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RESEARCH ARTICLE

International orientation and environmental performance in Vietnamese exporting small- and medium-sized enterprises

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Abstract

Despite the burgeoning literature on environmental management, research is scarce on the impact of international orientation (IO) on environmental performance. This study investigates the impact of IO on environmental performance through the mediating mechanism of environmental commitment. In addition, the paper examines the moderating role of stakeholder pressure. Using data collected from 332 firms engaged in exporting activities in Vietnam, this study finds that a firm's level of IO is positively related to its environmental commitment. The results also show that environmental commitment mediates the relationship between IO and environmental performance. Finally, this research finds that the positive effect of environmental commitment on environmental performance is moderated by stakeholder green pressure. These findings theoretically contribute to the environmental management literature and practically extend our knowledge of how IO enhances environmental performance.

KEYWORDS

environmental commitment, environmental performance, international orientation, stakeholder green pressure, sustainable development, Vietnam

1 | INTRODUCTION

Societal grand challenges such as climate change, environmental degradation, clean energy, smart integrated transport, and poverty have called for firms to immediately mitigate their impact on the environment (Buckley et al., 2017). Researchers have termed such problems “societal grand challenges,” that is, “specific critical barrier(s) that, if removed, would help solve an important societal problem with a high likelihood of global impact through widespread implementation” (George et al., 2016, p. 1881). For example, the devastation of natural resources will gravely affect global biodiversity, contribute to

widespread famines, and trigger additional challenges (Visser & Tolhurst, 2017).

Existing research examined the impact of internationalization on sustainability practices (Gómez-Bolaños et al., 2020; Park, 2018), environmental performance (Kolk & Fortanier, 2013), and corporate social performance (Symeou et al., 2018). Although this body of research has improved our understanding of the role of internationalization on environmental sustainability, it has failed to explain the mechanism through which internationalization fosters environmental performance. Thus, our knowledge of the role of IO in explaining variations in environmental performance remains incomplete. The current study fills this gap in our knowledge by exploring the role of environmental commitment in the relationship between IO and environmental performance.

International orientation (IO) has been defined as an “aggressive, entrepreneurial approach to international markets” (Knight &

Abbreviations: AVE, average variance extracted; CR, composite reliability; IO, international orientation; SMEs, small and medium-sized enterprises.

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Kim, 2009, p. 260). Given that internationalization improves a firm's exposure to global best practices in the context of environmental management (Chen et al., 2016; Kolk & Fortanier, 2013), a firm's IO is likely to improve its environmental performance. In addition, firms operating in global markets are likely to face intense institutional pressures from external stakeholders such as governments, regulators, and competitors (Sharfman et al., 2004). Pressures from these constituents can vary across countries and signify conflicting paths for legitimate practices (Meyer et al., 2011). Based on insights derived from the natural resource-based view (NRBV) (Chan, 2005; Hart, 1995), this study investigates the role of IO in driving environmental performance through environmental commitment. According to the NRBV, firms must integrate environmental concerns into their overall strategic planning process (Hart, 1995).

Growing industrial activity by firms is a major factor contributing to the degradation of valuable natural resources and the escalation of pollution levels across the globe (World Bank, 2018). In addition, firms have to deal with natural disasters, manage migration, and implement digital transformations as part of being held accountable for these environmental problems (Shevchenko, 2021). As such, it is critical to improve the body of knowledge on factors influencing the environmental performance of firms. A firm's degree of environmental performance signifies the extent to which its strategy contributes to mitigating its impact on the natural environment (de Burgos Jiménez & Lorente, 2001).

This study aims to explore the impact of IO on environmental performance through environmental commitment and explores the moderating impact of stakeholder green pressure. In spite of the increasing attention of the performance outcomes of IO, there is a limited understanding of the conditions under IO is more or less produced in firm's environmental performance. We explore the role of stakeholder pressure on the relationship between environmental commitment and environmental performance.

Our study focuses on exporting small- and medium-sized enterprises (SMEs). This is particularly important because SMEs constitute the majority of firms in emerging economies (Adomako et al., 2021) and their impact on the natural environment has been posited to be severe (World Bank, 2019). Thus, a better understanding of the determinants of the environmental performance of exporting SMEs is essential given their rapid growth, their crucial role in economic development, and their aggregated environmental impact in Asian countries (Fadly, 2020; Nhat, 2006). However, the determinants of the environmental performance of exporting SMEs in emerging markets have to date received little attention (Nguyen & Adomako, 2021). Nonetheless, the impact of organizational activities on the natural environment has put pressure on firms to reduce their environmental footprints (Ghisetti & Quatraro, 2013; Roy & Yasar, 2015).

Accordingly, the hypotheses put forth herein were tested using a survey, which resulted in usable responses from 332 Vietnamese firms. This paper contributes to the literature in several ways. First, it adds to the environmental management literature by examining the effect of IO on environmental commitment. Existing research explained the determinants of environmental commitment (Nath &

Ramanathan, 2016); however, a current understanding of how IO drives environmental commitment remains limited. Second, the current study extends internationalization literature by showing that IO influences environmental performance through environmental commitment. This is an important extension of internationalization literature because the impact of IO on environmental performance remains underexplored. Third, the study extends environmental strategy literature by demonstrating that the effect of environmental commitment on environmental performance is more pronounced when both primary and secondary stakeholder pressures are greater. By extension, our framework serves as a first stage in the process of the "translation" of theories developed for Western countries, which must be further adapted to localized country contexts.

