

Family Legacy to Green Renewal: Strategic Management Accounting, Green Innovation Capability, and Family Firm Sustainability across Indonesian Regions

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ABSTRACT

Family firms increasingly face the challenge of maintaining business continuity while responding to environmental pressures, competitive change, and intergenerational transition. This study aims to examine the relationships among Strategic Management Accounting (SMA), Green Innovation Capability (GIC), and Family Firm Sustainability (FFS), with particular attention to the indirect role of GIC. An explanatory cross-sectional quantitative design was employed using data from 250 family firms located in five Indonesian provinces. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to evaluate the measurement model, structural relationships, and indirect effect. The findings show that greater use of SMA is positively associated with stronger green innovation capability and higher family firm sustainability. Green innovation capability is also positively associated with sustainability and represents a significant indirect pathway linking SMA with broader sustainability outcomes. These results indicate that strategic accounting information becomes more relevant when firms possess the organizational capacity to recognize environmental opportunities and translate them into implementable product and process changes. The findings also suggest that the sustainability relevance of SMA extends beyond green innovation because strategic information remains associated with broader economic, competitive, and continuity-related decisions. Overall, the study contributes by integrating strategic information use, organizational capability, and multidimensional sustainability within an intergenerational family-business context.

Keywords: Family firm sustainability; Green innovation capability; Intergenerational family firms; Strategic management accounting; Sustainability

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1. INTRODUCTION

Family firms face a distinctive sustainability challenge because continuity depends not only on preserving ownership across generations but also on maintaining economic viability while responding to environmental pressures, stakeholder expectations, and organizational change. Investments in cleaner technologies, resource-efficient processes, and environmentally differentiated products may improve long-term competitiveness and preserve future opportunities, yet they often require substantial resources and involve uncertain short-term returns. These tensions are particularly salient in family businesses, where strategic decisions are shaped by both economic considerations and concerns related to reputation, legacy, and intergenerational continuity. Accordingly, sustainability in family firms is increasingly understood as a multidimensional condition encompassing economic prosperity, environmental quality, social responsibility, and the capacity to sustain the enterprise across generations (Clauß et al., 2022; Curado & Mota, 2021).

Family ownership, however, does not inherently produce sustainable behavior. Long investment horizons, close stakeholder relationships, and concern for family reputation may encourage responsible practices, but strong attachment to control, accumulated assets, and established routines may also discourage investments whose benefits are delayed or difficult to quantify. This tension explains why family firms display considerable heterogeneity in their environmental and sustainability performance. Prior studies therefore emphasize that sustainability depends not simply on family ownership itself but on the organizational practices and decision processes through which strategic choices are evaluated and implemented (Broccardo et al., 2019; Le Breton-Miller & Miller, 2016). Meta-analytic evidence likewise demonstrates substantial variation in the relationship between family involvement and environmental performance, while recent research differentiates the effects of ownership and control on environmental, social, and governance behavior (Miroshnychenko et al., 2022; Sun et al., 2024).

These decision processes become particularly important in intergenerational family firms. Founders may seek to protect routines, relationships, and assets that have historically supported organizational survival, whereas successors may be more inclined to explore technological, market, or environmental renewal. Succession therefore involves more than the formal transfer of ownership or managerial authority. It also requires the transfer and renegotiation of knowledge, judgment, strategic priorities, and decision-making capabilities (Baltazar et al., 2023; Porffrio et al., 2020). Wang et al. (2019) further show that successors' knowledge and willingness are associated with sustainable innovation and are influenced by leadership approval. In the Indonesian context, cultural values, family involvement, and entrepreneurial orientation have also been shown to shape succession and family-business outcomes (Anggadwita et al., 2020; Rachmawati et al., 2022). Yet these studies provide limited explanation of how family decision makers systematically evaluate the financial, competitive, and environmental consequences of alternative strategic choices.

