International Journal of Ethics and Systems

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Ethical leadership in environmental, social and governance (ESG) adoption for Malaysian micro, small and medium enterprises (MSMEs)

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Received 31 August 2024
Revised 19 March 2025
Accepted 1 May 2025

Abstract

Purpose – This paper aims to provide an in-depth examination of the role of ethical leadership in environmental, social and governance (ESG) adoption among Malaysian micro, small and medium enterprises (MSMEs).

Design/methodology/approach – A qualitative study was used, combining surveys, interviews and documentary analysis to explore how ethical leadership influences the adoption of ESG standards within MSMEs. A total of 46 survey respondents and 29 interviewees participated in the study. Thematic analysis connected institutional theory with two core factors: education and awareness, and the leadership mindset in ethical practices. Institutional theory was applied to describe how coercive, mimetic and normative pressures shape leadership behavior in relation to ESG adoption.

Findings – The research highlights that ethical leadership significantly impacts ESG adoption among MSMEs, especially in relation to Scope 3 emissions. Education and awareness include key areas such as leveraging technology, overcoming legacy challenges, understanding ESG metrics, effective ESG planning, enhancing leadership commitment, ethical conduct and the role of NGOs in education and capacity building. Leadership mindset themes focused on NSRF's harmonizing role and attributes related to nation-building, ESG culture, customer focus, long-term resilience, agility and strategic integration.

Research limitations/implications – This study is constrained by its sample size and the unique features of MSMEs in the Malaysian context. As ESG adoption is still in the early phases, MSME companies in the advanced stages of ESG implementation were rare. MSMEs (being primarily subcontractors) are susceptible to extended supply chain network issues. The added funding considerations required to fuel the necessary investments for initiating their sustainability journeys are also a barrier.

Practical implications – The European Union (EU), the fourth-largest export market for Malaysia, is implementing a new carbon policy that will impact Malaysian exports. The Carbon Border Adjustment Mechanism (CBAM) is a carbon adjustment mechanism designed to encourage cleaner industrial production in non-EU countries. Accurate reporting of total carbon emissions embedded in production will therefore be necessary. This new regulatory requirement is crucial for sustainability in the global supply chain. Therefore,

Corrigendum: The article by Ong, J.H., Khatibi, A., Mohd Talib, Z., and George, R.A. (2025), "Ethical leadership in environmental, social and governance (ESG) adoption for Malaysian micro, small and medium enterprises (MSMEs)" – *International Journal of Ethics and Systems*, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/IJOES-08-2024-0266 – contained information in the Practical implications section of the Abstract that required updating. This section has now been amended to reflect the intended and accurate information. The publisher reminds authors to verify all details carefully during the proofing stage.

International Journal of Ethics and Systems
Vol. 41 No. 3, 2025
pp. 657-684

2514-9369
DOI 10.1108/IJOES-08-2024-0266

developing ethical leadership to increase the adoption of ESG standards is essential for Malaysian MSMEs to maintain their exports to the EU.

Social implications – This study highlights the role of coercive, mimetic and normative forces in influencing the education, awareness and mindset of MSME leaders toward ESG adoption in Malaysia. MSMEs constitute more than 90% of business establishments in Malaysia. As global ESG standards require the reporting of Scope 3 emissions (as embodied in the proposed NSRF), larger corporations will need carbon data from MSMEs to complete their sustainability disclosures. Therefore, this study holds great importance for various stakeholders, including policymakers, large corporation, MSMEs and investors. For public–private partnerships, the involvement of ESG NGOs as enablers and low-cost facilitators cannot be underestimated.

Originality/value – The roles of NGOs, Bursa Carbon Exchange and the NSRF are envisaged to significantly enhance ethical leadership among Malaysian MSMEs and propel Malaysia toward achieving its climate objectives.

Keywords Environmental, social and governance (ESG), Micro, Small and medium enterprises (MSMEs), National Sustainability Reporting Framework (NSRF), Bursa Carbon Exchange (BCX)

Paper type Research paper

1. Introduction

Ethical leadership, defined as leadership that is based on ethical principles (Starratt, 2004), has been recognized as one of the key drivers in environmental, social and governance (ESG) adoption within organizations (Du *et al.*, 2013; Christensen *et al.*, 2014). Ethical leaders are known for their ethical behavior and decisions, setting clear standards which shape organizational culture and commitment to ethical values (Demirtas and Akdogan, 2015; Brown and Treviño, 2014; Schein, 1990). While recent research has shown that ethical leadership is connected to certain traits and styles such as conscientiousness and transformational or transactional leadership styles (Du *et al.*, 2013; Christensen *et al.*, 2014; Kalshoven *et al.*, 2011), there are gaps in understanding broader contextual factors that influence ethical leadership.

Studies have recognized the need for a shift from compliance to value-oriented leadership (Eisenbeiß and Brodbeck, 2014). However, these leadership characteristics are often underrepresented in research and practice (Dean and Newton, 2022; Brosowski, 2020), highlighting the need for a greater focus on education, awareness and mindset within ethical leadership development for ESG adoption. Therefore, greater leadership development is required to promote ethical decision-making to ensure leaders successfully overcome challenges in ESG adoption (Dean and Newton, 2022; Jayashree *et al.*, 2022). Toward this end, continuous learning through education and awareness are important in the cultivation of ethical mindsets for effective ESG adoption (Bertassini *et al.*, 2021; Miska and Mendenhall, 2018).

In Malaysia, the National Sustainability Reporting Framework (NSRF) is being developed and will establish ESG standards to improve adoption of ESG practices across various sectors, including micro, small and medium enterprises (MSMEs). Against this background, this study aims to explore the role of ethical leadership in the adoption of ESG standards by MSMEs in Malaysia. This study is focused on two key objectives:

(1) analyzing the role of education and awareness in enhancing ethical leadership in MSMEs; and

(2) investigating ethical leadership mindset attributes that influence ESG adoption.

Based on these objectives, the proposed Malaysian ESG standards within the NSRF are discussed by highlighting the applicability of these new ethical benchmarks for Malaysian MSMEs. Considering the national priority of decarbonization, the Malaysian government's low carbon economy strategy and its implications for MSMEs is also emphasized in this study.

1.1 Malaysian micro, small and medium enterprises and environmental, social and governance

Malaysia is a developing nation of which 97.4% (1,173,601 firms) of businesses are MSMEs, contributing 38.4% (RM580.4 bn) to the gross domestic product (Khalid, 2022). To enhance global competitiveness, Malaysia's unity government established the national Malaysia Madani policy, which promotes several pillars and principles, including sustainability and ethical leadership (PMO, 2024). While ESG compliance in Malaysia is voluntary for MSMEs, sustainability reports may require internal or external verification, as proposed in the NSRF (ACSR, 2024). Failure to adopt (and verify) ESG practices could lead to US$12 tn in losses and reduction in 380 m jobs due to missed market opportunities by 2030, mainly in business value chains of developed economies (AlphaBeta, 2017).

Being value and sustainability driven, ESG aligns with the United Nations Sustainable Development Goals (Ortas *et al.*, 2015), integrating ethical values and good governance to improve sustainable growth, reduce costs and optimize assets and investments (Leventi, 2022). The three pillars of ESG include various environmental, social and governance aspects such as renewable energy, resources management, diversity, equity and inclusion (DEI), ethical standards and corporate governance. Greenhouse gas emissions reduction, water conservation, biodiversity preservation and deforestation prevention are also crucial aspects of environmental protection within ESG (Jacobsen, 2014). Thus, the alignment of economic growth with sustainable development is essential in fostering ethical ESG principles (Ngo *et al.*, 2022). Even though there is a lack of consensus on the connection between environmental quality and improved economic development, research generally confirms that social equity and corporate governance enhance economic performance (Hassani and Bahini, 2022).

ESG compliance is gradually becoming an international trade requirement, yet the implementation of ESG standards is challenging due to increasing demands on leadership (Gordon, 2021). Adoption involves identifying carbon emission sources and analyzing data to comply with global standards. In addition, green gross domestic product (Green GDP), which accounts for biodiversity loss and climate change costs, is also gaining global attention to support the triple bottom line of people, planet and profit (Tjahjadi *et al.*, 2021). These developments require greater ESG adoption among Malaysian MSMEs, especially as MSME ESG adoption directly influences the global competitiveness of Multinational Corporations (MNCs), Government-Linked Companies (GLCs) and Government-Linked Investment Companies (GLICs) (GHG Protocol, 2022).

The European Union (EU), Malaysia's fourth-largest export market with a trade volume of RM182 bn in 2022 [European External Action Service (EEAS), 2024], will impose a Carbon Border Adjustment Mechanism for non-EU exporters in 2026. This requirement will affect Malaysian MSMEs involved in global supply chains (Directorate-General for Taxation and Customs Union, 2024). Therefore, adopting ESG standards is essential for future exports to the EU, even among MSMEs. Considering the importance of ESG standards, including the Scope 3 Emissions required for public listed companies, this research is timely to understand the impact of such compliance requirements on MSMEs.