The remainder of the paper is divided into the following sections. First, the theoretical background is presented, followed by the hypotheses. The procedure for collecting the sample and data is then described. This section includes the analyses and findings. This study concludes with a discussion of the findings and their theoretical and practical implications, as well as its limitations and future research directions.

2 | LITERATURE BACKGROUND AND HYPOTHESIS DEVELOPMENT

2.1 | The NRBV

Literature on the RBV suggests that a competitive advantage arises from a firm's strategic resources (Barney, 1991; Wernerfelt, 1984). Based on the RBV, these advantages arise from resources that are valuable, rare, inimitable, and nonsubstitutable (Barney, 1991; Grant, 1991). Although the RBV is considered critical and has contributed to explaining how resources contribute to a firm's competitive advantage, the NRBV (pioneered by Hart, 1995) is an important extension of the RBV. Based on the NRBV theory, firms must formulate a strategy that addresses environmental challenges to attain a competitive advantage. Hart (1995) suggested that a firm's proactiveness in terms of addressing environmental challenges can improve its competitive advantage. In addition, the NRBV reflects the critical aspect of developing strategic capabilities that address environmental problems. Thus, firms that develop capabilities to reduce their environmental impact can increase their competitive performance (Hart, 1995). Despite this important insight, how IO influences environmental performance has received limited attention. Accordingly, this paper focuses on the role of IO in environmental performance through the mediating mechanism of environmental commitment; it also examines stakeholder pressure as a contingency factor in this relationship. This reasoning is captured in our conceptual model in Figure 1.

2.2 | IO and environmental commitment

IO has been argued as one of the four critical dimensions of international business (IB) competence (Knight & Kim, 2009). It has been

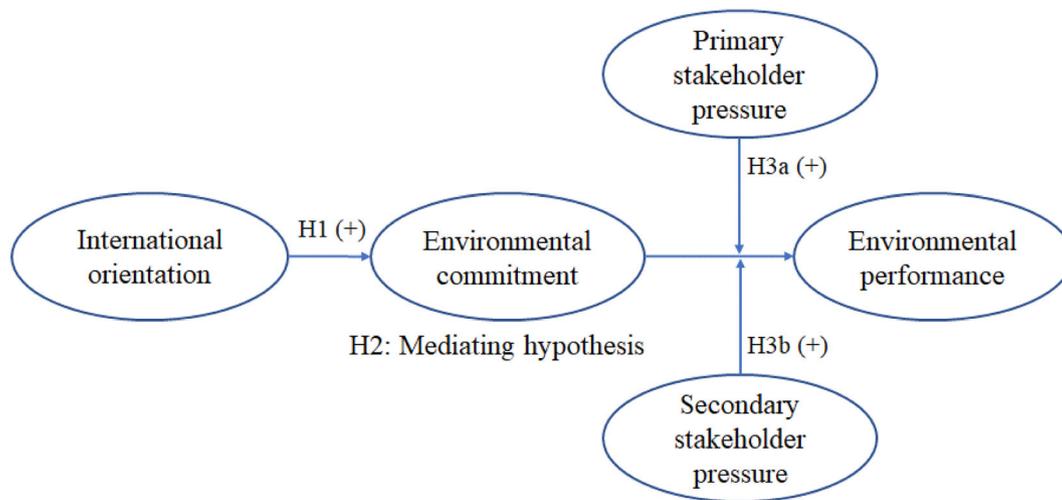


FIGURE 1 Proposed model [Colour figure can be viewed at wileyonlinelibrary.com]

suggested that being aggressive to international markets constitutes a higher order IB competence, which allows SMEs to survive early internationalization and achieve positive performance outcomes in international markets (Coviello, 2015; Dichtl et al., 1990). Existing research argued that IO represents the prevailing mindset of a firm (Dimitratos et al., 2012), and its orientation towards the international market encourages firms to communicate to their employees about environmental best practices within international markets (Williams et al., 2020). This is because the top management has established a solid knowledge of the international market best practices, which can be used to justify the IO (Musteen et al., 2014). This is critical because, without the justification of international best practices, top management is likely to find it difficult to rationalize an emphasis on environmental commitment and convince stakeholders to build an environmental strategy based on international best practices.

It was established that firms that engaged in cross-border activities tended to be exposed to institutional pressures from both the home and host countries (Marano & Kostova, 2016). Furthermore, global norms must be followed for an organization to claim legitimacy (Marano & Tashman, 2012). This suggests that firms engaged in cross-border activities are required to deplore their efforts to attain legitimacy.

One way in which to achieve legitimacy is through environmental best practices (Chen et al., 2016). For example, firms may adopt environmental disclosure as a means for achieving legitimacy (Aragón-Correa et al., 2016), for example, when engaging in cross-border activities, organizations can ensure that better records are kept of environmental disclosures for legitimacy issues.

Given that international firms strive for legitimacy, they tend to make stronger commitments to environmental protection. Therefore, IO is likely to foster a more substantial commitment to how international firms integrate ecological issues into their business strategies. Additionally, given that environmental commitment has been a key focus of governments, policymakers, public society, and business firms, organizations engaged in cross-border activities face several

institutional pressures to make even stronger commitments to the issue to address their impact on the environment (Banerjee, 2002; Teng et al., 2014). By considering the above-discussed factors, the following hypothesis is put forth.

