EBER
Entrepreneurial Business and Economics Review
2024, Vol. 12, No. 3
10.15678/EBER.2024.120306

The mediating effect of eco-friendly practices on the link between international market orientation and performance: Evidence from Vietnamese small and medium enterprises

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ABSTRACT

Objective: This study addresses significant gaps in the existing literature, which shows mixed results on the relationship between international market orientation and international performance. Moreover, the literature needs more research on the mediating role of eco-friendly practices in this dynamic. The study aims to rigorously examine both the direct and indirect effects of this orientation on performance, focusing on the exporting and manufacturing of small and medium enterprises (SMEs) in Vietnam to clarify these complex interactions.

Research Design & Methods: The online survey comprised 319 exporting and manufacturing SMEs. Partial least square structure equation modelling served to examine the data.

Findings: The findings reveal that adopting an international market orientation improves the international performance of those SMEs. Furthermore, this adoption drives the adoption of eco-friendly practices that lead to high international performance.

Implications & Recommendations: This study implies that SMEs in the Vietnamese export sectors succeed in international markets by adopting an international market orientation. Besides, those SMEs benefit from this orientation, because it offers insight into environmental demands in the international markets. As such, SMEs adopt eco-friendly practices to offer products that meet those demands and gain success.

Contribution & Value Added: This study advances the literature by assessing the mixed result of international market orientation, i.e. the international performance association within Vietnamese exporting and manufacturing SMEs. It confirms that international market-oriented firms tend to embrace eco-friendly practices like larger firms. It demonstrates that emerging-market SMEs can succeed internationally by adopting eco-friendly practices. It clarifies the mechanism by which international market orientation improves international performance.

Article type:	research article
Keywords:	eco-friendly practices; exporter; international market orientation; international performance; SME; Vietnam
JEL codes:	F13, M10, Q5

Received: 10 November 2023 Revised: 4 May 2024 Accepted: 28 May 2024

Suggested citation:
Ngo, Q.H. (2024). The mediating effect of eco-friendly practices on the link between international market orientation and performance: Evidence from Vietnamese small and medium enterprises. *Entrepreneurial Business and Economics Review,* 12(3), 99-114. https://doi.org/10.15678/EBER.2024.120306

INTRODUCTION

Small and medium-sized enterprises (SMEs) can benefit from adopting an international market orientation (IMO) to understand target markets, adapt to foreign intelligence, and cater to local needs (Cadogan & Diamantopoulos, 1995; Cadogan *et al.*, 2012). Moreover, IMO fosters networking, collaboration, and adaptability in foreign markets (Lin *et al.*, 2014; Ringo *et al.*, 2023). It is considered an intangible resource for enhancing international performance (IP) based on the resource-based view (RBV) (Cadogan *et al.*, 2009). However, research shows mixed findings on IMO's impact on SME's IP

(Acikdilli *et al.*, 2022; Malca *et al.*, 2023; Olabode *et al.*, 2018; Pascucci *et al.*, 2016). Scholars attribute it to differences in national culture and economic development (Bıçakcıoğlu-Peynirci & Ipek, 2020).

Vietnam is a major global exporter. It has experienced trade exceeding 170% of its GDP and has attracted significant foreign investment (Dang & Yeo, 2018; Dayley, 2019; Ges-Kualalumpur, 2022; Kien & Heo, 2008; Zou & Stan, 1998). However, Vietnamese SMEs, comprising 88% of exporting firms and over half of export volume, face challenges such as limited market understanding and foreign conditions (OECD, 2021; Paul *et al.*, 2017; Zhu *et al.*, 2020). Despite these challenges, there is a limited understanding of how IMO directly results in high Vietnamese manufacturing and exporting SME's IP.

According to Safari and Saleh (2020), various factors can mediate the link between IMO and IP. In recent years, the literature has suggested a positive link between internationalization and the engagement of firms in eco-friendly behaviours (Gómez-Bolaños *et al.*, 2020; Usman *et al.*, 2020). Exporting SMEs are argued to adopt eco-friendly practices (EFP) to meet international market requirements (Chan & Ma, 2016). The institutional theory explains this relationship as that firms are more likely to engage in environmentally friendly actions in international contexts to gain legitimacy under institutional pressures (Leyva-de la Hiz *et al.*, 2019). Environmental scholars draw upon natural resource-based theory (NRBV) to propose that going green can help exporting firms achieve success in international markets (Al-Ghwayeen & Abdallah, 2018; Bıçakcıoğlu *et al.*, 2020).