The challenge for MSMEs is significant as ESG adoption entails identifying and analyzing carbon emissions and relevant indicators based on global ESG standards. Without a clear understanding of the current situation, designing effective ESG policies and initiatives to harness the RM292 bn SME revenue projected in 2022 by the Sustainable Finance Institute Asia is difficult. Despite its importance, only 12% of Malaysian MSMEs are ready for ESG implementation, and 90% lack the necessary knowledge (Kamaruddin, 2024). This is concerning as ESG practices, which frame sustainability holistically, will soon be a requirement in domestic and international trade (Markopoulos *et al.*, 2021).

1.2 National Sustainability Reporting Framework

The Advisory Committee on Sustainability Reporting (ACSR) is a Malaysian inter-agency committee that has been formed to facilitate the use of ESG standards developed by the International Sustainability Standards Board (ISSB) (van Wyk and Els, 2023) under the International Financial Reporting Standards (IFRS), consolidated as the NSRF (Bathla *et al.*, 2024). IFRS S1 and S2 (General Requirements for Disclosure of Sustainability-related Financial Information and Climate-related Disclosures, respectively) is promoted by the ACSR.

It is the ACSR's responsibility to establish a framework for assurance and capacity building for the NSRF, applicable to listed issuers and non-listed companies. To prevent fragmentation in the Malaysian ESG reporting framework, the NSRF focuses on improving the availability of reliable, comparable and decision-useful information on material sustainability risks and opportunities, as well as enabling the use of other frameworks such as the Global Reporting Initiative (GRI) (Luo and Tang, 2023) and the Sustainability Accounting Standards Board (SASB) (Busco *et al.*, 2020).

There is also a need to support the flow of sustainability information across the supply chain. As such, the NSRF aims to create a common language for disclosing sustainability-related and climate-related risks and opportunities, with the work of the Climate Disclosure Standards Board (CDSB) and the Task Force on Climate-related Financial Disclosures (TCFD) (McBrien *et al.*, 2021) also being considered within the standards (ACSR, 2024).

1.3 Decarbonization initiative

On December 9, 2022, Bursa Malaysia, the Malaysian stock exchange, launched Malaysia's pioneer Voluntary Carbon Market initiative with the introduction of the Bursa Carbon Exchange (BCX). The BCX is a subsidiary of Bursa Malaysia and the first Shariah-compliant carbon exchange in the world. With an increasing number of Malaysian companies embracing ESG practices, the more than 950 listed companies on Bursa Malaysia could enhance the Malaysian sustainability ecosystem through participation in carbon trading.

Malaysian corporations, including forward-looking MSMEs, can participate in the demand and supply of carbon credits and the purchasing or selling of these credits as part of their decarbonization, investment, or cost recovery strategies (Nik Ahmad, 2024). The BCX is designed with the principle of inclusiveness in mind and will serve corporations that adopt ESG principles and/or are aligned with Shariah ethics or stewardship. The BCX is market-driven and continuously engages with market players and participants to promote the widespread use of carbon credits to decarbonize Malaysia (Bursa Malaysia and MGTCCC, 2023).

In addition to the BCX, another key decarbonization policy in Malaysia is embedded in the forthcoming National Anti-Climate Change Act (the state of Sarawak has its own climate change laws). Many ministries and agencies are involved in the enforcement of legal provisions concerning ESG and sustainability. The Carbon Border Adjustment Mechanism (CBAM) (EEAS, 2024) and the Corporate Sustainability Reporting Directive (CSRD) (Odobaša, 2023) are two ESG laws most relevant to Malaysian MSMEs, as these are required by the EU, a major market for Malaysian exports (Bernama, 2024). The proposed carbon pricing instruments (CPI), including BCX carbon trading, will form part of the forthcoming carbon tax structures for decarbonization (Noh, 2024).

2. Theoretical framework

Several competing theories attempt to explain why firms engage in ESG activities. A key debate centers on whether ESG primarily benefits shareholders or a broader set of stakeholders, as proposed by stakeholder theory (Huang, 2022). The instrumental approach models ESG as a predictors-mediators-moderators-outcomes process (Aguinis and Glavas, 2012; Mattingly,

2015) but lacks a clear theoretical foundation for why firms engage in ESG. Stakeholder theory, the dominant ESG framework, identifies key stakeholders and conflicts but does not provide mechanisms for prioritizing or resolving these conflicts (Van der Byl and Slawinski, 2015). Further theoretical development is needed to clarify its assumptions and their impact on ESG engagement (Huang, 2022). Both the instrumental approach and stakeholder theory suggest that firms influence performance by acquiring and managing resources, yet neither fully explains the motivations behind ESG adoption (Aguinis and Glavas, 2012; Huang, 2019).

The instrumental approach views ESG engagement as a rational decision, undertaken when benefits outweigh costs (Huang, 2022). ESG literature identifies predictors, such as stakeholder and institutional pressures, mediators, including firm resources and managerial interpretation of ESG, moderators, like firm size, and outcomes, which measure financial and non-financial performance (Aguinis and Glavas, 2012). However, findings remain inconsistent, particularly concerning mediators and moderators (Huang, 2022). While the instrumental approach highlights ESG's financial impact, it lacks guidance on how firms should prioritize ESG activities. Institutional and organizational factors shape ESG adoption, yet their influence remains underexplored (Huang, 2022).

This study addresses these gaps by integrating the instrumental approach with institutional theory, particularly the institutionalization framework of Hasselbladh and Kallinikos (2000) and its application in Dambrin *et al.* (2007). Institutional theory suggests that firms adopt ESG not purely for financial reasons but in response to institutional pressures: coercive, normative and mimetic (DiMaggio and Powell, 1983; Scott, 1995).

Coercive pressures, such as government regulations, push firms to comply with legal and policy requirements (Zhu and Sarkis, 2007). Ethical leaders who recognize ESG mandates may integrate ESG beyond mere compliance, embedding it into corporate values and leading to a shift in mindsets. Mimetic pressures lead firms to emulate industry leaders, as ESG adoption enhances reputation and competitiveness (Zhu and Sarkis, 2007). Greater awareness of ESG practices among peers can motivate MSME leaders to adopt similar initiatives. Developing a mindset that recognizes the value of integrating ESG best practices from industry leaders is essential, not only to enhance competitiveness but also to align with global ethical standards.

Normative pressures, including stakeholder expectations, shape ESG awareness and encourage firms to align with industry standards (Hill, 1997). Demands from customers, trade associations and networks can heighten awareness about the importance of complying with ESG standards, nurturing ESG mindsets among MSMEs. While large firms influence ESG adoption among MSMEs, such pressures can be both enabling and constraining (Elg and Hultman, 2011). Many MSMEs adopt ESG reactively, driven by regulatory or customer demands (Adebanjo *et al.*, 2013; Tsoi, 2010). However, ethical leadership emerges when firms internalize ESG as a strategic and moral imperative, embedding ESG within their organizational mindset (Awaysheh and Klassen, 2010).

Drawing from Hasselbladh and Kallinikos (2000) and Dambrin *et al.* (2007), institutionalization occurs through ideals, discourses and techniques. Ideals emerge when external pressures challenge established norms, shaping ESG expectations. Discourses formalize these ideals into structured narratives that guide managerial interpretation of ESG and ethical leadership. Techniques codify ESG implementation into formal systems, though this study does not focus on that aspect. By analyzing how institutional pressures drive ESG education and awareness among Malaysian MSME leaders, this study explores how ESG ideals transition into discourses on education and awareness. Examining the predictors-mediators pathway within institutional theory, this research contributes to understanding how ESG adoption is shaped by external forces and internal leadership dynamics. Therefore, the interplay of coercive, mimetic and normative forces shapes MSME leaders' awareness and mindset toward ESG adoption. These institutional dynamics influence the extent to

which MSMEs implement ESG practices, leading to varying levels of adoption across firms (Beta and Ogunmokun, 2023).

3. Research methods

The qualitative approach of this study explores ethical leadership in ESG adoption, and involves the contextualization, interpretation and understanding of MSMEs' perspectives on this phenomenon, which is aligned to the nature of qualitative inquiry (Busetto *et al.*, 2020; Sundqvist, 2022). The aim was to understand ethical leadership factors affecting ESG adoption among Malaysian MSMEs.

Considering ESG compliance is currently voluntary for Malaysian MSMEs, a qualitative approach is suitable as ESG adoption is being experienced subjectively and experiential by MSMEs. Consequently, qualitative data allows for in-depth understanding, realistic settings, multiple perspectives, fulfilling engagement, rich data, optimal flexibility and easy conceptualization (Danisch, 2021). To ensure methodological rigor, triangulation techniques were applied through multiple data sources, including qualitative surveys, interviews and document analysis.

