

ORIGINAL

Determinants of the Intention to Adopt Environmental Auditing: the mediating role of attitude

Determinantes de la intención de adoptar la auditoría ambiental: el papel mediador de la actitud

Nguyen Thu Hoai¹  

¹Institute of Accounting and Auditing, Thuongmai University. Hanoi, Vietnam.

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Corresponding Author: Nguyen Thu Hoai 

ABSTRACT

Introduction: the adoption of Environmental Auditing (EA) is crucial for credible Corporate Social Responsibility (CSR), yet its implementation in Vietnam remains voluntary and limited. This study investigates the factors driving firms' intention to adopt EA in this emerging economy.

Objective: this study aims to examine the determinants of firms' intention to adopt EA in Vietnam, with a particular emphasis on the mediating role of managerial Attitude.

Method: the research develops an integrated theoretical framework by extending the Theory of Planned Behavior (TPB) with constructs from Institutional Theory, Organizational Culture Theory, and the Resource-Based View (RBV). Primary data were collected from 275 senior managers across environmentally intensive industries in Vietnam. The hypothesized relationships were tested using Structural Equation Modeling (SEM).

Results: the empirical results confirm that all three antecedent factors - Internal Resources ($\beta = 0,395$), Corporate Culture ($\beta = 0,383$), and Stakeholder Pressure ($\beta = 0,360$) - significantly influence Attitude. Attitude, in turn, strongly predicts the Intention to adopt EA ($\beta = 0,395$). Attitude fully mediates the relationship between Stakeholder Pressure and Intention (β indirect = 0,142); Attitude partially mediates the effects of Corporate Culture (β indirect = 0,151) and Internal Resources (β indirect = 0,156) on Intention. EA.

Conclusions: managerial Attitude is validated as the central mechanism influencing EA adoption intention. Policy implications suggest that interventions should prioritize capacity-building and cultural transformation to cultivate favorable attitudes, rather than relying solely on regulatory encouragement, to drive wider EA adoption in Vietnam.

Keywords: Environmental Auditing; Attitude; Stakeholder Pressure; Corporate Culture; Resource-Based View.

RESUMEN

Introducción: la adopción de la Auditoría Ambiental (AA) es crucial para una Responsabilidad Social Corporativa (RSC) creíble; sin embargo, su implementación en Vietnam sigue siendo voluntaria y limitada. Este estudio investiga los factores que impulsan la intención de las empresas de adoptar la AA en esta economía emergente.

Objetivo: este estudio tiene como objetivo examinar los determinantes de la intención de las empresas de adoptar la AA en Vietnam, con especial énfasis en el papel mediador de la actitud gerencial.

Método: la investigación desarrolla un marco teórico integrado mediante la ampliación de la Teoría del Comportamiento Planificado (TCP) con constructos de la Teoría Institucional, la Teoría de la Cultura Organizacional y la Teoría de los Recursos y Capacidades (TRC). Se recopilaron datos primarios de 275 altos directivos de industrias con alto impacto ambiental en Vietnam. Las relaciones hipotetizadas se pusieron a

prueba mediante Modelado de Ecuaciones Estructurales (SEM).

Resultados: los resultados empíricos confirman que los tres factores antecedentes –Recursos Internos ($B = 0,395$), Cultura Corporativa ($B = 0,383$) y Presión de las Partes Interesadas ($B = 0,360$)– influyen significativamente en la Actitud. A su vez, la Actitud predice fuertemente la Intención de adoptar la Arquitectura Empresarial ($B = 0,395$). La Actitud media completamente la relación entre la Presión de las Partes Interesadas y la Intención (B indirecto = $0,142$); y media parcialmente los efectos de la Cultura Corporativa (B indirecto = $0,151$) y los Recursos Internos (B indirecto = $0,156$) sobre la Intención de adoptar la Arquitectura Empresarial.

Conclusiones: se valida la Actitud Gerencial como el mecanismo central que influye en la intención de adoptar la Arquitectura Empresarial. Las implicaciones políticas sugieren que las intervenciones deberían priorizar el desarrollo de capacidades y la transformación cultural para cultivar actitudes favorables, en lugar de depender únicamente del fomento regulatorio, para impulsar una mayor adopción de la Arquitectura Empresarial en Vietnam.

Palabras clave: Auditoría Ambiental; Actitud; Presión de las Partes Interesadas; Cultura Corporativa; Visión Basada en los Recursos.

INTRODUCTION

Over the past three decades, escalating socio-environmental crises have firmly embedded the concept of Corporate Social Responsibility (CSR) within the global business discourse.⁽¹⁾ Consequently, firms whose operations exert environmental impacts are increasingly subject to pressure from both governments and civil society to implement corrective measures and to disclose these efforts transparently.⁽²⁾ However, as sustainability reporting largely remains voluntary, concerns have emerged regarding the credibility and reliability of such disclosures, resulting in what termed a “credibility gap”.⁽³⁾ This gap underscores the critical need for independent, third-party verification to ensure accountability in corporate environmental performance—a role fulfilled by EA.⁽⁴⁾

The concept of EA originated in the United States during the late 1970s and early 1980s.⁽⁵⁾ By the mid-1980s, the U.S. Environmental Protection Agency (EPA) had formally recognized auditing as an essential instrument for improving environmental performance.⁽⁶⁾ Toward the end of that decade, auditing organizations increasingly acknowledged their roles in supporting environmental policy.⁽⁷⁾ As Tomlinson and Atkinson observed, the term “audit” was effectively transposed from the financial domain into the environmental field.⁽⁸⁾ Today, EA is widely regarded as a critical mechanism for evaluating and mitigating environmental risks, enhancing public oversight, reducing operational costs, and improving managerial efficiency.^(2,9,10,11,12) Accordingly, EA has gained significant prominence among contemporary environmental management instruments.⁽⁹⁾

Within the context of socio-economic development and integration, Vietnam is confronting increasingly severe and complex environmental challenges, including air and water pollution, escalating solid waste generation, and the multifaceted impacts of climate change. According to IQAIR,⁽¹³⁾ Vietnam ranked among the ten most polluted countries in Asia and 36th globally by the end of 2024. Water pollution has emerged as a serious threat to public health and economic stability, with the World Bank estimating potential GDP losses of up to 3,5 % annually by 2035.⁽¹⁴⁾ Similarly, the volume of solid waste continues to rise sharply - urban waste generation has increased by approximately 15 % per year - placing substantial strain on existing collection and treatment systems. Moreover, climate change exacerbates environmental degradation, as evidenced by the increasing frequency and severity of floods, droughts, and saltwater intrusion events.

In response, the Vietnamese National Assembly enacted the 2020 Law on Environmental Protection, which replaced the 2014 version and introduced several significant amendments. Among these, the 2020 LEP officially incorporated the concept and certain provisions of EA into Vietnam’s legal framework. Nevertheless, EA remains a voluntary practice rather than a statutory requirement. As a result, its implementation has been limited, and EA has yet to achieve its full potential as an effective and widely adopted environmental management tool within Vietnam’s regulatory and corporate landscape.

Therefore, a deeper investigation into the factors that drive the intention to adopt EA is essential. Such a study will provide an empirical basis for formulating targeted recommendations to promote the widespread adoption of EA in Vietnam. This research addresses this gap by developing and testing a model based on Ajzen’s⁽¹⁵⁾ TPB model.

The concept of EA has been defined by numerous international and national authorities, each emphasizing its systematic and evaluative nature in assessing environmental performance and compliance. Collectively, these definitions establish the conceptual foundation for understanding EA’s purpose, scope, and methodological orientation.

Among the earliest formal definitions, the International Chamber of Commerce⁽¹⁶⁾ characterized EA as

“a management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of helping to safeguard the environment by: (i) facilitating management control of environmental practices; and (ii) assessing compliance with company policies, which would include meeting regulatory requirements.” This definition underscores EA’s managerial utility, positioning it primarily as an internal control mechanism. However, scholars such as Hillary⁽¹⁷⁾ have identified an inherent contradiction within this framing. While the ICC presents EA as an internal management instrument intended to enhance corporate environmental performance, it simultaneously promotes it as a mechanism for improving transparency and public credibility. These dual objectives are, to some extent, incompatible: internal audits inherently demand confidentiality, whereas the cultivation of public trust necessitates openness and disclosure. Consequently, the tension between confidentiality and transparency represents a persistent conceptual dilemma in the evolution of EA.