However, there are two concerns relating to IMO and EFP, as well as the relationship between EFP and IP. Firstly, this adoption faces challenges due to limited resources, information, technology, and government support (Rizos *et al.*, 2016). Literature has a limited understanding of whether IMO significantly increases EFP. Second, SMEs face constraints in emerging countries that may hinder positive outcomes from engaging in eco-friendly actions (Ngo, 2023a). Until now, no study has addressed the fact that IMO has indirect effects on IP through EFP.

In light of these gaps, the study in Vietnam sought to address the following research questions.

RQ1: Does adopting IMO directly enhance IP for exporting and manufacturing SMEs in Vietnam?

RQ2: Does adopting IMO indirectly enhance IP through EFP for those SMEs?

This study contributes to the literature in four ways. Firstly, it sheds light on the dynamics of the IMO-IP relationship within the context of Vietnamese exporting and manufacturing SMEs, a country previously under-explored. Secondly, in line with the growing body of the integration between environment and export studies (Gómez-Bolaños *et al.*, 2020; Usman *et al.*, 2020), the findings corroborate the hypothesis that firms orienting to international markets are more likely to adopt eco-friendly initiatives despite of firm size. Thirdly, aligning with recent NBRV arguments, this study underscores that despite challenges in adopting sustainable practices in emerging countries, SMEs can still succeed in international markets when adopting EFP. Finally, the study delineates how IMO translates into enhanced IP.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

International Market Orientation and Eco-friendly Practices

Cadogan and Diamantopoulos (1995) define IMO (also referred to as export market orientation) as encompassing generation, dissemination, and responsiveness to market intelligence in international markets. Andersen (2006) characterizes international market intelligence as an informal and continuous exchange of information relating to market segmentation, penetration, opportunities, and metrics, providing a comprehensive overview of the market conditions and competitive landscape in international markets. Cadogan *et al.* (1999) explain in detail the processes of generating, distributing, and responding to this intelligence. International market intelligence generation involves developing market information through researching and analyzing international markets. International market intelligence distribution includes all activities related to sharing this market intelligence. International market intelligence responsiveness means strategically acting on creating and disseminating this intelligence.

Pascucci *et al.* (2016) noted that while IMO research has focused on large corporations, its significance in SMEs still needs to be examined. Raju *et al.* (2011) argued that SMEs face challenges due to their size, but their market orientation allows them to compete effectively with larger firms. They

also highlighted SMEs' unique ability to blend information processing, knowledge, and responsiveness into a strategic advantage. However, Ipek and Bıçakcıoğlu-Peynirci (2020) observed that most prior research tends to include firms of all sizes, with studies specific to SMEs being rare. Therefore, the issue requires more research on IMO within SMEs.

Eco-friendly practices, (also known as environmental management practices or green practices), aim to mitigate or eliminate businesses' negative environmental impact (Jeong *et al.*, 2014; Ngo, 2023a; Sharma *et al.*, 2020). This includes a broad range of actions like waste reduction, energy conservation, eco-certification like ISO 14001, eco-design, recycling, and eco-friendly systems indicators (Ngo, 2023a). Montabon *et al.* (2007) highlight that EFP involves controlling harmful operational environmental effects, urging firms to address the impacts of their products and services.

However, the definition of EMPs varies, leading to overlapping practices such as the ISO 14001 eco-certification (Comoglio & Botta, 2012). González-Benito and González-Benito (2006) categorize EFP into three practices, *i.e.* planning and organizational practices (focusing on developing and implementing eco-friendly systems), operational practices (modifying processes for greener operations), and communicational practices (publicizing environmental performance and impact reduction efforts), which are crucial for environmental accountability (Amoako *et al.*, 2021).

Despite the importance of all three categories, scholars disproportionately focus on communicational practices (Aray *et al.*, 2021) and neglect planning and operational practices (Veselova & Sidorenko, 2022). Tomomi (2010) notes the greater relevance of communicational practices in larger firms than in smaller ones. Consequently, this study concentrates on the under-explored planning and organizational and operational practices in exporting and manufacturing SMEs.

