mughal, M., Khan, M., & Khan, A. (2023). Nexus between Big Data and Green Intellectual Capital on Project Sustainability. *Journal of Engineering, Project, and Production Management*. <https://doi.org/10.32738/JEPPM-2023-0007>
- Türkçeş, M. C., Bănac, C.-S., & Stoenică, L. (2024). The Effect of Supply Chain Sustainability Practices on Romanian SME Performance. *Sustainability*, 16(7), 2887. <https://doi.org/10.3390/su16072887>
- Udriyah, Tham, J., & Azam, F. S. (2019). The Effects of Market Orientation and Innovation on Competitive Advantage and Business Performance of Textile SMEs. *Management Science Letters*, 9(9), 1419–1428.
- Van Vo, H., & Nguyen, N. P. (2023). Greening the Vietnamese supply chain: The influence of green logistics knowledge and intellectual capital. *Heliyon*, 9(5), e15953. <https://doi.org/10.1016/j.heliyon.2023.e15953>
- Waktola, B. S., Singh, M., & Singh, S. (2024). Linking stakeholders need and sustainable business performance: Unleashing the power of shared value creation for competitive advantage on selected banks in Ethiopia. *Business Strategy & Development*, 7(2). <https://doi.org/10.1002/bsd2.375>
- Wang, C. H., & Juo, W. (2021). An environmental policy of green intellectual capital: Green innovation strategy for performance sustainability. *Business Strategy and the Environment*, 30(7), 3241–3254. <https://doi.org/10.1002/bse.2800>
- Wang, C.-H. (2019). How organizational green culture influences green performance and competitive advantage. *Journal of Manufacturing Technology Management*, 30(4), 666–683. <https://doi.org/10.1108/JMTM-09-2018-0314>



- Wang, W., Zhang, D., Wang, H., Zhu, Q., & Morabbi Heravi, H. (2023). How do businesses achieve sustainable success and gain a competitive advantage in the green era? *Kybernetes*, 52(9), 3241–3260. <https://doi.org/10.1108/K-07-2021-0614>
- Witek, L. (2020). Green Marketing: The Environmentally-Friendly Attributes of Products and Decision to Purchase. *Folia Oeconomica Stetinensia*, 20(2), 451–467. <https://doi.org/10.2478/fofi-2020-0059>
- Xi, M., Fang, W., & Feng, T. (2023). Green intellectual capital and green supply chain integration: the mediating role of supply chain transformational leadership. *Journal of Intellectual Capital*, 24(4), 877–899. <https://doi.org/10.1108/JIC-12-2021-0333>
- Xu, X. (2020). Examining an asymmetric effect between online customer reviews emphasis and overall satisfaction determinants. *Journal of Business Research*, 106, 196–210. <https://doi.org/https://doi.org/10.1016/j.jbusres.2018.07.022>
- Yusoff, Y. M., Omar, M. K., Kamarul Zaman, M. D., & Samad, S. (2019). Do all elements of green intellectual capital contribute toward business sustainability? Evidence from the Malaysian context using the Partial Least Squares method. *Journal of Cleaner Production*, 234, 626–637. <https://doi.org/10.1016/j.jclepro.2019.06.153>
- Zhang, Y., & Berhe, H. M. (2022). The Impact of Green Investment and Green Marketing on Business Performance: The Mediation Role of Corporate Social Responsibility in Ethiopia's Chinese Textile Companies. *Sustainability*, 14, 3883.