A complementary yet distinct perspective is offered by the International Organization for Standardization (ISO) through its ISO 14010 (1996) standard, which defines EA as “a systematic, documented verification process of objectively obtaining and evaluating audit evidence to determine whether specified environmental activities, events, conditions, management systems, or information about these matters conform with audit criteria, and communicating the results of this process to the client.” In contrast to the ICC’s purpose-driven orientation, the ISO definition focuses on methodological rigor and verification procedures. Importantly, it specifies that audit results are communicated “to the client,” thereby reinforcing EA’s role as a confidential management process. This limited disclosure focus echoes Hillary’s⁽¹⁷⁾ critique that the internalized nature of EA, as conceptualized by both ICC and ISO, restricts its potential as a tool for public accountability and stakeholder assurance.

In the Vietnamese context, EA has been formally incorporated into the national legal framework through the 2020 Law on Environmental Protection. Article 74, Clause 1 defines EA as “the systematic and comprehensive review and evaluation of the environmental management effectiveness and pollution control of production, business, and service establishments.” The inclusion of this definition marks a significant milestone, signaling Vietnam’s institutional recognition of EA as a legitimate environmental management mechanism. Notably, the emphasis on “environmental management effectiveness” reflects a progressive shift from mere compliance verification toward performance-based environmental governance, aligning with contemporary international trends.

Nevertheless, when juxtaposed with global standards such as ISO 14010, the Vietnamese legal definition remains conceptually broad and procedurally ambiguous. It omits explicit guidance on critical methodological elements - such as the collection of objective audit evidence, documentation requirements, or clearly defined audit criteria - thereby leaving the operationalization of a “systematic” audit largely open to interpretation. Furthermore, it remains unclear whether evaluations of “effectiveness” should be benchmarked against national regulations, international standards (e.g., ISO 14001), or firm-specific objectives. This lack of specificity risks inconsistency in implementation and comparability across enterprises. Compounding this issue, Article 75 of the same law merely encourages rather than mandates the adoption of EA, rendering it a voluntary practice. The coexistence of a generalized legal definition and a non-compulsory implementation framework creates a substantial implementation gap, placing full responsibility on enterprises to determine whether and how to undertake EA. Consequently, it becomes essential to investigate the underlying organizational and contextual factors that influence firms’ intention to adopt EA within such a voluntary policy environment.

METHOD

Conceptual framework

Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB), developed by Ajzen⁽¹⁵⁾, represents one of the most influential and empirically validated frameworks for predicting and explaining intentional human behavior across diverse contexts. The theory posits that an individual’s intention to perform a specific behavior is the most immediate determinant of that behavior. In turn, behavioral intention is shaped by three key psychological constructs: Attitude toward the behavior, Subjective Norms, and Perceived Behavioral Control.

Attitude toward the behavior refers to the extent to which an individual holds a favorable or unfavorable evaluation of performing the behavior. It is formed through behavioral beliefs about the likely outcomes of the behavior and the individual’s evaluation of these outcomes. A more positive attitude typically enhances the likelihood of behavioral intention.

Subjective Norms capture the perceived social pressure from important referent groups - such as colleagues, superiors, or peers - regarding whether the individual should engage in the behavior. These norms are shaped by normative beliefs (i.e., perceived expectations of others) and the individual’s motivation to comply with those expectations.

Perceived Behavioral Control reflects the individual’s perception of their ability to perform the behavior, encompassing the availability of necessary resources, skills, and opportunities. This construct is shaped by

control beliefs regarding facilitating or constraining factors and the perceived power of those factors to influence behavioral performance.

Within the present study, TPB provides the theoretical foundation for understanding the intention to adopt EA. In this model, Attitude serves as the central mediating construct through which various contextual and organizational factors - such as stakeholder pressure, corporate culture, and internal resources - shape the intention to adopt EA. This focus aligns with empirical findings suggesting that attitude is often the most proximal and powerful predictor of intention, particularly in contexts where the behavior is voluntary and organizational norms or regulatory controls are still emerging. Accordingly, TPB offers a robust framework for examining how firms' internal and external determinants are translated into their willingness and readiness to adopt EA practices.

Institutional Theory

Institutional Theory, originally articulated by DiMaggio et al.⁽¹⁸⁾, provides a powerful lens for understanding why organizations often adopt certain practices not solely for reasons of economic efficiency, but to achieve social legitimacy, conformity, and acceptance within their institutional environments. The theory posits that organizations operating within the same field tend to become increasingly homogeneous over time - a process known as institutional isomorphism - which occurs through three principal mechanisms:

Coercive Isomorphism arises from formal and informal pressures exerted on organizations by entities upon which they depend, as well as by broader cultural and societal expectations. These pressures often take the form of legal mandates, regulatory requirements, or government policies that compel organizations to conform to accepted standards.

Mimetic Isomorphism occurs when organizations, faced with environmental uncertainty, imitate the structures, strategies, or practices of other organizations that are perceived as successful or legitimate. Such imitation serves to reduce uncertainty and enhance organizational legitimacy by aligning with recognized models of best practice.

Normative Isomorphism stems from professionalization and the influence of professional networks, industry associations, and educational institutions, which disseminate shared norms, values, and standards of appropriate behavior within a field.

Within the context of this research, Institutional Theory underpins the conceptualization of Stakeholder Pressure as a key determinant influencing the intention to adopt EA. Pressures from regulatory agencies and industry associations reflect coercive and normative isomorphic forces, while the tendency of firms to emulate the environmental practices of leading or reputable organizations exemplifies mimetic isomorphism. Together, these institutional pressures shape organizational attitudes and behaviors toward EA adoption, reinforcing conformity to evolving environmental norms and enhancing firms' legitimacy within their institutional environment.

Organizational Culture Theory

Organizational Culture Theory, comprehensively systematized by Schein⁽¹⁹⁾, asserts that an organization's internal culture plays a decisive role in shaping its behaviors, performance outcomes, and capacity for learning and innovation. According to Schein, organizational culture comprises three interrelated and hierarchical levels that collectively define "how things are done" within a firm:

Artifacts represent the most visible manifestations of culture, including observable organizational structures, symbols, rituals, and processes - such as office design, dress codes, and communication patterns.

Espoused Values encompass the explicitly stated goals, strategies, and philosophies that guide organizational behavior. These values express what the organization claims to stand for and provide the normative basis for decision-making.

Basic Underlying Assumptions constitute the deepest level of culture - unconscious, taken-for-granted beliefs and perceptions that ultimately shape how members interpret events, make judgments, and behave within the organization.

This theoretical perspective underscores that an organization's receptiveness to new practices or technologies - such as EA - is profoundly influenced by its underlying cultural orientation. A culture that values environmental responsibility, openness to change, and continuous improvement is more likely to foster positive managerial attitudes toward adopting EA. Accordingly, Organizational Culture Theory provides the conceptual foundation for the Corporate Culture variable in this research model, emphasizing that internal values, shared beliefs, and collective assumptions critically shape managers' attitudes toward EA, which in turn affect the intention to adopt such practices.

Resource Based View

The Resource-Based View (RBV), first articulated by Wernerfelt⁽²⁰⁾ and later refined by Barney⁽²¹⁾ through

the VRIO framework - comprising Value, Rarity, Inimitability, and Organization - conceptualizes the firm as a heterogeneous bundle of tangible and intangible resources. According to this perspective, a firm's ability to achieve and sustain a competitive advantage depends on its capacity to acquire, develop, and deploy resources that are valuable, rare, difficult to imitate, and effectively organized for strategic use. These resources may include financial capital, technological assets, human expertise, organizational knowledge, and managerial capabilities.