H1. IO is positively related to environmental commitment.

2.3 | The mediating role of environmental commitment

One of the main aims of this study was to explain the mechanisms in the relationship between IO and environmental performance. Environmental commitment reflects “the extent to which a company integrates ecological issues into its business strategy to reduce the harmful effects of its business-related activities on the natural environment” (Hirunyawipada & Xiong, 2018, p. 22). Existing research addressed proenvironmental behaviors and how firms address ecological problems in their business operations (Dangelico et al., 2017; Hirunyawipada & Xiong, 2018). Organizations wanting to improve their commitment to the natural environment tend to implement different measures and initiatives, for example, pollution prevention. Improving environmental commitment may affect several stages in the product life cycle, including how raw materials are acquired, used, and reused, as well as waste management. For example, firms have implemented solutions related to environmental management systems to address environmental issues (Roy & Thérin, 2008). Such an initiative signifies a proactive stance towards environmental commitment, which may emanate from the firm's IO.

Although it has been argued that a firm's IO may improve its commitment to environmental management, it is also likely that commitment to the natural environment can improve its environmental performance. This is because when a firm's top management commits to environmental management practices, it is likely that they will

implement effective environmental strategies that focus on improving the natural environment (Banerjee et al., 2003). In addition, given that top management's environmental commitment promotes a conducive atmosphere in which to implement corporate environmental policies, firms whose top management reflect a stronger commitment to improving the natural environment are encouraged to use resources to enhance environmental performance (King & Zeithaml, 2001; Lee & Ball, 2003). It has also been suggested that firms with a high environmental commitment are likely to devise strategies to protect the natural environment.

IO also exposes firms to thorough scrutiny by their stakeholders, which forces organizations to commit to environmental management practices (Marano et al., 2017). These pressures enhance the need for moral legitimacy (Gómez-Bolaños et al., 2020) and a stronger commitment to environmental management practices. With this consideration, top management commitment to environmental management practices will likely enhance a firm's legitimacy for improving its environmental performance. It is also reasonable to argue that a higher level of organizational IO may increase its exposure to a wider range of stakeholders, global norms, and global legitimating actors who monitor firms' social and environmental impacts. Overall, this research anticipates that a higher level of environmental commitment will mediate the effect of IO on environmental performance. Accordingly, the second hypothesis posits the following.

H2. Environmental commitment mediates the relationship between IO and environmental performance.

2.4 | The moderating role of stakeholder green pressure

Researchers suggest that the impact of stakeholder green pressure on a firm's behavior is relatively predictable (Helmig et al., 2016; Holzer, 2008). However, the moderating role of stakeholder green pressure in the relationship between environmental commitment and environmental performance has not been explicitly investigated. Consistent with prior studies (Fassin, 2009; Kassinis & Vafeas, 2006), the current study defines stakeholder pressure as the ability and capacity of stakeholders to affect an organization by influencing its organizational decisions. Primary stakeholders such as employees, customers, and the government put pressure on firms to implement green environmental practices. In addition, secondary stakeholders, for example, media and nonprofitmaking firms, tend to influence public opinion and, therefore, can exert green pressure on firms to improve their commitment to environmental management practices (Konadu et al., 2020). This suggests that stakeholders exert pressure on business organizations to achieve their green expectations related to products and services. The mimetic and normative nature of stakeholder pressure (DiMaggio & Powell, 1983) forces firms to create a corresponding response to changing attitudes towards the environment.

Based on the green pressure they exert on firms, business organizations with a more substantial commitment to environmental

management cannot ignore primary and secondary stakeholder pressures. These pressures are likely to significantly transform a firm's commitment to improved environmental performance. First, when firms respond to stakeholder concerns about the environment, they embark on making specific changes to their environmental strategy/policy. These pressures from stakeholders are likely to help firms implement environmental management systems that seek to improve their commitment to and performance within the natural environment (Adomako et al., 2019; Nguyen & Adomako, 2021). Second, stakeholders (e.g., media, government, and nongovernmental organizations) can have a moderating influence on the environmental commitment/performance relationship because the activities of stakeholder groups can impact top management's commitment to improving the natural environment (Konadu et al., 2020). This argument is based on the notion that stakeholders often exert direct and indirect pressure on firms to develop strategies that can improve the natural environment. These pressures can help firms produce goods and services that are considered environmentally friendly. Thus, this paper argues that when both primary and secondary stakeholders exert pressure, firms cannot afford to ignore their impact on the natural environment because doing so could adversely affect their reputation (Abratt & Kleyn, 2012; Konadu et al., 2020). Considering the above discussion, the following hypotheses are posited.

H3a. Primary stakeholder green pressures moderate the relationship between environmental commitment and environmental performance to the degree that the relationship is amplified under high levels of primary stakeholder green pressure.

H3b. Secondary stakeholder green pressures moderate the relationship between environmental commitment and environmental performance to such a degree that the relationship is amplified under high levels of secondary stakeholder green pressure.

