

# THE APPROACH TO ENVIRONMENTAL ACCOUNTING OF SMALL AND MICRO ENTERPRISES IN HANOI

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## ABSTRACT

This research explores the implementation of environmental accounting practices among small and micro enterprises (SMEs) in Hanoi, aiming to understand the extent and challenges of adopting sustainable business practices in a developing urban context. Despite growing global emphasis on environmental sustainability, SMEs in developing regions often face unique barriers to integrating such practices into their business models. This study employs a mixed-methods approach, combining quantitative surveys with qualitative interviews to gather data from a representative sample of SMEs across Hanoi. The findings reveal that while awareness of environmental issues is relatively high, the actual adoption of ecological accounting practices is limited due to factors such as cost, lack of expertise, and regulatory incentives. The study highlights a significant gap between the perceived importance of environmental responsibility and the practical implementation of related accounting practices. Recommendations are provided for policymakers, suggesting ways to enhance the adoption of ecological accounting practices through incentives, training programs, and more stringent regulations. This research contributes to the understanding of environmental management in SMEs and proposes pathways for enhancing sustainability in the business practices of small and micro enterprises in emerging economies.

**Keywords:** *Environmental accounting, SMEs, Environmental management.*

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## 1. INTRODUCTION

In a context where nature is suffering heavy devastation from human activities, natural disasters in some developed countries, and the significant impact of the COVID-19 pandemic, sustainable development and environmental environment-salvation are among the top

concerns globally. The use of environmental accounting is one of the new approaches to solving problems related to the environment and sustainable development. In addition, leaders and administrators can easily have a more general view and analyze and evaluate the current situation through the financial information that Environmental accounting provides when making business decisions.

For businesses, both domestic and foreign investment capital is the decisive factor in helping companies survive and develop sustainably. Still, to achieve this, convincing investors through financial information is necessary. They must demonstrate their stability in the stock market and society. Compared to the past, in addition to information about assets, capital, and debt, as shown by accountants on annual financial reports, today, businesses have gradually paid attention to environmental factors and show them in financial reports. However, the practical application of environmental accounting is still relatively new. Many companies and organizations have not widely applied it, especially in Vietnam, where accounting standards for conventional mathematics are still the critical method. Environmental accounting is still a new model, with no clear orientation for application to companies and business organizations in Vietnam.

## 2. LITERATURE REVIEW

### 2.1. Theoretical basis of Environmental Accounting

The environment has always been a topic of significant interest, especially in a developing country like Vietnam, where advanced technologies are increasingly applied in business and production, leading to extensive natural resource utilization. The production and business activities of enterprises inevitably impact the environment, gradually affecting the quality of daily life of people and even the enterprise's survival if they fail to recognize the severity of focusing solely on production

and profit without considering the environmental devastation. Environmental accounting, also known as "Green Accounting," emerged as a new measure, a comprehensive tool reflecting assets, liabilities, investments, revenue, and the environmental costs incurred by businesses.

Green Accounting first appeared in the United States after the environmental summit in Stockholm, Sweden, in 1972. Initially, this was at a national level, focusing on accounting within countries. It wasn't until the mid-1990s that Green Accounting at the business level began to be explored. Environmental Accounting emerged to address the need to consider environmental impacts on economic activities and integrate environmental considerations into traditional financial accounting methods.

According to Manjumol Sebastian [8], the first environmental accounts were developed in some European countries, which operated independently from each other. Environmental Accounting was first applied in Norway, followed by the Netherlands, and in the 1980s, France was the third country to adopt it. Particularly in India, former Environment Minister Jairam Ramesh emphasized the importance and necessity of prioritizing Environmental Accounting throughout his tenure.

As defined by the Vietnamese Central Institute on Economic Research and Management (CIEM), Green Accounting is an accounting system that deducts natural resource depletion and environmental degradation costs and is used to assess economic growth quality realistically. Nguyen Thi Minh Phuong [18] describes Green Accounting as a modern, comprehensive system for recording, consolidating, and reporting aspects related to an organization, including assets, liabilities, investment capital, and environmental costs. Clearly, Environmental Accounting is advanced, modern, flexible and provides more helpful information in decision-making than traditional accounting methods. People are starting to focus on environmentally related activities and consider it a cost to record, collect, process, and provide information reflecting an organization's comprehensive activity level. Environmental Accounting is an essential tool closely linked to the long-term and holistic development goals of business practitioners. Today, there are many studies on Environmental Accounting, each offering different definitions. Still, generally, the purpose of Environmental Accounting is to provide broader financial and accounting information,

considering both positive and negative impacts from the external environment of economic activities. This approach helps change economic entities' behavior by encouraging them to adopt more sustainable practices.

Firstly, Environmental Accounting offers tremendous benefits to businesses that adopt it. However, this study only compiles and presents the primary benefits that Environmental Accounting provides. For businesses, Environmental Accounting helps enterprises know whether they are using and exploiting input materials (natural resources, etc.) appropriately. This knowledge enables firms to devise conservation and efficient usage plans, efficiently controlling their material increases and productivity. Environmental Accounting ensures that the business methods being practiced are correctly implemented in ways that minimize environmental damage.

Furthermore, Environmental Accounting provides a broader perspective for business managers on the overall business activities, helping to avoid mistakes in managerial decisions on specific issues. Ultimately, Environmental Accounting enhances the image of businesses among the public, investors, shareholders, etc., boosting their competitiveness. Once a company establishes a stable environmental accounting system with transparent and clear information, it significantly enhances its social reputation.