Within this theoretical framework, internal resources are viewed not merely as operational inputs but as strategic assets that enable firms to pursue innovative and voluntary initiatives beyond regulatory compliance. Accordingly, the RBV provides the conceptual foundation for the Internal Resources variable in this study. It posits that organizations possessing sufficient financial strength, skilled human capital, and technological infrastructure are more capable of undertaking resource-intensive and value-enhancing practices such as EA. In this sense, internal resources are not only facilitators but strategic determinants of a firm's readiness and intention to adopt EA, reflecting its broader capacity for environmental innovation and sustainable performance.

Research hypotheses

Stakeholder Pressure

Stakeholder pressure is a significant external force influencing corporate environmental behavior. Within the framework of the TPB theory, this influence acts as a subjective norm - the perceived social expectation to adopt certain practices. This pressure, originating from diverse groups like customers, regulators, employees, and communities, is crucial in shaping a firm's internal attitude toward environmental initiatives, including EA.

A substantial body of research demonstrates this link. Early work by Henriques et al.⁽²²⁾ found that pressure from various stakeholders increased the likelihood of firms developing environmental plans, which commonly include audits. Similarly, Buysse et al.⁽²³⁾ showed that greater perceived expectations from stakeholders directly correlate with enhanced environmental proactiveness and a more positive corporate attitude. Delmas et al.⁽²⁴⁾ further categorize these pressures as coercive (regulatory demands), normative (community and industry expectations), and mimetic (peer imitation). They argue these forces mold managers' perceptions of legitimacy and responsibility, fostering a positive attitude toward adopting environmental practices that often extend beyond simple compliance.⁽²⁵⁾

This attitudinal shift can even be a gradual process of internalization. Firms that initially respond to pressure merely to manage their public image may, over time, internalize these environmental values, leading to a genuine positive attitude.⁽²⁶⁾ Furthermore, stakeholder pressure often activates internal processes that solidify this positive stance. For example, it can trigger managerial learning and environmental training or secure greater top management support and commitment.^(27,28) Both outcomes are expressions of a favorable organizational attitude toward EA.

In an era of global sustainability, firms face increasing pressure from a wide range of stakeholders including customers, partners, investors, and community groups to demonstrate environmental responsibility. A primary way to do this is by obtaining environmental management system certifications like ISO 14001, which often require EA reports as part of their framework.^(29,30) EA serves as an effective tool to detect threats that could harm an organization's legitimacy, image, and customer relationships.^(31,32) Empirical studies confirm that pressure from customers and the public are primary drivers for adopting environmental practices.^(33,34)

The literature consistently suggests that as stakeholder pressure for environmental accountability rises, the organization's collective attitude toward the value and necessity of EA becomes more positive. Based on this evidence, the following hypotheses are proposed:

H1: Stakeholder Pressure positively influences the Attitude towards adopting EA.

H2: Stakeholder Pressure is positively associated with the intention to adopt EA.

Corporate Culture

Corporate culture, encompassing the shared values, norms, and underlying beliefs within an organization, functions as a critical internal antecedent to environmental strategy. It provides the organizational schema through which new practices, such as EA, are perceived and evaluated.

The literature posits a strong relationship between a firm's cultural orientation and its attitude toward environmental initiatives. A proactive environmental culture, characterized by a long-term orientation and a genuine sense of corporate responsibility, fosters positive managerial attitudes.⁽²²⁾ When environmental stewardship is embedded in the corporate value system, managers are more likely to perceive EA as an intrinsically valuable and strategic tool rather than a mere compliance burden.^(35,36) This internal alignment is decisive; Bansal⁽³⁷⁾ noted that the prioritization and rapid adoption of environmental practices occur when they resonate with an organization's core values. Conversely, a rigid, hierarchical culture or one focused purely on short-term efficiency may stifle openness to EA, leading to resistance or superficial adoption.⁽³⁶⁾

Beyond shaping attitudes, corporate culture directly influences behavioral intention and the nature of

the implementation. Firms with participative and innovative cultures are more likely to institutionalize EA practices, viewing them as strategic opportunities for learning and improvement.⁽³⁶⁾ A culture prioritizing long-term efficiency similarly supports the strategic adoption of EA.⁽³⁸⁾ In contrast, where a supportive culture is absent, any adoption of EA may be performative, risking its use for “greenwashing” rather than deep integration into corporate strategy.⁽³⁹⁾ Therefore, a supportive culture not only creates a favorable attitude but also fosters the concrete intention to implement EA effectively.

Based on this evidence, the following hypotheses are proposed:

H3: a supportive Corporate Culture positively influences the Attitude towards adopting EA.

H4: a supportive Corporate Culture is positively associated with the Intention to adopt EA.

Internal Resources

The adoption and effective implementation of EA are fundamentally contingent upon a firm’s internal resource endowment. From the perspective of the RBV, unique internal capabilities are essential assets that enable firms to execute complex strategic initiatives and achieve sustainable competitive advantage.⁽⁴⁰⁾

EA is a resource-intensive undertaking. It requires significant financial capital to cover costs associated with external auditors, investments in cleaner technologies, and potential process re-engineering.^(41,42) Beyond financial outlays, EA demands substantial human and organizational capital. This includes the availability of skilled personnel, dedicated employee time, and the existence of sophisticated internal environmental management and control systems.^(38,43)

The availability of these resources directly shapes the firm’s strategic posture and, consequently, its organizational Attitude. Firms lacking sufficient resources are likely to perceive EA as a costly, pressure-driven compliance burden. Conversely, firms with abundant resources - or “resource slack” - can move beyond a reactive stance to adopt a proactive environmental strategy.⁽⁴⁴⁾ This strategic freedom allows managers to frame EA positively, viewing it not as a mere cost, but as a valuable opportunity for organizational learning, enhancing corporate credibility, and improving long-term performance.^(45,46,47,48) Thus, strong internal capabilities foster a positive attitude by highlighting the strategic value of EA rather than its administrative cost. Based on this empirical foundation, the following hypothesis is proposed:

H5: Internal Resources positively influence the Attitude towards adopting EA.

H6: Internal Resources are positively associated with the intention to adopt EA.

Attitude toward the behavior

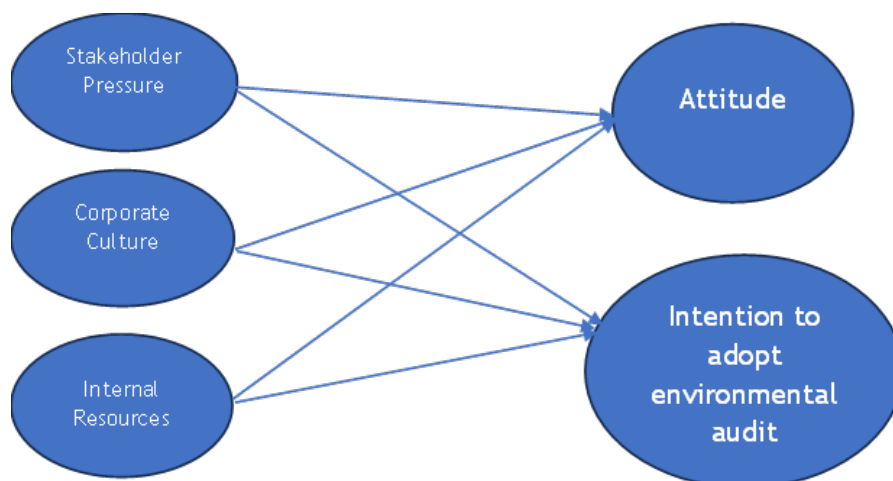


Figure 1. Research Model

Research Paradigm and Approach

This study adopts a positivist research paradigm, as it aims to objectively measure, test, and explain the causal relationships between a set of predefined variables (Stakeholder Pressure, Corporate Culture, Internal Resources, Attitude, and Intention).^(49,50) The research follows a quantitative and deductive approach, where specific, testable hypotheses have been developed from the established theoretical framework of the Theory of TPB theory and the RBV. Philosophically, the research is situated within a post-positivist paradigm, which acknowledges that social phenomena can be systematically investigated through empirical testing, while recognizing that findings are probabilistic and context-dependent.^(51,52)

The study employs a cross-sectional survey design to gather primary data from the target population at a single point in time. This design is appropriate for examining the perceptions and intentions of managers and

assessing the correlational and predictive relationships outlined in the conceptual model. The collected data will be analyzed using statistical software, with SEM selected as the primary analytical technique. SEM is well-suited for this study as it is effective at testing complex predictive models and is robust with non-normally distributed data and varying sample sizes.