International Performance

International performance, also referred to as export performance, is a critical metric assessing how well a firm sells products and services abroad, with scholars examining the factors contributing to some firms' success in international markets (Diamantopoulos & Kakkos, 2007; Ferreira & Simões, 2016; Oliveira *et al.*, 2012). However, inconsistencies in IP's definition and measurement create challenges in comparing studies (Acikdilli *et al.*, 2022; Chen *et al.*, 2016a; Sousa *et al.*, 2008).

Research emphasizes both financial and non-financial indicators for IP, noting the limitations of financial metrics alone and suggesting that a mix of both provides a fuller picture of a firm's performance (Asseraf & Gnizy, 2022; Chen & Liang, 2011; Jusoh & Parnell, 2008; Lee & Choi, 2003; Maldonado *et al.*, 2023). Moreover, researchers often prefer to use subjective measures because of difficulties in obtaining accurate data, with studies showing a strong correlation between subjective and objective IP measures, especially in SMEs (Diamantopoulos & Kakkos, 2007; Haluk Köksal & Kettaneh, 2011; Madsen & Moen, 2018; Sadeghi *et al.*, 2021; Shoham, 1998; Sousa, 2004; Stoian *et al.*, 2011). This research adopts the subjective assessment of IP based on managers' perceptions of achieving financial and non-financial goals in international markets, as it is deemed most appropriate for the study's aims (Sadeghi *et al.*, 2021).

Resource-based View and Natural Resource-based View

The natural resource-based theory builds upon RBV, which attributes organizational performance differences to unique resources that provide competitive advantages (Barney, 1991; Chisholm & Nielsen, 2009). These resources assist the development of distinct capabilities, leading to competitive advantages (Fraj *et al.*, 2013). According to RBV, the firm's resources and capabilities, which are valuable, rare in the market, difficult to imitate, and well organized by the firm, foster competitive advantages (Ngo, 2021).

Natural resource-based theory extends this by emphasizing the strategic management of environmental relations (Hart, 1995). Notably, the capability to align a firm's actions with the environment and innovation resulting from environmental solutions is crucial for firms to secure and sustain their competitive advantage and gain performance implications (Demirel & Kesidou, 2019; Hart, 1995; Menguc & Ozanne, 2005). Natural resource-based theory identifies three competitive advantages from environmental strategies: cost reduction, competitive preemption, and securing future market positions (Hart, 1995).

Institutional Theory

The institutional theory explains that societal norms, laws, and expectations influence organizational behaviours, such as engagement in eco-friendly activities (Colwell & Joshi, 2013; Farrukh *et al.*, 2022; Glover *et al.*, 2014; Latif *et al.*, 2020; Zhang *et al.*, 2018). Firms adjust their structures to align with these institutional pressures, which dictate the legitimacy of their actions (DiMaggio & Powell, 1983; Heugens & Lander, 2009; Meyer & Rowan, 1977; Suchman, 1995; Surroca *et al.*, 2013; Teo *et al.*, 2003). DiMaggio and Powell (1983) categorize these pressures as coercive, from laws and regulations; normative, from societal norms and professional standards; and mimetic, from the desire to emulate successful peers. Failure to adapt can result in legal repercussions, reputational harm, and societal disapproval (Berrone *et al.*, 2013; Cavusoglu *et al.*, 2015; John *et al.*, 2001; Liu *et al.*, 2010a; Liu *et al.*, 2010b; Perez-Batres *et al.*, 2011; Sarkis *et al.*, 2010; Teo *et al.*, 2003).

Proposed Research Framework

To address two research questions, this study draws upon various perspectives, such as NRBV/RBV and institutional theory, to explain the interrelationship between IMO, EFP, and IP. Firstly, from the RBV standpoint, IMO is an intangible resource that holds value and is rare in the global marketplace, challenging for competitors to imitate, and well organized by SMEs. In such regards, this tangible resource strongly impacts competitive advantages, resulting in high IP. Prior researchers, such as Cadogan *et al.* (2012) in Finland, Faroque *et al.* (2021) in Bangladesh and Acikdilli *et al.* (2022) in Turkey, support this association by highlighting IMO's role in enhancing IP. In such a regard, I formulated the first hypothesis.