For the government and society, by incorporating environmental factors into financial reports, Environmental Accounting allows the government to ensure that business units are fulfilling their environmental responsibilities. According to Manjumol Sebastian [8], from a macroeconomic standpoint, Environmental Accounting leads to sustainable GDP growth. If implemented, the nation and businesses adopting it will have to pay more attention to the environment throughout their operations, leading to more significant investment in green processes and technologies. The waste from business activities will be controlled, preventing people from living in a polluted environment.

Secondly, although Environmental Accounting offers many benefits, it still has several limitations, as follows:

Currently, especially in Vietnam, there are no standard frameworks regulating environmental accounting procedures and reporting forms. The lack of accounting standards in Vietnam regarding ecological issues makes it difficult to compare data between two businesses

because different accounting systems are used. In practice, when accounting records business costs, environmental costs are also recorded, but it is challenging to distinguish between these two types of expenses precisely. Accountants cannot definitively determine the value of ecological goods and services because they frequently fluctuate.

Lastly, according to Manjumol Sebastian [8], Green Accounting cannot work independently; he suggests that integrating Green Accounting with financial accounting is not easy.

Thirdly, the application of Environmental Accounting in Vietnam has not become widespread due to several difficulties and barriers. Nguyen Van Hoa [19] believes these barriers come from five sides: (1) Legal framework, (2) System of documents and accounts, (3) Accounting apparatus, (4) Psychology of the subjects applying, (5) Team of officers about Green Accounting.

**2.2. Some research achievements on Environmental Accounting**

Currently, on various forums and scientific research journals worldwide, there are many studies related to Environmental Accounting. This indicates that environmental accounting is becoming a trend and a topic of interest to economists. Table 1 is some representative studies that the research team has collected.

Table 1. Some research achievements on Environmental Accounting.

Author	Year	Research Content
Manjumol Sebastian	2020	The history, development, and importance of Green Accounting. The author also highlights the existing limitations of Green Accounting.
Asheim	1997	To prevent pollution or damage, a Green Accounting system should be established to examine economic measures affecting production and consumption of electricity.
United Nations for Sustainable Development	2001	Enhancing the role of the government in promoting environmental management accounting.
Gary Otte	2008	Research on greenhouse gas accounting, introducing techniques to calculate greenhouse gases and some solutions to overcome the barriers of Green Accounting.
Moller & Schaltegger	2008	Managers seeking to make successful decisions need to balance financial and non-financial measures.

Heba YM & Yousuf	2010	Identifying methods to develop environmental reports that help businesses be somewhat concerned and responsible for external factors in production and business processes.
Harazain & Horváth	2011	The relationship between Environmental Accounting and the pillars of sustainable development.
Nidhal Al-Maliki	2020	Identifying the importance of Green Accounting in reducing environmental costs and improving environmental performance.
I Dewa Made Endiana, Ni Luh Gd Mahayu Dicriyani, Md Santana Putra Adiyadnya, I Putu Mega Juli Semara Putra	2020	Exploring how Green Accounting through the implementation of CSMS (Cost-Saving Management System) can enhance the financial efficiency of manufacturing companies in Indonesia. The study also suggests that Indonesian manufacturing companies can implement Green Accounting by allocating appropriate environmental costs, partly through the application of CSMS to improve financial efficiency.

Although Vietnam has not really put Environmental Accounting into full use in businesses, this model is still in the process of research and development and is receiving the attention of several large companies as well as agencies. Table 2 reviews some research works on Green Accounting by many Vietnamese authors.

Table 2. Some research achievements on Environmental Accounting in Vietnam

Author	Year	Research Content
Tran Thi My Chau [20]	2013	Research on environmental management accounting, types of costs, income related to the environment, principles of environmental cost determination, and steps of environmental management accounting. The study also identifies conditions and some solutions for application in Vietnam.
Pham Quang Huy [15]	2014	- Provides basic information and an overall view of the Green Accounting system under environmental conditions. - Analyzes the relationship between the environment and the output of businesses by applying the Environmental Management System (EMS) in the accounting system. - Highlights the overall content of environmental accounting in Vietnam.
Nguyen Thi Thuy Linh [13]	2016	Assesses the importance of environmental accounting in economic development, outlines the current status of environmental accounting implementation at businesses, and proposes

		solutions to improve environmental accounting in Vietnam in the coming period.
Nguyen Van Hoa [19]	2020	Discusses challenges and barriers in applying Green Accounting, thereby recommending some solutions for developing and applying Green Accounting in Vietnam in the current context.
Nguyen Thu Huong, Tran Thi Hang [14]	2020	The study provides an overview of Green Accounting and its benefits. Additionally, it addresses challenges in applying Green Accounting and offers some solutions in the article.

In recent years, Environmental Accounting has been receiving interest and attention from many businesses in Vietnam. Some large and sustainability-oriented companies, such as joint venture companies and wholly foreign-owned companies operating in Vietnam, like Unilever Vietnam, Ford Vietnam, and Pepsico Vietnam, are applying Environmental Accounting in their business operations. Additionally, the Vietnamese government has introduced regulations and policies to support the development of Environmental Accounting, such as encouraging businesses to disclose environmental information, requiring financial reports to include information on environmental impacts, and providing financial support and training for companies on Environmental Accounting.