Population and Sampling Procedure

The target population of this study comprised enterprises operating in Vietnam, particularly those in industries with significant environmental impacts, including manufacturing, processing, construction, and industrial services. According to the Vietnam Chamber of Commerce and Industry (VCCI) and national stock exchange listings, there are approximately 7000-8000 firms active in these sectors nationwide. The unit of analysis was the firm, and the target respondents were senior-level managers and executives—specifically Chief Executive Officers, Chief Financial Officers, Chief Accountants, Environmental Managers, and Sustainability Officers—who possess direct knowledge of their organization’s environmental strategies and auditing practices.

A purposive sampling technique, a type of non-probability sampling, was employed to ensure that all respondents met defined inclusion criteria. The inclusion criteria were: (1) the respondent must hold a senior management or executive position; (2) the firm must operate within one of the identified environmentally significant industries; and (3) the respondent must have at least two years of experience in their current role. The exclusion criteria were: (1) firms operating solely in non-industrial or service sectors with minimal environmental exposure; and (2) respondents without sufficient knowledge of the firm’s environmental or sustainability practices.

The sampling frame was compiled from multiple verified sources, including the Vietnam Chamber of Commerce and Industry (VCCI) directory, listings of publicly traded firms on the Hanoi (HNX) and Ho Chi Minh City (HOSE) Stock Exchanges, and relevant professional associations. A total of 420 questionnaires were distributed through both online and direct channels. After screening for completeness and response validity, 275 usable responses were retained for analysis. This sample size exceeds the recommended minimum threshold for Structural Equation Modeling (SEM), ensuring adequate statistical power and model reliability.⁽⁵³⁾

Data Collection and Instrument

Data were collected using a structured questionnaire as the primary instrument. To ensure content and construct validity, all measurement items for the latent variables were adapted from previously validated scales in established literature. All items were measured on a 5-point Likert scale (1 = “Strongly Disagree” to 5 = “Strongly Agree”).

Given the Vietnamese context, the questionnaire underwent a rigorous back-translation process. It was first translated from English to Vietnamese by a bilingual expert, and then translated back to English by an independent bilingual academic to ensure semantic and conceptual equivalence.

Before full-scale distribution, the Vietnamese questionnaire was pilot-tested with 10 academics in the fields of accounting and environmental management and 5 senior managers from non-target firms. Feedback from the pilot test was used to refine the wording for clarity, readability, and contextual relevance. The final questionnaire was distributed electronically via email and professional networking platforms (e.g., zalo) to the target respondents, with an introductory letter explaining the study’s purpose and guaranteeing anonymity and confidentiality.

Table 1. Construct Measurement Items and Sources

Factors	Items	Item detail	Source
Stakeholder Pressure (SP)	SP1	The local community closely monitors our environmental activities and expects us to protect the local environment.	(22,23)
	SP2	Leading competitors in our industry have set a standard for environmental performance that we feel pressured to follow.	
	SP3	Our customers increasingly demand environmentally friendly products and expect us to be transparent about our environmental impact.	
	SP4	Non-governmental organizations and environmental groups exert significant influence on our company’s environmental policies.	
Corporate Culture (CC)	CC1	Our company’s top management is strongly committed to environmental protection and sustainability	(35,38)
	CC2	Environmental responsibility is a core value that is deeply embedded in our company’s identity	

Internal Resources (IR)	CC3	Our company's mission and vision statements explicitly include a commitment to environmental sustainability	
	CC4	In our company, protecting the environment is considered everyone's responsibility, not just the job of a specific department	
	IR1	Our company has sufficient financial resources to invest in environmental auditing activities.	(38,40)
	IR2	Our company possesses the necessary technology and information systems to monitor and report on our environmental performance.	
Attitude (ATT)	IR3	We can easily access external experts or consultants if we need assistance with environmental auditing	
	ATT1	Adopting Environmental Auditing would bring significant strategic benefits to our company	(15,50,51)
	ATT2	I believe that adopting Environmental Auditing is a wise business decision for our company.	
	ATT3	Implementing Environmental Auditing would help our company improve operational efficiency and reduce costs in the long run	
Intention to adopt EA (IA)	IA1	We are actively planning to implement Environmental Auditing	(15,50,51)
	IA2	I will strongly recommend and support the decision to adopt Environmental Auditing in our company.	
	IA3	Adopting Environmental Auditing is a high priority for our company going forward	
	IA4	Our company will make a significant effort to adopt Environmental Auditing in the near future.	

Data Analysis

The collected data were analyzed using a two-stage process with IBM SPSS Statistics 26 and AMOS 24.

Preliminary Analysis: The dataset was first screened for missing values, outliers, and normality. Descriptive statistics were generated in SPSS to summarize the demographic and professional characteristics of the respondents. The internal consistency and reliability of each construct were assessed using Cronbach's Alpha to ensure scale reliability.

SEM: SEM served as the primary analytical technique to evaluate the hypothesized research model. The analysis proceeded in two sequential stages. First, a Confirmatory Factor Analysis (CFA) was conducted to assess the psychometric properties of the measurement model. Convergent validity was established by examining the Average Variance Extracted (AVE), while discriminant validity was assessed using the Fornell-Larcker criterion. Composite Reliability (CR) was also calculated to confirm construct reliability. Second, the structural model was tested to examine the hypothesized relationships among the latent constructs. Model fit was evaluated using multiple goodness-of-fit indices, including the Chi-square/degrees of freedom ratio, Comparative Fit Index, Tucker-Lewis Index, and Root Mean Square Error of Approximation.

Participants in this research were provided with all the purposes, procedures, and risks associated with carrying out the research. Informed consent was sought from all participants before undertaking participation in the research. Participants were assured that participation was voluntary and that they could withdraw at any time without penalty. The confidentiality and anonymity of all participants' personal information are ensured during this research process. As a result, all participants took part willingly, without any form of pressure or coercion.

RESULTS

Respondent Demographics

The descriptive statistics of the survey respondents and their respective firms, presented in table 2, provide an overview of the sample characteristics and affirm its suitability for the study's research objectives.

With respect to respondents' job positions, the sample primarily comprises senior-level managers who possess direct decision-making authority or substantial influence over corporate environmental policies and strategic initiatives. Notably, Chief Executive Officers accounted for 41,09 % (n = 113) of the participants, forming the largest subgroup, followed by Plant and Production Managers, who represented 32,36 % (n = 89) of the total sample. Together, these two leadership categories constitute 73,45 % of respondents, ensuring that

the collected data reflect informed managerial perspectives on the determinants of EA adoption.

Regarding the industry composition, the sample was deliberately drawn from sectors characterized by significant environmental impacts, where the adoption of EA holds particular strategic and operational relevance. Manufacturing firms constituted the majority at 62,55 % (n = 172), followed by enterprises in the Mining (13,82 %) and Processing (8,72 %) sectors. This targeted sampling approach enhances the contextual validity of the findings by focusing on industries that are most directly exposed to environmental scrutiny and regulatory pressure. Consequently, the sample composition supports the analytical objective of identifying key drivers influencing firms' intention to adopt EA within environmentally intensive sectors.

Table 2. Demographic Profile of Respondents (N=275)

		Frequency	Percent (%)
Position	Chief Executive Officers	113	41,09
	Plant and Production Managers	89	32,36
	Quality Management Director	38	13,82
	Head/Deputy Head of the Legal Department	12	4,36
	Head/Deputy Head of the Environmental Department	23	8,37
Manufacturing sectors	Manufacturing industry	172	62,55
	Mining industry	38	13,82
	Processing industry	41	14,91
	Other	24	8,72
Total		275	100

Measurement Model Assessment

The reliability and validity of the measurement model were evaluated through tests of internal consistency and convergent validity. Internal consistency was assessed using Cronbach's Alpha and CR. As presented in the table, Cronbach's Alpha values for all constructs ranged from 0,833 to 0,929, exceeding the recommended threshold of 0,70 and demonstrating strong internal reliability.⁽⁵³⁾ Similarly, CR values ranged from 0,836 to 0,933, further confirming the robustness and consistency of the measurement scales.