H1: Adopting IMO directly enhances IP for exporting and manufacturing SMEs in Vietnam.

Secondly, the literature suggests that IMO indirectly influences IP through mediators (Safari & Saleh, 2020). According to Baron and Kenny (1986), the statistical analysis of EFP's mediation necessitates a preliminary examination of two associations: one between IMO and EFP and another between EFP and IP.

The institutional theory posits that firms adopt eco-friendly behaviours in international markets to gain legitimacy and meet global environmental standards (Leyva-de la Hiz *et al.*, 2019). Drawing from institutional theory, SMEs are expected to embrace EFP to secure legitimacy and meet the rising global demands for sustainability, especially when adopting IMO. This expectation aligns with previous researchers (Chen *et al.*, 2016b; Gómez-Bolaños *et al.*, 2020; Usman *et al.*, 2020), which found that highly internationalized firms are inclined to implement eco-friendly policies and follow environmental strategies. In this regard, high IMO is expected for the adoption of the EFP.

Based on NRBV, successfully aligning SMEs' operations with environmental commitment allows firms to effectively compete and gain competitive advantages. In such results, through EFP adoption, SMEs can gain competitive advantages and result in high IP. This prediction is in line with recent studies (Al-Ghwayeen & Abdallah, 2018; Bıçakcıoğlu *et al.*, 2020; Silva *et al.*, 2023) that emphasize the positive impact of green business strategies, green marketing strategies, and green supply chain management on international financial and export performance. Hence, the adoption of EFPs is expected to improve IP.

Based on the above argument, IMO positively impacts EFP, and EFP increases IP. In this regard, EFP potentially mediates the IMO-IP link. This expectation shares similarity with Hojnik *et al.* (2018), who found that eco-innovation mediates the link between internationalization and firm performance. Taken together, I hypothesised.

H2: Adopting IMO leads to the adoption of EFP for exporting and manufacturing SMEs.

H3: Adopting EFP contributes to IP for manufacturing and exporting SMEs in Vietnam.

H4: For exporting and manufacturing SMEs in Vietnam, EFP acts as a mediator in the IMO-IP relationship.

RESEARCH METHODOLOGY

Data Collection

This research employed an online survey method for its speed and ease compared to traditional methods such as telephone or mail surveys, making it ideal for reaching respondents via email (Dillman *et al.*, 2014; Fricker & Schonlau, 2002). While non-coverage bias remains a concern with internet surveys (Dutwin & Buskirk, 2022), its impact is mitigated in Vietnam, where internet usage is high at approximately 73% (VietnamPlus, 2023).

The study follows established methods (Beka Be Nguema *et al.*, 2022; Ngo, 2022, 2023b; Yu *et al.*, 2021) by selecting a sample from the Yellow Pages, an online business directory that now serves as a comprehensive database. The Vietnam Yellow Pages (2022) provides a vast pool of over 250 000 business emails, from which 2 000 manufacturing SMEs were randomly chosen, surpassing the sample sizes of previous research. The sample consisted of 319 exporting and manufacturing SMEs.

Measures

I asked two export and manufacturing SME managers to review the survey to ensure quality (Olson, 2010). I used a 5-point Likert scale to assess four key variables.

The study measured IMO using a construct from Cadogan *et al.* (2009), which has been widely accepted as a second-order construct comprising three dimensions, *i.e.,* international market intelligence generation (IMI_G), dissemination (IMI_D), and responsiveness (IMI_G). I drew EFP from the nine-item scale from Roxas and Chadee (2016), which is reliable for SMEs.

This study treats IP as a multidimensional, second-order construct using the EXPERF scale, validated for cross-national stability and incorporating financial, strategic, and satisfaction metrics (Zou *et al.*, 1998), adopting a reflective-formative second-order approach due to its innovative nature and the scant empirical evidence supporting the dominant reflective measurement model in IP research (Diamantopoulos, 1999; 2008).

Control variables are crucial in the research on IP, with firm age (F_AGE), size (F_SIZE), and export experience (F_EE) identified as essential factors (Cadogan *et al.*, 2012; Gkypali *et al.*, 2021; Saridakis *et al.*, 2019). The current study includes these variables, defining F_AGE as the time since establishment, F_SIZE as employee numbers, and F_EE as the length of export activity involvement.