3 | RESEARCH METHOD

3.1 | Research setting

The research site of this study was Vietnam. As an emerging economy, this country represented an appropriate setting for an analysis of the environmental practices of exporting manufacturing SMEs due to the following reasons. First, SMEs are contributing significantly to exports in Vietnam, accounting for 88% of exporting firms and more than half of Vietnam's export volume (Organisation for Economic Cooperation and Development, 2021). Vietnam is undergoing a major and rapid economic transformation. However, this growth comes with a cost, primarily environmental contamination, which the Vietnamese Government must address (Ni et al., 2019).

Second, SME support policies and environmental protection regulations in the country are undergoing significant improvements. In

2017, the Vietnamese Government enacted a law, that is, the Law on Support for Small- and Medium-Sized Enterprises (Vietnam National Assembly, 2017), promoting SMEs' internationalization and competitiveness. In addition, many innovative policies have recently been introduced into the 2020 Law on Environmental Protection (Vietnam National Assembly, 2020); these include environmental criteria-based investment project classification, a circular economy, climate change response, responsibility for pollution prevention and response, the use of best available techniques to reduce pollution, environmental auditing, and mechanisms to improve law compliance. Such regulations can have broad economic impacts, as well as a positive influence on environmental sustainability, given that the expected improvements in SMEs' environmental behavior as a result of export market involvement may be a critical factor for ensuring long-term sustainability (Efobi, 2021).

Finally, Vietnam can be compared geographically, economically, and culturally to other developing countries in East Asia (e.g., China and Taiwan) and Southeast Asia (e.g., Thailand and Indonesia), which together account for more than 30% of the world's population (Worldometer, 2022). As a result, our findings can be generalized to these countries, making Vietnam an appropriate research location for our study.

3.2 | Data and sample

In Vietnam, SMEs are being created with export activities and fewer than 300 full-time equivalent employees, which is a requirement for receiving classification as a SME in the country (National Assembly of Vietnam, 2017). The potential participants were top and mid-level managers with at least 2-year working experience in their respective firms. These criteria helped to ensure that the participants were knowledgeable about the relevant research issues to complete the survey on behalf of their organizations. The questionnaire preserved language equality through a focus on the back-translation procedure following Brislin (1970). It was originally written in English, then translated into Vietnamese, and then retranslated into English by bilingual linguists.

Because it was difficult to obtain complete information about the population of export manufacturing SMEs in Vietnam and there was no available sampling frame for the population, we opted to collect survey data using a convenient approach. While conducting the current study, respondents from manufacturing SME locations throughout Vietnam were contacted via email addresses obtained from LinkedIn, the most popular and extensive professional online networking site (Mintz & Currim, 2013). This data collection strategy of using social networking platforms, such as LinkedIn, has been used in recent studies (e.g., Bhatia, 2021; Bhatia & Jakhar, 2021; Khan et al., 2022; Nguyen & Adomako, 2021).

A two-wave survey was done to rule out the possibility of common method bias (Podsakoff et al., 2003). In Wave 1, participants supplied sociodemographic data, phone numbers, email addresses, and their perspectives on IO, environmental commitment, and

primary and secondary stakeholder pressures. Each member on this list received an email invitation outlining the scope and objectives of the study and instructions on how to access the survey questionnaire if they wished to participate. After sending emails to 4285 LinkedIn contacts in our networks, and following this up 2 weeks later with a reminder email, 733 responses were obtained. Incomplete responses and invalid replies from nonmanufacturing enterprises, non-SMEs, organizations that did not engage in export activities, and responses from low-level managers and those with less than 2-year work experience in their respective firms were excluded; this yielded 375 valid responses for Wave 1. Given that the response rate of Wave 1 was quite low, this study followed Armstrong and Overton (1977) and tested nonresponse bias by comparing the first quartile of the first responses and the last quartile of the final responses; the results showed no significant difference in the value of the main variables. This result suggested that there was no nonresponse bias in our study.

The dependent variable, that is, environmental performance—was collected in Wave 2 from Wave 1 respondents via email, telephone, and hand delivery with a 6-month time lag. At this stage, this mixed-mode survey approach was necessary to maximize the survey's response rate in light of the increasingly strict lockdown regulations imposed by the novel coronavirus 2019 (COVID-19) in Vietnam. Following several months of reminders and follow-ups, 332 valid responses were obtained. The two waves of data were matched using a unique identification that was issued to each respondent. This study employed an independent *t* test to compare the environmental performance between each pair of three survey modes (i.e., email, telephone, and hand delivery) and found no statistically significant difference ($p > 0.05$), indicating that the mixed-mode survey in Wave 2 was not subject to result bias. As the unit of analysis of this study was at the organizational level, the researchers carefully checked the sample for duplicate responses from the same organization. The scanning technique entailed validating corporate information (e.g., company name, business email address, and domain name) to confirm that each firm in the sample provided a single response. No such instances were discovered during the scanning procedure.

To ensure that only eligible respondents completed the survey, the 332 respondents' profiles were verified via their email addresses. Forty-one of these respondents used a business email address, while the remaining 291 used a personal one. The researchers contacted or emailed 60 (or 20.62%) of the latter group's respondents to verify their company affiliation. Except for 47 of the 60 callbacks, all participants indicated that they were still affiliated with the company listed on their LinkedIn profiles. Although the remaining 13 employees had changed jobs without updating their profiles, they responded to the survey from their previous employer's perspective. Our sample included manufacturing firms with an average age of 20.81 (standard deviation [SD] = 23.18) years and an average of 75.87 (SD = 57.57) full-time employees. In addition, the participants had an average organizational tenure of 7.88 years (SD = 6.10), indicating their adequate experience and relevant knowledge regarding the constructs included in our study.

