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The Influence of Structural Attributes of Economic Entities on the Degree of Environmental Accounting Adoption: Evidence from Albanian Firms

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Abstract

Environmental accounting has become increasingly important for firms worldwide, yet its adoption remains uneven, particularly in transition economies. This study examines how structural attributes—specifically firm size, industry sector, ownership type, and market orientation—influence environmental accounting adoption among Albanian companies. Drawing on institutional theory and stakeholder theory, we hypothesize that these structural characteristics shape firms' capacity and motivation to implement environmental accounting practices. Using survey data from 73 Albanian firms and ordinal logistic regression analysis, we find that firm size is the most significant predictor of environmental accounting adoption ($p = 0.063$), with larger firms demonstrating higher levels of implementation. Contrary to expectations, industry sector, ownership type, and market orientation do not show statistically significant effects in our sample. The model's explanatory power (pseudo-$R^2 = 0.093$) suggests that additional factors beyond structural attributes influence adoption decisions. These findings indicate that in Albania's institutional context, characterized by weak regulatory enforcement and limited stakeholder pressure, firm size—likely serving as a proxy for resource availability, managerial capacity, and legitimacy concerns—emerges as the primary driver of environmental accounting practices. The study contributes to understanding environmental accounting adoption in emerging economies and has implications for policymakers seeking to promote sustainability reporting in transition contexts.

Keywords: environmental accounting, sustainability reporting, structural attributes, Albanian companies

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1. INTRODUCTION

Environmental accounting has gained global prominence as businesses face increasing pressure to integrate sustainability into their financial and managerial practices. Since the Brundtland Commission's call for sustainable development in 1987, there has been a growing narrative that companies must be accountable for their environmental impacts in addition to economic performance. Environmental accounting broadly refers to the identification, measurement, and reporting of environmental costs and performance within an organization's accounting system (Gray and Bebbington, 2001; Schaltegger and Burritt, 2000). It encompasses both internal practices (often termed environmental management accounting, such as tracking pollution costs or eco-efficiency) and external reporting (disclosing environmental and sustainability information to stakeholders). Implementing environmental accounting is important because it enables organizations to improve decision-making regarding resource use, enhance transparency, and demonstrate accountability for environmental stewardship (Gray and Bebbington, 2001). In turn, these practices support global sustainability goals and respond to stakeholder expectations for corporate responsibility (Hahn and Kühnen, 2013). Despite its importance, many firms worldwide still lag in integrating environmental considerations into accounting, creating a gap between the ideal of "green" accounting and the reality of predominantly financial-focused reporting (Gray et al., 1995).

In developed economies, environmental accounting and sustainability reporting have increasingly become mainstream, bolstered by frameworks like the Global Reporting Initiative (GRI) and emerging regulations (Hahn and Kühnen, 2013; Nikolaeva and Bicho, 2011). However, in developing and transition economies, the uptake is often slower and more uneven. Albania represents a case of a transition economy where environmental accounting is still at a nascent stage. Prior research in Albania is limited but indicates that corporate environmental accounting and reporting practices are underdeveloped (Sulanjaku, 2013). For instance, Sulanjaku (2013) found that awareness and application of environmental management accounting in Albania were minimal, citing lack of regulatory pressure and limited expertise. Similarly, early efforts by Albanian scholars have been mostly conceptual or exploratory – such as studies on recognizing environmental liabilities (Jupe et al., 2014) and proposals for basic environmental accounting models (Biracaj et al., 2014). With Albania's ongoing progress toward European Union integration and increasing alignment with EU sustainability directives, understanding the current determinants of environmental accounting implementation in Albanian firms is both timely and necessary. There is a need to identify what drives or hinders companies in adopting environmental accounting practices in this context.

This study addresses that need by examining the impact of structural characteristics of economic units on the level of environmental accounting implementation in Albania. Specifically, we investigate Hypothesis 1: The level of environmental accounting implementation in a company is influenced by its structural characteristics, namely firm size,

industry sector, ownership type, and market orientation. These factors are frequently cited in literature as potential determinants of sustainability and environmental reporting (Hahn and Kühnen, 2013; Nazari, Herremans and Warsame, 2015). Larger firms, for example, often have more resources and public visibility, which can facilitate and incentivize greater sustainability disclosures (Brammer and Pavelin, 2008; Gray et al., 1995). Industry sector can play a role because companies in environmentally sensitive industries (e.g. manufacturing or energy) may face higher stakeholder pressures to report environmental performance, whereas those in service or trade sectors might feel less pressure (Fernandez-Feijoo et al., 2013).

Ownership structure is another factor: subsidiaries of multinational or foreign-owned companies might implement advanced environmental accounting due to parent company policies or international best practices, while state-owned or purely domestic private firms might differ in their approach. Market orientation – whether a firm is focused only on the local market or also competes internationally – could influence exposure to global sustainability norms and stakeholder expectations (Nikolaeva and Bicho, 2011). Export-oriented or international market firms may adopt environmental accounting to meet standards required by foreign partners or to enhance reputation abroad. By empirically testing the influence of these four structural characteristics, this paper contributes to understanding which types of companies are leading or lagging in environmental accounting within Albania. The findings can inform policymakers and business leaders in tailoring strategies to promote broader implementation of environmental accounting practices.

The remainder of this paper is structured as follows. First, a brief literature review summarizes prior findings on environmental accounting and the role of firm size, sector, ownership, and market scope. Next, the methodology of the study is described, including the survey design and variables construction. We then present the results of the ordinal logistic regression analysis for Hypothesis 1, followed by a discussion of how these results compare with existing studies. Finally, the paper addresses limitations and offers recommendations for practice and future research.

2. LITERATURE REVIEW

Environmental Accounting and Its Importance: Environmental accounting (EA) is generally defined as the integration of environmental information into traditional accounting systems, encompassing both financial and non-financial metrics related to environmental impact (Gray and Bebbington, 2001). It includes practices such as tracking environmental costs, capitalizing or expensing environmental expenditures, and reporting on sustainability indicators alongside financial results. The implementation of EA is important for several reasons. Firstly, it improves internal management by highlighting inefficiencies and pollution costs, thereby encouraging more sustainable operations (Schaltegger and Burritt, 2000). Secondly, it enhances corporate transparency and accountability to stakeholders – companies report not only economic outcomes but also environmental performance, which can build trust and legitimacy (Gray and

Bebbington, 2001; Gray et al., 1995). In the broader context, EA contributes to sustainable development by aligning business metrics with environmental preservation goals. As Hahn and Kühnen (2013) note, the practice of sustainability reporting (a key aspect of EA) has expanded rapidly, driven by stakeholder demand and the realization that long-term business viability is linked with environmental stewardship. In summary, EA serves as a crucial tool for organizations to manage their environmental impact and demonstrate responsible conduct, which is increasingly expected in today's global business environment.

