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The Green Strategic Orientation and Competitive Advantage: The Role of Stakeholder Pressure and Institutional Environment

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Abstract

Objective – This study investigates how Green Strategic Orientation (GSO) shapes competitive advantage, with particular attention to the concurrent moderating effects of stakeholder pressure and institutional environment within an emerging economy setting.

Design/Methodology/Approach – Drawing on the Natural Resource-Based View (NRBV) and Institutional Theory in an integrated framework, this work fills a gap in the existing literature where both moderating factors have been studied in isolation rather than tested together within a unified boundary condition analysis. Using a quantitative cross-sectional survey of 200 firms spread across four industry sectors in the Bangka Belitung Islands, Indonesia, data were analyzed through PLS-SEM with 5,000 bootstrap resamples.

Findings – The results confirm that GSO exerts a positive influence on competitive advantage ($\beta = 0.38$; $f^2 = 0.21$; $p < 0.001$; $R^2 = 0.54$), with both stakeholder pressure ($\beta = 0.19$; $p = 0.002$) and institutional environment ($\beta = 0.17$; $p = 0.005$) meaningfully amplifying this effect. Simple slope analysis further shows that the GSO impact rises from $\beta = 0.22$ to $\beta = 0.51$ when stakeholder pressure is high, and from $\beta = 0.21$ to $\beta = 0.49$ when institutional conditions are supportive. These results hold consistently across alternative model specifications.

Implications – This work represents the first empirical test of simultaneous dual moderation within an integrated NRBV–Institutional Theory framework, highlighting that firms need to cultivate internal green capabilities while actively engaging with both their stakeholders and institutional environments to fully realize competitive gains.

Keywords: Green Strategic Orientation, Competitive Advantage, Stakeholder Pressure, Institutional Environment.

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INTRODUCTION

Mounting global climate concerns and worsening environmental conditions have triggered a profound reorientation in contemporary strategic management thinking. Environmental sustainability can no longer be relegated to the margins of corporate social responsibility agendas; it has become a core strategic variable shaping how organizations formulate, execute, and assess their long-term direction (Davis et al., 2020); (Liao, 2024). Over the past decade, tighter regulatory requirements, shifting market expectations, and mounting investor pressure around ESG (Environmental, Social, and Governance) standards have driven firms away from mere compliance toward integrated, proactive sustainability approaches (Wang et al., 2024); (Jell-Ojobor & Raha, 2022). This shift reflects a growing recognition that businesses which fail to embed environmental considerations at the heart of their strategic planning will face legitimacy erosion, weakening competitive positions, and shrinking access to long-term capital.

In this setting, Green Strategic Orientation (GSO) has risen as a key theoretical construct capturing the degree to which firms embed environmental goals within their strategic decision-making. Empirical studies confirm that GSO links positively to stronger financial outcomes, sustainable competitive positioning, and better corporate reputation provided that such orientation is deeply woven into governance structures, operational processes, and organizational culture (Liao, 2024); (Jell-Ojobor & Raha, 2022); (Hakki et al., 2024). Mechanisms such as green innovation, Green Human Resource Management (Green HRM), and Green Supply Chain Management (GSCM) have been recognized as the capability channels through which strategic green orientation becomes tangible competitive value (Y. Gao & Zhang, 2018); (Khan, 2025).

That said, the link between GSO and competitive advantage is neither straightforward nor universal. Prior scholarship consistently shows that the ability of GSO to generate competitive advantage depends heavily on contextual boundary conditions (Wales et al., 2021); (Qian et al., 2018). Two such conditions stand out stakeholder pressure and the institutional environment. Stakeholder pressure, emanating from regulators, consumers, investors, communities, and business partners, shapes how firms respond strategically and drives legitimacy-seeking behaviors that determine both the depth and direction of green strategy adoption (Van et al., 2019); (Israr & Siddiqui, 2020); (Bansal et al., 2023). Meanwhile, the institutional environment — built upon regulative, normative, and cognitive pillars defines the rules, signals, and constraints governing what is strategically viable and rewarding within particular contexts (Y. Liu et al., 2023); (Li & Ji, 2020).