3.1 Sampling design and selection

The study included MSMEs operating across East and West Malaysia. MSMEs were selected from an industry database. The selection of MSMEs was based on the criteria that they plan to implement or are on the journey toward implementing ESG practices. The population comprised Malaysian MSMEs from various sectors, including automotive, ESG consulting, information technology, energy services, plastics, supply chain, architectural, human resource consulting, children's education, environmental air solutions, paint and resin, construction, community agri-packages, oil and gas engineering, agricultural technology, waste food treatment, industrial automation, energy efficiency, wholesale and distribution and fleet management systems. The subsectors encompassed sustainability reporting, cybersecurity, internet-of-things and artificial intelligence, freight and forwarding, logistics, transportation and warehousing and energy auditing.

Purposive sampling was employed for the qualitative surveys, interviews and document analysis. This technique ensured that respondents with relevant expertise and experience in ESG adoption were selected. The unit of analysis was Malaysian MSMEs, whereas the unit of observation was individuals representing MSMEs who were intimately involved in the management of their companies and in charge of key customers as well as relevant publicly available documents related to ESG. This included directors, chief executive officers, chief operating officers, general managers and heads of departments. By selecting respondents most likely to provide relevant insights, the study effectively employed limited research resources (Campbell *et al.*, 2020). To ensure data saturation, 29 interviews were conducted with these MSME representatives, exceeding Creswell's (2007) recommended sample size for qualitative research (Morais, 2018). Data saturation was reached when additional interviews did not yield new themes.

3.2 Open-ended email survey

Online surveys with 71 questions were emailed to 64 selected respondents. Each questionnaire had 10 sections and focused on ethical leadership and its connection to ESG adoption challenges, ESG adoption motivations, conduciveness of government policies in ESG adoption, factors that accelerate ESG adoption, level of ESG awareness and understanding, impacts of community engagement, elements of motivations and barriers and portfolio of ESG activities to reduce carbon (GHG) emissions. The questionnaire ended with

a request for feedback to expand on issues not covered by the questions. Respondents were allowed to withdraw from participation if needed. After one month of data collection, 46 responses were collected, comprising a response rate of 72%.

3.3 Structured online interviews

Online interview questionnaires with 35 questions were sent to 29 interviewees, representing 29 MSMEs. Each interviewee answered questions on the influence of ethical leadership on ESG in MSMEs. Online interviews were conducted for a duration of two months. Interviews were transcribed in question-and-answer format and reviewed by each interviewee. The study was conducted over virtual platforms with MSMEs operating across East and West Malaysia. All the 29 interviewees responded.

3.4 Case studies

Case studies were conducted using structured interviews used to collect qualitative data from three MSMEs, Companies A, B and C, focusing on key institutional factors that contribute to education, awareness and ESG institutionalization. The structured interview method ensured consistency across all companies while allowing in-depth insights into their ESG challenges and institutional drivers. The structured interviews were conducted with the top management of each company, including two CEOs and a director. Each interview followed a standardized questionnaire to ensure comparability across cases. The samples were taken from the initial samples from the previous phases of the study, meeting the earlier criteria of Malaysian MSMEs that are on the journey to adopt ESG practices.

Company A is a strategic consultancy firm specializing in circular economy solutions, automation for large-scale manufacturing and sustainable supply chain optimization. Established in 2022, the Johor-based company serves a global market, including top-tier listed companies and international Original Equipment Manufacturers. Company B is a technology company specializing in IoT applications for climate action solutions. Operating for five years, the company is based in Penang and has a team of 20 employees dedicated to developing innovative solutions for environmental sustainability. Company C, established in 1996, is a Selangor SME specializing in manufacturing automotive components and parts. With a workforce of fewer than 50 employees, and mostly Malaysians, the company also produces some EV metal parts.

3.5 Documentary review

To validate the survey findings and interview results, secondary data was reviewed from publicly available ESG related policy documents, ESG guidelines, Malaysian regulations, ESG reports and other relevant press releases and articles published by governmental agencies and private sector entities. The specific documents reviewed included the NSRF, ESG Quick Guide for MSMEs, Simplified ESG Disclosure Guidelines, Greening Value Chain, Low Carbon Transition Facility, New Industrial Master Plan (NIMP) 2030 and iESG.

3.6 Data validation and triangulation

To ensure the validity and reliability of research instruments and findings, multiple validation techniques were employed. The study underwent expert validation, where two industry experts (a supply chain professor and a central bank sustainability director) reviewed the survey and interview questions to ensure clarity, relevance and appropriateness. Pilot testing was conducted with two MSME owners to refine the instruments further.

Triangulation techniques were systematically applied to cross-verify data findings. Methodological triangulation was achieved by comparing survey, interview and document analysis results. Data source triangulation ensured that multiple secondary sources, such as regulatory documents and industry reports, corroborated primary data. Thematic triangulation was applied by cross-referencing emerging themes across different data collection methods to ensure consistency and comprehensiveness.

Member checking was conducted, where interview transcripts were returned to participants for verification, ensuring the authenticity and accuracy of responses. An audit trail was maintained, documenting coding procedures and methodological choices for transparency. Reliability checks were conducted through a consistent research protocol and coding frameworks.

3.7 Reliability and validity

To enhance the trustworthiness of this study, Lincoln and Guba's (1985) criteria were rigorously followed, ensuring credibility, transferability, dependability and confirmability. Credibility (internal validity) was established through expert validation, data triangulation and member checking. The research instruments, including survey and interview questions, were reviewed by two experts, a supply chain professor and a central bank sustainability director, to ensure clarity, relevance and appropriateness. In addition, pilot testing was conducted with MSME owners to refine the instruments based on real-world applicability. Triangulation techniques were systematically employed, incorporating methodological triangulation (comparing survey, interview and document analysis findings) and data source triangulation (validating primary data with multiple secondary sources). Member checking further strengthened credibility by allowing interviewees to review and confirm their responses, ensuring that findings accurately reflected their perspectives.

Transferability (external validity) was addressed by providing detailed contextual descriptions of the Malaysian MSME landscape, enabling insights to be applicable to similar business environments. While the study is specific to Malaysian MSMEs, the findings contribute to broader discussions on ethical leadership and ESG adoption in emerging markets. Dependability (reliability) was ensured through a well-defined research protocol, including standardized procedures for data collection, coding and analysis. Instruments were consistently applied across respondents, and data reliability was reinforced through reviews of the coding framework. An audit trail was maintained to document coding processes and methodological choices, ensuring transparency.

Confirmability (objectivity) was achieved by ensuring that findings were derived from respondents' perspectives rather than researcher bias. The inclusion of diverse respondents, with systematic data validation procedures, minimized subjective influences. Furthermore, reliability checks were conducted through constant comparative analysis, where emerging themes were iteratively analyzed, refined and verified across different data sources. This approach strengthened the robustness of the research findings.

3.8 Data analysis

Thematic analysis was employed to systematically analyze qualitative data by identifying recurring patterns and themes. The process involved data familiarization, initial coding, pattern identification, theme refinement and report writing. Open coding identified key concepts, axial coding established relationships and selective coding refined themes into final categories. To ensure analytical rigor, an audit trail documented coding decisions, and independent experts reviewed findings for consistency. The constant comparative method was applied, comparing new data with existing themes to refine interpretations and prevent

researcher bias. Triangulation techniques were used to cross-validate findings from interviews, surveys and document analysis, strengthening reliability and credibility.

3.9 Ethical considerations

The study adhered to ethical guidelines, including informed consent, confidentiality and data integrity. Participants were briefed on the study's objectives and were allowed to withdraw at any time. Personal identifiers were anonymized, and responses were accurately reported to minimize biases. Ethical approval was obtained from the research review board of the university. Member checking ensured transparency by allowing respondents to review and validate their interview transcripts.

4. Research findings

Research findings are discussed below, relying on the two instruments deployed and from the different angles of education and awareness, as well as the mindset of MSMEs. In addition, a comparative case analysis of three Malaysian MSMEs provides insights into how institutional pressures shape ESG adoption, emphasizing the role of education, awareness and ethical leadership in driving ESG practices.

4.1 Education and awareness

Education and awareness play a crucial mediating role in how MSME leaders interpret and internalize ESG. Institutional pressures, whether coercive (regulatory mandates), mimetic (industry best practices), or normative (stakeholder expectations), drive MSMEs to seek ESG knowledge. However, ESG adoption is not automatic; it requires leaders to translate knowledge into action through ethical leadership and informed decision-making. This section explores how education and awareness facilitate the transition from external ESG pressures to internal ESG institutionalization.