Influence of Firm Size and Industry Sector: Prior research consistently highlights firm size as a major determinant of corporate environmental accounting and reporting. Larger firms tend to have greater financial and human resources to dedicate to sustainability initiatives, and they often face more public scrutiny, which motivates them to adopt formal environmental accounting practices (Hahn and Kühnen, 2013; Brammer and Pavelin, 2008). Empirical studies have shown that large companies are more likely to publish environmental or sustainability reports and to implement environmental management systems compared to small and medium enterprises. For example, in their review of the literature, Gray, Kouhy, and Lavers (1995) found a strong positive association between company size and the extent of environmental disclosures. This is echoed in more recent analyses: Zharfpeykan and Askarany (2023) examined sustainability reporting across firms and confirmed that size was positively related to the adoption of such reporting, suggesting that bigger organizations feel both more pressure and more capability to implement EA.

Alongside size, the industry sector or type of industry is another critical factor. Companies in environmentally sensitive industries (such as manufacturing, mining, energy, or chemicals) typically face higher regulatory requirements and stakeholder pressures regarding pollution, resource usage, and environmental risk. Consequently, these firms often lead in environmental accounting implementation to manage compliance and public image (Fernandez-Feijoo et al., 2013; Nazari et al., 2015). In contrast, companies in sectors perceived as having lower direct environmental impact (e.g. financial services or trade) may exhibit lower levels of EA adoption. Prior research provides evidence of sectoral differences; for instance, a study by Brammer and Pavelin (2008) in the UK found that firms in high-impact sectors provided more comprehensive environmental disclosures. Nonetheless, the influence of industry is not uniform across all studies – some have noted that even within high-impact sectors, disclosure quality varies depending on other factors like stakeholder pressure intensity and management attitudes (Fernandez-Feijoo et al., 2013). Overall, literature suggests that being large in size and operating in a pollution-intensive industry both increase the likelihood that a firm will implement robust environmental accounting practices.

Influence of Ownership Type and Market Orientation: Beyond size and sector, organizational context factors such as ownership structure and market orientation have been explored as determinants of environmental accounting implementation. Ownership type refers to whether a company is privately owned, state-owned, or part of a multinational corporation

(foreign ownership). Studies have proposed that foreign-owned subsidiaries or companies with significant foreign investment may adopt more advanced sustainability accounting practices, due to transfer of know-how from parent companies or a need to meet international standards (Ali et al., 2024; Nikolaeva and Bicho, 2011). Likewise, publicly traded companies (ownership dispersed among shareholders) often experience greater pressure for transparency than privately held firms, potentially leading to more environmental reporting (Adams, 2002).

However, empirical findings on ownership effects are mixed. Nazari, Herremans, and Warsame (2015) point out that internal facilitators (like corporate governance structures) and external forces together shape sustainability reporting; a supportive ownership or board can drive reporting, but ownership alone (e.g. foreign vs domestic) does not guarantee it without external motivators. In emerging markets, some studies found that state-owned enterprises might actually report less on environmental issues compared to private firms, possibly due to weaker external accountability pressures, whereas other research suggests government-linked companies could lead by example in sustainability (the direction can depend on the specific institutional context).

Market orientation describes whether a firm is focused only on the domestic market or is internationally oriented (e.g., export-driven or part of global supply chains). The literature suggests that firms exposed to international markets are subject to *institutional and reputational pressures* that can encourage the adoption of global best practices in sustainability accounting (Nikolaeva and Bicho, 2011). For instance, export-oriented companies may need to comply with the environmental standards or reporting expectations of their overseas clients and partners. Hahn and Kühnen (2013) note that the globalization of supply chains and investor base has spread sustainability reporting practices even into regions where local pressure is low, as multinational companies cascade their sustainability requirements to suppliers. Empirical evidence by Nikolaeva and Bicho (2011) showed that companies with greater international exposure were faster in adopting the GRI reporting standards, linking this to both institutional pressures and a desire to build international reputation. In summary, while ownership type and market orientation are not as universally emphasized as size or sector, they are recognized as influential in certain contexts: foreign or publicly owned firms and internationally oriented firms are often hypothesized to have higher propensity for environmental accounting implementation. These factors often interplay with institutional forces – regulatory frameworks, stakeholder activism, and normative expectations – to shape a company's decision to adopt environmental accounting (Ikram and Khalid, 2022; Nazari et al., 2015).

Having reviewed the empirical literature on environmental accounting adoption, we now turn to the theoretical foundations that inform our hypotheses and guide our analysis.

2.1. Theoretical Framework

The adoption of environmental accounting practices by firms can be understood through multiple theoretical lenses, with institutional theory and stakeholder theory providing particularly relevant frameworks for transition economies like Albania.

2.1.1. Institutional Theory and Environmental Accounting

Institutional theory suggests that organizations adopt practices not solely based on technical efficiency, but in response to pressures from their institutional environment (DiMaggio and Powell, 1983). Three types of isomorphic pressures drive organizational behavior: coercive (regulatory and legal pressures), mimetic (imitation of successful peers), and normative (professional standards and education). In the context of environmental accounting, coercive pressures may come from environmental regulations and reporting requirements; mimetic pressures arise when firms imitate industry leaders who have adopted environmental practices; and normative pressures emerge from professional accounting bodies and business education emphasizing sustainability (Chathurangani and Madhusanka, 2019; Suryani and Rofida, 2020).

However, the strength of these institutional pressures varies considerably across national contexts. In developed economies with stringent environmental regulations and active civil society, institutional pressures strongly encourage environmental accounting adoption). By contrast, in transition economies like Albania, characterized by weaker regulatory enforcement, limited stakeholder activism, and nascent professional norms around sustainability, institutional pressures may be insufficient to drive widespread adoption (Zherri and Kalemi, 2025). Under such conditions, firm-level structural characteristics may become more salient determinants of adoption, as they reflect internal capacity and motivation independent of external institutional pressure.

2.1.2. Stakeholder Theory and Firm Structural Attributes

Stakeholder theory posits that firms must respond to the expectations and demands of various stakeholder groups—including investors, customers, employees, regulators, and local communities—to maintain legitimacy and secure resources (Freeman, 1984). Environmental accounting serves as a mechanism through which firms demonstrate responsiveness to stakeholder concerns about environmental performance (Valentinov, 2023). The salience of different stakeholder groups and the intensity of their demands vary systematically with firm structural attributes.

Firm size influences stakeholder dynamics in several ways. Larger firms typically face greater visibility and public scrutiny, making them more vulnerable to reputational risks from poor environmental performance (Legitimacy Theory; Dowling and Pfeffer, 1975). They also possess greater financial and human resources to invest in environmental management systems and reporting (Resource-Based View; Barney, 1991). Additionally, larger firms often have

more diverse and powerful stakeholder groups, including institutional investors who increasingly demand environmental, social, and governance (ESG) information.