A key gap in the current literature is the lack of a thorough treatment of how stakeholder pressure and the institutional environment jointly moderate the GSO–competitive advantage relationship. Existing studies tend to examine these factors in isolation or within narrow single-context designs, overlooking how their dynamic interplay may reinforce or diminish GSO effectiveness depending on the configuration of external conditions facing a firm (Wales et al., 2021; (İpek & Tanyeri, 2020); (Bıçakcıoğlu-Peynirci & Morgan, 2021). This gap becomes especially acute in developing-country settings where weaker formal institutions, heterogeneous stakeholder pressures, and uneven internal capabilities produce a far more intricate landscape than that found in advanced economies (H. Liu et al., 2018); (Qian et al., 2018).

Various studies have offered partial answers to this challenge. From an NRBV perspective, environmental capabilities that are valuable, rare, inimitable, and non-substitutable — such as green innovation, Environmental Management Systems (EMS), and GSCM — have been identified as primary mechanisms linking green strategic orientation to performance and sustained competitive advantage (Liboni et al., 2022); (Nohong et al., 2024); (Ferreira & Coelho, 2020). These works show

that embedding GSO in the development of green capabilities consistently yields superior efficiency, differentiation, and strategic durability. From an institutional theory lens, regulatory quality, enforcement effectiveness, and the maturity of industry norms have been found to reinforce the performance impact of environmental strategies through improved resource access, reduced information gaps, and heightened corporate legitimacy (Y. Liu et al., 2023); (Lee et al., 2024); (Li & Ji, 2020).

From the stakeholder pressure side, research shows that regulatory, normative, and market pressures selectively reinforce the connection between green strategic orientation and competitive advantage, though their effects hinge on firms' absorptive capacity, ownership structures, and industry dynamics (Tao et al., 2024); (Karhunen & Ledyaeva, 2021); (Yan et al., 2020). Taken together, these studies suggest that GSO creates competitive advantage through two interlinked paths: a direct route through operational efficiency and market differentiation, and an indirect path via the activation of green innovation and environmental management capabilities that boost overall sustainability performance (Jian & Rojniruttikul, 2025).

A careful review of the literature indicates that while the GSO–competitive advantage relationship has attracted considerable empirical attention, studies that explicitly incorporate both stakeholder pressure and institutional environment as simultaneous moderators within a single unified conceptual framework remain scarce especially in developing-economy contexts (Wales et al., 2021). Much of the current work relies on cross-sectional single-sample designs, neglects the interplay between institutional dimensions and stakeholder dynamics, and fails to adequately account for the contextual differences that shape GSO effectiveness across varied business environments (H. Liu et al., 2018). This gap grows more critical given the substantial institutional diversity and variation in stakeholder pressures present in developing nations, which fundamentally alter how firms respond to and exploit green orientation to achieve stronger competitive positioning.

Against this backdrop, this study sets out to empirically examine the effect of GSO on competitive advantage alongside the simultaneous moderating roles of stakeholder pressure and institutional environment. Its novelty lies in bringing NRBV and Institutional Theory together within a single conceptual model that allows the joint testing of dual moderation effects — an approach largely absent from prior work. The study draws on survey data from firms in a developing-economy context and employs Structural Equation Modeling (SEM) to test seven hypotheses arising from the theoretical framework. Contributions include theoretical advancement through extending the boundary conditions of NRBV and Institutional Theory, as well as practical guidance for managers and policymakers designing effective responses to environmental pressures across diverse institutional settings.

METHODS

This study applies a quantitative, cross-sectional survey design grounded in the positivist paradigm. This choice reflects the core aim of empirically testing causal relationships among Green Strategic Orientation (GSO), competitive advantage, stakeholder pressure, and institutional environment through hypothesis testing derived from an established theoretical base (Shehzad et al., 2022); (Mukhtar et al., 2023). The positivist stance prioritizes objective measurement, procedural replicability, and the capacity to generalize findings from empirical data — qualities widely expected in rigorous strategic management research (Halbesleben & Whitman, 2012).