4.1.1 Leveraging technology through education. Technology plays a vital role in ESG adoption by enabling data transparency, compliance and operational efficiency. Institutional pressures, particularly coercive pressures related to carbon reporting, necessitate education on digital tools to meet regulatory and industry demands. Awareness of how technology enhances ESG execution fosters greater internalization:

> Using real-time data-driven information from our own products and others, we can perform accurate baselining, creating insights used for forward mitigation and decision making. - Director, small-sized information technology enterprise

Another MSME reinforced this perspective, emphasizing that ethical leadership not only drives operational cost savings but also aligns with sustainability goals. By leveraging validated data, businesses can demonstrate that reducing carbon emissions is both an ethical responsibility and a financially strategic decision. In essence, cutting carbon emissions leads to lower operational costs, such as savings on electricity, water and resource consumption, making ESG adoption a practical and profitable approach.

> This leads to savings, better emission reduction and data that has validation. - Director, small-sized information technology enterprise

4.1.2 Overcoming legacy challenges through education. Institutional barriers, such as legacy infrastructure issues, hinder ESG implementation. Education plays a crucial role in shaping ethical leadership and public awareness, ensuring long-term internalization of ESG values. One respondent identified waste management as a significant issue, highlighting its role as a major carbon emitter that threatens progress toward a low-carbon economy if not

properly addressed through adequate infrastructure. She emphasized that the lack of ethical responses stems from insufficient ESG education in schools and low public awareness, making waste minimization a critical area for improvement:

> Infrastructure of waste management is lacking […] (There is) poor awareness in school(s) and (among the) public. - Director, micro-sized plastic enterprise

This highlights the connection between education, ethical leadership and ESG institutionalization. By raising awareness of waste reduction as a business and ethical imperative, MSMEs transition from compliance-driven ESG adoption to value-driven ESG integration.

4.1.3 Awareness of environmental, social and governance metrics. Normative pressures, such as stakeholder demands and global ESG frameworks, require clear metrics to evaluate and demonstrate ESG progress. However, low awareness of ESG performance indicators among MSMEs creates a barrier to institutionalization. Carbon reduction serves as both a key benchmark for ESG compliance and a challenge for MSMEs in demonstrating ethical responsibility and corporate stewardship. A manufacturing MSME emphasized that to uphold social and environmental obligations, businesses must adopt clear, standardized key performance indicators (KPIs), widely recognized in global ESG frameworks, to objectively measure progress in reducing carbon emissions:

> No KPI as easy reference on ESG in carbon emission or carbon footprint. - CEO, small-sized automotive enterprise

Without structured ESG metrics, firms struggle to move beyond symbolic adoption (loose coupling) to actual internalization (tight coupling). ESG education helps MSMEs develop frameworks that integrate ESG performance into strategic decision-making.

4.1.4 Bridging knowledge gaps in environmental, social and governance strategy. MSME leaders require education on ESG planning and execution to translate awareness into action. An Internet-of-Things (IoT) MSME noted that ethical leadership, combined with strategic execution, can drive ESG success. He emphasized that technology-driven solutions not only accelerate sustainability implementation but also enhance ROI. However, he cautioned that MSMEs face uncertainty about ESG's long-term viability, particularly the reliability of service providers and the immaturity of ESG implementers. His insights highlight the need for well-planned ESG investments that balance financial returns with long-term sustainability:

> Easy to execute if planned properly. Technology expedites and optimizes gains from ESG solutions. It is better to focus on quick wins (ex: ESG solutions that bring fast ROIs (return on investment). Skepticism of ESG's longevity. Capacity of ESG solutions' deployers, servicing teams. General lack of talent. - Director, medium-sized information technology enterprise

The lack of experienced ESG implementers poses a challenge, as immature sustainability systems create scepticism about long-term ESG gains. Mimetic pressures (adopting best practices from leading firms) drive ESG awareness, but internalization depends on building executional capacity. Education mitigates adoption hesitancy, reinforcing ESG as a strategic, long-term business model rather than a temporary trend.

4.1.5 Leadership commitment driven by education. MSMEs that institutionalize ESG successfully often start with strong leadership buy-in. Ethical leadership ensures that ESG moves beyond compliance (coercive pressures) into business values (internalization). One MSME emphasized that ESG adoption requires a top-down approach, starting with CEO and

board-level engagement. He warned against greenwashing, stressing that sustainability must go beyond PR efforts and be embedded in business strategy from the outset.

> ESG adoption is a top-down approach. It is a need to start with the CEO and Board of Directors. It is not a PR exercise at Corp Comm Division. – Director, micro-sized supply chain enterprise

Leadership commitment is crucial and can be strengthened through education initiatives as awareness alone is insufficient. ESG must be internalized through leadership-driven policies. Ethical leaders embed ESG into the organizational mindset, ensuring long-term alignment with global sustainability standards.

4.1.6 Awareness of environmental, social and governance as a strategic business opportunity. For true internalization, MSMEs must reframe ESG from a compliance task to a competitive advantage. This is influenced by normative pressures (customer expectations) and mimetic pressures (following ESG industry leaders). A MSME emphasized that ESG adoption is more than just ticking a compliance checklist, it requires an informed, strategic approach that recognizes ESG as a growth driver for the economy. He highlighted that fully embracing ESG practices leads to leaner, more efficient operations, where carbon reduction not only benefits the environment but also cuts costs. Ultimately, greater productivity directly enhances profitability:

> ESG is not just an act of compliance. ESG is an industry, and companies should generate income from full ESG embrace. – Director, micro-sized supply chain enterprise

As such, ESG adoption should focus on efficiency, productivity and market expansion, reinforcing the need for a strategic, not just ethical, approach:

> It is important for every ESG standard adoption exercise undertaken by MSMEs to consider its benefits beyond just compliance. ESG adoption must be a strategic process of risk assessment with MSMEs enjoying cost reduction, productivity increase or improved market reach. – Director, micro-sized ESG consulting enterprise

This transition from institutional pressure to awareness then internalization ensures ESG becomes a fundamental business practice rather than a temporary obligation. However, greater awareness is needed about MSMEs of the strategic potential of ESG practices.

4.1.7 Spreading awareness of ethical conduct. Many MSMEs see ESG as a moral obligation as much as a business practice. Education plays a role in aligning ethical leadership with ESG values. The lack of awareness about the connection between ethical conduct and ESG underscores the need for targeted awareness campaigns. Interviewees emphasized that ESG standards serve as a benchmark for ethical and fair entrepreneurial leadership, which MSMEs must champion to drive sustainable economic growth in Malaysia. This reflects a timely recognition of ESG's role in addressing climate action and responsible business practices:

> As businesses ought to be run in an ethical, open, and trustworthy manner. – Director, micro-sized architecture enterprise

Many MSMEs shared the belief that ESG promotes fairness and ethical responsibility. They stressed that businesses must integrate ethical leadership into their operations, as a strong understanding of ESG standards enhances resilience:

> ESG concerns ethics and fairness. – Director, micro-sized plastic enterprise

Their perspectives highlight equity, ethical practice, entrepreneurship and systematic execution as key components of long-term business success. By linking ethics with ESG,

leaders move from symbolic participation to true engagement, driving organizational change.

4.1.8 Raising awareness of the need for ethical alignment for environmental, social and governance. One MSME chief operating officer (COO) from the paint and resin industry highlighted the critical role of ESG education and awareness in shaping ethical leadership. She emphasized that institutional pressures, particularly normative pressures from global sustainability standards like the United Nations Sustainable Development Goals (UNSDGs), drive businesses toward ethical decision-making. She stressed that ethical leadership fosters ESG internalization, ensuring that businesses prioritize reducing pollution, conserving resources and protecting biodiversity, not just as regulatory requirements, but as moral imperatives. Her perspective reflects a deep integration of ESG ideals into business discourse, reinforcing climate action, responsible social practices, fair labor standards and long-term economic resilience. This underscores how ESG education bridges external sustainability pressures with internal corporate responsibility, shaping an ethically grounded business environment:

> Understanding the importance of ethical practices leads to more sustainable environmental management. This includes reducing pollution, conserving resources, and supporting biodiversity. Companies that act responsibly toward the environment help mitigate climate change and preserve natural resources for future generations. Ethical practices contribute to positive social outcomes, such as reducing inequality, promoting fair labor practices, and enhancing community well-being. Businesses that act responsibly can play a pivotal role in addressing societal challenges and improving quality of life. - COO, micro-sized paint enterprise

Some MSMEs viewed ESG adoption not just as an ethical commitment but as a business imperative, reinforcing how institutional pressures drive ESG internalization. Unlike those who see ESG as a compliance burden, these MSMEs recognized it as a critical factor in market competitiveness and long-term sustainability. One MSME highlighted normative and mimetic pressures, emphasizing that consumer awareness of ESG directly influences supplier compliance, creating a market-driven equilibrium where demand for sustainable products pushes businesses toward ESG integration. This aligns with the idea that ESG education and awareness mediate decision-making, shifting ESG from a regulatory obligation to an embedded business strategy. Their perspective underscores how ESG institutionalization occurs not only through leadership buy-in but also through evolving market expectations in a free-market economy:

> But it is more towards understanding and awareness from consumers rather than the Malaysian MSMEs. When there is a demand, there will automatically be a supply. – Director, small-sized information technology enterprise

MSME interviewees highlighted the importance of ESG institutionalization beyond environmental concerns, emphasizing the social and governance pillars. Their views reflect normative pressures, as stakeholders increasingly demand integrity, transparency and ethical leadership in business operations, regardless of company size. This shift moves ESG beyond mere compliance (coercive pressures) to internalized business values, reinforcing how education and awareness drive deeper ESG integration within MSMEs:

> As ESG includes social and governance aspects of running a business. – Director, small-sized fleet management system enterprise

4.1.9 Non-governmental organizations as educators and capacity builders. NGOs play a pivotal role in ESG education by helping MSMEs interpret, adopt and internalize sustainable practices. They act as a bridge between government mandates and internalization challenges.