Common Method and Nonresponse Bias

This study assessed common-method bias using Harman's single-factor test in SPSS, finding no significant bias as only 34.913% of the variance was attributed to one factor (Podsakoff & Organ, 1986). Nonresponse bias was evaluated by comparing early and late survey respondents with a t-test (Clottey & Grawe, 2014), revealing no significant differences and dismissing concerns about this type of bias (Wagner & Kemmerling, 2010).

Statistical Approach

The study used PLS-SEM to evaluate a research framework, focusing on explaining variance and causal relationships between latent variables (Hair *et al.*, 2011). According to Sarstedt and Cheah (2019), the methodology involves a two-step assessment, adhering to criteria set by Hair *et al.* (2019) for evaluating measurement models (indicator loadings, reliability, validity) and structural models (collinearity, explanatory power, predictive accuracy). Moreover, it follows the framework of Zhao *et al.* (2010) to analyse mediating effects, with SmartPLS 3.2.8 software facilitating the PLS-SEM model evaluation.

RESULTS AND DISCUSSION

Descriptive Analysis and Correlation Matrix

Tables 1 and 2 indicate the descriptive analysis of the indicators of corresponding lower-order constructs and Pearson's correlation between those low-order constructs.

Table 1. Evaluation of first-ordered constructs' measurement

Lower-order constructs	Indicators	Min	Max	Mean	Standard deviation	Item loadings	Cronbach's Alpha	Composite Reliability	AVE
International market intelligence generation		–	–	–	–	–	0.772	0.854	0.594
IMI_G	IMI_G_1	1	4	2.77	0.616	0.686	–	–	–
	IMI_G_2	1	4	2.77	0.695	0.733	–	–	–
	IMI_G_3	1	4	2.72	0.701	0.759	–	–	–
	IMI_G_4	1	5	2.77	0.689	0.750	–	–	–
	IMI_G_5	1	4	2.81	0.699	0.774	–	–	–
International market intelligence dissemination		–	–	–	–	–	0.801	0.862	0.556
IMI_D	IMI_D_1	1	4	2.81	0.654	0.748	–	–	–
	IMI_D_2	1	5	2.78	0.684	0.748	–	–	–
	IMI_D_3	1	5	2.76	0.690	0.749	–	–	–
	IMI_D_4	1	5	2.79	0.684	0.769	–	–	–
	IMI_D_5	1	5	2.8	0.686	0.715	–	–	–
International market intelligence responsiveness		–	–	–	–	–	0.745	0.839	0.566
IMI_R	IMI_R_1	1	4	2.78	0.666	0.735	–	–	–
	IMI_R_2	1	5	2.76	0.712	0.763	–	–	–
	IMI_R_3	1	4	2.79	0.678	0.788	–	–	–
	IMI_R_4	1	4	2.76	0.652	0.720	–	–	–
Eco-friendly practices		–	–	–	–	–	0.877	0.904	0.575
EFP	EFP_1	1	5	2.77	0.789	0.763	–	–	–
	EFP_2	1	5	2.80	0.731	0.678	–	–	–
	EFP_3	1	5	2.74	0.815	0.742	–	–	–
	EFP_4	1	5	2.73	0.779	0.755	–	–	–
	EFP_5	1	5	2.82	0.795	0.737	–	–	–
	EFP_6	1	5	2.79	0.814	0.766	–	–	–
	EFP_7	1	5	2.70	0.808	0.755	–	–	–
	EFP_8	1	5	2.80	0.793	0.723	–	–	–
	EFP_9	1	5	2.76	0.765	0.695	–	–	–
Financial international performance		–	–	–	–	–	0.839	0.903	0.756
FIP	FIP_1	1	5	2.88	0.942	0.873	–	–	–
	FIP_2	1	5	2.83	0.909	0.868	–	–	–
	FIP_3	1	5	2.77	0.898	0.868	–	–	–
Strategic international performance		–	–	–	–	–	0.815	0.89	0.730
SIP	SIP_1	1	5	2.75	0.884	0.873	–	–	–
	SIP_2	1	5	2.74	0.865	0.845	–	–	–
	SIP_3	1	5	2.72	0.840	0.844	–	–	–
Satisfaction with international performance		–	–	–	–	–	0.820	0.893	0.735
SAT_IP	SAT_IP_1	1	5	2.81	0.861	0.840	–	–	–
	SAT_IP_2	1	5	2.70	0.868	0.855	–	–	–
	SAT_IP_3	1	5	2.84	0.886	0.876	–	–	–
Firm Age		–	–	–	–	–	1.000	1.000	1.000
F_AGE	F_AGE	7	40	23.63	7.172	1.000	–	–	–
Firm Size		–	–	–	–	–	1.000	1.000	1.000
G_SIZE	G_SIZE	13	276	143.87	44.119	1.000	–	–	–
Export Experience		–	–	–	–	–	1.000	1.000	1.000
F_EE	G_SIZE	5	22	11.090	3.030	1.000	–	–	–