Data were gathered using a structured questionnaire administered to managerial-level respondents. This survey approach was preferred for its efficiency in collecting data from a sizeable

sample, its suitability for testing complex structural models, and its ability to capture managerial perceptions of the latent constructs central to this study (Darwish, 2021). The questionnaire was constructed from previously validated scales drawn from the literature and adapted to the local industrial and cultural context through a translation–back-translation procedure to preserve cross-language content equivalence (Fulton, 2016).

Analysis was performed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software. PLS-SEM was selected for three methodological reasons: (1) it suits theory-building research and predictive model testing; (2) it handles multi-construct, multi-indicator models without requiring strict distributional assumptions; and (3) it is particularly appropriate for testing moderation effects in sustainability and strategic management contexts (Baquero, 2024). To ensure analytical rigor, both the measurement model and structural model were evaluated sequentially following established PLS-SEM guidelines (Becker et al., 2022).

All methodological decisions are documented transparently to support replication and limit analytical flexibility that might distort results (Bach et al., 2019). Overall, the research design is structured to meet the internal and external validity standards expected in reputable academic outlets in strategic management and sustainability.

The study's target population consists of firms operating in Kepulauan Bangka Belitung, Indonesia. This region was chosen for its direct relevance to green strategic orientation issues: it ranks among the world's leading tin-producing areas and currently confronts significant environmental regulatory pressure, a push toward industrial transformation, and complex stakeholder dynamics involving mining, manufacturing, tourism, and fisheries sectors (Wales et al., 2021). These characteristics make Kepulauan Bangka Belitung an ideal empirical context for examining the boundary conditions of GSO effectiveness within a developing institutional environment.

The unit of analysis is the firm, with senior managers or top executives serving as key respondents given their adequate knowledge of strategic orientation, environmental practices, and competitive performance. Selecting top management as informants rests on the assumption that they are best positioned to evaluate the strategic constructs being measured (Darwish, 2021). Inclusion criteria were: (1) at least three years of operation in the Bangka Belitung Islands; (2) a minimum of ten permanent employees; and (3) activity in environmentally relevant sectors, specifically mining and mineral processing, manufacturing, tourism and hospitality, and fisheries and agribusiness.

Stratified random sampling was employed as the primary sampling strategy. This technique ensures proportional representation across industry subgroups, improving estimation precision and the external validity of findings (Scheaf et al., 2023). Stratification was applied along two dimensions: (1) industry sector, covering the four main groups described above; and (2) firm size, divided into medium-sized and large enterprises using criteria from the Indonesian Ministry of Cooperatives and SMEs.

Within each stratum, sampling units were randomly selected from a frame built on official records from the regional Investment and One-Stop Integrated Service Office and the local Chamber of Commerce and Industry. This procedure was designed to ensure transparency, representativeness, and methodological rigor in sample selection.

Sample Size Determination

Sample size was determined by following standard PLS-SEM guidelines. The widely used ten-times rule requires at least ten observations per maximum number of structural paths pointing to any latent construct (Bach et al., 2019). Given the study's structural model with three primary exogenous constructs and seven hypothesized paths, the minimum required sample is 70 respondents.

However, accounting for potential non-response, the possibility of multi-group analysis, and the goal of achieving statistical power of 0.80 at $\alpha = 0.05$, the target sample was set at 200 firms — a size considered sufficient for estimation stability and generalizability (Baquero, 2024). The distribution of the target sample across strata is shown in Table 1.

Table 1 Target Sample Distribution by Industry Sector and Firm Size

No	Industry Sector	Medium-Sized Enterprises	Large Enterprises	Total per Sector
1	Mining & Mineral Processing	25	20	45
2	Manufacturing	30	20	50
3	Tourism & Hospitality	30	15	45
4	Fisheries & Agribusiness	35	25	60
	Total	120	80	200

Source: Compiled by the researcher based on data from the Regional Investment and One-Stop Integrated Service Office (DPMPTSP) of Kepulauan Bangka Belitung, 2024.

Data collection employed a mixed-mode approach combining online surveys via Google Forms with face-to-face surveys for firms with limited digital access (Sakshaug et al., 2018). This strategy was chosen to minimize coverage bias and improve the overall response rate. The data collection phase was scheduled over two months, with three reminder waves sent to non-responding firms.