The insights of an MSME supply chain business owner highlight the critical role of NGOs as not only predictors but also mediators in the ESG institutionalization process. NGOs help bridge institutional pressures (coercive, normative and mimetic) with education and awareness, facilitating ESG adoption among Malaysian MSMEs. By focusing on education, capacity building, policy advocacy, collaboration and monitoring, NGOs provide low-cost pathways for MSMEs to integrate ESG into their operations. This reflects how ESG awareness mediates ethical leadership, ensuring that sustainability is not just a compliance requirement but a widely accepted business norm. The emphasis on community engagement and ecosystem-wide collaboration further strengthens ESG internalization, positioning ethical leadership as a publicly recognized and strategically valuable asset in Malaysia's transition to a low-carbon and green economy:

> Malaysian sustainability NGOs play vital roles in advocating for effective carbon reduction and low-cost adoption of ESG standards for MSMEs through: (1) Education and Awareness: They raise awareness among MSMEs about the benefits of carbon reduction and ESG standards, highlighting cost-effective strategies, (2) Capacity Building: NGOs provide training and resources to MSMEs on implementing sustainable practices, including low-cost ESG solutions, (3) Policy Advocacy: They advocate for supportive policies and incentives from the government to facilitate MSMEs' transition to ESG standards, (4) Collaboration and Networking: NGOs facilitate partnerships between MSMEs, larger corporations, and other stakeholders to share best practices and resources, (5) Monitoring and Reporting: NGOs monitor MSMEs' progress in adopting ESG standards and provide guidance on effective carbon reduction strategies. - CEO, medium-sized supply chain enterprise

NGOs also facilitate access to incentives, making ESG adoption more financially viable for MSMEs. NGOs thus convert external pressures into accessible knowledge, accelerating ESG institutionalization:

> (The role of NGO is) Huge and far reaching if they can bridge between government agencies and industries. MSMEs will not mind using the more cost-effective, full-fledged and broad-based services of NGO in grant or tax incentives application. – Director, micro-sized waste food treatment enterprise

> Very critical as NGO being neutral provides middle ground to connect policy makers with the industry. – Director, micro-sized supply chain enterprise

4.2 Leadership mindset of micro, small and medium enterprises

As key players within Malaysia's export-oriented economy, the perspectives of MSME leaders and their mindsets have a significant impact on ESG development in the country. To understand the impact of MSME leaders' perspectives on ESG adoption, the following narratives reflect the critical role of mindsets. This section highlights key themes related to an ethical leadership mindset, focusing on NSRF's harmonizing role, commitment to nation-building, ESG culture, customer-centric focus, long-term resilience, agility and strategic integration.

4.2.1 National Sustainability Reporting Framework's harmonizing role. The NSRF's role in ESG adoption relates to standardizing and simplifying ESG compliance. It outlines key focus areas that guide businesses toward aligning their businesses with international expectations on ESG practices. This highlights the need for leadership mindsets that value standardization, certainty and simplification. Leaders with these mindsets are likely to embrace the NSRF and understand its importance as a means of achieving global competitiveness:

> The NSRF will be helpful for Malaysian MSMEs by providing internationally recognized, cost-effective ESG standards, simplifying compliance, sustainable growth, and global market access enhancing competitiveness, and aiding risk management. – CEO, medium-sized supply chain enterprise

Embracing the NSRF regulations require a leadership mindset that is deeply committed to ESG. This means that leaders recognize it as a strategic advantage to enhance their market position and meet the requirements of ESG standards:

> It can be highly beneficial for Malaysian MSMEs. NSRF can streamline sustainability reporting processes for SMEs, making it easier for them to comply with ESG requirements. – Director, small-sized automotive enterprise

Increasing regulatory pressures, such as the EU's forthcoming regulations in 2026, will require periodic audits in the future. MSME interviewees recognized the risks associated with carbon taxes, potential loss of competitiveness, reduced export earnings if there was non-compliance. Thus, the future requirements for audits shape the mindset of leaders toward recognizing ESG compliance as a necessity:

> The requirement for audit may serve as an incentive for MSMEs to proactively adopt ESG standards and practices to ensure compliance with regulatory requirements. - CEO (logistician professor) medium-sized international freighting enterprise

Leaders also recognize that adopting ESG standards is crucial for brand image as part of a broader risk management strategy. As a result, gaining a competitive edge in carbon reduction is vital for securing exports and accessing international markets:

> For MSMEs which require compliance with carbon emissions reporting and detailed ESG data. This ensures market access, risk management, improved reputation and operational efficiency, making it essential for exports to the EU. – CEO, medium-sized supply chain enterprise

The NSRF's efforts in harmonizing the compliance process foster consistency and reduce the cost of ESG adoption. Standardization establishes Standard Operating Procedures (SOPs) that support business continuity.

> All kinds of standardization help as it sets the (SOP) for business continuity to ensure consistency. – Director, micro-sized architectural enterprise

An ethical mindset motivates leaders to integrate international norms and recognize the ease of entry through the standardization offered by NSRF regulated ESG adoption:

> It synchronizes the process of compliance and helps to economize the cost of ESG standard adoption. – CEO (Adjunct Professor), small-sized ESG consulting enterprise

Leaders with the right mindset recognize that the stability offered by ESG adoption reduces the risks associated with ESG implementation and facilitates accurate planning and resource allocation:

> Cementing the guidelines, standards, processes, policies and not changing them on the fly is critical for MSMEs to know where to start. - Director, small-sized information technology enterprise

Standardization is prioritized by leaders who understand that clear directions and stable conditions are dependent on well-defined policies and procedures. MSME leaders recognize the role of NSRF in ensuring the standardization of ESG practices:

> As it will remove all obscurity, confusion, overlaps, duplication, and waste double works by adhering to different standards of similar scopes and coverage. – Director, micro-sized waste food treatment enterprise

MSMEs are highly sensitive to the timing of implementation as costs impact ESG compliance. A leadership mindset that values simplification recognizes the challenges that MSMEs face in adopting ESG practices and seeks to minimize these obstacles by streamlining processes and making them more accessible and cost-effective:

> Cost and time of implementation is always the main impact and problems faced by MSMEs. Regularizing and Simplifying the ESG adoption are necessary. - Director, small-sized information technology enterprise

Given the EU's future regulation on CBAM and potential carbon tax on Malaysian products, MSME leaders with ethical mindsets recognize the need to leverage the BCX centralized platform, even though carbon trading may seem more relevant to large organizations. The BCX centralized platform offers a means to reduce the cost and time required to meet international regulations:

> Because it may be more cost effective and time efficient for MSMEs to overcome the incommensurate high cost of standard compliance. – Director, medium-sized information technology enterprise

While the cost barrier is a significant issue in ESG adoption among Malaysian MSMEs, the high cost of compliance is also a major barrier, especially for micro-enterprises, as implementing ESG practices can become too expensive for such enterprises:

> Particularly for micro-enterprises that is cost prohibitive to practice in full the ESG processes. – Director, micro-sized waste food treatment enterprise

Therefore, leaders who focus on reducing the complexity and cost of ESG compliance, ensure that their organizations are better able to meet sustainability goals. This approach reflects a practical leadership style, one that acknowledges the limitations of MSMEs and strives to create a more manageable pathway to ESG adoption through the NSRF ESG standards.