Table 3. Factors loading, Cronbach's Alpha, Reliability and Convergent Validity

Factors	Items	Cronbach's Alpha	Factor loadings	KMO	CR	AVE
Stakeholder Pressure (SP)	SP1	0,899	0,869	0,846	0,899	0,691
	SP2		0,878			
	SP3		0,892			
	SP4		0,865			
Corporate Culture (CC)	CC1	0,833	0,813	0,771	0,836	0,563
	CC2		0,816			
	CC3		0,872			
	CC4		0,767			
Internal Resources (IR)	IR1	0,929	0,921	0,758	0,930	0,815
	IR2		0,939			
	IR3		0,947			
Attitude (ATT)	ATT1	0,858	0,891	0,709	0,866	0,866
	ATT2		0,920			
	ATT3		0,849			
Intention to adopt EA (IA)	IA1	0,928	0,890	0,856	0,933	0,776
	IA2		0,893			
	IA3		0,933			
	IA4		0,929			

Convergent validity, which assesses the degree to which indicators of a construct share a common variance, was examined through factor loadings and AVE. All standardized factor loadings were statistically significant and ranged from 0,767 to 0,947, surpassing the 0,70 benchmark and indicating that all items loaded strongly on their respective constructs. The AVE values ranged from 0,563 to 0,866, exceeding the minimum criterion of 0,50, which suggests that each construct explains more than half of the variance in its observed indicators.

Additionally, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for all constructs was greater than 0,70, confirming that the dataset was suitable for factor analysis. Collectively, these results provide compelling evidence for the reliability and convergent validity of the measurement model, thereby establishing a sound empirical basis for the subsequent structural model analysis.

Correlation and Discriminant Validity Analysis

Table 4 presents the correlation coefficients among the five core constructs of the study: SP, CC, IR, AT, and IA. All inter-construct correlations are positive and statistically significant at the 0,001 level, suggesting that the variables are interrelated in the expected directions.

The correlation analysis indicates that AT is strongly associated with IA ($r = 0,777$, $p < 0,001$), providing preliminary support for the hypothesized mediating relationship proposed in the TPB framework. Similarly, IR show substantial correlations with both Attitude ($r = 0,624$, $p < 0,001$) and Intention ($r = 0,670$, $p < 0,001$), underscoring the importance of resource availability in shaping firms' readiness to adopt EA. CC also demonstrates meaningful correlations with Attitude ($r = 0,564$, $p < 0,001$) and Intention ($r = 0,537$, $p < 0,001$), highlighting the role of a supportive cultural environment in fostering positive perceptions toward EA.

In contrast, SP - though positively correlated with all variables - shows relatively lower coefficients (e.g., $r = 0,504$ with IA; $r = 0,607$ with AT), implying that its influence on behavioral intention may operate indirectly through Attitude rather than through a direct effect.

The diagonal elements in table 4 represent the square roots of the AVE for each construct, and all are greater than the corresponding inter-construct correlations. This satisfies the Fornell-Larcker criterion, thereby confirming discriminant validity of the measurement model.⁽⁵⁴⁾ These results collectively demonstrate that the constructs are empirically distinct and that multicollinearity is not a concern for subsequent structural modeling.

Table 4. Correlation coefficient among core variables

	SP	CC	IR	AT	IA
SP	0,831				
CC	0,247***	0,751			
IR	0,386***	0,235***	0,903		
AT	0,607***	0,564***	0,624***	0,827	
IA	0,504***	0,537***	0,670***	0,777***	0,881

Note: here the meaning of the acronyms used in the table, *** denotes a significance level of $p < 0,001$, and ** denotes $p < 0,01$

Model fitting results

The results of the SEM provide strong empirical support for the proposed theoretical framework. As summarized in Table 6, six out of seven hypothesized relationships were statistically significant ($p < 0,001$), confirming the robustness of the research model. Overall, the model demonstrated excellent fit to the empirical data, as indicated by multiple goodness-of-fit indices ($\chi^2/df = 1,693$, GFI = 0,921, CFI = 0,976, TLI = 0,971, RMSEA = 0,050). These indices all surpass recommended thresholds, suggesting that the proposed model explains the observed data well and that the structural relationships among the latent constructs are statistically valid.⁽⁵³⁾

Table 5. Model fitting results

Fit index	Recommended Threshold	Observed Value	Evaluation Result
CMIN/DF	<3	1,693	Excellent
GFI	>0,8	0,921	Excellent
CFI	>0,9	0,976	Excellent
TLI	>0,9	0,971	Excellent
RMSEA	<0,08	0,050	Excellent

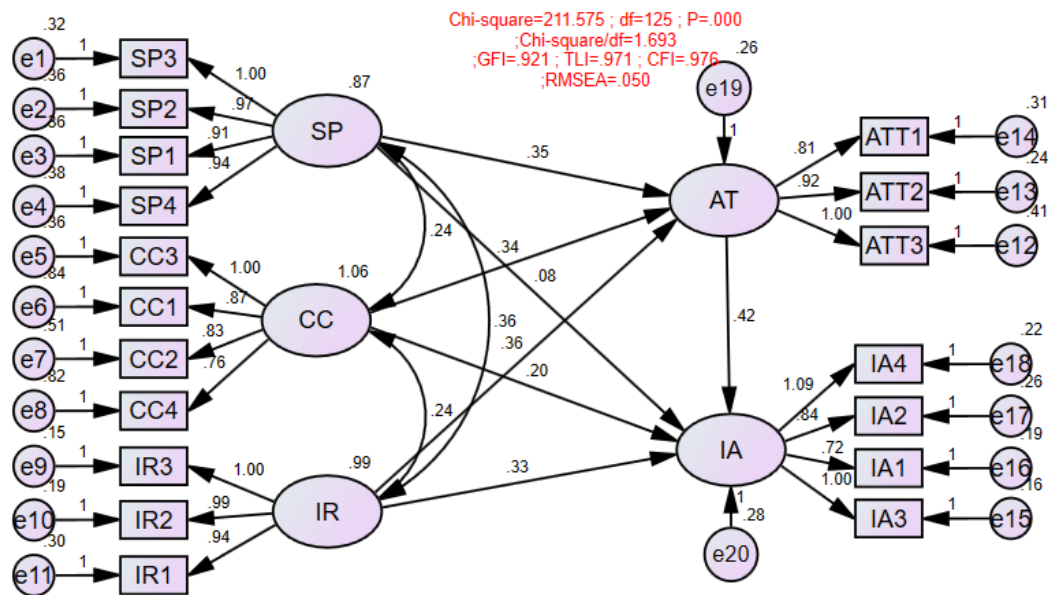


Figure 2. Research model values

Hypothesis Testing Results

Among the three antecedent variables, IR emerged as the most powerful determinant influencing both Attitude ($\beta = 0,395$, $p < 0,001$) and the Intention to adopt EA ($\beta = 0,342$, $p < 0,001$). This finding underscores the decisive role of organizational capacity - particularly financial strength, technological readiness, and human expertise - in shaping firms' strategic orientation toward EA. Firms that possess stronger internal resource bases are not only more likely to form positive attitudes toward EA but also to convert these attitudes into concrete adoption intentions.

CC also exerted a substantial positive influence on both Attitude ($\beta = 0,383$, $p < 0,001$) and Intention ($\beta = 0,214$, $p < 0,001$). This result highlights the importance of an environmentally supportive culture - where sustainability is embedded in values, leadership commitment, and organizational identity - as a critical enabler of EA adoption. The strong path coefficients suggest that when environmental protection is institutionalized as a shared responsibility, managers are more inclined to view EA as a strategic investment rather than a regulatory burden.