Industry sector determines the environmental impact profile of firms and consequently the intensity of stakeholder pressure they face. Firms in environmentally sensitive sectors (e.g., manufacturing, energy, mining) encounter stronger regulatory oversight and community concerns, theoretically motivating greater environmental accounting adoption (Chathurangani and Madhusanka, 2019). However, this relationship may be attenuated in contexts with weak environmental governance.

Ownership structure affects stakeholder priorities and management autonomy. Foreign-owned or internationally oriented firms may face pressure from global stakeholders (parent companies, international customers) with higher environmental expectations than domestic stakeholders, potentially driving environmental accounting adoption even in weak institutional environments (Suryani and Rofida, 2020). State-owned enterprises may face different legitimacy pressures related to demonstrating public accountability.

Market orientation, particularly export activity, exposes firms to international market standards and customer requirements that may mandate environmental reporting, even when domestic regulations are weak.

2.1.3. Application to the Albanian Context

Albania represents a particularly interesting empirical setting for examining these theoretical mechanisms. As a transition economy and EU candidate country, Albania faces institutional ambiguity: traditional regulatory frameworks remain weak, while pressure to adopt EU standards is increasing (Zherri and Kalemi, 2025). In this context, we expect firm structural characteristics to play an outsized role in determining environmental accounting adoption, as firms with greater size, international exposure, or presence in visible sectors may proactively adopt practices in anticipation of future requirements or to gain competitive advantage, even absent strong current institutional pressure.

Therefore, we hypothesize that firm size, industry sector, ownership type, and market orientation—as proxies for resource capacity, stakeholder pressure intensity, and legitimacy concerns—will positively influence the degree of environmental accounting adoption among Albanian firms. These theoretical perspectives—institutional theory and stakeholder theory—provide the foundation for our empirical investigation of how structural attributes shape environmental accounting adoption among Albanian firms.

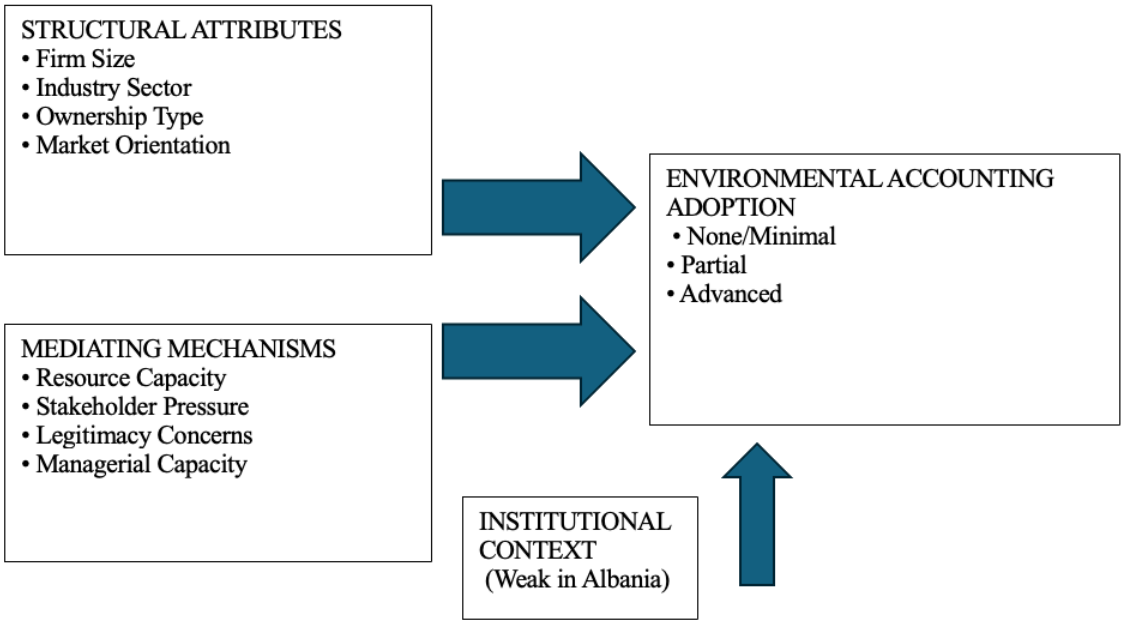

Figure 1. Conceptual framework showing how structural attributes influence environmental accounting adoption through mediating mechanisms, moderated by institutional context strength

3. METHODOLOGY

3.1. Survey and Data Collection

To investigate the structural determinants of environmental accounting implementation, we conducted a survey of Albanian companies. The survey instrument was a structured questionnaire title Questionnaire on Environmental Accounting and Sustainability Reporting, which was distributed to firms across various industries. Respondents were typically financial managers, accountants, or sustainability officers knowledgeable about their company's practices. In total, 73 companies provided valid responses, forming the sample for analysis. The survey encompassed multiple sections; relevant to this study were sections capturing the extent of environmental accounting practices in place and the company's structural characteristics. Participation was voluntary and responses were kept confidential to encourage honest reporting.

3.1.1. Sample Selection and Data Collection Procedures

The sample for this study was selected using a purposive sampling approach targeting medium and large Albanian firms across multiple sectors. The initial sampling frame was constructed from the Albanian Business Registry and included all registered companies with more than 50 employees, as smaller firms were presumed less likely to have formalized environmental accounting practices. From this frame of approximately 350 eligible firms, we contacted 150 firms via email and telephone, explaining the research purpose and requesting participation

from senior management or accounting personnel familiar with the firm's environmental practices.

Data collection was conducted between January and March 2025 through a structured questionnaire administered both online (via email link) and in-person at selected firms. Of the 150 firms contacted, 73 provided complete responses, yielding a response rate of 48.7%. This response rate is comparable to similar surveys in transition economies. Non-response was primarily due to firms declining participation (citing confidentiality concerns or lack of time) rather than inability to complete the survey, suggesting that non-response bias may be limited, though we acknowledge that firms with no environmental practices may be underrepresented.

The final sample of 73 firms represents diverse sectors: manufacturing (n=28, 38.4%), services (n=22, 30.1%), trade and distribution (n=15, 20.5%), and other sectors including construction and energy (n=8, 11.0%). Firm size ranged from 51 to over 500 employees, with a median of 120 employees. Ownership composition included majority domestic ownership (n=55, 75.3%), foreign or mixed ownership (n=18, 24.7%). Market orientation showed that 52 firms (71.2%) served primarily domestic markets, while 21 firms (28.8%) had significant export activity or international partnerships.

Handling of Missing Data: The survey instrument was designed to minimize missing data through skip logic and required fields for key variables. For the few cases with missing values on secondary variables (less than 3% of responses), we employed listwise deletion, as the small amount of missing data was unlikely to bias results substantially. The dependent variable (environmental accounting adoption index) and primary independent variables (firm size, sector, ownership, market orientation) had no missing values.