Strategic Management Accounting (SMA) offers a relevant perspective for understanding this decision problem. Unlike conventional accounting practices that primarily record historical transactions, SMA extends the use of accounting information toward strategic questions involving product life-cycle costs, customers, competitors, market positioning, and future-oriented decision alternatives (Nik Abdullah et al., 2022; Ojra et al., 2021). Its value lies not merely in the availability of financial information but in the strategic use of financial and nonfinancial information when evaluating competing courses of action. This distinction is particularly relevant to environmental decisions. A cleaner input may appear more expensive when evaluated only through acquisition cost, yet its broader effects on waste reduction, product quality, customer retention, operating efficiency, and future resource requirements may alter its strategic value. Strategic cost analysis can make these consequences more visible across activities and product life cycles, while environmental management accounting research similarly shows that cleaner production often requires the integration of information systems with organizational learning and change (Burritt et al., 2019; Henri et al., 2016).

The potential contribution of SMA becomes more important when accounting information is considered as an input to organizational capability rather than as an outcome in itself. Information about costs, customers, competitors, resource losses, and environmental consequences may improve decision quality, but such information does not automatically generate environmentally oriented change. Firms must also be able to recognize opportunities, evaluate alternatives, experiment with new practices, coordinate resources, and implement product or process modifications. Green Innovation Capability captures this organizational capacity to transform environmental opportunities into feasible and implementable changes. Importantly, capability should be distinguished from realized environmental performance. The former reflects an organization's ability to act, whereas the latter reflects the outcomes that emerge from those actions. Research on learning and organizational capabilities has long

emphasized the importance of knowledge processes for green innovation performance, while more recent work highlights the organizational complexity involved in connecting environmental accounting practices with green innovation and strategic resilience (Albort-Morant et al., 2016; Huy & Phuc, 2025).

This distinction provides a plausible explanation for why the relationship between strategic accounting practices and sustainability may not be purely direct. Strategic information can help managers identify environmentally relevant opportunities and compare competing investments, but its value may depend substantially on whether the organization possesses the capability to translate information into experimentation, coordination, and implementation. Existing studies provide partial support for this reasoning. Research on SMA has examined its relationship with strategy, organizational conditions, and sustainable performance, while environmental accounting studies have linked information practices with environmental performance, waste management, and organizational knowledge (Appannan et al., 2023; Bresciani et al., 2023; Latifah & Soewarno, 2023; Pumiviset & Suttipun, 2024; Setiawan & Iskak, 2023). However, these streams of research remain largely fragmented. SMA studies often focus on adoption, performance, or general strategic outcomes, whereas environmental accounting and green innovation research more commonly investigates environmental practices without explicitly locating them within intergenerational family-firm decision processes.

A further conceptual issue concerns the meaning of sustainability itself. Green Innovation Capability should not be treated as equivalent to sustainability because the ability to develop and implement environmental improvements is analytically distinct from the outcomes ultimately achieved. Family Firm Sustainability encompasses broader dimensions, including economic viability, environmental outcomes, social practices, knowledge transfer, and preparedness for intergenerational continuity. Maintaining this distinction is important because it prevents accounting practices, organizational capabilities, and realized sustainability outcomes from being treated as interchangeable indicators of the same phenomenon. It also allows the relationship among these constructs to be examined as a sequence of distinct but connected organizational processes rather than as a single undifferentiated sustainability construct.

Despite growing interest in family-business sustainability, SMA, and green innovation, three related gaps remain. First, family-business research has extensively examined succession, long-term orientation, and sustainability, yet offers limited explanation of the strategic accounting processes through which environmental and economic trade-offs are evaluated across generations. Second, SMA research establishes the relevance of strategic information for organizational decision-making but provides comparatively limited evidence on the organizational capability through which such information may be translated into environmentally oriented action. Third, studies in Indonesia have addressed succession, SMA adoption, environmental accounting, and family-business performance largely as separate research streams or within specific local contexts, leaving limited evidence on how these mechanisms interact within intergenerational family firms (Anggadwita et al., 2020; Latifah & Soewarno, 2023; Setiawan & Iskak, 2023).

Against this background, this study examines the relationships among Strategic Management Accounting, Green Innovation Capability, and multidimensional Family Firm Sustainability in Indonesian family firms characterized by intergenerational involvement. Specifically, the study investigates whether the strategic use of accounting information is associated with stronger green innovation capability and whether this capability represents an organizational mechanism connecting strategic information use with broader sustainability outcomes. By integrating these constructs within an intergenerational family-business context, the study extends existing research beyond direct accounting-performance relationships toward a more process-oriented explanation of how strategic information may acquire sustainability relevance. The study also contributes to the Indonesian family-business literature by examining

these relationships across multiple provincial contexts while maintaining a clear distinction between strategic information use, organizational capability, and realized sustainability outcomes.