3.3 | Measuring constructs

Well-established scales from the literature were employed to measure the main variables in the proposed model. Specifically, IO was assessed using a five-item Likert scale adapted from Williams et al. (2020). An environmental commitment was measured using a three-item scale adopted from Banerjee et al. (2003) and Chen et al. (2015). The present research followed the studies of Shubham et al. (2018) and Nguyen and Adomako (2021) for measuring primary stakeholder pressure and secondary stakeholder pressures using formative scales, with four items and two items, respectively. In Vietnam, objective data on the performance of nonlisted firms, including SMEs, are not accessible (Nguyen et al., 2020). Thus, prior SME studies have frequently used subjective performance measures (e.g., Adomako et al., 2021; Zahoor & Lew, 2021). Moreover, subjective and objective performance measures have been shown to have a strong correlation with one another (Nguyen et al., 2020). Hence, this study followed the research conducted by Chen et al. (2015) and Judge and Douglas (1998) to use a subjective measurement scale with four items to rate environmental performance. In line with existing research (e.g., Arora & De, 2020; Li et al., 2017), in this study, firm size (in terms of full-time equivalent employees), ownership structure (1 = with foreign capital; 2 = without foreign capital), and firm age (number of years since the firm's establishment) were used as control variables for environmental performance.

4 | ANALYSES AND RESULTS

4.1 | The discriminant and validity analyses

Partial least squares structural equation modeling (PLS-SEM) and the SmartPLS v.3.3.3 software were used to estimate the measurement and structural models. Table 1 shows an evaluation of the reliability and validity of the main constructs using composite reliability (CR), average variance extracted (AVE), and the outer weights and loadings of the scale items, as well as their corresponding *t* values. The outer loadings for all the items of the reflective constructs (i.e., IO, environmental commitment, and environmental performance) ranged between 0.75 and 0.93, above the cutoff value of 0.70. Moreover, these reflective constructs had AVE values ranging between 0.70 and 0.86, higher than the 0.50 limit. These results indicated an appropriate level of convergent validity for the measurement model. In addition, the CR values of the reflective constructs ranged from 0.90 to 0.95, suggesting that the measurement scales had a high level of reliability (Kline, 2016).

Table 2 illustrates the discriminant validity analysis. The correlations between any pair of variables (ranged between 0.23 and 0.57) were consistently lower than their square root of AVE values (ranged between 0.85 and 0.93) and did not exceed their CR values (ranged between 0.90 and 0.95). These results indicated a satisfactory discriminant validity (Fornell & Larcker, 1981). In addition to the approach taken by Fornell and Larcker (1981), this study employed a more rigorous heterotrait-monotrait (HTMT) test to evaluate discriminant validity

(Henseler et al., 2015). The calculated bootstrapped HTMT values between 0.31 and 0.35 were significantly lower than the stricter criterion cutoff value of 0.85 (Henseler et al., 2015), thus providing more robust evidence for discriminant validity.

4.2 | Common method bias and multicollinearity

Because the current research used the key informant approach to collect data, common method bias can be a concern that can cause measurement errors, which, in turn, may jeopardize the validity of conclusions about the interrelationships between the constructs (Podsakoff et al., 2003). First, the Harman single factor test was employed to check for potential common method bias. The results indicated that no single factor served as a primary explanation of the variance (the first factor accounted for 36.19% of the 68.62% explained variance). Given that the Harman test is quite conservative in terms of detecting bias (Malhotra et al., 2006), the marker-variable technique (Lindell & Whitney, 2001) was also applied. The questionnaire item "Would you prefer to visit Ha Long Bay during the national holiday this year?" was used as a marker variable since it had no theoretical relationship with any of the variables in this study. After excluding the impacts of the correlations of the marker variable and other constructs, the mean change in the correlations between the primary constructs was only 0.03. Thus, all of the tests outlined above suggest that this study does not exhibit common method bias. Moreover, the study examined the possibility of multicollinearity for this study. The maximum inner variance inflation value was 2.48, significantly less than the "rule of thumb" value of 10. Accordingly, this study has a negligible level of multicollinearity.

4.3 | Hypothesis testing

This study analyzed the proposed model and hypotheses using the PLS-SEM approach. The sample size of 332 was adequate because it exceeded the maximum number of possible paths to any construct in the model tenfold (Hair et al., 2017). Additionally, the proposed model has a standardized root mean squared residual of 0.05, lower than the 0.08 threshold (Henseler et al., 2016), indicating that the proposed model adequately fits the data.

In this study, five hierarchical models were developed to test the proposed model and hypotheses (see Table 3). The relationship between IO and environmental performance is demonstrated in Model 1. Model 2 is Model 1 but with the addition of environmental commitment as a mediator. Models 3 and 4 augment Model 2 by including a moderator in the relationship between environmental commitment and environmental performance, which are primary and secondary stakeholder pressures, respectively. Finally, Model 5 is a proposed composite of Models 3 and 4, with both primary and secondary stakeholder pressures acting as moderators.