3.2. Variables and Hypothesis

This paper focuses on Hypothesis 1, which posits that ***the level of environmental accounting implementation is influenced by structural characteristics of the firm (size, industry sector, ownership type, market orientation)***. The dependent variable is the level of environmental accounting implementation, measured on an ordinal scale. To derive this, several survey questions on specific environmental accounting practices were combined into a composite index. In particular, five key questions (from section 3 of the questionnaire) were used, covering different aspects of EA practice: adoption of environmental accounting standards (e.g. use of GRI, ISO 14001, EU CSRD guidelines), the number of environmental accounting practices implemented (such as separate tracking of energy costs, waste management accounting, etc.), the extent of environmental reporting (none, internal only, or public reporting), integration of environmental information into the accounting system, and whether distinct environmental accounts are maintained in financial records. Each component was scored or normalized to a scale of 0 to 100. For example, respondents indicated how many of a list of possible environmental accounting practices they had adopted (scored 0 to 6, then converted to 0–100%)

and whether they produce environmental reports (scored 0 for none, 50 for internal reports, 100 for public reports). These component scores were averaged (with equal weight) to produce an overall implementation index for each company. Finally, the index was translated into an ordinal categorical variable with three levels: 0 = No Implementation, 1 = Partial Implementation, 2 = Full/Advanced Implementation. Specifically, companies scoring 0 on all key practices were classified as "no implementation"; those with some practices but not comprehensive adoption were "partial"; and those with high scores across components (indicating systematic adoption of EA practices and reporting) were "full or advanced" implementers.

The independent variables of interest are the structural characteristics:

- **Firm Size:** Measured in terms of number of employees. For analysis, size was treated as a continuous or quasi-continuous variable (given the range of company sizes in the sample). In practice, the logarithm of employee count was used to linearize its relationship with the logit, or companies were categorized by size class and then assigned an ordinal scale. Larger values indicate larger firms.
- **Industry Sector:** A categorical variable indicating the primary industry of the company. Respondents selected their sector from a predefined list (e.g., Manufacturing, Services, Construction, Energy, Transport and Storage, Finance and Insurance, Trade, Information Technology, Other). For regression modelling, sector was dummy coded into several binary variables. "Trade" (commerce) was used as the reference category since it was a common sector in the sample. The model thus estimates the effect of being in each other sector relative to trade.
- **Ownership Type:** A binary categorical variable representing the ownership structure. Companies wholly owned by domestic private entities were coded as 0 (reference), whereas companies with any significant foreign ownership or joint ventures, as well as state-owned enterprises (if any in the sample), were coded as 1. (In our sample, the majority were private domestic firms; a smaller number had foreign or mixed capital, and state-owned companies were few.)
- **Market Orientation:** A binary variable indicating whether the company operates solely in the domestic market or also in international markets. Firms serving only the Albanian market were coded 0 (reference), and those that export or provide services internationally were coded 1. This variable captures the firm's international exposure or integration into global markets.

In addition to these primary predictors, the survey collected other information (such as manager perceptions, knowledge, and attitudes toward environmental accounting), but those factors pertain to separate hypotheses and are not included in the present analysis. By isolating the structural attributes, we aim to test the pure structural effect posited by Hypothesis 1.

3.2.1. Construction and Validation of the Environmental Accounting Implementation Index

The dependent variable, representing the degree of environmental accounting implementation, was constructed as a composite index based on eight survey items assessing different dimensions of environmental accounting practice. These items included: (1) tracking of environmental costs separately in accounting records; (2) use of environmental performance indicators; (3) preparation of environmental reports (internal or external); (4) integration of environmental information in management decision-making; (5) environmental budgeting; (6) life-cycle cost analysis; (7) environmental auditing; and (8) disclosure of environmental information in annual reports. Each item was scored on a 3-point scale (0 = not implemented, 1 = partially implemented, 2 = fully implemented), yielding a raw index score ranging from 0 to 16.

To validate the index, we examined its internal consistency using Cronbach's alpha, which yielded $\alpha = 0.82$, indicating acceptable reliability. Factor analysis confirmed that the eight items loaded on a single underlying dimension (environmental accounting comprehensiveness), with eigenvalue of 4.23 explaining 52.9% of variance. Item-total correlations ranged from 0.54 to 0.71, suggesting that all items contribute meaningfully to the composite measure.

For analysis, the raw index scores were transformed into an ordinal categorical variable with three levels: None/Minimal (score 0-5, n=31, 42.5%), Partial (score 6-11, n=27, 37.0%), and Advanced (score 12-16, n=15, 20.5%). This categorization reflects conceptually distinct stages of environmental accounting maturity: firms with no or minimal practices, firms with moderate implementation, and firms with comprehensive systems. The ordinal nature of this variable justified the use of ordinal logistic regression for hypothesis testing.

3.3. Data Analysis Method

Given the ordinal nature of the dependent variable (three ordered levels of implementation), we employed an ordinal logistic regression model (also known as the cumulative logit model). This model is appropriate for estimating relationships where the outcome is ordinal and assumes that the relationship between each pair of outcome groups is the same (proportional odds assumption). The general form of the model is:

$$\text{Logit}(P(Y \leq j) = \alpha_j - (\beta_1 * \text{Size} + \beta_2 * \text{Sector} + \beta_3 * \text{Ownership} + \beta_4 * \text{Orientation})$$

where $(P(Y \leq j)$ is the cumulative probability of being at or below implementation level j (for j=0,1,2 with 2 being the highest), α_j are intercepts (thresholds) for the categories, and the β coefficients represent the effects of each independent variable. In our specification, $\beta 1$ corresponds to firm size. Sector is represented by multiple coefficients (one for each non-reference sector: manufacturing, services, construction, energy, transport, finance, etc., with trade as the baseline). $\beta 3$ represents the effect of foreign ownership (ownership type), and $\beta 4$ represents international market orientation.

The model was estimated using maximum likelihood. We evaluated overall model fit with a Likelihood Ratio (LR) chi-square test comparing the model to a null (intercepts-only) model, and we report a pseudo-R^2 (McFadden's R^2) as an indicator of explanatory power. We also checked that the proportional odds assumption was not violated (this was tested by a Brant test – no significant violation was found, allowing us to use the ordinal logit without separate slope coefficients for different outcome splits). Finally, we examined the coefficients, their significance (p-values), and the direction of effects to draw conclusions about Hypothesis 1.