2. METHOD

Research Design and Setting

This study employed an explanatory cross-sectional quantitative design to examine the relationships among Strategic Management Accounting (SMA), Green Innovation Capability (GIC), and Family Firm Sustainability (FFS). The unit of analysis was the family firm, represented by one knowledgeable informant involved in strategic decision-making and familiar with the firm's accounting and innovation activities. Data were collected from family firms located in East Java, South Sumatra, East Kalimantan, South Sulawesi, and Bali to provide contextual variation across Indonesian regions without implying national representativeness.

Population, Eligibility, and Sampling

The study population comprised active family firms operating in the five selected provinces. Firms were eligible when a family owned at least 50% of the business or exercised effective strategic control, the firm had operated for at least two years, and a founder and successor or prospective successor participated in business decision-making. Eligible respondents included owners, family successors, or managers with sufficient knowledge of the firm's accounting practices, innovation activities, and strategic decisions. Only one questionnaire was retained from each firm.

Purposive sampling with provincial quotas was applied, resulting in a final analytical sample of 250 family firms, with 50 firms from each province. Potential respondents were identified through business associations, professional networks, and available local business directories and screened using the same eligibility criteria. Given the nonprobability sampling design, the findings are interpreted as relationships within the sampled firms rather than as population estimates for all Indonesian family businesses.

Measures and Construct Specification

All substantive constructs were measured using a five-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). SMA represented the strategic use of financial and nonfinancial information concerning strategic and life-cycle costs, customers, competitors, and environmental costs (Ojra et al., 2021; Setiawan & Iskak, 2023). GIC captured the organizational capacity to recognize environmental opportunities and design, test, coordinate, and implement environmentally oriented product or process changes (Huy & Phuc, 2025). FFS encompassed economic viability, environmental outcomes, social practices, and intergenerational preparedness (Clauß et al., 2022; Latifah & Soewarno, 2023).

Table 1. Construct Measurement and Specification

Variable	Indicators and Items	Measurement Specification
Strategic Management Accounting (SMA)	Strategic and life-cycle cost analysis, customer information, competitor information, and environmental cost information. Three items per domain, totaling 12 items.	Four reflective first-order dimensions forming a formative higher-order composite.
Green Innovation Capability (GIC)	Recognition of green opportunities and the ability to design, test, coordinate, and	Reflective construct.

Variable	Indicators and Items	Measurement Specification
Family Firm Sustainability (FFS)	implement environmentally oriented product or process changes. Five items. Economic viability, environmental outcomes, social practices, and knowledge transfer and successor preparedness. Three items per domain, totaling 12 items.	Four reflective first-order dimensions forming a formative higher-order composite.
Control Variables	Firm size, firm age, sector, and province.	Firm size was measured as the natural logarithm of one plus the number of employees; firm age as the natural logarithm of years in operation; sector was categorized as manufacturing, trade, services, or other; and province was represented using dummy variables with East Java as the reference category.

SMA and FFS were modeled as formative higher-order composites constructed from reflective first-order dimensions, whereas GIC was specified as a reflective construct. Firm size, firm age, sector, and province were incorporated as control variables to account for basic organizational and contextual differences.

Instrument Development and Data Collection

The questionnaire items were developed from the conceptual definitions of the constructs and adapted from relevant literature on strategic management accounting, green innovation, and family-firm sustainability. The instrument was reviewed for content relevance and clarity by scholars familiar with management accounting and family-business research and was piloted with family firms outside the analytical sample. Necessary revisions were made before the main data collection to improve item clarity and applicability across business sectors.

The questionnaire began with eligibility screening and firm-profile questions, followed by separate sections measuring SMA, GIC, and FFS. Organizational practices and performance were assessed with reference to the preceding 12 months, whereas successor preparedness reflected conditions at the time of the survey. Respondents were informed about the study purpose, voluntary participation, confidentiality, and their right to discontinue participation.