SP had a significant positive effect on Attitude ($\beta = 0,360$, $p < 0,001$), but its direct influence on Intention ($\beta = 0,080$, $p = 0,160$) was statistically insignificant. This pattern indicates that stakeholder influence shapes firms' internal evaluative stance toward EA but does not directly translate into adoption intention unless mediated through Attitude. This finding reinforces the mediating role of Attitude posited by the TPB theory, emphasizing that external pressure alone may be insufficient to motivate adoption unless internalized as a favorable organizational belief.⁽¹⁵⁾

Finally, Attitude toward EA demonstrated a strong, positive, and statistically significant effect on the Intention to adopt EA ($\beta = 0,395$, $p < 0,001$), confirming Hypothesis 7. This relationship provides empirical validation for Ajzen's⁽¹⁵⁾ TPB, establishing Attitude as a central mediating construct that translates contextual and organizational determinants into behavioral intention. The relatively high standardized coefficient indicates that managerial perception of EA's strategic value is a pivotal driver of firms' readiness to adopt.

Table 6. Results of Hypothesis Testing

Hypothesis	Path	Std. Beta (β)	Critical Ratio	p-value	Result
H1	SP $\rightarrow$ AT	0,360	6,575	0,000	Supported
H2	SP $\rightarrow$ IA	0,080	1,404	0,160	Rejected
H3	CC $\rightarrow$ AT	0,383	7,120	0,000	Supported
H4	CC $\rightarrow$ IA	0,214	3,669	0,000	Supported
H5	IR $\rightarrow$ AT	0,395	7,425	0,000	Supported
H6	IR $\rightarrow$ IA	0,342	5,905	0,000	Supported
H7	AT $\rightarrow$ IA	0,395	4,376	0,000	Supported

Mediating Role of Attitude

To examine the mediating role of AT in the relationships between SP, CC, IR, and IA, a bootstrapping analysis with 5000 resamples was conducted. The indirect effects were evaluated using bias-corrected confidence intervals at the 95 % level.

Specifically, all three indirect paths were found to be statistically significant, as their confidence intervals did not include zero. These findings confirm that AT effectively mediates the effects of external SP and internal organizational factors on the IA.

Moreover, the examination of direct paths revealed differing patterns of mediation. While the direct effect of SP on IA was insignificant ($B = 0,080$, $p = 0,160$) when AT was incorporated, indicating full mediation, both CC ($B = 0,214$, $p < 0,001$) and IR ($B = 0,342$, $p < 0,001$) maintained significant direct effects alongside their indirect effects, demonstrating partial mediation.

Collectively, these results highlight the centrality of AT as a psychological and organizational conduit through which both external pressures and internal capabilities translate into firms' strategic behavioral intentions. The findings underscore that the adoption of EA is not solely driven by external legitimacy pressures but is also deeply rooted in the firm's internal cultural orientation and resource readiness, which foster a favorable managerial attitude toward sustainability-oriented innovations.

Path	Std. Indirect Effect (B)	95 % CI Lower	95 % CI Upper	Mediation Type	Sig.
SP → AT → IA	0,142	0,079	0,233	Full	$p < 0,05$
CC → AT → IA	0,151	0,079	0,256	Partial	$p < 0,05$
IR → AT → IA	0,156	0,076	0,277	Partial	$p < 0,05$

DISCUSSION

The results of this study provide robust empirical evidence supporting the proposed theoretical framework that integrates the TPB, Institutional Theory, Organizational Culture Theory, and the RBV to explain the determinants of firms' intention to adopt EA in Vietnam. The findings underscore that both internal and external organizational factors exert significant influence on managerial attitudes, which in turn shape firms' intention to adopt EA.

The mediating role of attitude

Consistent with the TPB framework, Attitude emerged as a pivotal mediating construct linking external pressures and internal enablers to behavioral intention.⁽¹⁵⁾ The bootstrapping analysis confirmed that AT fully mediated the relationship between SP and IA, and partially mediated the effects of CC and IR. This pattern reinforces the premise that while firms may experience coercive and normative pressures from stakeholders, these pressures alone are insufficient to trigger adoption behavior unless they are internalized into positive managerial attitudes toward EA.⁽¹⁸⁾

This finding echoes earlier studies,^(51,55) which demonstrated that positive managerial attitudes represent the most proximal predictor of environmental behavior. In the Vietnamese context - where EA remains voluntary and regulatory enforcement is relatively weak - attitude plays an even more decisive role, functioning as the psychological mechanism that converts perceived social and institutional pressures into genuine behavioral commitment.

Stakeholder pressure and external institutional forces

The study revealed that SP significantly influences managerial AT ($B = 0,360$, $p < 0,001$) but does not exert a direct impact on the IA. This indicates that the effect of institutional pressures is indirect and attitudinally mediated. In line with Institutional Theory,⁽¹⁸⁾ the results suggest that Vietnamese firms respond to external expectations -such as those from customers, communities, and regulators - primarily when these expectations are interpreted as consistent with organizational values and beneficial to long-term legitimacy.

This finding aligns with Delmas et al.⁽²⁴⁾ and Henriques et al.⁽²²⁾, who noted that environmental pressures often work through normative and mimetic channels that reshape corporate cognition rather than compel immediate behavioral compliance. In developing economies, where EA remains discretionary, this attitudinal mediation becomes particularly crucial, underscoring the need for sustained awareness and stakeholder engagement to internalize environmental values within corporate decision-making processes.

The role of corporate culture

The significant direct and indirect effects of CC on IA ($B = 0,214$, $p < 0,001$) and AT ($B = 0,383$, $p < 0,001$) confirm

that a supportive and sustainability-oriented culture is instrumental in driving environmental innovation. This finding resonates with Schein's⁽¹⁹⁾ conceptualization that deep-seated values and shared assumptions determine organizational openness to change. When environmental responsibility is embedded in corporate philosophy, managers are more likely to perceive EA as a strategic investment rather than a compliance cost.^(35,36)

This reinforces prior research indicating that environmental initiatives succeed when they align with core organizational values and leadership commitment.^(37,38) The Vietnamese data extend these insights by demonstrating that even in the absence of regulatory compulsion, firms with strong internal cultural alignment are capable of voluntarily embracing EA practices. Thus, the cultural dimension constitutes both an ethical and strategic foundation for environmental management transformation.

The significance of internal resources

As predicted by the RBV,^(20,21) IR emerged as the strongest determinant of both AT ($\beta = 0,395$, $p < 0,001$) and IA ($\beta = 0,342$, $p < 0,001$). This underscores that resource availability - financial capacity, technological competence, and human capital - serves as a critical enabler for environmental innovation and auditing adoption. Firms with more abundant resources are better positioned to perceive EA as a value-creating activity, enhancing legitimacy and efficiency, rather than as a burdensome regulatory exercise.

This outcome is consistent with Aragón-Correa et al.⁽⁴⁴⁾ and Hart⁽⁴⁰⁾, who argued that resource slack enhances firms' ability to pursue proactive environmental strategies. It also reflects findings from Nguyen⁽⁵⁶⁾, who observed that resource-endowed Vietnamese enterprises are more likely to adopt environmental management accounting systems. The convergence of these findings highlights the necessity of strengthening firms' internal capabilities to enable meaningful engagement with environmental governance mechanisms.

Theoretical implications

The integration of multiple theoretical perspectives provides a more holistic understanding of EA adoption in emerging markets. The study empirically validates the TPB in a corporate environmental context, demonstrating that Attitude remains the central psychological driver of behavioral intention. Simultaneously, the incorporation of Institutional Theory reveals how external legitimacy pressures shape internal attitudes, while the RBV and Organizational Culture Theory explain how internal competencies and values condition firms' responsiveness to such pressures. Together, these perspectives highlight that EA adoption is both a legitimacy-seeking and capability-driven process.

Contextual reflections for Vietnam

Within Vietnam's voluntary regulatory framework, where EA is encouraged but not mandated under the 2020 Law on Environmental Protection, the study's findings carry particular relevance. The results suggest that regulatory encouragement alone may be insufficient to stimulate widespread adoption unless complemented by initiatives that foster attitudinal and cultural transformation within firms. Therefore, policy interventions should emphasize capacity-building programs, environmental leadership training, and public recognition schemes that enhance the perceived strategic value of EA among corporate leaders.

Theoretical Contributions

This research makes several theoretical contributions to the existing literature on environmental management and auditing.