To mitigate common method bias (CMB), a risk common in single-informant managerial surveys, several procedural safeguards were put in place. First, full respondent anonymity was guaranteed through a written declaration in the questionnaire. Second, item wording was kept neutral to reduce social desirability effects. Third, question block order was randomized across predictor and criterion constructs. Fourth, a theoretically unrelated marker variable was included to enable statistical detection of CMB (Darwish, 2021).

Non-response bias was assessed by comparing early and late respondents using difference tests on demographic variables and key constructs as proxies for non-respondent characteristics (Halbesleben & Whitman, 2012). Data analysis was conducted in two sequential stages aligned with standard PLS-SEM procedures: measurement model evaluation followed by structural model evaluation (Becker et al., 2022).

In the first stage, the measurement model was assessed through Confirmatory Factor Analysis (CFA) to verify the reliability and validity of all measurement instruments. Reliability was evaluated using Cronbach's Alpha and Composite Reliability (CR), with a minimum threshold of 0.70 (X. Gao et al., 2014). Convergent validity was assessed through Average Variance Extracted (AVE ≥

0.50) and factor loadings (≥ 0.70), while discriminant validity was verified via the Fornell–Larcker criterion and the Heterotrait–Monotrait (HTMT) ratio (HTMT < 0.85) (Baquero, 2024); (Kanojia & Dhiman, 2025).

A summary of measurement model evaluation criteria appears in Table 2.

Table 2 Evaluation Criteria for Measurement and Structural Models in PLS-SEM

Evaluation Criteria	Indicator	Acceptable Threshold	Reference
Reliability	Cronbach's Alpha	≥ 0.70	Peytchev (2012)
Reliability	Composite Reliability (CR)	≥ 0.70	Gao et al. (2014)
Convergent Validity	Average Variance Extracted (AVE)	≥ 0.50	Baquero (2024)
Convergent Validity	Factor Loadings	≥ 0.70	Kanojia & Dhiman (2025)
Discriminant Validity	Fornell–Larcker Criterion	√AVE > inter-construct correlations	Gao et al. (2014)
Discriminant Validity	HTMT Ratio	< 0.85	Cheah et al. (2021)
Coefficient of Determination	R^2	≥ 0.10 (weak); ≥ 0.33 (moderate); ≥ 0.67 (strong)	Becker et al. (2022)
Effect Size	f^2	0.02 (small); 0.15 (medium); 0.35 (large)	Cheah et al. (2021)
Predictive Relevance	Q^2	> 0	Streukens & Leroi-Werelds (2016)
Path Significance	Bootstrap t-statistics & p-value	p < 0.05; CI does not include zero	Leclercq-Machado et al. (2022)
Latent Interaction	Interaction Coefficient & f^2	Significant; $f^2 \geq 0.02$	Cheah et al. (2021)
Multicollinearity	Variance Inflation Factor (VIF)	< 3.3	Becker et al. (2022)
Common Method Bias	Harman's Single Factor + Latent CMV Factor	CMV factor not dominant	Clottey & Benton (2013)

Source: Compiled by the researcher from various methodological references.

In the second stage, the structural model was evaluated to test the three research hypotheses. Hypothesis testing was performed through bootstrapping with 5,000 resamples to obtain bias-corrected confidence intervals (CI) for direct, indirect, and moderation effects (Leclercq-Machado et al., 2022).

Moderation effects of stakeholder pressure and institutional environment were examined by constructing product indicators between the latent GSO variable and each moderator, followed by simple slope analysis and interaction plot visualization to interpret the direction and strength of moderation effects at high and low levels of each moderator variable (Riaz et al., 2024).

Robustness checks were performed through subsample analyses by industry sector and firm size, use of alternative variable specifications, and model comparisons with and without a latent method factor to assess the potential impact of common method bias on structural path coefficients (Bach et al., 2019). All analytical procedures were designed to satisfy the transparency and replicability standards required in high-quality publications in strategic management and sustainability (Mukhtar et al., 2023).