3.4. Descriptive Statistics

Table 1. Descriptive statistics of sample and variables

Variable	Category/Measure	N	%	Mean	SD
Environmental Accounting Implementation	None/Minimal	31	42.5%		
	Partial	27	37.0%		
	Advanced	15	20.5%		
	Index Score (continuous)	73		7.34	4.12
Firm Size	Employees (number)	73		185.3	142.7
	ln(Employees)	73		4.89	0.81
Industry Sector	Manufacturing	28	38.4%		
	Services	22	30.1%		
	Trade/Distribution	15	20.5%		
	Other[1]	8	11.0%		
Ownership Type	Domestic	55	75.3%		
	Foreign/Mixed	18	24.7%		
Market Orientation	Domestic Only	52	71.2%		
	Export/International	21	28.8%		

Table 1 presents descriptive statistics for the sample and key variables. The distribution of environmental accounting implementation shows that most firms (42.5%) fall into the minimal category, with fewer reaching advanced stages (20.5%). This suggests that environmental accounting is still at early stages of diffusion in Albania. The sample includes firms of varying sizes, though with a right-skewed distribution typical of business populations (hence the log transformation for regression analysis). Manufacturing firms constitute the largest sectoral group, consistent with their economic importance in Albania. The predominance of domestic-only firms (71.2%) reflects Albania's economic structure, though a substantial minority have international linkages.

Having described our data collection procedures and analytical approach, we now present the findings from our ordinal logistic regression analysis.

[1] The "Other" category (n=8, 11.0%) includes Energy (n=3, 4.1%), Finance & Insurance (n=3, 4.1%), and Education/Private Schools (n=2, 2.7%).

4. RESULTS

Table 2 presents the results of the ordinal logistic regression for Hypothesis 1, showing the estimated coefficient (Beta), p-value, and a brief interpretation for each predictor. The results indicate that firm size has a positive coefficient and is the only factor approaching statistical significance at conventional levels. Specifically, the coefficient for company size is $\beta = 0.98$ with $p = 0.063$, suggesting that larger companies have higher odds of being in a greater environmental accounting implementation category (i.e., moving from no implementation to partial, or partial to full) compared to smaller companies. This effect is *marginally significant* (just above the 0.05 threshold, significant at the 10% level), meaning there is moderately strong evidence that size matters. In practical terms, every increase in firm size (e.g., an increase in employee count or size category) is associated with an increase in the likelihood of implementing environmental accounting practices, aligning with expectations that bigger firms tend to adopt more sustainability practices.

For industry sector, none of the sector dummy variables showed a statistically significant effect at the 5% level, although the direction of some effects is noteworthy. Using the trade sector as the baseline, companies in the manufacturing sector had a negative coefficient ($\beta = –0.84$) with $p = 0.415$, indicating that manufacturers in our sample were less likely (though not significantly so) to implement environmental accounting relative to trading companies. Companies in services showed a positive coefficient ($\beta = +1.89$) with $p = 0.111$, implying a tendency for service sector firms to have higher implementation levels than trade, but this result was not statistically significant (the p-value exceeds 0.10). Firms in construction had essentially no difference from trade ($\beta = –0.03$, $p = 0.982$). Several sectors – Energy, Transport & Storage, and Finance & Insurance – show very large negative coefficients (β around –11 to –15) with p-values around 0.98–0.99, but these estimates are not statistically reliable because in our sample none of the surveyed companies from those particular sectors had implemented environmental accounting (i.e., all were in the "no implementation" category). As a result, the model assigns an extreme coefficient to fit that pattern, but with virtually no significance. These findings indicate that, within our data, industry sector did not have a clear or significant impact on the level of EA implementation. The only hint of a sector effect is that service-oriented companies might be more inclined to adopt EA than trading companies, but the evidence is not strong enough to confirm a real difference. It is notable that some high-impact sectors like energy or finance did not have any implementers in the sample, which speaks to the overall low uptake of EA in those sectors in Albania (and yields uncertain coefficient estimates for them).

Neither of the remaining structural factors showed a meaningful effect. Ownership type (foreign or mixed ownership vs domestic) had a coefficient ($\beta = –0.11$, $p = 0.932$) essentially zero, indicating no difference in EA implementation between foreign-owned and locally owned firms in this sample. This suggests that contrary to what might be expected, having foreign investors or ties did not increase the likelihood of adopting environmental accounting, at least among

these Albanian companies. Finally, market orientation (international vs domestic market focus) showed a positive coefficient (β = +1.006) but with p = 0.303, which is not statistically significant. The positive sign implies that companies operating in international markets were more likely to implement environmental accounting than purely domestic-oriented companies, but the evidence is too weak to draw a firm conclusion. In other words, internationally oriented firms tended to have higher EA implementation, but the variation was large, and the effect could not be confirmed with statistical confidence.

Overall, the ordinal logistic model for Hypothesis 1 has a modest explanatory power. The Likelihood Ratio test for the model was not highly significant (p was around 0.1), reflecting that only one predictor (size) was marginally significant. A pseudo-R^2 (McFadden) of approximately 0.10–0.15 was observed, indicating the structural variables explain only about 10–15% of the variance in environmental accounting implementation levels (a relatively low but not unexpected value for cross-sectional survey data). In practical terms, this means that while structural factors do have some influence, a large portion of the variation in EA implementation among companies is likely due to other influences (such as internal management awareness, perceived benefits, stakeholder pressures, etc., which are outside the scope of Hypothesis 1).

Statistical Conclusion: Hypothesis 1 is partially supported. Among the structural characteristics hypothesized to influence environmental accounting implementation, firm size stands out as having a positive effect (larger firms implement more, with near-statistical significance). However, industry sector, ownership type, and market orientation did not show statistically significant impacts on implementation level in our sample. The analysis thus provides evidence that company size matters, whereas we did not find evidence that being in a particular industry, having foreign ownership, or selling to international markets guarantees higher environmental accounting adoption. Table 1 summarizes these results for clarity.

Table 2. Results of ordinal logistic regression on environmental accounting implementation (Dependent variable: Implementation level 0=none, 1=partial, 2=full)

Variable	Beta	p-value	Interpretation
Company Size (continuous)	+0.98	0.063	Positive effect (marginally significant). Larger firms are more likely to implement environmental accounting practices.
Sector (baseline: Trade)			*Effects of being in each sector relative to Trade:*
– Manufacturing	–0.84	0.415	Negative effect (not significant). No clear difference from trade sector in implementation level.
– Services	+1.89	0.111	Positive effect (not significant at 5%). Services firms tend to implement more than trade, but difference is not statistically confirmed.
– Construction	–0.03	0.982	Essentially no effect. Implementation level similar to trade sector.

– Energy	–13.19	0.990	Extremely negative coefficient but not reliable (no company in sample implemented EA in this sector).
– Transport & Storage	–11.78	0.986	Extremely negative and not significant (no implementing company in this sector).
– Finance & Insurance	–15.41	0.997	Extremely negative and not significant (no implementing company in this sector).
Ownership Type (1 = foreign/mixed, 0 = domestic)	–0.11	0.932	Near-zero effect (not significant). Ownership structure (foreign vs local) does not influence implementation level.
Market Orientation (1 = international, 0 = domestic only)	+1.006	0.303	Positive effect (not significant). Internationally oriented companies showed higher implementation tendency, but not statistically confirmed.