Source: own study based on 319 observations.

Table 2. Pearson's correlation

Variables	IMI_G	IMI_D	IMI_R	EFP	FIP	SIP	SAT_IP	F_Age	F_Size	F_EE
IMI_G	1.000	0.647**	0.641**	0.548**	0.423**	0.427**	0.327**	-0.039	-0.008	0.019
	–	0.000	0.000	0.000	0.000	0.000	0.000	0.489	0.885	0.742
IMI_D	0.647**	1.000	0.656**	0.573**	0.397**	0.370**	0.345**	-0.122*	-0.107	-0.019
	0.000	–	0.000	0.000	0.000	0.000	0.000	0.030	0.057	0.740
IMI_R	0.641**	0.656**	1.000	0.553**	0.325**	0.378**	0.422**	-0.063	-0.082	0.020
	0.000	0.000	–	0.000	0.000	0.000	0.000	0.261	0.144	0.727
EFP	0.548**	0.573**	0.553**	1.000	0.481**	0.340**	0.272**	-0.085	-0.016	-0.032
	0.000	0.000	0.000	–	0.000	0.000	0.000	0.129	0.778	0.572
FIP	0.423**	0.397**	0.325**	0.481**	1.000	0.083	-0.046	0.010	0.016	0.014
	0.000	0.000	0.000	0.000	–	0.140	0.409	0.864	0.774	0.800
SIP	0.427**	0.370**	0.378**	0.340**	0.083	1.000	0.085	-0.067	0.029	0.025
	0.000	0.000	0.000	0.000	0.140	–	0.131	0.235	0.602	0.662
SAT_IP	0.327**	0.345**	0.422**	0.272**	-0.046	0.085	1.000	-0.105	-0.124*	-0.067
	0.000	0.000	0.000	0.000	0.409	0.131	–	0.062	0.027	0.231
F_Age	-0.039	-0.122*	-0.063	-0.085	0.010	-0.067	-0.105	1.000	0.116*	0.422**
	0.489	0.030	0.261	0.129	0.864	0.235	0.062	–	0.038	0.000
F_Size	-0.008	-0.107	-0.082	-0.016	0.016	0.029	-0.124*	0.116*	1.000	0.069
	0.885	0.057	0.144	0.778	0.774	0.602	0.027	0.038	–	0.216
F_EE	0.019	-0.019	0.020	-0.032	0.014	0.025	-0.067	0.422**	0.069	1.000
	0.742	0.740	0.727	0.572	0.800	0.662	0.231	0.000	0.216	–

Note: ** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed).
Source: own study based on 319 observations.

Measurement Models

Sarstedt *et al.* (2019) recommend a two-part process to measure evaluation. Firstly, I analysed lower-order constructs like IMI_G, IMI_D, IMI_R, EFP, FIP, SIP, SAT_IP. Secondly, the focus turned to assessing higher-order constructs IMO and IP.

The Evaluation of First-order Constructs

The study validated the measurement model by checking indicator loadings, construct reliability, and validity. Items with loadings above 0.708 remain (Hair *et al.*, 2019). Constructs showed acceptable reliability with Cronbach's Alpha and composite reliability above 0.7 (Hair *et al.*, 2011). I confirmed convergent validity with average variance extracted (AVE) values over 0.5 and verified discriminant validity with heterotrait-monotrait (HTMT) ratios under 0.850 (Sarstedt *et al.*, 2019). Tables 1 and 3 suggest the removal of IMI_G_1, EFP_2 and EFP_9. The subsequent values confirmed the adequacy of the lower-order constructs' measurement model.