As of now, environmental accounting is at the level of interest in the process of research, refinement, and supplementation. Some policies have been introduced, such as the Environmental Law, first enacted by the National Assembly in early 1993, followed by the amended Environmental Protection Law in 2005, according to Tran Hang Dieu (Department of Accounting - Auditing, University of Finance - Marketing). Additionally, there are several decrees issued by the government and circulars issued by the Ministry of Finance related to the environment, such as regulations on taxable subjects, tax bases, tax declarations, etc. Although the government has gradually shown concern and started taking actions such as issuing documents and regulations related to the environment, these documents are generally not yet complete and synchronized, and many difficulties still arise during implementation. Notably, there are currently no mandatory regulations requiring businesses to gradually adopt Environmental Accounting or requiring financial reports to include information on environmental impact costs during business operations. Whether businesses approach Environmental Accounting is entirely voluntary.

For a new model like environmental accounting, laws and policies from regulatory agencies play a crucial role as the primary motivation and pioneering force, leading, encouraging, and promoting domestic businesses to transition gradually from conventional accounting standards to more complete environmental accounting standards. However, this motivation has not yet clearly demonstrated its role, and therefore, most accounting departments in each business are still following the current accounting standards.

Assuming that if the current accounting methods are to be gradually changed towards the Environmental Accounting model, the Vietnamese Government needs to issue regulations mandating businesses to include environmental information in financial statements, explanatory notes, and some detailed guidance documents for businesses (similar to Circular No. 133 and Circular No. 200 guiding the corporate accounting regime issued by the Ministry of Finance). At the same time, companies need to change their operations, spend considerable amounts of money and time to make these changes and conduct training in environmental accounting for their accounting departments. Universities also need to research and design teaching programs; the curriculum and materials on Environmental Accounting used in student training need to be researched and compiled to suit Vietnam's conditions. These measures are indeed almost impossible under the current conditions.

The approach to Environmental Accounting in Vietnam remains limited to theoretical research and data from a small segment without covering the entire national situation. Due to the lack of practical experience, not only economics students from various universities but also many businesses are still relatively unfamiliar with the concept of Environmental Accounting.

In summary, the approach to Environmental Accounting in Vietnam is only in its early stages, with the Government and some agencies gradually paying attention and recognizing the importance of Environmental Accounting for the nation's long-term development. However, the research team cannot say that the development trend of this model is stagnant, as Environmental Accounting is a new trend that is increasingly being noticed in Vietnam. Recently, the government and related agencies have introduced many policies and guidelines on Environmental Accounting to raise awareness and encourage businesses to adopt it.

Additionally, many companies have also proactively implemented activities to contribute to environmental protection and more efficient resource use.

The Impact of Difficulties in Applying Environmental Accounting in Vietnam with the above development trend, the application of Environmental Accounting in Vietnam still faces many difficulties, specifically:

**Lack of highly specialized human resources in Environmental Accounting:** Finding and hiring highly specialized human resources in Environmental Accounting is currently a challenge for many businesses in Vietnam. Additionally, there are not many training institutions and specialized courses in environmental accounting that meet the needs of companies.

**Lack of unified standards and evaluation indicators:** The lack of unified standards and evaluation indicators is an obstacle to the development of Environmental Accounting in Vietnam. This leads to difficulties in comparing and assessing the impact of businesses on the environment.

**Lack of information on Environmental Accounting and lack of consumer interest:** Although some businesses are currently applying Environmental Accounting in their operations, the lack of information and consumer interest is a challenge for the development of Environmental Accounting in Vietnam. Many consumers are still not interested in environmentally friendly and sustainable products and services.

Research by Nguyễn Văn Hòa [20] suggests these barriers come from five aspects: (1) Legal framework, (2) Documentation system accounts, (3) Accounting apparatus, (4) Psychology of the applied subjects, and (5) Environmental Accounting staff.

**Legal framework:** Currently, the law is not stringent on the issue of regulations and enactment of clauses on Environmental Accounting.

**Documentation system accounts:** In the current accounting accounts, significant costs related to the environment, such as repair compensation costs, incident remediation costs, etc., are not recorded. Environmental cost factors and income generated by the environment are not reflected in any specific accounting account. Many environmental-related costs are currently reflected in various cost accounts (Account 621 - Direct materials cost; Account 622 - Direct labor cost; Account 627 - General production cost; Account 642 - Business management cost...), making it difficult for economic

managers to detect and understand the scale and nature of general environmental costs and individual environmental costs.

**Accounting apparatus:** The accounting apparatus has not been systematically trained, and businesses have not focused on environmental-related costs, so the accounting apparatus and accountants have not indeed paid attention to this issue.

**Psychology of the applied subjects:** The applied subjects here are businesses. Since the law is not stringent and does not impose regulations on environmental costs, managers are not serious about applying Environmental Accounting in their companies.

**Environmental Accounting staff:** Currently, there is no educational institution teaching this knowledge, so the Environmental Accounting staff and accountants cannot deeply access Environmental Accounting. When the application of Environmental Accounting is still based on a voluntary spirit, businesses tend to avoid it and only focus on using existing accounting standards. These standards have been used for a long time; accountants are familiar with them, and it isn't easy to introduce a new model to them. Furthermore, implementing Environmental Accounting means incurring additional costs related to waste treatment and environmental protection, which not all businesses can financially support.