Data Analysis

Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed to assess the measurement and structural models. Prior to estimation, the dataset was screened for completeness, duplicate responses, coding inconsistencies, missing values, and response distributions. Because SMA and FFS were specified as hierarchical component models, a disjoint two-stage approach was applied. Reflective measurement models were evaluated using indicator loadings, composite reliability, average variance extracted (AVE), and the heterotrait-monotrait ratio (HTMT), whereas formative higher-order constructs were assessed using outer weights, substantive relevance, and variance inflation factor (VIF) values.

The structural model assessed the direct relationships among SMA, GIC, and FFS and the indirect association of SMA with FFS through GIC. Statistical inference was based on bootstrapping with 10,000 resamples, with path coefficients, p-values, 95% confidence intervals, coefficient of determination (R^2), and effect size (f^2) used to evaluate the model. Mediation was supported when the bootstrap confidence interval of the indirect effect excluded

zero. Firm size, firm age, sector, and province were included as control variables, and estimates from models with and without these controls were compared as a sensitivity assessment.

Bias Mitigation and Limits of Inference

Potential single-source and common-method concerns were addressed through procedural and statistical measures. The primary constructs were placed in separate questionnaire sections, neutral wording was used, and confidentiality was emphasized. Interconstruct correlations, HTMT values, and full-collinearity VIFs were examined as diagnostic indicators, but these statistics were not interpreted as proof that common-method bias had been fully eliminated.

Because the data were collected from one knowledgeable informant per firm at a single point in time, the structural paths and indirect effects represent statistical associations rather than evidence of temporal or causal relationships. Measures of knowledge transfer and successor preparedness likewise represent current organizational conditions and should not be interpreted as confirmation that future succession will necessarily be successful.

3. RESULTS AND DISCUSSION

RESULTS

Sample Characteristics and Descriptive Statistics

A total of 250 firm-level observations were included in the final analysis. The sample covered family firms from five Indonesian provinces and represented multiple business sectors. Table 2 presents the geographical distribution, sectoral composition, firm characteristics, and descriptive statistics of the main study constructs.

Table 2. Sample Profile and Descriptive Statistics

Characteristic	Category/Statistic	n	%
Province	East Java	50	20.0
	South Sumatra	50	20.0
	East Kalimantan	50	20.0
	South Sulawesi	50	20.0
	Bali	50	20.0
Sector	Manufacturing	64	25.6
	Trade	71	28.4
	Services	89	35.6
	Other	26	10.4
Firm age	Mean = 13.8 years SD = 8.7		
Employees	Mean = 41.6 SD = 53.2		
SMA	Mean = 3.82; SD = 0.56		
Green Innovation Capability	Mean = 3.74; SD = 0.61		
Family Firm Sustainability	Mean = 3.86; SD = 0.54		

Reflective Measurement Model

The reflective measurement model was evaluated in terms of indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. The results

satisfied the specified measurement criteria, with all retained indicators meeting the loading requirements and all constructs demonstrating acceptable reliability and convergent validity. Table 3 presents the complete measurement-model statistics.

Discriminant validity was assessed using the heterotrait-monotrait ratio of correlations (HTMT). All construct pairs remained below the specified threshold, supporting adequate empirical distinction among the reflective constructs.

Table 3. Reflective Measurement Model Assessment

Construct/First-Order Domain	Items	Loading Range	Cronbach's alpha	rho_A	CR	AVE
Strategic and Life-Cycle Cost Analysis	3	0.783–0.867	0.807	0.814	0.886	0.722
Customer Information	3	0.776–0.855	0.794	0.801	0.879	0.709
Competitor Information	3	0.748–0.842	0.765	0.773	0.864	0.679
Environmental Cost Information	3	0.801–0.889	0.832	0.838	0.899	0.748
Green Innovation Capability	5	0.789–0.884	0.899	0.904	0.926	0.715
Economic Viability	3	0.792–0.874	0.817	0.822	0.891	0.731
Environmental Outcomes	3	0.811–0.901	0.846	0.851	0.907	0.765
Social Practices	3	0.754–0.848	0.777	0.783	0.870	0.690
Knowledge Transfer and Successor Preparedness	3	0.786–0.872	0.810	0.817	0.888	0.726

Higher-Order Formative Construct Assessment

SMA and Family Firm Sustainability were evaluated as formative higher-order composites based on their respective first-order dimensions. The assessment indicated acceptable collinearity and statistically significant contributions from all first-order dimensions. Table 4 provides the outer weights, significance statistics, and VIF values for the formative specifications.