Table 3. The HTMT ratios of lower-ordered constructs

Variables	EFP	FIP	IMI_D	IMI_G	IMI_R	SAT_IP	SIP
EFP	–	–	–	–	–	–	–
FIP	0.559	–	–	–	–	–	–
IMI_D	0.682	0.485	–	–	–	–	–
IMI_G	0.666	0.526	0.823	–	–	–	–
IMI_R	0.679	0.403	0.846	0.844	–	–	–
SAT_IP	0.320	0.064	0.420	0.407	0.533	–	–
SIP	0.403	0.097	0.454	0.535	0.485	0.103	–

Source: own study based on 319 observations.

The Evaluation of Second-order Constructs

International market orientation and IP undergo assessment in the second phase, utilizing the lower-order latent variables scored from the first phase. IMO, as a reflective-reflective higher-order construct, it is appraised in alignment with the approach of Sarstedt *et al.* (2019), which focuses on indicator loadings, Cronbach's Alpha, composite reliability, AVE, and HTMT ratios. The adequacy of these metrics is supported by Table 4.

Table 4. Evaluation of the reflective-reflective higher-ordered construct

Higher-Ordered Constructs	Lower-Order Indicators	Item loadings	Cronbach's Alpha	Composite Reliability	AVE
International market orientation			0.877	0.904	0.575
IMO	IMI_G	0.874	–	–	–
	IMI_D	0.878	–	–	–
	IMI_R	0.873	–	–	–

Source: own study based on 319 observations.

International performance is a reflective-formative higher-order construct. Sarstedt *et al.* (2019) propose that its evaluation should include testing for convergent validity, checking for indicator collinearity, and confirming the significance and relevance of outer weights. Convergent validity is affirmed if the path coefficient between the IP's formative measure and an alternative single-item measure exceeds 0.7 (Hair *et al.*, 2021, p. 93). This criterion was met in the research with a coefficient of 0.729. Moreover, the VIF should remain below 3, and outer weights must be significant – conditions that are also satisfied according to Table 5. Hence, the IP construct's validity was adequate.

Table 5. Evaluation of the reflective-formative higher-ordered construct

Higher-Ordered Constructs	Lower-Order Indicators	Outer Weight	T-Statistics	P-Value	Outer Loadings	VIFs
IP	FIP	0.639	11.529	0.000	0.656	1.010
	SIP	0.502	11.555	0.000	0.599	1.015
	SAT_IP	0.523	8.585	0.000	0.536	1.010

Source: own study based on 319 observations.

Structural Models

Following Hair *et al.* (2019), this study examined collinearity, explanatory power, and predictive accuracy. It used 5 000 bootstrap replicates to confirm low collinearity with VIF under 5, sufficient explanatory power with R^2 over 0.25, and predictive accuracy with Q^2 above zero.

Figure 1 illustrates the results of the tested hypotheses. The results revealed a significant direct correlation between IMO and IP (β=0.550, $p<0.001$) as well as IMO and EFP (β=0.638, $p<0.001$). Besides, EFP positively and directly impacted IP (β=0.268, $p<0.001$). Furthermore, the mediating effect of EFP was significant (β=0.171, $p=0.001$; percentile of confident interval: [0.070; 0.278]). Hence, the data backed the hypotheses of H1, H2, H3, and H4.

Discussions

Theoretical Implications

Firstly, the findings revealed IMO's direct and positive impact on EP, suggesting that SMEs in Vietnam's exporting and manufacturing sector can enhance their IP by adopting IMO. This result aligns with previous research, such as Cadogan *et al.* (2012) in Finland, Faroque *et al.* (2021) in Bangladesh and Acikdilli *et al.* (2022) in Turkey, highlighting IMO's role in enhancing IP for exporters. It contributes to the literature by shedding light on the IMO-IP relationship in Vietnamese contexts, which has different degrees of economic development. Furthermore, it shows that, like larger firms, SMEs also experience export success when adopting IMO.