### 3. RESEARCH MODELS

#### 3.1. Models

The research method used is a quantitative method, including a survey using a random interview method through a structured survey consisting of variables on a Likert scale. In which the independent and dependent variables, the data are processed using the Python tool with techniques such as testing the reliability of the scale, determining the correlation coefficient between the independent variables and the dependent variable, building and analyzing linear regression models, and non-parametric tests to analyze data. The above model identifies five key factors influencing businesses' approach to Environmental Accounting: perceived benefits, subjective norms, receptivity, costs, and related support. Each factor is analyzed and evaluated through observed variables to clarify their impact on the businesses' level of approach.

The model in Fig. 1 identifies five key factors influencing businesses' approach to Environmental

Accounting: perceived benefits, subjective norms, receptivity, costs, and related support. Each factor is analyzed and evaluated through observed variables to clarify their impact on the businesses' level of approach.

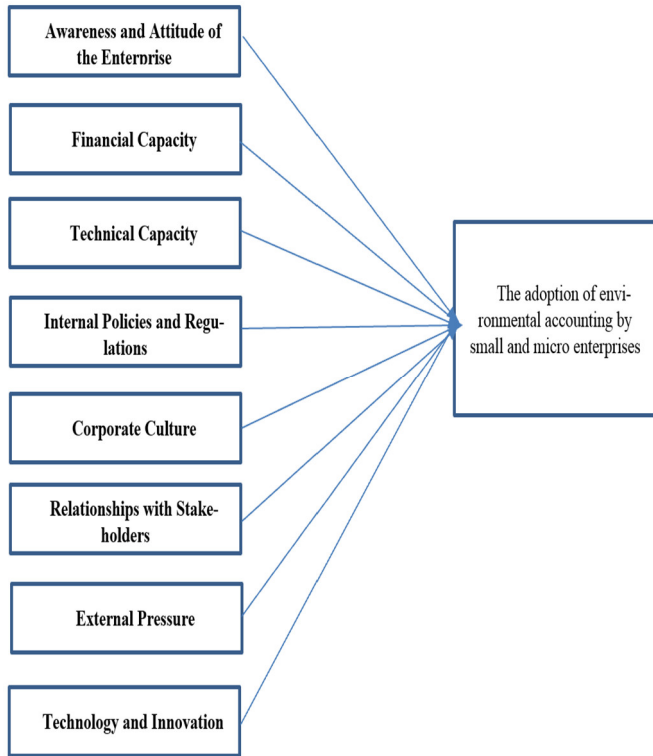


Fig. 1. Research model

People's approach to a new issue fundamentally stems mainly from their internal motivation. We believe this is true for the direction of this research. However, internal motivation alone is not enough; there must be a flexible combination of internal and external motivations.

$$\text{Adoption} = \beta_0 + \beta_1 \cdot \text{Environmental Awareness} + \beta_2 \cdot \text{Attitude towards Social Responsibility} + \beta_3 \cdot \text{Financial Capacity} + \beta_4 \cdot \text{Cost} + \beta_5 \cdot \text{Benefit} + \beta_6 \cdot \text{Accounting Information System} + \beta_7 \cdot \text{Employee Skills} + \beta_8 \cdot \text{Employee Knowledge} + \beta_9 \cdot \text{Environmental Policies} + \beta_{10} \cdot \text{Processes and Guidelines} + \beta_{11} \cdot \text{Sustainable Culture} + \beta_{12} \cdot \text{Employee Engagement} + \beta_{13} \cdot \text{Corporate Culture} + \beta_{14} \cdot \text{Customers and Market} + \beta_{15} \cdot \text{Suppliers and Partners} + \beta_{16} \cdot \text{Legal Regulations} + \beta_{17} \cdot \text{Competitive Pressure} + \beta_{18} \cdot \text{International Trends and Requirements} + \beta_{19} \cdot \text{New Technologies} + \beta_{20} \cdot \text{Innovation and Creativity}$$

Therefore, the research model has to design measures impacting the adoption of environmental accounting for small and micro enterprises from a business perspective, it is essential to consider internal and external variables that affect the implementation of environmental accounting. Table 3 is some crucial variables.

Table 3. Research Data

Research variables		Hypothesis
<b>1. Awareness and Attitude of the Enterprise</b>		
<b>Environmental Awareness</b>	The level of understanding among management and employees about environmental issues and the benefits of adopting environmental accounting.	Small and micro enterprises with a high level of awareness about the benefits of environmental accounting will be more inclined to adopt environmental accounting.
<b>Attitude Toward Social Responsibility</b>	The degree of commitment from the enterprise in fulfilling social responsibilities and protecting the environment.	The positive attitude of the leadership towards social responsibility positively influences the implementation of environmental accounting in the enterprise.
<b>2. Financial Capacity</b>		
<b>Financial Capability</b>	The financial situation of the enterprise, including the ability to invest in environmental accounting systems and technologies.	Small and micro enterprises with strong financial capacity will have a higher likelihood of adopting environmental accounting.
<b>Cost-Benefit Analysis</b>	Evaluating the costs of implementing environmental accounting against the long-term benefits it provides, such as cost savings and improved corporate image.	The long-term financial benefits of adopting environmental accounting encourage enterprises to implement these measures.
<b>3. Technical Capacity</b>		
<b>Accounting Information System</b>	The availability and efficiency of existing accounting information systems and their ability to integrate with environmental accounting systems.	Enterprises with modern and integrated accounting information systems will find it easier to adopt environmental accounting.
<b>Skills and Knowledge of Employees</b>	The professional level and understanding of employees regarding environmental	The knowledge and skills of employees regarding environmental