4.2.2 Commitment to nation-building. Some MSME leaders view their role as important in nation building and contributing to the broader economic and social structure of Malaysia. They understand that their actions, particularly in adopting ESG practices, have a direct impact on the country's development:

> It is an area of urgent education since MSMEs constituted 97% of businesses in Malaysia with huge GDP contribution. – Director, small-sized information technology enterprise

This perspective drives leaders to take embrace government policies such as the 'Malaysia Madani' policy that promotes the improvement of nationwide sustainability. Therefore, management buy-in to such policies is needed to successfully implement ESG standards:

> MSME owners being bosses themselves most of the time must change their mindsets to catch up with the policy of Malaysia Madani. – CEO, small-sized automotive enterprise

By aligning business practices with national goals, MSME leaders contribute to the overall sustainability and growth of the country.

4.2.3 Environmental, social and governance culture. Leaders who demonstrate a strong commitment to ESG principles create a culture that spreads throughout the organization. This top-down approach ensures that ESG initiatives are not only adopted but also deeply embedded. Leaders need to recognize that their commitment to influences the attitudes and actions of their employees:

> Their (MSME leaders) commitment to sustainability influences the company culture. – CEO, medium-sized supply chain enterprise

This culture, in turn, influences the strategic decisions and actions of employees at all levels of the organization for successful integration of ESG practices:

> They are the key person to execute the whole idea. - Director, small-sized automotive enterprise

By fostering an ESG culture, leaders ensure that ESG principles guide everything from daily operations to long-term strategic planning. This cultural shift can only happen if leaders themselves adopt ESG principles in their own actions, setting a powerful example for employees to adopt similar practices.

4.2.4 Customer-centric focus. A leadership mindset with a customer-centric focus drives ESG adoption by aligning business practices with customer expectations and industry standards. Such leaders prioritize transparency and operational effectiveness through audits, which are seen as a way to ensure accuracy, reduce inefficiencies and foster continuous improvement. By prioritizing accurate and transparent reporting, leaders set a standard that aligns with customer expectations and market demands:

> Auditing is a check and balance procedure to ensure transparency. There are also software tools to automate auditing, returning tangible benefits to MSMEs. Director, medium-sized information technology enterprise

Those interviewed stated that improved data accuracy incentivizes compliance, which in turn opens market access and reinforces continuous improvement. The audit requirement in the NSRF can act as a powerful incentive for MSMEs to adopt ESG standards:

> The audit requirement in the proposed National Sustainability Reporting Framework (NSRF) (has) the potential to accelerate ESG standards adoption among Malaysian MSMEs in several way […] Mandatory audits can enhance the credibility and trustworthiness of MSMEs' sustainability reports, as they provide independent verification of their ESG performance. Having audited sustainability reports may enhance MSMEs' access to markets, investors, and customers who prioritize ESG considerations in their decision-making process. - CEO (logistician professor), medium-sized international freight enterprise

Enhanced data accuracy and compliance lead to better ESG performance and continuous improvement. This requires a leadership mindset that not only strives to meet regulatory requirements but also continuously attempts to improve sustainability outcomes:

> Through the audit process, MSMEs can identify areas for improvement in their ESG performance, leading to continuous learning and enhancement of sustainability practices over time. Audits ensure that the data reported by MSMEs regarding their sustainability practices are accurate and reliable, which is essential for making informed decisions and demonstrating transparency to stakeholders. - CEO (logistician professor), medium-sized international freight enterprise

Being customer-centric means leaders anticipate and respond to the needs of both the market and stakeholders. By following the examples set by industry leaders, MSMEs can effectively integrate ESG principles into their business models. A customer-centric mindset ensures that MSMEs are not only compliant with current regulations but are proactive in their adoption of ESG standards.

4.2.5 Long-term resilience. Leadership that focuses on long-term resilience recognizes that the adoption of ESG standards is a long-term investment that may not have immediate returns. This mindset is essential to sustain business growth and ensure that MSMEs are resilient when faced with ESG challenges:

> The challenge is for our lower-tier clients to understand the initial ROI (return on investment) for sustainability takes a longer while and it is not immediate. - Director, small-sized information technology enterprise

Long-term longevity is achieved by integrating ESG into all aspects of operations and strategic planning. Leaders who prioritize longevity understand that successful businesses are built over time:

> Businesses are not meant to be around short term. – Director, small-sized fleet management system enterprise

Leaders with this perspective understand that short-term costs need to be balanced against long-term stability and growth. Careful planning and a strategic approach are required to overcome barriers, ensuring that the integration of ESG practices is both cost effective and aligned with long-term goals. Leaders who explore the potential for ESG standards to support long-term success have the needed mindset for effective ESG adoption.

4.2.6 Agility. An agile leadership mindset that is open to change is essential to navigate the complexities of ESG adoption. Such leaders understand that the business landscape is constantly changing, and adaptability is needed for long-term success:

> The long-term perspectives and mindsets of Malaysian MSME owners are critical in adopting ESG standards. – CEO, medium-sized supply chain enterprise

The business environment requires a leadership mindset that is both flexible and responsive. Leaders who embrace the dynamic nature of the market are better equipped to adapt their strategies and operations to meet changing demands and take advantage of new opportunities:

> As MSMEs owners must live up to the changing business landscape. – Director, micro-sized waste food treatment enterprise

Leaders who prioritize agility can adjust their approaches during the implementation of ESG standards in a way that is still profitable:

> As the priority of MSMEs are always profit and survival in the immediate future. – CEO (Adjunct Professor), small-sized ESG consulting enterprise

By focusing on agility, MSMEs can remain competitive, even when facing short-term challenges. This adaptability is important for the successful integration of ESG standards, allowing organizations to constantly adjust to meet ESG goals as well as sustain operations.

4.2.7 Strategic integration. Leaders who integrate ESG principles into strategic planning have mindsets that value alignment of ESG goals with long-term organizational goals. By considering how localized ESG standards can impact their business, leaders assess the alignment of these practices with their growth objectives and global competitiveness. Leaders who embrace this perspective ensure that ESG considerations are part of their long-term vision and operational goals:

> Their commitment to sustainability influences, strategic decisions, and the successful integration of ESG practices. – CEO, medium-sized supply chain enterprise

Effective strategic planning involves defining policies and direction clearly. An interviewee highlighted that the survival of MSMEs largely depends on the vision of their owners, who must align their strategies with evolving economic conditions:

> As to adopting ESG standards, the MSME's company will need to define their company policies and direction which mostly are decided by the owners. – Director, small-sized information technology enterprise

By establishing clear visions, missions and quality objectives that incorporate ESG principles, leaders can guide their organizations toward long-term success. Leaders who take ownership of strategic ESG alignment are in a better position to drive their organizations toward achieving both ESG goals and business success.

4.3 Comparative case analysis of three Malaysian micro, small and medium enterprises

This comparative case analysis examines factors influencing ESG adoption in three Malaysian MSMEs, Company A (Circular Economy Solutions), Company B (Information Technology Firm) and Company C (Automotive Manufacturing). Using the predictors-mediators pathway within the ideals-discourses framework, this study explores how institutional pressures (coercive, mimetic and normative) influence education and awareness, fostering ethical leadership and ESG institutionalization within firms.

Institutional theory suggests that ESG adoption is shaped by external pressures that challenge existing norms, leading to new ideals. These ideals are then reinforced through structured discourses, which shape managerial interpretation and ethical leadership. Dambrin *et al.* (2007) showed ideals, structured discourses and operational techniques interact in a complex and dynamic way, shaping and influencing one another. This study applies that framework, examining how predictors drive education and awareness, leading to ethical leadership that embeds ESG into business practices.

4.3.1 Company A. Company A operates as a strategic consultancy specializing in circular economy solutions and serves international clients, including large Fast-Moving Consumer Goods companies. ESG adoption is significantly shaped by coercive pressures, such as compliance with international sustainability regulations, including the EU Carbon Border Adjustment Mechanism and Malaysia's National Energy Transition Roadmap. These regulations create a strong external force, compelling the firm to integrate sustainability into its operations. The CEO highlighted, *We aligned our operations with UN Sustainable Development Goals and secured Pioneer Status tax incentives* via *the Malaysian Investment Development Authority.*

Mimetic pressures also play a role, as Company A actively learns from industry leaders in sustainable supply chains. Their participation in forums like the ASEAN Circular Economy Alliance reflects their commitment to benchmarking against best practices. Meanwhile, normative pressures stem from industry expectations and client demands. The firm has proactively embedded ESG awareness within its leadership structure, integrating sustainability into decision-making processes.