Herein, H1 proposes that IO positively affects environmental commitment, and this hypothesis is supported (Model 2: $\beta = 0.29$;

TABLE 1 Scale evaluation

Constructs and their measures	Weight/loading	t value
International orientation (Williams et al., 2020) (CR = 0.93; AVE = 0.72)		
Top management tends to see the world as our firms' marketplace	0.75	15.60
The prevailing organizational culture is conducive to active exploration of new business opportunities abroad	0.82	27.09
Management continuously communicates its mission to succeed in international markets	0.90	55.48
Top management is experienced in international business	0.89	49.34
Management communicates information regarding successful and unsuccessful customer experience abroad	0.88	50.35
Environmental commitment (Banerjee et al., 2003; Chen et al., 2015) (CR = 0.95; AVE = 0.86)		
The top management team in our firm is committed to environmental preservation	0.93	64.13
Our firm's environmental efforts receive full support from our top management	0.92	56.87
Our firm's environmental strategies are driven by the top management team	0.94	70.64
Primary stakeholder pressure (Shubham et al., 2018) ^a		
Government/regulators put pressure on our company to pursue sustainable environmental practices	0.11	0.88
Customers/suppliers put pressure on our company to pursue sustainable environmental practices	0.43	3.42
There are pressures on our company from employees to embark on sustainable environmental practices	0.35	2.85
Competitors put pressure on our company to pursue sustainable environmental practices	0.35	3.70
Secondary stakeholder pressure (Shubham et al., 2018) ^a		
<i>To what extent do the following stakeholder put pressure on your company to pursue sustainable environmental practices?</i>		
Nongovernmental organizations/activists	0.48	3.90
Media	0.64	5.46
Environmental performance (Chen et al., 2015; Judge & Douglas, 1998) (CR = 0.90; AVE = 0.70)		
Complying with environmental regulations	0.87	64.63
Preventing and mitigating environmental crises	0.83	43.11
Limiting environmental impact beyond regulatory compliance	0.83	47.34
Educating employees and the public about the environment	0.81	38.12

Abbreviations: AVE, average variance extracted; CR, composite reliability.

^aCR and AVE are not applicable for formative constructs.

t value = 4.32). Our analysis also showed that environmental commitment had a positive effect on environmental performance (Model 2: $\beta = 0.22$; t value = 4.23). In addition, the indirect effect of IO on environmental performance via environmental commitment was

significant ($\beta = 0.09$; t value = 3.82; 95% confidence interval = [0.04; 0.14]), providing support for H2 regarding the mediating effect of environmental commitment on the relationship between IO and environmental performance. Moreover, when an environmental

	1	2	3	4	5
1. International orientation	0.85				
2. Environmental commitment	0.29**	0.93			
	0.31				
3. Primary stakeholder pressure	0.31**	0.53**	N/A		
	N/A	N/A			
4. Secondary stakeholder pressure	0.23**	0.24**	0.44**	N/A	
	N/A	N/A	N/A		
5. Environmental performance	0.32**	0.34**	0.57**	0.44**	0.84
	0.34	0.35			
Mean	5.77	6.01	4.97	4.36	5.89
Standard deviation	1.13	1.18	1.22	1.49	1.10

TABLE 2 Discriminant validity analysis

Note: First value = correlation between variables (off diagonal); second value (italic) = HTMT ratio; square root of average variance extracted (bold diagonal); N/A: square root of average variance extracted and HTMT ratios are not applicable for formative constructs.

**Correlation is significant at 1% level (two-tailed t test).

commitment was added as a mediator in the link between IO and environmental performance, the IO–environmental performance path reduced but was still significant (Model 2: $\beta = 0.19$; t value = 3.79), which implied the partially mediating role of environmental commitment and confirmed H3.

To test H3a and H3b regarding the positive moderating effects of primary and secondary stakeholder pressures on the relationship between environmental commitment and environmental performance, two interaction terms, $PSP \times EnCom$ and $SSP \times EnCom$, were created after mean centering the independent variable (i.e., environmental commitment) and the moderating variables (i.e., primary stakeholder pressure and secondary stakeholder pressure) on avoiding multicollinearity (Aiken et al., 1991). The effects of the two interaction terms on environmental performance were positive and significant, providing support for H3a (Model 3: $\beta = 0.25$; t value = 5.72; Model 5: $\beta = 0.22$; t value = 4.34) and H3b (Model 4: $\beta = 0.18$; t value = 3.57; Model 5: $\beta = 0.08$; t value = 1.72).

To explain the nature of the significant interactions, this study followed the research conducted by Aiken et al. (1991) to plot the effect of environmental commitment on environmental performance at high (+1 SD) and low (−1 SD) levels of primary and secondary stakeholder pressures. The graph of interaction (Figure 2) shows that the effect of environmental commitment on environmental performance is high when primary stakeholder pressure is high but not when primary stakeholder pressure is low. In addition, Figure 3 indicates that the effect of environmental commitment on environmental performance is more positive among firms that are under high secondary stakeholder pressure compared with those under low secondary stakeholder pressure. These results further support H3a and H3b.