	accounting and related processes.	accounting are positively related to the adoption of environmental accounting measures.
<b>4. Internal Policies and Regulations</b>		
<b>Environmental Policies</b>	The existence and effectiveness of internal policies related to environmental protection and resource management.	The existence and effectiveness of internal environmental policies promote the adoption of environmental accounting in the enterprise.
<b>Processes and Guidelines</b>	Specific processes and guidelines for implementing environmental accounting within the enterprise	Specific processes and guidelines on environmental accounting within the enterprise will increase the likelihood of implementing these measures.
<b>5. Corporate Culture</b>		
<b>Sustainable Culture</b>	The extent to which the corporate culture supports and promotes sustainable and environmentally friendly practices.	A corporate culture that supports sustainability and environmental friendliness is positively related to the adoption of environmental accounting.
<b>Employee Engagement</b>	The level of encouragement for employees to participate and contribute to environmental initiatives.	The level of employee participation and contribution to environmental initiatives positively influences the implementation of environmental accounting.
<b>6. Relationships with Stakeholders</b>		
<b>Customers and Market</b>	Customer demand and expectations for sustainable products and services, and the ability to meet environmental standards in the market.	Customer demand and expectations for sustainable products and services positively impact the adoption of environmental accounting.

<b>Suppliers and Partners</b>	The ability to cooperate with suppliers and partners to implement environmental accounting practices in the supply chain.	Collaboration with suppliers and partners is positively related to the implementation of environmental accounting in the supply chain.
<b>7. External Pressure</b>		
<b>Legal Regulations</b>	Regulations and laws related to environmental protection and environmental reporting requirements.	Pressure from environmental legal regulations drives small and micro enterprises to adopt environmental accounting.
<b>Competitive Pressure</b>	Industry competition and the extent to which competitors have adopted environmental accounting.	Competitive pressure from other enterprises that have adopted environmental accounting positively influences an enterprise's decision to adopt environmental accounting.
<b>International Trends and Requirements</b>	International standards and trends regarding environmental protection that the enterprise must comply with to participate in the global market.	International trends and requirements for environmental protection drive small and micro enterprises to adopt environmental accounting to participate in the global market.
<b>8. Technology and Innovation</b>		
<b>New Technologies</b>	Access to and application of new technologies in environmental accounting, such as environmental management software.	Enterprises with access to and the ability to apply new technologies in environmental accounting will have a higher likelihood of implementing these measures.
<b>Innovation and Creativity</b>	The ability to foster innovation and creativity in accounting and environmental	The level of innovation and creativity in accounting and environmental management

	management processes.	processes is positively related to the adoption of environmental accounting.
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### 3.2. Data

The research was conducted based on primary data collected from small and micro-enterprises during the period from March 15, 2023, to April 28, 2024. The basic overview of the collected data is as Table 4.

Table 4. Research Data

Form	Survey responses via Google Form
Total responses received	264
Total valid responses	260
Total invalid responses	4
Total responses received	264
Total valid responses	260

The number of businesses that have approached the concept of "Green Accounting" only accounts for 45.9% of the total number of companies participating in the survey. During the research process, books, newspapers, and media channels are always the primary means of access for these small and micro enterprises, even for a new concept like Green Accounting. Currently, many scientific studies on Green Accounting have been published in forums and scientific journals. However, the rate of small and micro enterprises actively learning about Green Accounting models is still low. For the 54.1% of small and micro businesses that have never approached the concept of "Green Accounting," businesses give many reasons why they do not know much about this concept. In general, the main reason is that these small and micro enterprises themselves have never encountered the keyword "Green Accounting" during their work and are not required to declare accounting-related information.

### 3.3. Results

In the above research results, the adjusted R-squared value is 0.681, meaning that 68.1% of the variation in the enterprise's approach to Environmental Accounting is explained by five groups of variables, comprising 16 independent variables.

Table 5a. OLS Regression Results

Dep. Variable	Adoption	R-squared	0.681
Model	OLS	Adj. R-squared	0.636
Method	Least Squares	F-statistic	15.08

Date	Fri, 31 May 2024	Prob (F-statistic)	3.90e-21
Time	02:32:56	Log-Likelihood	-119.2
No. Observations	260	AIC	272.4
Df Residuals	243	BIC	332.92
Df Model	16	Covariance Type	nonrobust