Education and awareness have been central mediators in this ESG transformation. Awareness of ESG is the catalyst for education, with leadership taking a proactive role in educating themselves on ESG. The leadership has undergone UN Climate Change Sustainable Finance training and ESG Fundamentals training by the Corporate Finance Institute, strengthening their knowledge of sustainability frameworks. This has directly influenced managerial interpretation, fostering ethical leadership that prioritizes long-term ESG goals over short-term profitability. The CEO explained, *ESG awareness has fostered partnerships with NGOs, such as for coastal cleanup projects, enhancing brand reputation.*

As a result, ESG institutionalization at Company A follows a structured process. New ideals emerged as regulatory and client expectations shifted. These ideals were reinforced through structured discourses, including participation in global ESG networks and knowledge-sharing forums. Eventually, these discourses materialized into operational techniques, such as rPET recycling, supply chain optimization and waste reduction strategies. The firm's ESG-aligned approach has increased client retention by 40% and strengthened its competitive edge.

4.3.2 Company B. Company B, a technology firm specializing in IoT-based climate action solutions, experiences ESG adoption primarily through coercive pressures linked to compliance requirements from public-listed companies and multinational clients. Unlike Company A, its ESG engagement is not primarily voluntary but dictated by regulatory expectations. The Director explained, *Although not mandated we collect ESG data based on compliance standards of Bursa Malaysia. We do this because we are currently focused on developing ESG compliance technologies.*

Mimetic pressures have limited influence on Company B because it does not model its ESG strategy on competitors. Instead, as a pioneer in ESG compliance technology, the firm sets standards for others. However, normative pressures arise from industry expectations, where clients and regulatory bodies dictate sustainability priorities. Networking and professional organizations serve as key platforms for raising ESG awareness and facilitating knowledge exchange while also acting as distribution channels for their initiatives. In addition, various NGOs that oversee ESG frameworks and certifications play a crucial role in validating their compliance capabilities, ensuring alignment with industry standards and regulatory expectations.

Despite its compliance-driven approach, education and awareness remain crucial mediators. ESG decision-making is centralized among senior management, who actively integrate sustainability principles into product development. However, the company faces challenges in propagating ESG knowledge across departments, given the technical nature of its operations. The Director acknowledged, *One of our biggest challenges is the difficulty of spreading highly technical ESG knowledge across all departments.*

In terms of institutionalization, Company B's ideals are rooted in compliance rather than voluntary sustainability goals. The Director acknowledged, *We follow compliance standards set by local and foreign authorities and global frameworks.* These ideals translate into structured discourses, as ESG is embedded in internal compliance reporting systems and industry collaborations. As highlighted by the Director, *The leadership of the company takes ESG seriously and decisions are made among the owners of the company along with the senior management members of the company.* The firm's operational techniques include developing advanced IoT-based climate monitoring solutions and ESG data analytics tools, designed to meet regulatory compliance requirements and enhance environmental sustainability efforts. This compliance-first approach strengthens trust among clients and aligns the firm with evolving global standards.

4.3.3 Company C. Company C, a small-sized automotive components manufacturer, is at an early stage of ESG adoption. Unlike Company A, its ESG engagement is primarily driven by coercive pressures, particularly government regulations and customer expectations. As a Renewable Energy Certificate (REC) subscriber, the firm's ESG focus is still evolving. The CEO explained, *Our ESG focus started with government policies and customer requirements. We are in the early stages of forming an ESG team.* Regulatory frameworks, such as Malaysia's National Industry ESG Framework (i-ESG) and the Simplified ESG Disclosure Guide (SEDG), play a critical role in shaping the company's sustainability efforts, compelling it to align with national standards.

Mimetic pressures also influence Company C as it observes industry leaders implementing ESG initiatives. The company has started adopting KAIZAN waste management practices, rainwater collection systems and energy conservation measures after benchmarking against competitors. However, ESG adoption is mainly at the reactive stage, primarily responding to external expectations. Normative pressures are beginning to emerge as customers, suppliers and business networks demand higher sustainability standards. The firm's engagement in supply chain sustainability, particularly in sustainable raw material

sourcing, reflects increasing stakeholder expectations. Employees have also started advocating for stronger ESG practices, reinforcing normative influences.

Despite these institutional pressures, education and awareness remain weak mediators in Company C's ESG journey. While some employees have attended a Malaysian Association of Public Advocacy for Nature (MAPAN), ESG Champion Workshop, the company lacks structured training programs, ESG knowledge-sharing initiatives, and internal ESG champions. The CEO acknowledged, *Employees are unaware about ESG*. Without a strong foundation in ESG education, ethical leadership is not yet fully embedded, leading to inconsistencies in implementation.

Company C's institutionalization of ESG is still in its early stages. While regulatory and customer expectations have introduced new ESG ideals, these have yet to be fully translated into structured discourses. Currently, ESG is viewed more as a compliance requirement rather than a long-term strategic priority. Although some sustainability techniques, such as waste management initiatives, renewable energy adoption and employee well-being programs, have been implemented, their overall impact remains limited due to insufficient internal capacity.

To accelerate ESG integration and foster ethical leadership, the company requires targeted support to improve ESG awareness. This includes training and incentive programs such as regular workshops, seminars and online courses led by ESG professionals, along with performance-based incentives for employees involved in ESG implementation. Establishing internal ESG champions is also crucial, with a dedicated ESG team leading sustainability initiatives and trained advocates embedded within different departments. In addition, improving communication and resource development is necessary, including the creation of an ESG handbook featuring best-practice examples from leading companies, clear documentation of company ESG policies and goals and regular updates on ESG progress across departments. By implementing these measures, Company C can transition from reactive compliance to proactive ESG leadership, ensuring that ESG becomes a core business principle.

5. Discussion

MSMEs are the backbone of economic growth in ASEAN, and the green economy holds the promise of rejuvenating nations in the region, including Malaysia. Maximizing profit is a common mindset among smaller businesses in the supply chain. Voluntary adoption of ESG standards among Malaysian MSMEs is urgent but hindered by various factors. The limited comprehensive research on the alignment of Malaysian MSMEs with international ESG standards poses a significant challenge to effective adoption. This study integrates the instrumental approach (predictors-mediators pathway) within institutional theory (ideals-discourses framework) to provide a comprehensive explanation of ESG adoption among Malaysian MSMEs. It specifically addresses how and why institutional pressures (coercive, mimetic and normative) drive MSMEs toward ESG adoption through education, awareness and ethical leadership, ultimately institutionalizing ESG practices.

5.1 Education and awareness

Coercive pressures, such as stringent regulatory mandates like carbon reporting requirements, significantly drive MSME leaders toward ESG education. Firms recognize the need to comply not just ceremonially but genuinely, prompting investments in digital tools and training for ESG compliance. Education plays a pivotal role in translating these pressures into actionable strategies, fostering internalization through informed managerial interpretations and ethical leadership.

Normative pressures from stakeholder expectations, including industry standards and client demands, necessitate a structured educational approach to ESG. Normative forces highlight the

importance of ESG adoption not merely for compliance, but as a strategic opportunity. Educational initiatives thus shift MSME leaders' perceptions from viewing ESG as purely regulatory obligations to recognizing ESG as critical to market competitiveness, operational efficiency and long-term sustainability. This perspective is seen in MSMEs' acknowledgment of KPIs as critical tools for objectively assessing and demonstrating ESG progress.

Mimetic pressures encourage MSMEs to adopt ESG practices by observing industry leaders' successes. MSME leaders become motivated to align with recognized best practices, adopting initiatives that peers have successfully executed. Education initiatives, particularly those highlighting successful ESG implementations, enable MSMEs to adapt these proven practices within their unique business contexts. NGOs, such as the MAPAN, facilitate this by bridging gaps between government mandates and practical business realities, further solidifying ESG institutionalization.

Education and awareness, therefore, serve as essential mediators between institutional pressures and ethical leadership. Without structured educational initiatives and clear communication of ESG benefits, MSMEs risk remaining at a superficial level of ESG adoption, characterized by ceremonial or symbolic compliance. Enhanced ESG awareness and targeted educational interventions enable leaders to internalize new ideals, translating them into structured discourses and effective operational practices.

5.2 Leadership mindset among micro, small and medium enterprises

The findings reveal that the shift toward ethical leadership and subsequent ESG adoption among Malaysian MSMEs is fundamentally driven by institutional pressures (coercive, normative and mimetic) which act as predictors, shaping leaders' mindsets through education and awareness. Ethical leadership emerges as a critical mediator, converting these external pressures into genuine internalization of ESG ideals. Coercive pressures, notably Malaysia's NSRF, significantly influence MSME leaders by providing standardized, simplified ESG guidelines. MSME leaders appreciate certainty, making the clarity offered by the NSRF, including standardized ESG reporting that incorporates global frameworks such as IFRS, a strong motivator for ESG adoption. In addition, coercive pressures compel MSMEs to manage their carbon footprints actively, exemplified by carbon tax obligations and international compliance mechanisms like the EU's Carbon Border Adjustment Mechanism. For emissions difficult to abate immediately, MSME leaders perceive purchasing carbon credits as a practical approach to compliance, illustrating a growing responsiveness toward structured ESG reporting and transparency.