4.1. Interpretation of Model Fit and Statistical Measures

The ordinal logistic regression model produced a likelihood ratio $\chi^2 = 6.82$ (df = 4, p = 0.146), indicating that the model as a whole does not reach conventional statistical significance, though individual predictors may still be meaningful. The pseudo-R^2 (McFadden) of 0.093 indicates that the model explains approximately 9.3% of the variance in environmental accounting adoption. While this may appear modest, pseudo-R^2 values in ordinal logistic regression are generally lower than OLS R^2 values and should be interpreted cautiously (Hu et al., 2006). A pseudo-R^2 of 0.09 suggests that structural attributes alone capture a limited portion of adoption variation, implying that other factors—such as managerial attitudes, awareness of environmental issues, perceived benefits and barriers, or specific institutional pressures—play substantial roles not measured in this study.

The likelihood ratio test compares the fitted model to a null model with no predictors. The non-significant result (p = 0.146) suggests that, collectively, the four structural variables do not provide strong predictive power. However, examining individual coefficients reveals that firm size approaches marginal significance, warranting careful interpretation.

4.2. Practical Significance of Firm Size Effect

The coefficient for ln(Employees) was 0.98 (p = 0.063), indicating a positive association between firm size and environmental accounting adoption. To interpret practical significance: a one-unit increase in ln(Employees)—roughly equivalent to a firm growing from 100 to 272 employees ($e^1 \approx 2.72$ times larger)—is associated with a 166% increase in the odds of moving to a higher environmental accounting implementation category (exp(0.98) = 2.66). Put differently, firms with 200 employees have approximately 2.66 times higher odds of having advanced environmental accounting practices than firms with 100 employees, all else equal.

This effect size, while statistically marginal, is substantively meaningful in practical terms. It suggests that size-related factors—whether resource capacity, managerial professionalization, stakeholder visibility, or legitimacy concerns—confer significant advantages in environmental accounting adoption. The marginal p-value (0.063) is close to the conventional 0.05 threshold;

we interpret this with caution and do not overstate the finding, but the direction and magnitude are consistent with theoretical expectations and prior literature (e.g., Chathurangani and Madhusanka, 2019; Zherri and Kalemi, 2025).

4.3. Non-Significant Effects: What They Reveal

The non-significant effects of industry sector, ownership type, and market orientation are also informative. Several explanations warrant consideration:

- **Weak Institutional Pressures:** In Albania's current institutional environment, sector-specific regulations and stakeholder pressures may be insufficiently developed to create observable sectoral differences in environmental accounting adoption. Unlike in advanced economies where heavy industries face stringent environmental reporting requirements, Albanian firms across sectors may perceive similar (low) levels of external pressure.
- **Limited International Integration Effects:** While foreign ownership and export orientation theoretically expose firms to international standards, the effect may be dampened if international partners or parent companies do not actively enforce environmental reporting. Albania's integration into global value chains is still developing, potentially limiting the transmission of international norms.
- **Sample Composition:** The relatively small sample size (n=73) may limit statistical power to detect effects, particularly for variables with uneven category distributions (e.g., only 24.7% foreign/mixed ownership). Larger samples might reveal significant sectoral or ownership effects.
- **Measurement Limitations:** The categorical measurement of sector, ownership, and market orientation may mask within-category variation. For example, "foreign ownership" encompasses diverse situations (partial vs. full ownership, different home countries) with varying environmental expectations.

In summary, the regression results indicate that among structural characteristics, company size is the most important factor associated with environmental accounting implementation (larger firms showing greater adoption). The industry sector effect is inconclusive in this study – even companies in traditionally high-impact sectors did not significantly differ, possibly due to the generally low uptake across the board or sample limitations. Ownership type and market scope did not emerge as significant drivers, suggesting that, in the Albanian context, being foreign-owned or export-oriented is not by itself sufficient to ensure higher environmental accounting practice. These findings lead us to consider why only size showed an effect and others did not, as discussed in the next section.

5. DISCUSSION

The findings of this study offer several insights and points of comparison with the existing literature on determinants of environmental accounting and sustainability reporting. First, the

positive relationship between firm size and the level of environmental accounting implementation is consistent with a wide body of prior research. Larger firms often have more resources, greater visibility, and more complex stakeholder environments, which drive them to adopt formal environmental accounting systems and sustainability disclosures (Hahn and Kühnen, 2013; Brammer and Pavelin, 2008). Our result – that size is a (marginally) significant predictor – aligns well with studies such as Gray et al. (1995) who noted over two decades ago that corporate size was a key factor in social and environmental reporting, and more recent confirmations in developing economy contexts (Kilic and Kuzey, 2017; Zharfpeykan and Askarany, 2023).

5.1. Firm Size as the Primary Driver: Interpreting the Findings

Our central finding—that firm size is the most significant predictor of environmental accounting adoption among Albanian firms—aligns with a substantial body of literature from both developed and developing economies (Chathurangani and Madhusanka, 2019; Suryani and Rofida, 2020; Zherri and Kalemi, 2025). However, the mechanisms through which size influences adoption merit deeper examination, particularly in the Albanian institutional context.

Resource Capacity Explanation: Larger firms possess greater financial, human, and technological resources to invest in environmental management systems, data collection, and reporting. Environmental accounting requires dedicated personnel with specialized knowledge, information systems to track environmental metrics, and potentially external consulting or auditing services. For smaller Albanian firms operating with tight margins and limited staff, these investments may be prohibitive, regardless of intentions or awareness. This resource-based explanation suggests that firm size serves as a proxy for organizational slack—the discretionary resources available for non-core activities like environmental accounting.

Legitimacy and Visibility Explanation: Larger firms are more visible to external stakeholders, including regulators, media, civil society, and international partners. This visibility creates legitimacy pressures: larger firms face greater reputational risks from environmental incidents or perceived irresponsibility. Even in Albania's relatively weak institutional environment, larger firms may proactively adopt environmental accounting to maintain legitimacy and preempt potential criticism. This explanation draws on legitimacy theory (Dowling and Pfeffer, 1975), suggesting that size correlates with stakeholder scrutiny intensity.

Managerial Professionalization Explanation: Larger firms typically have more professionalized management structures, with dedicated management roles (e.g., environmental managers, sustainability officers) and more formalized decision-making processes. Managers in larger firms are more likely to have been exposed to contemporary business education emphasizing sustainability and corporate social responsibility, creating normative pressures for environmental accounting adoption. This normative isomorphism (DiMaggio and Powell,

1983) operates through professional socialization rather than direct coercion or economic incentive.

In the Albanian context, we posit that all three mechanisms operate simultaneously, with resource capacity perhaps most salient given the economic constraints facing many Albanian firms. The absence of strong external institutional pressure (regulatory or stakeholder-driven) means that adoption depends heavily on internal capacity and voluntary managerial commitment, both correlated with size.