Table 5b. OLS Regression Results

	(coef)	Std. Error	t	P> t	[0.025	0.975]
const	0.1101	0.393	0.28	0.78	-0.669	0.889
Environmental Awareness	0.0385	0.09	0.43	0.668	-0.139	0.216
Attitude towards Social Responsibility	-0.133	0.069	-1.92	0.057	-0.27	0.004
<b>Financial Capacity</b>	<b>0.3619</b>	<b>0.069</b>	<b>5.265</b>	<b>0</b>	<b>0.226</b>	<b>0.498</b>
Cost	-0.0877	0.1	-0.873	0.385	-0.287	0.111
<b>Benefit</b>	<b>0.2536</b>	<b>0.077</b>	<b>3.286</b>	<b>0.001</b>	<b>0.101</b>	<b>0.406</b>
<b>Accounting Information System</b>	<b>0.1759</b>	<b>0.036</b>	<b>4.85</b>	<b>0</b>	<b>0.104</b>	<b>0.248</b>
Employee Skills	-0.119	0.056	-2.143	0.034	-0.229	-0.009
Employee Knowledge	0.2816	0.057	4.974	0	0.169	0.394
<b>Environmental Policies</b>	<b>0.0813</b>	<b>0.033</b>	<b>2.483</b>	<b>0.014</b>	<b>0.016</b>	<b>0.146</b>
Processes and Guidelines	-0.0674	0.098	-0.686	0.494	-0.262	0.127
Sustainable Culture	0.0038	0.076	0.05	0.96	-0.146	0.154
<b>Employee Engagement</b>	<b>0.2224</b>	<b>0.103</b>	<b>2.161</b>	<b>0.033</b>	<b>0.018</b>	<b>0.426</b>
<b>Corporate Culture</b>	<b>-0.2897</b>	<b>0.143</b>	<b>-2.03</b>	<b>0.045</b>	<b>-0.573</b>	<b>-0.007</b>
Customers and Market	-0.0327	0.038	-0.861	0.391	-0.108	0.043
Suppliers and Partners	0.0495	0.087	0.571	0.569	-0.122	0.221
Legal Regulations	0.0157	0.094	0.167	0.867	-0.17	0.202
Competitive Pressure	0.0353	0.092	0.383	0.703	-0.148	0.218
<b>International Trends and Requirements</b>	<b>0.2122</b>	<b>0.097</b>	<b>2.182</b>	<b>0.031</b>	<b>0.02</b>	<b>0.405</b>



New Technologies	-0.1198	0.092	-1.301	0.196	-0.302	0.063
Innovation and Creativity	0.0386	0.026	1.463	0.146	-0.014	0.091

$$\begin{aligned}
 \text{Adoption} = & 0.1101 + 0.3619 \cdot \text{Financial Capacity} \\
 & + 0.2536 \cdot \text{Benefit} \\
 & + 0.1759 \cdot \text{Accounting Information System} \\
 & + 0.0813 \cdot \text{Environmental Policies} \\
 & + 0.2224 \cdot \text{Employee Engagement} \\
 & - 0.2897 \cdot \text{Corporate Culture} \\
 & + 0.2122 \cdot \text{International Trends and Requirements}
 \end{aligned}$$

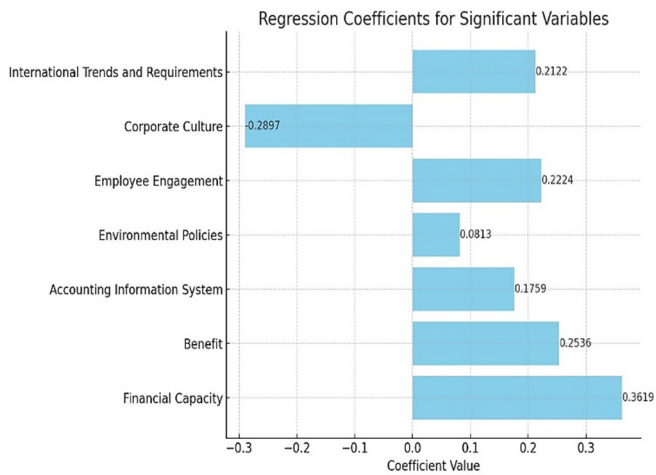


Fig. 2. Research results

The hypotheses supported by the regression results include **Hypothesis 3**: Financial Capacity is significant. **Hypothesis 4**: Benefit is significant. **Hypothesis 5**: Accounting Information System is significant. **Hypothesis 7**: Environmental Policies are significant. **Hypothesis 10**: Employee Engagement is significant. **Hypothesis 15**: International Trends and Requirements are significant. The hypotheses not supported by the regression results include **Hypotheses 1, 2, 6, 8, 9, 11, 12, 13, 14, 16, 17**. This means that some predictors do not have a significant impact on the adoption of environmental accounting, while other factors have important and significant effects. This provides deeper insights into the factors driving the adoption of environmental accounting in small and micro enterprises.

**Hypothesis 1 and 2**: (Not significant) Although awareness of the benefits of environmental accounting and positive attitudes towards social responsibility of the leadership seem to be important factors, qualitative research may reveal that this awareness and attitude do not necessarily lead to concrete actions without the necessary financial or technical support. Interviews with small business owners may show that although they are

aware of the benefits, they still face difficulties in implementation due to a lack of resources or practical knowledge on how to proceed.

**Hypothesis 3 and 4**: (Significant) Small and micro enterprises with strong financial capacity are more likely to adopt environmental accounting. Interviews with business leaders can reveal that strong finances allow them to invest in new accounting systems, hire skilled employees, and bear the initial costs of implementing environmental accounting. Additionally, businesses that see long-term financial benefits from adopting environmental accounting, such as reduced operational costs and increased energy efficiency, are more motivated to implement these measures.

**Hypothesis 5**: (Significant) Modern and integrated accounting information systems make the adoption of environmental accounting easier. Qualitative research can explain that these systems provide the necessary tools and data to track and report environmental activities, helping businesses comply with regulations and improve operational efficiency. Interviews with accounting and IT staff may show that they feel confident and capable of implementing environmental accounting when they have good support tools.

**Hypothesis 6**: (Not significant) Although the skills and knowledge of employees regarding environmental accounting are considered important, interviews may reveal that the lack of skills is not a major obstacle if there are effective systems and support tools. Employees can learn and adapt to new processes if they are supported by strong accounting systems and proper training.