First, it extends the TPB theory into the corporate environmental domain, empirically confirming that Attitude serves as the most immediate and powerful predictor of behavioral intention, particularly in voluntary policy environments.

Second, by integrating Institutional Theory, the study highlights how coercive, normative, and mimetic pressures shape firms' environmental behavior indirectly through attitudinal change rather than direct compulsion. This enriches understanding of how legitimacy-seeking motives translate into internal psychological readiness for change.

Third, through the Resource-Based View and Organizational Culture Theory, the study demonstrates that internal organizational factors - specifically, resource capacity and cultural orientation—act as strategic enablers that amplify the formation of positive attitudes and facilitate the translation of environmental intent into action.

Finally, this integrative model contributes to theory-building by positioning Attitude as a unifying mediating construct that bridges external institutional pressures and internal resource-cultural dynamics in explaining voluntary environmental behavior.

Practical Implications

The findings carry important implications for both policymakers and business leaders seeking to promote the

adoption of EA within developing economies such as Vietnam.

For policymakers, the evidence suggests that regulatory encouragement alone is insufficient to motivate widespread EA adoption. Instead, efforts should focus on fostering attitudinal transformation among corporate leaders through education, training, and awareness campaigns that emphasize the strategic and operational benefits of EA. Government agencies should also develop capacity-building programs to enhance firms' financial, technological, and human resource capabilities, thereby reducing perceived barriers to adoption.

For business managers, the study underscores the importance of cultivating a sustainability-oriented corporate culture where environmental responsibility is integrated into organizational values and everyday decision-making. Top management commitment and cross-departmental engagement can significantly enhance employees' environmental attitudes and strengthen the firm's readiness for auditing implementation. Additionally, investments in environmental technologies, skilled personnel, and internal control systems will reinforce the perception of EA as a value-generating process rather than a compliance obligation.

Limitations and Future Research

While this study offers valuable insights, several limitations warrant attention.

First, the cross-sectional design captures managerial perceptions at a single point in time, limiting the ability to infer causality or observe dynamic attitudinal changes. Future studies could adopt a longitudinal design to examine how attitudes and intentions evolve as regulatory contexts and stakeholder expectations shift.

Second, the study relied on self-reported data from managers, which may be subject to common method bias or social desirability effects. Future research could triangulate survey data with secondary performance indicators or audit reports to enhance validity.

Third, the research focused exclusively on Vietnamese enterprises; therefore, generalization to other emerging economies should be made with caution. Comparative studies across ASEAN countries could reveal cross-cultural or institutional variations in EA adoption behavior.

Finally, future research may expand the current model by incorporating additional psychological and contextual constructs, such as Perceived Behavioral Control, Environmental Commitment, or Top Management Support, to capture a more comprehensive picture of the determinants influencing EA adoption.

CONCLUSIONS

This study investigated the determinants of firms' intention to adopt EA in Vietnam by integrating the TPB, Institutional Theory, Organizational Culture Theory, and the RBV. Drawing on data from 275 senior managers across environmentally intensive industries, the study employed SEM to test the hypothesized relationships among Stakeholder Pressure, Corporate Culture, Internal Resources, Attitude, and Intention.

The results provide strong empirical support for the proposed model. All antecedent variables - Stakeholder Pressure, Corporate Culture, and Internal Resources - were found to significantly influence Attitude, which in turn exerted a strong positive effect on Intention. Internal Resources emerged as the most influential factor, followed closely by Corporate Culture and Stakeholder Pressure. Moreover, the mediation analysis revealed that Attitude fully mediated the effect of Stakeholder Pressure and partially mediated the effects of Corporate Culture and Internal Resources on firms' intention to adopt EA. Collectively, these results confirm that while external pressures initiate environmental awareness, it is the internalization of favorable attitudes and the existence of supportive resources and culture that ultimately drive EA adoption in Vietnamese enterprises.

BIBLIOGRAPHIC REFERENCES

1. Ajayi OA, Mmutle T. Corporate reputation through strategic communication of corporate social responsibility. *Corp Commun Int J.* 2020;26(5):400-15. DOI: 10.1108/CCIJ-02-2020-0047
2. Patriarca R, Gravio GD, Costantino F, Tronci M. The functional resonance analysis method for a systemic risk based environmental auditing in a sinter plant: a semi-quantitative approach. *Environ Impact Assess Rev.* 2017;63:72-86. DOI: 10.1016/j.eiar.2016.12.002
3. Boyce G. Public discourse and decision making. *Account Audit Account J.* 2000;13(1):27-64. DOI: 10.1108/09513570010316135
4. Ferry L, Lehman G. Trends in corruption, environmental, ethical and social accounting. *Account Forum.* 2018;42(1). DOI: 10.1016/j.accfor.2018.01.002
5. Hillary R. Developments in environmental auditing. *Manag Audit J.* 1995;10(8):34-9. DOI: 10.1108/02686909510093606

6. Evans MF, Liu L, Stafford S. Do environmental audits improve long-term compliance? Evidence from manufacturing facilities in Michigan. *J Regul Econ.* 2011;40(3):279-302. DOI: 10.1007/s11149-011-9163-2
7. Leeuwen SJV. Developments in environmental auditing by supreme audit institutions. *Environ Manage.* 2004;33(2):163-72. DOI: 10.1007/s00267-003-0063-9
8. Tomlinson P, Atkinson SF. Environmental audits: proposed terminology. *Environ Monit Assess.* 1987;8(3):187-98. DOI: 10.1007/BF00404264
9. Cook W, Bommel S van, Turnhout E. Inside environmental auditing: effectiveness, objectivity, and transparency. *Curr Opin Environ Sustain.* 2016;18:33-9. DOI: 10.1016/j.cosust.2015.07.016
10. He G, Yang J, Lu Y, Wang S, Chen B, Hayat T, et al. Ternary energetic environmental performance auditing of a typical industrial park in Beijing. *J Clean Prod.* 2017;163:128-35. DOI: 10.1016/j.jclepro.2015.03.040
11. Jain RK, Cui Z “Cindy”, Domen JK. environmental auditing. In: *Environmental Impact of Mining and Mineral Processing.* Boston: Butterworth Heinemann; 2016. 10.1016/C2014-0-05174-X
12. Wang J, Zhang B, Chen T. The case study of China’s environmental audit: taking the Taihu lake as an example. *Energy Procedia.* 2011;5:2108-13. DOI: 10.1016/j.egypro.2011.03.364
13. 2024 World air quality report. IQAir; 2024. <https://www.iqair.com/world-air-quality-report>
14. Vietnam: Toward a safe, clean, and resilient water system. World Bank Group; 2019. <https://openknowledge.worldbank.org/handle/10986/31446>
15. Ajzen I. The Theory of Planned Behavior. *Organ Behav Hum Decis Process.* 1991;50:179-211. DOI: 10.1016/0749-5978(91)90020-T
16. Environmental Auditing. Paris, France: International Chamber of Commerce; 1989. Rapport no 468.
17. Hillary R. Environmental Auditing: Concepts, Methods and Developments. *Int J Audit.* 1998;2:71-85. DOI: 10.1111/1099-1123.00031
18. DiMaggio PJ, Powell WW. The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *Am Sociol Rev.* 1983;48(2):147-60. DOI: 10.2307/2095101
19. Schein EH. *Organizational Culture and Leadership* [Internet]. San Francisco: Jossey-Bass; 1992 [cited. Available from: https://ia800805.us.archive.org/9/items/EdgarHScheinOrganizationalCultureAndLeadership/Edgar_H_Schein_Organizational_culture_and_leadership.pdf
20. Wernerfelt B. A Resource-Based View of the Firm. *Strategic Management Journal.* *Strateg Manag J.* 1984;5(2):171-80. DOI: 10.1002/smj.4250050207
21. Barney J. Firm Resources and Sustained Competitive Advantage. *J Manag.* 1991;17(1):99-120. DOI: 10.1177/014920639101700108
22. Henriques I, Sadorsky P. The determinants of an environmentally responsive firm: An empirical approach. *J Environ Econ Manag.* 1996;30:381-95. DOI: 10.1006/jeem.1996.0026
23. Buysse K, Verbeke A. Proactive Environmental Strategies: A Stakeholder Management Perspective. *Strateg Manag J.* 2003;24(5):453-70. DOI: 10.1002/smj.299
24. Delmas MA, Toffel MW. Stakeholders and Environmental Management Practices: An Institutional Framework. *Bus Strategy Environ.* 2004;13(4):209-22. DOI: 10.1002/bse.409
25. Qian W, Burritt RL, Monroe GS. Environmental Management Accounting in Local Government: A Case of Waste Management. *Account Audit Account J.* 2011;24:93-128. DOI: 10.1108/09513571111098072