5 | DISCUSSION AND CONCLUSION

Despite the growing research attention on IO (Knight & Kim, 2009; Williams et al., 2020) and how it affects firm-level outcomes, it is still

not clear how and when IO may influence an organization's environmental performance. This study employed the NRBV theory to investigate the impact of IO on environmental performance through the mediating mechanism of environmental commitment. In addition, this study explored the moderating role of stakeholder green pressure on the relationship between environmental commitment and environmental performance. The results of this study revealed that IO positively and significantly related to environmental commitment. In addition, environmental commitment mediated the relationship between IO and environmental performance. Moreover, the results showed that the relationship between environmental commitment and environmental performance was moderated by both primary and secondary stakeholder pressures. Collectively, these findings offer several theoretical and practical implications.

5.1 | Theoretical contributions

The findings of our study contribute to the existing literature in three primary ways. First, the findings expand the existing understanding of the role played by IO in improving a firm's environmental performance. The IO literature has traditionally focused on IB issues and has argued that IO facilitates the international performance of firms (Knight & Kim, 2009). Conversely, our study showed that IO is critical for environmental performance; as such, it provides a more nuanced understanding of IO within environmental management literature.

Second, our finding that environmental commitment mediates the relationship between IO and environmental performance helps to clarify the mediating mechanism between IO and environmental performance. This is an important extension of the environmental management literature because existing research (Adomako & Nguyen, 2020; Zahoor & Gerged, 2021) did not explicitly clarify this mechanism. Unlike existing studies that examine the antecedents (Williams et al., 2020) and outcomes (Knight & Kim, 2009) of IO, this study explains the indirect effect of IO on environmental

TABLE 3 Hypothesis testing results

Dependent variable	Independent variable	Model 2 (with EnCom as the mediating variable)			Model 3 (with EnCom as the mediating variable and PSP as the moderating variable)		Model 4 (with EnCom as the mediating variable and SSP as the moderating variable)		Model 5 (with EnCom as the mediating variable and SSP as the moderating variables)	
		EnP	EnCom	EnP	EnCom	EnP	EnCom	EnP	EnCom	EnP
H1	InterO	0.25 (5.81)***	0.29 (4.32)***	0.19 (3.79)***	0.29 (4.39)***	0.04 (1.07)	0.29 (4.46)***	0.15 (3.35)***	0.29 (4.53)***	0.04 (1.14)
H2	EnCom			0.22 (4.23)***		0.30 (4.82)***		0.27 (4.10)***		0.32 (5.03)***
	PSP					0.40 (7.81)***				0.32 (5.93)***
	SSP							0.27 (5.52)***		0.17 (3.66)***
H3a	PSP × EnCom					0.25 (5.72)***				0.22 (4.34)***
H3b	SSP × EnCom							0.18 (3.57)***		0.08 (1.72)*
	Firm size	0.31 (6.53)***		0.31 (6.98)***		0.28 (6.53)***		0.24 (4.87)***		0.25 (5.69)***
	Ownership	(0.07)		(0.06)		(0.03)		(0.08)		(0.04)
		1.49		(1.36)		(0.65)		(1.84)*		(1.08)
	Firm age	0.20 (4.97)***		0.20 (5.07)***		0.20 (4.36)***		0.19 (4.26)***		0.20 (4.04)***
	Adjusted R ² of EnP	0.29		0.33		0.51		0.43		0.54
	Indirect effect							Estimate	LLCI	ULCI
H3	InterO → EnCom → EnP							0.09 (3.82)***	0.04	0.14

Note: Numbers in brackets: *t* values.

Abbreviations: EnCom, environmental commitment; EnP, environmental performance; InterO, international orientation; LLCI, lower level confidence interval; ULCI, upper level confidence interval; PSP × EnCom, interaction between PSP and EnCom; PSP, primary stakeholder pressure; SSP × EnCom, interaction between SSP and EnCom; SSP, secondary stakeholder pressure.

*Significance at 10% level.

**Significance at 5% level.

***Significance at 1% level.

performance. In this way, the present research adds to the burgeoning literature on IO by integrating the literature on this subject (e.g., Dichtl et al., 1990; Knight & Kim, 2009) with environmental management literature (e.g., Adomako & Nguyen, 2020; Zahoor & Gerged, 2021).

Third, our study expands an understanding of the boundary conditions arising from the effects of environmental commitment. Although the role of environmental commitment has been investigated (Hirunyawipada & Xiong, 2018; Roy et al., 2001), a consensus on these effects remains elusive (Roy & Thérin, 2008). To the best of our knowledge, our study is among one of the first to empirically examine the moderating role of stakeholder green pressure on the relationship between environmental commitment and environmental performance. Particularly, the findings of H3a and H3b show that both primary and secondary stakeholder green pressure moderate the impact of environmental commitment on environmental performance. Finally, given that our sample was sourced from manufacturing SMEs

in Vietnam that engage in export activities, our findings contribute to the IO literature by showing that it is critical not only to large firms but also to SMEs in emerging economies. IO has conventionally been investigated within the context of new ventures or born globals (Cavusgil & Knight, 2015). Extant knowledge of the role of IO in environmental management in SMEs from emerging markets is limited. Our study suggests that IO is also very important for improving the environmental performance of SMEs in emerging markets.