**Hypothesis 7**: (Significant) Effective internal environmental policies promote the adoption of environmental accounting. Qualitative research may show that businesses with clear and seriously implemented environmental policies create a favorable environment for implementing environmental accounting measures. Interviews with management and staff can reveal that environmental policies create a positive culture and expectations about environmental protection within the business.

**Hypothesis 8**: (Not significant) Although specific processes and guidelines are considered important, qualitative research can explain that the lack of detailed processes is not a major barrier if there is strong leadership support and organizational culture. Interviews may show that businesses can be flexible in applying environmental measures without detailed processes if

they have commitment from leadership and employee participation.

**Hypothesis 10:** (Significant) The level of employee participation and contribution to environmental initiatives positively influences the implementation of environmental accounting. Qualitative research may show that when employees feel they contribute to environmental protection initiatives and see its importance, they are more motivated to implement environmental accounting measures. Focus group discussions can reveal that employee participation creates a positive and supportive working environment.

**Hypothesis 15:** (Significant) International trends and requirements for environmental protection drive small and micro enterprises to adopt environmental accounting. Qualitative research may show that businesses recognize the importance of complying with international standards to participate in the global market. Interviews with business leaders can reveal that they adopt environmental accounting measures to meet international customer requirements and to enhance brand reputation.

#### 4. CONCLUSIONS AND RECOMMENDATIONS

The research results indicate that the difficulties faced by small and micro enterprises are related to motivation, business environment, enterprise capability, and support tools, which are factors influencing their approach to Environmental Accounting. Legal requirements and the demand for financial reports containing environmental accounting information become the most significant factors affecting enterprises' adoption of environmental accounting only when there are clear legal stipulations and regulations regarding Environmental Accounting and its application in businesses. Conversely, if the law does not specify and the Tax Authority does not require environmental accounting information in financial reports, then subjective standards and accessibility become the most influential factors.

Furthermore, after analyzing the data for all influencing factors, the perceived benefits for businesses remain unclear. Small and micro enterprises are only at the stage of being interested in and exploring environmental accounting. This approach is still spontaneous and lacks a clear direction. The attitude of most small and micro enterprises towards environmental accounting is still somewhat superficial; they do not fully understand its essence or recognize the benefits of Green Accounting. Thus, expecting these small and micro enterprises - these

potential resources - to develop and gradually adopt Green Accounting to replace the conventional accounting system is unlikely. Therefore, our group proposes some recommendations to systematically, logically, and scientifically guide small and micro enterprises in approaching environmental accounting.

Environmental Accounting is becoming an essential factor in the management and sustainable development of businesses. For small and micro enterprises (SMEs), adopting environmental accounting can help enhance business efficiency, minimize negative environmental impacts, and comply with legal requirements. However, promoting environmental accounting in SMEs requires coordination from various stakeholders, including the government, businesses, accountants, educational institutions, and society.

#### The Role of the Government

*Completing the Legal Framework:* The government needs to establish and refine the legal framework for environmental accounting, including specific and detailed regulations on accounting, reporting, and disclosure of environmental information. This will provide a solid legal basis for SMEs to implement environmental accounting formally and transparently.

*Support and Incentive Policies:* The government can introduce financial support policies, such as tax reductions, preferential loans, or grants for SMEs that apply environmental accounting. Additionally, encouraging businesses to participate in environmental protection programs through awards and certifications is also an effective measure.

*Strengthening Supervision and Inspection:* The government needs to enhance the supervision and inspection of environmental accounting practices in SMEs. This not only ensures compliance with legal regulations but also helps to promptly identify and address violations, creating pressure for businesses to improve their environmental performance.

#### Small and Micro Enterprises

*Raising Awareness and Commitment:* SMEs need to raise awareness about the importance of environmental accounting for sustainable development. Business leaders should commit to implementing and maintaining ecological accounting as an integral part of their development strategy.

*Investing in Technology and Training:* SMEs should invest in technology and infrastructure to effectively

implement environmental accounting. Additionally, it is essential to focus on training and enhancing the capabilities of staff in skills and knowledge related to ecological accounting.

*Building Environmental Management Systems:* Businesses need to establish a comprehensive environmental management system, including the collection, analysis, and reporting of environmental data. This system helps companies to monitor and assess the ecological impact of their production activities, thereby formulating improvement measures.

### Accountants

*Enhancing Professional Expertise:* Accountants need to continuously enhance their professional expertise in environmental accounting through training courses, workshops, and ongoing education programs. This helps them stay updated with new knowledge and apply it effectively in their work.

*Advising and Supporting Businesses:* Accountants should play a role in advising and supporting businesses in implementing environmental accounting. They can help companies build environmental accounting systems, analyze and evaluate environmental data, and provide recommendations for improvement.

### Educational Institutions

*Integrating Environmental Accounting into Curricula:* Educational institutions should integrate environmental accounting into the curricula of universities, colleges, and vocational training centers. This ensures that students and trainees have a foundational knowledge of environmental accounting before entering the labor market.

*Collaborating with Businesses:* Educational institutions need to closely collaborate with businesses in training and research on environmental accounting. This not only improves the quality of training but also creates opportunities for students and trainees to practice and apply their knowledge in real-world scenarios.