Table 4. Higher-Order Formative Construct Assessment

Higher-Order Construct	First-Order Dimension	Weight	t-value	p-value	VIF
SMA	Strategic and life-cycle cost analysis	0.342	6.218	<0.001	1.73
	Customer information	0.285	5.481	<0.001	1.62
	Competitor information	0.218	4.449	<0.001	1.58
	Environmental cost information	0.331	6.130	<0.001	1.91
Family Firm Sustainability	Economic viability	0.362	7.098	<0.001	1.88
	Environmental outcomes	0.337	6.481	<0.001	2.03
	Social practices	0.226	4.708	<0.001	1.69
	Knowledge transfer and successor preparedness	0.294	5.880	<0.001	1.77

Structural Model Assessment

Structural collinearity was examined before estimating the principal relationships, and no problematic collinearity was detected. The model demonstrated substantial explanatory

capacity for both endogenous constructs. Predictive relevance was also indicated by positive Q^2 values. The complete explanatory and predictive statistics are reported in Table 5.

Table 5. Explanatory and Predictive Statistics

Endogenous Construct	R ²	Adjusted R ²	Q ²
Green Innovation Capability	0.492	0.481	0.358
Family Firm Sustainability	0.621	0.607	0.441
Structural Relationships			

The structural relationships were evaluated using bootstrapping with 10,000 resamples. All three direct relationships were positive and statistically significant, and their bootstrap confidence intervals excluded zero. The strongest direct relationship was observed between SMA and Green Innovation Capability. The complete estimates, confidence intervals, and effect sizes are presented in Table 6.

Table 6. Structural Path Results

Structural Relationship	β	SE	t-value	p-value	95% CI	f ²
SMA → Green Innovation Capability	0.701	0.042	16.643	<0.001	[0.615, 0.778]	0.969
Green Innovation Capability → Family Firm Sustainability	0.521	0.055	9.409	<0.001	[0.410, 0.623]	0.361
SMA → Family Firm Sustainability	0.317	0.054	5.870	<0.001	[0.209, 0.417]	0.142

Indirect Effect

The mediation analysis showed a statistically significant indirect association between SMA and Family Firm Sustainability through Green Innovation Capability. The direct association remained statistically significant after the mediator was included, and the direct and indirect effects were in the same positive direction. The corresponding indirect, direct, and total effects are presented in Table 7.

Table 7. Indirect, Direct, and Total Effects

Relationship	Effect	β	SE	t-value	p-value	95% CI
SMA → GIC → FFS	Indirect	0.365	0.045	8.111	<0.001	[0.280, 0.455]
SMA → FFS	Direct	0.317	0.054	5.870	<0.001	[0.209, 0.417]
SMA → FFS	Total	0.682	0.042	16.238	<0.001	[0.594, 0.757]

The VAF was calculated as supplementary information:

$$VAF = (0.365 / 0.682) \times 100 = 53.5\%.$$

Control Variables and Sensitivity Assessment

The inclusion of firm size, firm age, sector, and province did not materially change the direction or statistical significance of the principal structural relationships. Among the reported firm-level controls, firm size was statistically significant, whereas firm age was not. Sector and province indicators showed comparatively limited associations with the outcome. The sensitivity model excluding the control variables produced a comparable pattern of principal relationships and indirect effects. Full-collinearity VIF diagnostics also remained within the specified threshold. These results indicate that the principal estimates were stable across the reported alternative specification.

DISCUSSION

The findings indicate that the sustainability of intergenerational family firms is associated not simply with family ownership, but with the organizational processes through which strategic information is interpreted and translated into action. The observed relationships position Strategic Management Accounting (SMA) as an informational foundation, Green Innovation Capability (GIC) as an organizational capability, and Family Firm Sustainability (FFS) as a multidimensional outcome. This sequence is important because it distinguishes the availability and use of strategic information from the organizational capacity to act on that information and from the sustainability outcomes that may subsequently be observed.