26. Larrinaga-Gonzalez C, Bebbington J. Accounting change or institutional appropriation? A case study of the implementation of environmental accounting. *Crit Perspect Account*. 2001;12(3):269-92. DOI: 10.1006/cpac.2000.0433
27. Sarkis J, Gonzalez-Torre P, Adenso-Diaz B. Stakeholder Pressure and the Adoption of Environmental Practices: The Mediating Effect of Training. *J Oper Manag*. 2010;28(2):163-76. DOI: 10.1016/j.jom.2009.10.001
28. Thuy LTT. The impact of environmental auditing and environmental management practices on environmental performance: the mediating role of top management support. *Salud Cienc Tecnol*. 2025;5:1-15. DOI: 10.56294/saludcyt20252393
29. Alvarez-Larrauri R, Fogel I. Environmental audits as a policy of state: 10 years of experience in Mexico. *J Clean Prod*. 2008;16(1):66-74. DOI: 10.1016/j.jclepro.2006.11.006
30. Yiwen Z, Maxwell SL, Runting RK, Venter O, Watson JEM, Carrasco LR. Environmental destruction not avoided with the Sustainable Development Goals. *Nat Sustain*. 2020;3(10):1-4. DOI: 10.1038/s41893-020-0555-0
31. Mobus JL. Mandatory environmental disclosures in a legitimacy theory context. *Account Audit Account J*. 2005;18(4):492-517. DOI: 10.1108/09513570510609333
32. Fallan E, Fallan L. Corporate tax behaviour and environmental disclosure: strategic tradeoffs across elements of CSR? *Scand J Manag*. 2019;35(3):1-15. DOI: 10.1016/j.scaman.2019.02.001
33. Hahn R, Kühnen M. Determinants of sustainability reporting: a review of results, trends, theory, and opportunities in an expanding field of research. *J Clean Prod*. 2013;59:5-21. DOI: 10.1016/j.jclepro.2013.07.005
34. Russo MV, Harrison NS. Organizational Design and Environmental Performance: Clues from the Electronics Industry. *Acad Manage J*. 2005;48(4):582-93. DOI: 10.5465/AMJ.2005.17843939
35. Jamil CSM, Muhammad F, Mohamed R, Ali A. Environmental management accounting practices in small medium manufacturing firms. *Procedia - Soc Behav Sci*. 2015;172:619-26. DOI: 10.1016/j.sbspro.2015.01.411
36. Wang S, Huang L. A Study of the Relationship between Corporate Culture and Corporate Sustainable Performance: Evidence from Chinese SMEs. *Sustainability*. 2022;14(13). DOI: 10.3390/su14137527
37. Bansal P. From issues to actions: The importance of individual concerns and organizational values in responding to natural environmental issues. *Organ Sci*. 2003;14(5):510-27. DOI: 10.1287/orsc.14.5.510.16765
38. Henri J-F, Journeault M. Eco-control: The influence of management control systems on environmental and economic performance. *Account Organ Soc*. 2010;35(1):63-80. DOI: 10.1016/j.aos.2009.02.001
39. Harris LC, Crane A. The greening of organizational culture: Management views on the depth, degree and diffusion of change. *J Organ Change Manag*. 2002;15(3):214-34. DOI: 10.1108/09534810210429273
40. Hart SL. A Natural-Resource-Based View of the Firm. *Acad Manage Rev*. 1995;20(4):986-1014. DOI: 10.2307/258963
41. Boiral O, Paillé P. Organizational citizenship behaviour for the environment: Measurement and validation. *J Bus Ethics*. 2012;109(4):431-45. DOI: 10.1007/s10551-011-1138-9
42. González-Benito J, González-Benito Ó. A review of determinant factors of environmental proactivity. *Bus Strategy Environ*. 2006;15(2):87-102. DOI: 10.1002/bse.450
43. Daily BF, Huang S. Achieving sustainability through attention to human resource factors in environmental management. *Int J Oper Prod Manag*. 2001;21:1539-52. DOI: 10.1108/01443570110410892
44. Aragón-Correa JA, Sharma S. A Contingent Resource-Based View of Proactive Corporate Environmental Strategy. *Acad Manage Rev*. 2003;28(1):71-88. DOI: 10.5465/amr.2003.8925233

45. Sarkis J, Cordeiro JJ. An empirical evaluation of environmental efficiencies and firm performance: Pollution prevention versus end-of-pipe practice. *Eur J Oper Res.* 2001;135(1):102-13. DOI: 10.1016/S0377-2217(00)00306-4
46. Chan KC. Air Pollution, Regulatory Reforms, and Impacts on Corporate Policies: Selective Review with Recent Evidence from China. *Chin Econ.* 2021;54(5):347-54. DOI: 10.1080/10971475.2021.1875155
47. Fawehinmi O, Yusliza MY, Kasim WZW, Mohamad Z, Halim MASA. Exploring the Interplay of Green Human Resource Management, Employee Green Behavior, and Personal Moral Norms. *SAGE Open.* 2020;10(4):1-18. DOI: 10.1177/2158244020982292
48. Maama H, Appiah KO. Green accounting practices: Lesson from an emerging economy. *Qual Res Financ Mark.* 2019;11(5):456-78. DOI: 10.1108/QRFM-02-2017-0013
49. Klöckner CA. A Comprehensive Model of the Psychology of Environmental Behaviour – A Meta-Analysis. *Glob Environ Change.* 2013;23(5):1028-38. DOI: 10.1016/j.gloenvcha.2013.05.014
50. Smith M, Yahya K, Othman AMA. Environmental disclosure and performance reporting in Malaysia. *Asian Rev Account.* 2007;15:185-99. DOI: 10.1108/13217340710823387
51. Cordano M, Frieze IH. Pollution Reduction Preferences of U.S. Environmental Managers: Applying Ajzen's Theory of Planned Behavior. *Acad Manage J.* 2000;43(4):627-41. DOI: 10.5465/1556358
52. Lim WM. Philosophy of science and research paradigm for business research in the transformative age of automation, digitalization, hyperconnectivity, obligations, globalization and sustainability. *J Trade Sci.* 2023;11(2-3):3-30. DOI: 10.1108/JTS-07-2023-0015
53. Hair JF, Black W, Babin BJ, Anderson RE. *Multivariate Data Analysis: A Global Perspective.* Pearson.
54. Fornell C, Larcker DF. Evaluating structural equation models with unobservable variables and measurement error. *J Mark Res.* 1981;18(1):39-50. DOI: 10.2307/3151312
55. Chen M-F, Tung P-J. Developing an extended Theory of Planned Behavior model to predict consumers' intention to visit green hotels. *Int J Hosp Manag.* 2014;36:221-30. DOI: 10.1016/j.ijhm.2013.09.006
56. Anh NTM. Adoption of environmental management accounting in Vietnamese enterprises: An empirical analysis of influencing determinants. *PLoS ONE.* 2024;19(7). DOI: 10.1371/journal.pone.0304902

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Conceptualization: Nguyen Thu Hoai.
Data curation: Nguyen Thu Hoai.
Formal analysis: Nguyen Thu Hoai.
Research: Nguyen Thu Hoai.
Methodology: Nguyen Thu Hoai.
Project management: Nguyen Thu Hoai.
Resources: Nguyen Thu Hoai.
Software: Nguyen Thu Hoai.
Supervision: Nguyen Thu Hoai.
Validation: Nguyen Thu Hoai.
Display: Nguyen Thu Hoai.
Drafting - original draft: Nguyen Thu Hoai.
Writing - proofreading and editing: Nguyen Thu Hoai.