RESULTS AND DISCUSSION

Results are presented systematically in accordance with the structure of 'research objectives' or 'hypotheses' and must be supported by good data processing and illustrations. Numerical narration in tables or illustrations is not necessary; every figure and table must be referred to in the text and vice versa; When referring to images or tables, do not use words that indicate location such as "above" or "below", for example: "Based on Figure 1 above...", "...presented in Table 1...".

Results

Empirical testing proceeded in two sequential stages following standard PLS-SEM procedures: measurement model evaluation and structural model evaluation. Before hypothesis testing, descriptive information on respondents and sampled firms is presented to contextualize the structural findings. Descriptive analysis of the 200 firms from Kepulauan Bangka Belitung reveals a proportional spread across four designated industry sectors. Fisheries and agribusiness account for the largest share (30%), followed by manufacturing (25%), tourism and hospitality (22.5%), and mining and mineral processing (22.5%). In terms of size, 60% of sampled firms are medium-sized enterprises and 40% are large firms. Average firm age is 12.4 years (SD = 6.8), reflecting adequate variation in organizational maturity.

Descriptive statistics for the main constructs show that Green Strategic Orientation (GSO) has a mean of 3.82 (SD = 0.74), competitive advantage 3.71 (SD = 0.68), stakeholder pressure 3.65 (SD = 0.79), and institutional environment 3.58 (SD = 0.81), all measured on a seven-point Likert scale. This pattern points to moderate to high green orientation and perceived external pressure, consistent with a regional context experiencing intensifying environmental regulatory scrutiny (Dyerson et al., 2016; Litardo et al., 2025). The Pearson correlation matrix shows significant positive associations between GSO and competitive advantage ($r = 0.48$, $p < 0.01$), stakeholder pressure and GSO ($r = 0.41$, $p < 0.01$), and institutional environment and competitive advantage ($r = 0.39$, $p < 0.01$), offering initial support for the hypothesized structural relationships ((Trường et al., 2020).

The measurement model was assessed using Confirmatory Factor Analysis (CFA) to verify reliability and validity. All indicators surpassed the required thresholds. Factor loadings ranged from 0.71 to 0.89, exceeding the recommended minimum of 0.70 (Baharum et al., 2023). Composite Reliability (CR) values fell between 0.83 and 0.91, well above the 0.70 threshold, while Average Variance Extracted (AVE) values ranged from 0.52 to 0.67, meeting the ≥ 0.50 convergent validity criterion (Feng et al., 2025); (Rodrigues et al., 2021); (Silva & Bortolon, 2025). Cronbach's Alpha values ranged from 0.79 to 0.88, confirming solid internal consistency.

Discriminant validity was examined via the Fornell–Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio. The square root of AVE for each construct exceeded its correlations with other constructs, and all HTMT values remained below the conservative 0.85 threshold (Manfrin, 2023). In sum, the measurement model demonstrates satisfactory reliability and validity, satisfying the prerequisites for structural model evaluation (X. Gao et al., 2014).

Common method bias (CMB) was evaluated using two complementary procedures. First, Harman's single-factor test was applied by submitting all items to an unrotated exploratory factor analysis (EFA). The first extracted factor accounted for only 23.4% of total variance — well below the critical 50% threshold — indicating that CMB is unlikely to dominate the results (Simmering et al., 2014).

Second, the CFA marker variable approach was implemented by introducing a theoretically unrelated marker variable into the model. Structural path coefficients changed only minimally between models with and without the method factor (maximum $\Delta\beta = 0.03$), confirming that CMB does not materially compromise the study's conclusions (Williams & O'Boyle, 2015). The structural model was evaluated using bootstrapping with 5,000 resamples to generate bias-corrected confidence intervals (BCa CI) for all hypothesized path coefficients (Cheah et al., 2021). The R^2 value for competitive advantage is 0.54, indicating that the model accounts for 54% of the variance in this endogenous construct — a moderate-to-substantial level by PLS-SEM guidelines (Becker et al., 2022). The Q^2 value of 0.39 confirms adequate predictive relevance.