### The Role of Society

*Raising Community Awareness:* Society needs to raise community awareness about the importance of environmental protection and environmental accounting through media campaigns, education, and outreach programs. This creates social pressure for businesses to better engage in environmental protection activities.

*Promoting Sustainable Consumption:* The community should encourage sustainable consumption by

prioritizing products and services from businesses that effectively implement environmental accounting. This creates an incentive for companies to improve their environmental performance to meet consumer demand.

### Conclusion

Environmental accounting is a crucial factor in the sustainable development of small and micro enterprises. Promoting environmental accounting requires coordinated efforts from various stakeholders, including the government, businesses, accountants, educational institutions, and society. Only with commitment and concrete actions from all parties can environmental accounting become an indispensable part of the operations of small and micro enterprises. Environmental resource accounting has been highlighted in numerous Party documents. Specifically, Resolution No. 24-NQ/TW states, "Resources must be fully evaluated for their values, priced, accounted for in the economy, and strictly managed and protected; gradually determine and assess the values, establish accounts, and account for national resources in the economy." Resolution No. 39-NQ/TW of the Politburo on improving the efficiency of exploiting, using, and promoting the resources of the economy clearly states, "Complete the legal system, mechanisms, policies, and tools to promote the management, economical, and efficient use of natural resources". Resolution No. 29-NQ/TW on accelerating the industrialization and modernization of the country sets out the task, "Research and pilot the application of the natural capital accounting system in the economy according to international practices and in line with Vietnam's reality." Based on this, regulations on environmental resource accounting have been included in the Natural Resources Law No. 28/2023/QH15, issued on November 27, 2023, in accordance with the Party's guidelines.

### REFERENCES

- [1]. National Assembly of the Socialist Republic of Vietnam, *Law on Natural Resources No. 17/2012/QH13*. Vietnam, 2012.
- [2]. National Assembly of the Socialist Republic of Vietnam, *Law on Natural Resources No. 28/2023/QH15*. Vietnam 2023.
- [3]. National Assembly of the Socialist Republic of Vietnam, *Law on Statistics No. 89/2015/QH13*. Vietnam, 2015.
- [4]. National Assembly of the Socialist Republic of Vietnam, *Law on Irrigation No. 08/2017/QH14*. Vietnam, 2017.

- [5]. Adams R., et al., *Accounting and financial reporting for environmental costs and liabilities*. UNCTAD United Nations Conference on Trade and Development, 2002.
- [6]. Figge F., T. Hahn, "Sustainable value added - measuring corporate contributions to sustainability beyond eco-efficiency," *Ecological economics*, 48(2), 173-187, 2004.
- [7]. Michael J. Vardon, Thi Ha Lien Le, Ricardo Martinez-Lagunes, Ogopotse Batlokwa Pule, Sjoerd Schenau, Steve May, R. Quentin Grafton, *Water Accounts and Water Accounting*. Global Commission on the Economics of Water, 2023.
- [8]. Manjumol Sebastian, "A study on green accounting: Concept and its importance," *International Journal of Creative Research Thoughts*, 10, 8, 677-680, 2020.
- [9]. Le T.T., T. M. A. Nguyen, T. T. H. Phan, "Environmental management accounting and performance efficiency in the Vietnamese construction material industry - A managerial implication for sustainable development," *Sustainability*, 11(19), 5152, 2019.
- [10]. La Soa Nguyen, M. D. Tran, T. X. H. Nguyen, Q.H. Le, "Factors affecting disclosure levels of environmental accounting information: The case of Vietnam," *Accounting and Finance Research*, 6(4), 2017.
- [11]. Nguyen T. D., "Factors influencing environmental accounting information disclosure of listed enterprises on Vietnamese stock markets," *The Journal of Asian Finance, Economics and Business*, 7(11), 877-883, 2020.
- [12]. Nguyen L., M. Tran, "Disclosure levels of environmental accounting information and financial performance: The case of Vietnam," *Management Science Letters*, 9(4), 557-570, 2019.
- [13]. Nguyen Thi Thuy Linh, "Current Situation and Solutions for Implementing Environmental Accounting in Vietnamese Enterprises," *Finance Magazine*, 646, 2016.
- [14]. Nguyen Thu Huong, Tran Thi Hang, "Opportunities and Challenges when Green Accounting is applied in Vietnam in the Trend of Sustainable Development," *ICFAA 2020*, Hanoi City, Vietnam, 2020.
- [15]. Pham Quang Huy, "Exploring the Vietnamese Environment Accounting with an Introduction about the Green Accounting Information System," *Modern Accounting and Auditing*, 10, 675-682, 2014.
- [16]. Dao Thi Giang, Dao Thi Thu Ha, "Environmental Accounting in Enterprises," *Finance Magazine*, 2016.
- [17]. Dinh Thi Thu Hien, *Advantages and Difficulties in Applying Environmental Accounting in Vietnamese Enterprises*. Duy Tan University, 2020.
- [18]. Nguyen Thi Minh Phuong, "Green Accounting - Sustainable Development for Vietnamese Enterprises," *Accounting & Auditing Journal*, 3, 40-46, 2022.
- [19]. Nguyen Van Hoa, "Solutions for Applying Green Accounting Associated with Sustainable Development in Vietnam," *Accounting & Auditing Journal*, 12, 32-35, 2020.
- [20]. Tran Thi My Chau, "Environmental management accounting and its application in Vietnam," *Journal of Science and Technology*, Da Nang University, 12 (2), 2013.