5.2. The Puzzle of Non-Significant Sectoral and Ownership Effects

The lack of significant sectoral differences in our sample contrasts with findings from other contexts where environmentally sensitive industries (manufacturing, energy) show higher environmental accounting adoption. Several Albania-specific factors may explain this divergence:

Uniform Weak Regulatory Enforcement: Albanian environmental regulation, while formally present, suffers from inconsistent enforcement across sectors. Unlike in EU member states where sector-specific directives (e.g., Industrial Emissions Directive) create differential compliance burdens, Albanian firms across sectors face similarly low enforcement pressure. This regulatory vacuum reduces sectoral variation in environmental accounting adoption.

Underdeveloped Sectoral Norms: Professional and industry associations in Albania are still developing capacity to establish and disseminate sector-specific environmental standards. In more mature economies, sectoral bodies promote best practices through guidelines, benchmarking studies, and peer networks, creating mimetic pressures within industries. The relative weakness of such mechanisms in Albania may explain the absence of sectoral effects.

Stakeholder Awareness Limitations: Albanian consumers, investors, and civil society organizations have limited capacity or inclination to differentiate firms based on environmental performance, reducing sector-specific stakeholder pressure. Without informed demand for environmental information, firms in visible sectors have little competitive incentive to adopt environmental accounting beyond what firms in other sectors do.

Similarly, the non-significant effect of foreign ownership and market orientation is puzzling but interpretable. Many multinational enterprises operating in Albania may not enforce parent-company environmental standards on local subsidiaries, particularly when those subsidiaries serve local markets. Export-oriented firms may primarily export to regional markets (Balkans, neighbouring EU countries) where environmental certification requirements are less stringent than in Western European markets. Thus, international linkages do not automatically translate into pressure for environmental accounting.

The results regarding ownership type (foreign vs domestic) and market orientation (international vs domestic) also merit discussion. We hypothesized that foreign ownership and

international market exposure would correlate with greater environmental accounting, based on arguments from institutional theory and global business norms (Nikolaeva and Bicho, 2011; Hahn and Kühnen, 2013). However, our analysis did not confirm any significant effect for these factors. This could indicate that foreign-owned companies in Albania are not substantially different from local firms in EA practices – possibly because the foreign investors in our sample might themselves come from regions where environmental reporting isn't strongly mandated, or because the parent companies have not yet extended their sustainability programs to the Albanian subsidiaries. It is also possible that some foreign-owned companies operating in Albania are in sectors where they consider environmental issues less material, so they haven't prioritized it. The lack of difference may also reflect that many domestic companies in the sample are small and private, and many foreign-related ones might also be relatively small operations or recent entrants, thus none have deeply embraced environmental accounting yet.

5.3. Institutional Context: Albania's Position in Transition

Albania's status as an EU candidate country creates a paradoxical institutional environment. On one hand, EU accession negotiations include chapters on environmental policy and require legislative alignment with the EU acquis communautaire, including eventual compliance with the Corporate Sustainability Reporting Directive (CSRD). This creates expectations of future regulatory tightening. On the other hand, current enforcement capacity remains limited, and many Albanian firms may adopt a "wait-and-see" approach, deferring investments in environmental accounting until requirements become obligatory and enforcement credible.

This institutional ambiguity places Albanian firms in a transitional state: early adopters (disproportionately larger firms) perceive strategic advantages or anticipate future requirements, while laggards (disproportionately smaller firms) prioritize immediate economic survival over preparatory investments. The bimodal distribution of adoption in our sample (many firms with minimal practices, fewer with advanced practices, and a middle group experimenting) reflects this transitional dynamics.

5.4. Comparison with Other Transition and Developing Economies

Our findings resonate with studies from other transition economies. Research in Vietnam has shown that ownership structure moderates the relationship between earnings quality and corporate social disclosure (Hoang et al., 2019). In Pakistan, institutional pressures (coercive and normative) similarly drove environmental management accounting adoption, though again with firm resources serving as a critical mediator (Chathurangani & Madhusanka, 2019). Studies of family businesses across developing economies have shown that environmental accounting adoption often depends on alignment with family values and strategic identity rather than external regulatory pressure alone (Stock, et al., 2024; Ardyan, et al., 2023).

Across these diverse transition economies, a common thread emerges: in weak institutional environments, firm-level characteristics—particularly size and management sophistication—

assume greater importance as drivers of environmental accounting adoption than in strong institutional environments where regulations and norms create more uniform pressures across all firms. Albania exhibits this pattern clearly: absent strong external regulatory or normative drivers, internal capacity and voluntary management commitment (factors correlated with firm size) emerge as the primary determinants of environmental accounting adoption.

5.5. Implications for Theory

Our findings have several theoretical implications:

- **Conditional Institutional Theory:** Institutional theory predicts that organizational practices diffuse through coercive, mimetic, and normative pressures. Our results suggest that when institutional pressures are weak (as in Albania), organizational field dynamics differ: size-related characteristics substitute for missing institutional pressure. This implies a contingency model of institutional influence, where the relative importance of institutional vs. firm-level factors varies with institutional strength.
- **Staged Adoption Model:** Environmental accounting adoption may follow a staged progression in transition economies. In early stages (Albania currently), only large, resource-rich, or internationally connected firms adopt. As institutional pressure strengthens (through EU integration, regulatory development, stakeholder activism), medium and smaller firms progressively adopt, eventually creating sectoral norms and widespread diffusion. Understanding where a country sits on this trajectory is crucial for interpreting findings.
- **Resource Dependence in Sustainability Practices:** The dominance of size effects reinforces resource-based and resource dependence perspectives: sustainability practices require organizational slack and discretionary resources. In resource-constrained environments, even motivated firms may be unable to adopt without external support (e.g., subsidies, technical assistance, simplified reporting frameworks).

For market orientation, although we observed a positive coefficient (implying internationally oriented firms tend to do more EA), it was not significant. This suggests that simply exporting or being part of a global market doesn't automatically translate to adopting environmental accounting in Albania. Perhaps Albanian exporters, which might be in industries like textiles, agriculture, or minerals, face cost pressures and weaker enforcement of supply-chain sustainability compared to, say, larger suppliers in more regulated markets. Another explanation could be that while some Albanian firms export, their foreign partners/buyers have not yet demanded formal sustainability reporting – instead focusing on product quality and price. In contrast, Nikolaeva and Bicho (2011) found that global visibility and media exposure were drivers for adopting GRI reporting among large multinationals. The companies in our sample may not be large enough on the global stage to feel such pressures. In essence, the expected influence of international market exposure might be currently muted in Albania due to the early stage of sustainability integration in the business culture.