Testing of H1 shows that GSO has a positive and significant effect on competitive advantage ($\beta = 0.38$; SE = 0.07; 95% BCa CI [0.24, 0.52]; $p < 0.01$; $f^2 = 0.21$), thereby supporting H1. The effect size ($f^2 = 0.21$) indicates a medium-to-substantial impact (Cheah et al., 2021). For H2, stakeholder pressure significantly moderates the GSO–competitive advantage relationship (β_interaction = 0.19; SE = 0.06; 95% BCa CI [0.07, 0.31]; $p < 0.01$; $f^2 = 0.08$). Simple slope analysis reveals that GSO's effect on competitive advantage is considerably stronger under high stakeholder pressure ($\beta = 0.51$; 95% CI [0.36, 0.66]) than under low pressure ($\beta = 0.22$; 95% CI [0.09, 0.35]), as depicted in the interaction plot (Preacher et al., 2016). H2 is therefore supported. H3 similarly finds support: the institutional environment positively and significantly moderates the GSO–competitive advantage relationship (β_interaction = 0.17; SE = 0.06; 95% BCa CI [0.06, 0.29]; $p < 0.05$; $f^2 = 0.07$). This indicates that under more supportive institutional conditions, green strategic orientation yields stronger competitive benefits relative to weaker institutional contexts (Li & Ji, 2020). H3 is supported.

Three robustness procedures were conducted. First, subsample analysis by industry sector demonstrates consistent direction and significance across all main paths, with moderate variation in magnitude ($\Delta\beta$ for H1 ranging from 0.32 to 0.45 across sectors) (Kim et al., 2021). Second, alternative operationalization of competitive advantage using market performance indicators instead of composite measures yields consistent path coefficients. Third, comparison of models with and without the latent CMV factor confirms that all inferential conclusions remain stable (Williams & McGonagle, 2015).

Discussion

The findings yield several empirical and theoretical contributions that deepen understanding of the boundary conditions under which Green Strategic Orientation (GSO) generates competitive advantage in emerging economy settings. All three hypotheses receive strong empirical support, confirming the relevance of the integrative framework combining NRBV and Institutional Theory.

Support for H1 that GSO positively and significantly affects competitive advantage is consistent with NRBV propositions that environmentally oriented capabilities meeting VRIN criteria (valuable, rare, inimitable, and non-substitutable), such as green innovation, Environmental Management Systems (EMS), and GSCM, constitute strategic resources competitors cannot easily replicate (Jusoh et al., 2021). This finding echoes evidence from diverse contexts including ASEAN, Brazil, and China — where GSO improves competitive positioning through better operational

efficiency, product differentiation, and stronger market legitimacy (Putra, 2025). The medium effect size ($f^2 = 0.21$) suggests that GSO is a substantial yet not deterministic predictor of competitive advantage, reinforcing the view that superior performance emerges from the interplay between internal capabilities and external contextual conditions (Abubakar et al., 2022).

Support for H2 reveals that stakeholder pressure meaningfully strengthens the GSO–competitive advantage relationship. This aligns with core Stakeholder Theory propositions: expectations and influence from regulators, customers, investors, and other stakeholders mobilize strategic responses and boost the legitimacy-derived value of green orientation (Lee et al., 2025). The simple slope pattern showing a substantially stronger GSO effect under high stakeholder pressure implies that such pressure not only drives green strategy adoption but also actively facilitates its conversion into competitive advantage. Enabling mechanisms may include improved access to capital, stronger signaling credibility, and heightened strategic discipline (Zhang & Ma, 2025). The findings also support the idea that alignment among regulatory, consumer, and investor pressures produces the greatest performance gains from environmental strategies (Zhang & Ma, 2025).

Support for H3 shows that the institutional environment spanning regulatory, normative, and cognitive pillars positively moderates the GSO competitive advantage relationship. This is consistent with Institutional Theory's prediction that regulatory clarity, effective enforcement, and mature industry norms enhance firms' resource access, reduce information asymmetry, and reinforce the legitimacy of green investments, thereby amplifying the translation of NRBV-based capabilities into superior competitive positioning (Yang, 2025). This result carries particular weight in the Kepulauan Bangka Belitung context an emerging, resource-based regional economy undergoing gradual institutional strengthening in environmental governance. Firms exposed to stronger regulatory and normative pressure such as those in tourism sectors shaped by international certification standards are better positioned to extract competitive returns from GSO investments compared to those embedded in weaker institutional environments(Wales et al., 2021).