Normative pressures further shape the ethical leadership mindset by embedding ESG within the broader culture of MSMEs, influenced by societal expectations and professional norms aligned with national sustainability goals such as Malaysia Madani's "National Industry ESG Framework" (i-ESG) and the broader aspirations outlined in the 'Simplified ESG Disclosure Guide' (SEDG). This normative environment resonates with national priorities for sustainability, reflecting a deeper moral commitment among MSME leaders toward embedding ESG values into their strategic operations. The alignment with normative pressures was clearly expressed by MSME leaders who viewed ESG adoption not merely as regulatory compliance, but as an integral part of Malaysia's broader sustainability aspirations.

Mimetic pressures also play a significant role, particularly when MSMEs emulate successful ESG practices from industry leaders. MSME leaders who witness peers achieving tangible benefits from ESG integration, such as improved market reach, enhanced credibility and competitive advantage, tend to internalize ESG standards more deeply. These leaders perceive ESG adoption not merely as compliance but as strategic alignment with industry best practices, fostering competitive differentiation.

The comparative case analysis further illustrates the varied stages of internalization influenced by the leadership mindset. Company A exhibits greater institutionalization, proactively embracing education to embed ESG ideals into structured discourses, guided by ethical leadership that is strategically aligned with global sustainability standards. The proactive mindset of leaders, shaped by structured ESG education initiatives (e.g. UN Climate Change Sustainable Finance training), facilitates deep internalization of ESG into strategic and operational practices such as supply chain optimization and recycling technologies.

Company B demonstrates partial institutionalization where coercive pressures have effectively shaped the mindset of senior leadership, embedding ESG discourses within centralized decision-making. However, challenges remain in disseminating these discourses into broader organizational understanding due to the highly technical nature of ESG knowledge. Consequently, targeted education initiatives aimed at bridging these technical knowledge gaps can further align internal mindsets, promoting broader ESG internalization across all organizational levels.

Company C, conversely, represents the earliest stage of ESG internalization, primarily driven by reactive responses to coercive pressures. With limited structured ESG education and weak internal awareness, ESG remains largely viewed as a compliance obligation rather than a strategic business priority. Here, fostering ethical leadership through structured educational discourses and clear communication programs could significantly enhance ESG internalization. Establishing internal ESG champions, supported by training programs and incentives, would nurture a leadership mindset that views sustainability as integral to long-term business success.

This study underscores that genuine ESG institutionalization within MSMEs depends crucially on the extent to which ethical leadership mediates institutional pressures through education and awareness. Structured discourses arising from these pressures shape leadership mindsets, transitioning ESG from external compliance-driven obligations to deeply internalized strategic and ethical imperatives within the organizational culture.

6. Implications

6.1 Theoretical implications

From an integrated instrumental and institutional perspective, this study highlights the critical mediating role of an ethical leadership mindset, shaped by education and awareness, in driving ESG adoption and internalization among Malaysian MSMEs. Institutional pressures, comprising coercive, normative and mimetic forces, significantly shape leaders' ESG mindsets. Coercive pressures, particularly the NSRF, simplify and standardize ESG reporting, reducing complexity and costs, thus incentivizing widespread adoption among smaller enterprises. In addition, compliance with international standards like the EU's CBAM highlights the urgency for Malaysian MSMEs to internalize ESG principles to maintain competitiveness in critical export markets.

Normative pressures further influence MSME leaders by embedding ESG within the broader field-level culture, aligning them with societal expectations and national sustainability objectives. Structured educational initiatives emphasizing ESG's strategic advantages, such as clear KPIs, simplified carbon metrics and training programs, are essential to enable MSME leaders to move from symbolic adoption to genuine internalization. Mimetic pressures encourage MSMEs to emulate successful ESG practices of industry leaders, reinforcing both ethical commitment and competitive advantage. NGOs facilitate this by providing targeted education and collaborative platforms for knowledge exchange among MSMEs.

The comparative case analysis clearly illustrates varied stages of ESG institutionalization. Company A demonstrates better ESG internalization driven by proactive leadership mindsets cultivated through structured global ESG education and discourse. Company B

illustrates partial internalization, where senior leadership's ESG commitment is robust but constrained by knowledge gaps, highlighting the need for targeted educational interventions. Company C reflects early-stage ESG adoption, driven primarily by reactive compliance with limited structured education and awareness. To achieve deeper internalization, structured education programs, clear ESG communication and internal ESG champions are needed.

6.2 Practical implications

The findings indicate that structured ESG education and targeted awareness initiatives are critical to transforming institutional pressures (coercive, normative and mimetic) into internalized, strategic ESG adoption. Consequently, Malaysian government agencies, industry associations and NGOs (e.g. MAPAN) should collaborate to design structured ESG education and certification programs tailored explicitly for MSME leaders. These programs should clarify the practical implications of coercive pressures, such as the NSRF and the EU's CBAM, ensuring MSMEs clearly understand regulatory obligations and carbon reporting standards. Such educational efforts can simplify compliance, reduce uncertainties and position ESG adoption as a strategic and practical necessity rather than merely regulatory compliance.

Given MSME leaders' challenges in assessing ESG performance, especially in carbon emissions reporting, policymakers and NGOs should collaboratively develop simplified, standardized ESG performance indicators. Accessible ESG dashboards and easy-to-use KPI tools, promoted through interactive digital workshops, seminars and online platforms, would empower MSMEs to monitor their ESG progress objectively. Clear metrics will facilitate genuine ESG internalization, enabling businesses to demonstrate credibility, accountability, transparency and continuous improvement to stakeholders.

Ethical leadership training initiatives should be specifically targeted at senior MSME leaders (CEOs and directors) to ensure ESG ideals become deeply embedded into corporate strategies and operational mindsets. Structured programs, including executive-level ESG certification courses, seminars and workshops developed in collaboration with leading sustainability experts or reputable NGOs, will facilitate deeper understanding, reduce resistance and establish ESG as integral to long-term business success. In addition, integrating ESG modules into existing entrepreneurship or business-management training will further internalize ESG as part of the organizational culture.

Government agencies, industry associations and NGOs should collaborate to establish formal peer-to-peer learning platforms, where MSME leaders can observe and learn from successful ESG practices implemented by industry leaders. By showcasing successful examples of ESG-driven business improvements (cost savings, improved market reach, increased efficiency), MSMEs would clearly see ESG as a competitive and strategic advantage, reinforcing mimetic pressure and enhancing motivation toward genuine ESG adoption.

To address MSMEs' resource constraints, NGOs should expand their roles as intermediaries between regulatory bodies and MSMEs. NGOs should offer affordable ESG advisory services, carbon credit consolidation services, training on sustainability reporting tools and assistance with incentive applications. By offering cost-effective guidance and practical ESG resources, NGOs can significantly accelerate the internalization of ESG standards among MSMEs, bridging gaps in awareness, technical capacity and ethical leadership development.

To ensure sustained ESG internalization, MSMEs require practical tools like a comprehensive ESG handbook, digital knowledge-sharing portals and clear documentation templates reflecting global ESG standards. These educational resources should simplify complex ESG concepts, provide practical guidance for ESG implementation and offer regularly updated ESG policy

developments. Clear, accessible ESG communication ensures MSME leaders can continuously engage with ESG discourses, reinforcing ESG as a strategic priority rather than a temporary obligation. By strategically enhancing education and awareness, Malaysian MSMEs can transition ESG from external pressures into internalized operational norms, aligning sustainability commitments with long-term competitive advantage and organizational resilience.

7. Limitation and future research

This study is constrained by its sample size and the unique features of MSMEs in the Malaysian context. As ESG adoption is still in the early phases, MSME companies in the advanced stages of ESG implementation were rare.

Further research is warranted to justify the adoption of ESG standards among Malaysian MSMEs, as the long-term benefits on financial performance have not yet been fully established by empirical evidence. Comparative studies across different countries and industries should provide a broader understanding of the factors influencing the advancement of ESG standards. This focus in future research is relevant as green supply chains and affordable green funding align with the nature of MSME businesses and meet the needs of Malaysian MSMEs in overcoming the challenges to ethical leadership in green transformation.

8. Conclusion

Education and awareness are catalysts for social change. The higher the level of ESG knowledge, the more effective the internalization, which will result in faster adoption of ESG standards among MSMEs. The mindsets of MSME leaders are crucial to the pace of ESG adoption. Decisions made by MSME owners are influenced by their capacity and capability to take on new business imperatives, especially as MSMEs are highly cost-sensitive.

Therefore, it is logical to infer that education and awareness are intertwined with the mindset of MSMEs, and both emerge as the main challenges to ethical leadership. For MSMEs to transform the Malaysian economy in light of the Malaysia Madani national policy, ESG standard adoption will be the key driving force, especially with the establishment of the NSRF regulations.

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