It is important to note that the partial support for Hypothesis 1 highlights a broader point consistent with the literature: structural characteristics alone do not fully explain environmental accounting adoption. Research indicates that a combination of factors – including internal management commitment, knowledge and awareness of environmental accounting, perceived benefits and costs, and external pressures from regulators or civil society – all interplay to determine whether a firm implements these practices (Nazari et al., 2015; Ikram and Khalid, 2022). Our results underscore that in an environment like Albania, where external pressures are relatively weak, even firms that might be expected to lead (e.g., foreign-owned or in heavy industry) will not necessarily do so unless there is a strong internal champion or a clear business case. The significant role of firm size could be interpreted as a proxy for such internal capacity and resource availability.

Comparing our findings to similar studies in other transitioning or developing economies, we find both parallels and differences. For example, a study in Turkey by Kilic and Kuzey (2017) also found firm size to be a major factor in sustainability reporting and noted that while sector and international listing had some influence, governance characteristics often played a larger role.

In another study, Fernandez-Feijoo et al. (2013) emphasized stakeholder pressure as key; in Albania, stakeholder activism regarding environmental disclosure is relatively low, which might explain why market orientation (which would bring international stakeholder pressure) hasn't yet made a measurable impact. Meanwhile, studies on internal drivers (Adams, 2002) suggest factors like corporate culture, strategy, and management attitudes are crucial – it's plausible that in Albania, those internal drivers are not strongly present in most firms, leaving size as a stand-in for capacity but not much else to differentiate firms on EA implementation.

In summary, our discussion points to a conclusion that while the structural profile of a company (especially being large) does matter, it is not sufficient alone to ensure environmental accounting practices are adopted. The lack of significant effect of sector, ownership, and market exposure in Albania's context signals that broader enabling conditions – such as stronger regulatory frameworks, incentives, or awareness programs – might be needed to push companies across all categories towards sustainability accounting. These insights will be further elaborated in the recommendations.

6. CONCLUSION

This study examined how structural attributes of firms influence the adoption of environmental accounting practices in Albania, a transition economy navigating EU integration while facing institutional and resource constraints. Drawing on institutional theory and stakeholder theory, we hypothesized that firm size, industry sector, ownership type, and market orientation would shape adoption patterns. Our analysis of 73 Albanian firms revealed that firm size is the

predominant predictor of environmental accounting implementation, while sectoral, ownership, and market orientation variables did not show significant effects.

6.1. Theoretical Contributions

Our findings extend institutional theory by demonstrating its contextual contingency: in weak institutional environments, firm-level structural characteristics (especially size) assume primary importance in explaining practice adoption, as they proxy for resources, legitimacy concerns, and managerial capacity. This contrasts with strong institutional environments where regulatory and normative pressures create more uniform adoption across firm types. We contribute to understanding environmental accounting diffusion in transition economies by showing that size may serve as a compensatory mechanism for absent institutional pressure: larger firms adopt proactively in anticipation of future requirements or to gain competitive advantage, while smaller firms remain unable or unmotivated to invest.

The absence of significant sectoral and ownership effects, contrary to findings in developed economies, highlights the Albanian institutional context's specificity: weak enforcement, underdeveloped sectoral norms, and limited stakeholder activism flatten differences that would be prominent in mature institutional environments. This underscores the need for context-sensitive theorizing about organizational practice diffusion.

6.2. Practical Implications and Recommendations

Our findings have implications for multiple stakeholder groups:

For Albanian Policymakers:

- Recognizing that smaller firms face resource barriers to environmental accounting adoption, policies should provide targeted support: subsidized training programs, simplified reporting templates, and technical assistance. Simply mandating reporting without capacity-building will result in low compliance.
- Phased implementation of environmental reporting requirements, starting with larger firms (e.g., those with >250 employees) and gradually extending to smaller firms as institutional capacity develops, may be pragmatic.
- Strengthening sectoral industry associations and professional accounting bodies to develop sector-specific environmental accounting guidelines and peer learning networks can create mimetic and normative pressures.

For Albanian Firms:

- Larger firms already implementing environmental accounting should document and share cost-benefit experiences to reduce uncertainty for potential adopters and create mimetic pressure.

- Smaller firms should view environmental accounting not as regulatory burden but as strategic opportunity: it can identify cost-saving opportunities (energy efficiency, waste reduction), enhance reputation with international partners, and prepare for inevitable EU requirements.
- Industry collaborations (e.g., joint training initiatives, shared consulting resources) can reduce per-firm costs of adoption.

For International Development Organizations and EU Integration Support:

- Technical assistance programs should prioritize capacity-building in environmental accounting for SMEs, recognizing their resource constraints.
- Support for developing Albanian-language educational materials, training programs for accountants, and demonstration projects showcasing benefits can accelerate diffusion.

6.3. Limitations and Future Research Directions

This study has several limitations that future research should address:

- **Sample Size and Representativeness:** Our sample of 73 firms, while yielding valuable insights, is relatively small and may lack statistical power to detect some effects. Larger studies incorporating more firms, especially SMEs and firms in underrepresented sectors, would strengthen findings.
- **Cross-Sectional Design:** Our study captures a snapshot of adoption at one time point. Longitudinal research tracking firms over time as Albania's institutional environment evolves (through EU integration) would reveal adoption dynamics and trajectories.
- **Limited Measurement of Institutional and Psychological Factors:** We measured structural attributes but did not directly assess managerial attitudes, environmental awareness, perceived barriers and benefits, or exposure to specific institutional pressures. Mixed-methods research combining surveys with qualitative interviews would provide richer understanding of adoption motivations and barriers.
- **Dependent Variable Measurement:** Our environmental accounting index, while validated, simplifies a multidimensional construct. Future research could develop more nuanced typologies distinguishing internal management accounting from external disclosure, and quantitative from qualitative practices.
- **Generalizability:** Our findings are specific to Albania's institutional context. Comparative research across Balkan countries at different stages of EU integration would illuminate how institutional development shapes adoption patterns.

Future research directions include:

- **Experimental Interventions:** Pilot programs providing technical assistance or simplified reporting tools to randomly selected SMEs could test whether capacity-building interventions accelerate adoption.

- **Network Analysis:** Examining how environmental accounting practices diffuse through inter-organizational networks (supply chains, business associations, ownership linkages) would illuminate mimetic isomorphism mechanisms.
- **Qualitative Case Studies:** In-depth examination of early adopter firms (especially smaller firms that have adopted despite resource constraints) could reveal success factors and best practices transferable to others.

6.4. Closing Reflection

Albania stands at a critical juncture in its sustainability journey. EU accession negotiations will inevitably require enhanced environmental accountability from Albanian firms. The current low adoption rates of environmental accounting suggest that substantial work remains to build capacity, awareness, and supportive institutional infrastructure. However, the finding that some firms—particularly larger ones—are adopting proactively offers encouragement: there are pioneers demonstrating feasibility and potential benefits. The challenge for policymakers, business associations, and international partners is to create conditions enabling smaller firms to follow, transforming environmental accounting from an elite practice to a widespread norm. This transformation requires not only regulatory mandates but also tangible support addressing the resource and knowledge barriers identified in this study.

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