The strong association between SMA and GIC suggests that the relevance of accounting information extends beyond retrospective financial reporting. Strategic information concerning costs, customers, competitors, product life cycles, and environmental consequences can provide a broader basis for evaluating uncertain environmental initiatives. This interpretation is consistent with research that positions SMA as a decision-oriented system supporting strategic evaluation rather than merely documenting past transactions (Nik Abdullah et al., 2022; Oboh & Ajibolade, 2017; Ojra et al., 2021). It also aligns with environmental accounting research showing that information systems can make operational and environmental consequences more visible during strategic decision-making (Henri et al., 2016).

Such informational support is particularly relevant to green innovation because environmentally oriented investments often involve uncertainty regarding costs, implementation feasibility, market response, and the timing of expected benefits. Firms therefore require more than environmental awareness. They need routines that allow decision makers to compare alternatives, coordinate resources, learn from experimentation, and implement changes across organizational functions. Previous studies similarly emphasize that cleaner production and environmental innovation are supported by combinations of accounting information, organizational learning, and adaptive routines rather than by isolated accounting practices (Burritt et al., 2019, 2023). In this context, SMA may help reduce informational fragmentation by integrating economic, competitive, and environmental considerations within a more coherent strategic evaluation process.

This interpretation acquires additional relevance in family firms because strategic decisions frequently involve intergenerational negotiation. Founders and successors may differ in their tolerance for uncertainty, investment horizons, technological familiarity, and perceptions of environmental opportunities. Strategic accounting information can provide a common evidentiary basis for evaluating these differences without assuming that information alone determines the final decision. This perspective extends Indonesian evidence linking SMA use with owner-manager characteristics and innovation culture (Setiawan & Iskak, 2023) by locating strategic accounting within a broader organizational process of capability development and intergenerational decision-making.

The positive relationship between GIC and FFS further supports the distinction between environmental intention and organizational capability. A firm may recognize environmental pressures but still lack the routines required to redesign products, test alternative inputs, coordinate suppliers, or implement process improvements. GIC reflects the organizational capacity to move from recognition toward implementation, making it conceptually distinct from the sustainability outcomes that may be associated with such activities. This interpretation is consistent with research connecting environmental knowledge, management accounting, and organizational capabilities with environmental and sustainability-related performance (Appannan et al., 2023; Bresciani et al., 2023; Chaudhry & Amir, 2020).

The relevance of GIC becomes more apparent when sustainability is treated as multidimensional. In this study, FFS encompasses economic viability, environmental outcomes, social practices, and intergenerational preparedness. This broader conceptualization is consistent with family-business research showing that long-term continuity depends on more

than financial performance alone (Clauß et al., 2022; Curado & Mota, 2021). Green innovation capability may therefore be associated with sustainability because environmentally oriented adaptation can coincide with resource efficiency, organizational learning, product differentiation, stakeholder responsiveness, and long-term continuity. Similar arguments are reflected in research on responsible environmental and social management in family businesses and Indonesian corporate sustainability (Kazancoglu et al., 2021; Tjahjadi et al., 2021).

At the same time, the continued direct association between SMA and FFS indicates that the relevance of strategic accounting is not confined to green innovation. Strategic information may also support decisions involving resource allocation, pricing, customer profitability, investment timing, risk exposure, competitive positioning, and succession planning. These decision domains are directly related to the economic and organizational continuity of family firms and may remain relevant even when no specific green innovation initiative is undertaken. This interpretation is consistent with broader literature linking management accounting with strategic decision-making, organizational performance, and sustainability-related outcomes (Ahmad & Mohamed Zabri, 2024; Nik Abdullah et al., 2022; Ojra et al., 2021; Pumiviset & Suttiapun, 2024).

The indirect association through GIC adds an important process-oriented dimension to this relationship. The empirical pattern is consistent with the view that part of the relationship between strategic information use and sustainability is associated with the firm's capacity to translate information into environmentally oriented experimentation and implementation. This interpretation corresponds with studies that place innovation capability, environmental knowledge, or organizational learning between accounting practices and organizational outcomes (Bresciani et al., 2023; Huy & Phuc, 2025; Maryati & Soediro, 2024). However, GIC should not be treated as the sole pathway linking SMA with sustainability because the direct association remains evident. The overall pattern therefore points to multiple organizational channels through which strategic information may be related to family-firm sustainability.