5.2 | Practical contributions

Our study provides two practical contributions. First, SME managers can leverage their exporting activities to improve their organization's environmental performance. This study found that IO was an effective driver of environmental commitment. Thus, SME managers can leverage firms' IO to support their organizational efforts in the realm of

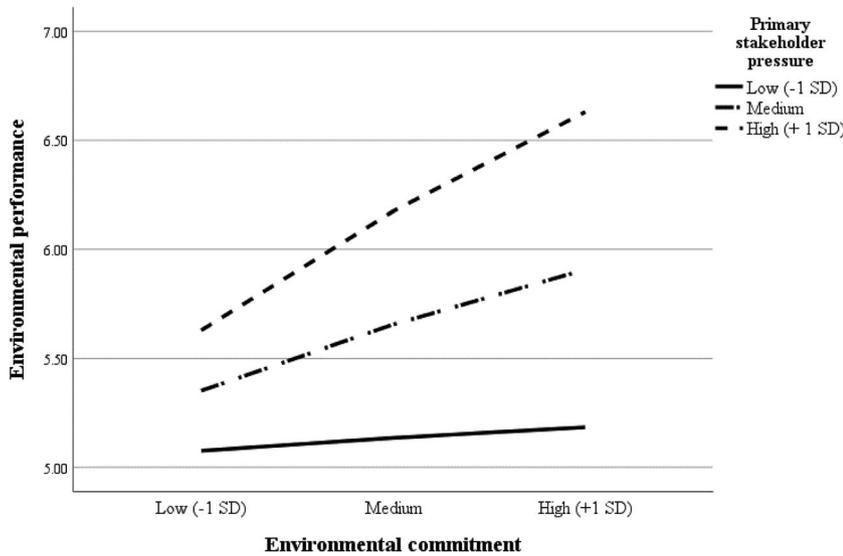


FIGURE 2 Interaction effect of environmental commitment with primary stakeholder pressure on environmental performance

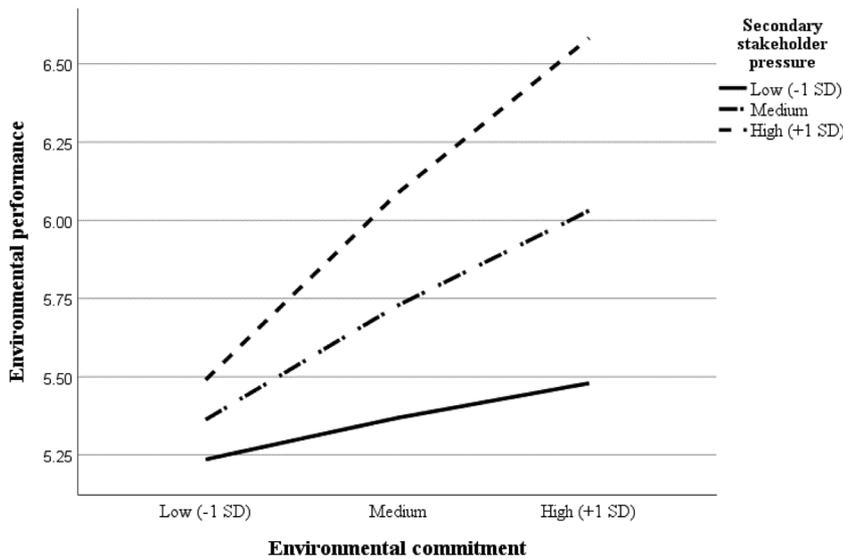


FIGURE 3 Interaction effect of environmental commitment with secondary stakeholder pressure on environmental performance

environmental protection and the implementation of environmental strategies (Banerjee et al., 2003; Chan, 2010). Particularly, the managers of SMEs who are engaged in exporting activities can embark on internal brainstorming conferences to encourage top management to commit to environmental protection goals (Muller & Kolk, 2010). Second, managers should recognize that the environmental outcome of IO depends on top management's commitment to the natural environment. Thus, managers should put more effort into improving their commitment to the natural environment. Third, the finding that environmental commitment improves environmental performance when stakeholder green pressure is greater is important to firms in terms of improving their environmental footprint. Particularly, firms will be well served by committing additional financial resources to environmental management practices to improve their environmental performance. As environmental management practices remain critical challenges for SMEs in emerging economies (Adomako et al., 2019; Adomako & Nguyen, 2020), having top management commit to providing

resources for environmental activities is likely to improve the organization's environmental performance. This insight is crucial for managers and underscores the need for a focus on resource commitment in their environmental management practices.

6 | LIMITATIONS AND FUTURE RESEARCH

Despite its significant contributions, the current study includes some limitations worth considering. First, in spite of the two waves of data collection, causal correlations between various variables could not be inferred. Thus, a longitudinal study will provide additional validation for such associations. Second, this study examined Vietnamese manufacturing SMEs' IO and environmental practices during the ongoing COVID-19 pandemic. Therefore, it is critical to evaluate any potential changes in the findings by subjecting this study model to normal conditions. Third, due to the difficulty of obtaining objective data on

environmental performance from manufacturing SMEs in Vietnam (due to privacy concerns), this study relied on self-reported data from managers. Future research should collect objective data to assess environmental performance. Finally, another limitation may have resulted from the study's geographical context. Since this research was conducted with Vietnamese manufacturing SMEs, it may have some limitations in terms of cross-national application. Thus, from an institutional theory standpoint, additional research should be conducted in countries with a range of political systems, foreign relations and foreign trade policies, cultural values, and environmental regulations.

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