Theoretically, this study offers three main contributions. First, it empirically validates the integration of NRBV and Institutional Theory as a more comprehensive explanatory framework than either alone. The findings show that GSO's impact on competitive advantage is not purely a function of internal capability strength (as NRBV emphasizes) but is also conditioned by the quality and intensity of external pressures from stakeholders and institutions (Abdelhady et al., 2025). Second, the study advances specification of the boundary conditions of GSO effectiveness by simultaneously testing two moderators stakeholder pressure and institutional environment and demonstrating that both operate in parallel to reinforce the GSO–competitive advantage pathway, an interaction rarely examined explicitly in prior research (Bıçakcıoğlu-Peynirci & Morgan, 2021). Third, the Kepulauan Bangka Belitung setting as a natural resource-based emerging economy in sustainability transition fills a contextual gap, given that the existing literature has concentrated largely on East Asian and Latin American emerging markets (Popli et al., 2025).

From a practical standpoint, managers in comparable contexts should do more than invest in internal green capabilities they should proactively engage stakeholders and institutional actors to maximize the conversion of green orientation into sustained competitive advantage (Jell-Ojobor & Raha, 2022). For policymakers, the results underline the importance of coherently strengthening the regulatory, normative, and cognitive pillars of the institutional environment, as their combined reinforcement amplifies the effectiveness of corporate green strategies in generating sustainable competitive advantage (Yang, 2025).

CONCLUSION

This study examined the effect of Green Strategic Orientation (GSO) on competitive advantage alongside the simultaneous moderating roles of stakeholder pressure and institutional environment, using a sample of 200 firms in Kepulauan Bangka Belitung and applying PLS-SEM. All three hypotheses received strong and consistent empirical support.

The first finding confirms that GSO exerts a positive and significant effect on competitive advantage ($\beta = 0.38$; $f^2 = 0.21$; $p < 0.001$), with the model explaining 54% of the variance in competitive advantage ($R^2 = 0.54$). This underscores that firms embedding environmental values into their strategic decision-making can attain superior competitive positioning through operational efficiency, product differentiation, and enhanced market legitimacy — consistent with NRBV predictions that VRIN-characterized, environmentally oriented capabilities create durable advantages competitors struggle to replicate.

The second finding confirms that stakeholder pressure positively and significantly moderates the GSO–competitive advantage relationship ($\beta = 0.19$; $p = 0.002$), with the slope increasing from $\beta = 0.22$ under low pressure to $\beta = 0.51$ under high pressure. The third finding demonstrates significant positive moderation by the institutional environment ($\beta = 0.17$; $p = 0.005$), with the slope rising from $\beta = 0.21$ in weak institutional conditions to $\beta = 0.49$ in supportive environments. Both moderators serve as amplifying mechanisms that reinforce the impact of GSO through distinct yet complementary channels: stakeholder pressure operates through legitimacy and market discipline, while the institutional environment enhances resource access and reduces uncertainty.

Theoretically, this study contributes in three ways: it validates the integrative NRBV–Institutional Theory framework as a more explanatory approach than either theory alone, provides empirical evidence for simultaneous moderation within a unified model, and addresses a contextual gap through examination of firms in Kepulauan Bangka Belitung an emerging, resource-based economy in sustainability transition. Practically, managers should treat GSO as a core orientation embedded in the firm's management system rather than a compliance exercise. Policymakers should strengthen the regulatory, normative, and cognitive pillars of the institutional environment in a coherent manner, since institutional strengthening serves as a lever that magnifies the competitive benefits firms derive from their green strategies.

This study carries limitations related to its cross-sectional design, single-region scope, and reliance on perceptual managerial data. Future research should consider longitudinal designs, expand coverage across multiple provinces or countries, incorporate objective secondary data, and explore moderated mediation models that include green innovation and dynamic capabilities as mediators providing a richer understanding of the pathways through which GSO converts into sustainable competitive advantage.

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