The mediation result should nevertheless be interpreted cautiously. Because the study uses cross-sectional data obtained from a single knowledgeable informant, the indirect association cannot establish temporal ordering or causal mediation. Alternative explanations remain plausible. Firms with stronger managerial systems, greater resource availability, stronger leadership quality, or greater organizational sophistication may simultaneously report more extensive SMA use, stronger innovation capability, and better sustainability outcomes. The findings are therefore consistent with the proposed process, but longitudinal or multi-wave research would be required to determine whether strategic accounting practices precede capability development and whether such capabilities subsequently precede improvements in sustainability.

The study contributes to the literature by integrating strategic information use, green innovation capability, and family-firm sustainability within a single intergenerational framework. Rather than treating these constructs as overlapping dimensions of organizational performance, the model distinguishes information, capability, and outcome as analytically separate components. This distinction helps clarify why strategic accounting may be associated with sustainability both directly and indirectly and extends prior research that has often examined management accounting, green innovation, and family-business sustainability in separate streams.

A further contribution lies in shifting attention from family ownership itself toward the organizational processes through which sustainability is pursued. Previous research demonstrates that family involvement does not generate uniform environmental or sustainability outcomes across firms (Miroshnychenko et al., 2022; Sun et al., 2024). The present findings suggest that strategic information use and organizational capability may represent important conditions under which intergenerational decision-making is connected with broader sustainability outcomes. This perspective is particularly relevant because continuity in family

firms involves balancing current economic requirements with environmental responsibility, stakeholder expectations, and the preservation of organizational knowledge across generations. From a managerial perspective, the findings imply that improvements in accounting sophistication should be accompanied by organizational routines that support opportunity recognition, experimentation, coordination, and implementation. Strategic information may have limited practical value when firms lack the capability to translate it into organized action. Conversely, green initiatives undertaken without sufficient cost, market, competitor, and resource information may make it more difficult for founders and successors to assess their strategic feasibility. The managerial implication is therefore not to prioritize accounting or innovation in isolation, but to strengthen the interaction between strategic information and organizational capability.

These implications remain bounded by the design of the study. The sampled firms were selected purposively from five Indonesian provinces, and the analysis did not examine whether the relationships differ systematically across regions, sectors, or generations. The single-informant and cross-sectional design also constrains conclusions regarding temporal sequence and causality. Future research could address these limitations through longitudinal designs, multiple respondents within the same family firm, objective environmental and financial indicators, and comparative analyses across succession stages, governance arrangements, sectors, and regional institutional contexts.

4. CONCLUSIONS AND SUGGESTION

This study concludes that Strategic Management Accounting (SMA) is positively associated with Family Firm Sustainability (FFS), both directly and indirectly through Green Innovation Capability (GIC). The findings indicate that strategic information use, organizational capability, and sustainability are empirically distinct but closely related components of an intergenerational family-firm context. The indirect association through GIC suggests that the relevance of SMA to sustainability is partly connected with the firm's capability to recognize environmental opportunities and translate strategic information into environmentally oriented product and process changes, while the remaining direct association indicates that SMA may also be relevant to broader decisions concerning resource allocation, market positioning, risk, and business continuity. The study therefore contributes by integrating strategic accounting, green innovation capability, and multidimensional sustainability within a single family-business framework. From a managerial perspective, family firms may benefit from strengthening strategic accounting practices alongside organizational routines for experimentation, coordination, and implementation so that environmental considerations can be evaluated together with economic, competitive, and intergenerational priorities.

These conclusions should be interpreted within several limitations. The cross-sectional and single-informant design does not establish temporal or causal ordering, while purposive sampling across five Indonesian provinces limits population-level generalization. The use of perceptual measures may also leave the findings vulnerable to common-method and respondent-related bias despite the diagnostic procedures applied. Future research should employ longitudinal or multi-wave designs, collect data from multiple respondents within the same family firm, incorporate objective environmental and financial indicators, and use broader probability-based samples where feasible. Further studies could also examine whether the observed relationships differ according to succession stage, generation, sector, governance structure, environmental uncertainty, or regional institutional conditions. Such extensions would provide stronger evidence regarding the conditions under which SMA is associated with the development of green innovation capability and the longer-term sustainability of family firms.

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