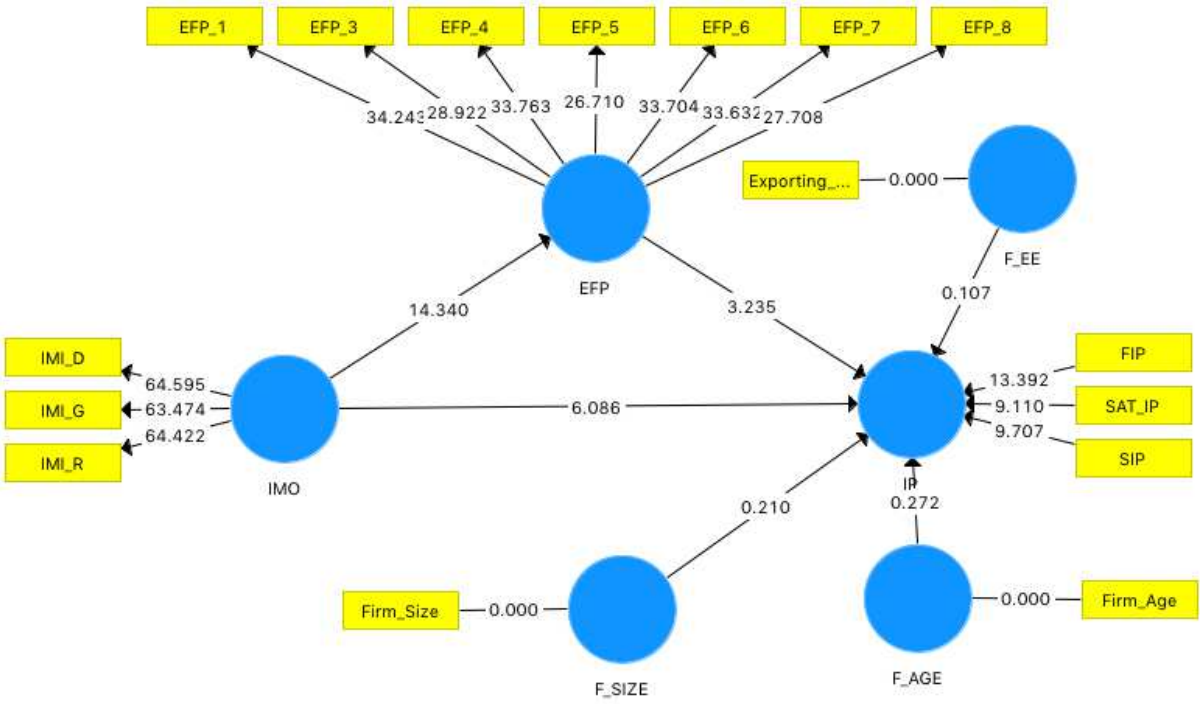

Figure 1. Research results
Source: own elaboration based on 319 observations.

Secondly, the study showed a direct and positive relationship between IMO and EFP in Vietnam. It indicated that Vietnamese exporting and manufacturing SMEs tend to adopt EFP alongside IMO adoption. It aligns with previous research, including studies by Usman *et al.* (2020) in China and Gómez-Bolaños *et al.* (2020) in the energy sector, which found that highly internationalized firms tend to implement eco-friendly policies. This resembles the findings of Chen *et al.* (2016b). According to them, construction firms engage in environmental strategies when internationalizing. This finding contributes to institutional theory by substantiating the hypothesis that global environmental concerns catalyse a more pronounced engagement in environmental practices among firms when they penetrate international markets. Furthermore, it extends the existing body of knowledge by demonstrating that SMEs, despite their smaller size, can exhibit environmentally friendly behaviours when they expand their operations internationally.

Thirdly, the research demonstrated a direct and positive association between EFP and IP among Vietnamese exporting and manufacturing SMEs. It implies that SMEs in Vietnam achieve higher IP by embracing EFP. It is consistent with recent studies, such as those by Bıçakcıoğlu *et al.* (2020) and Al-Ghwayeen and Abdallah (2018), which emphasize the positive impact of green business strategies and green supply chain management on international financial performance. This also aligns with findings by Silva *et al.* (2023) that firms pursue eco-friendly export marketing strategies to achieve high export performance. This result supports the development of NRBV by revealing that firms significantly gain competitive advantages in global contexts when they align their operation toward environmental sustainability. Furthermore, it suggests that SMEs, like larger firms, secure export success through environmental commitment.

Lastly, the study identifies EFP as a partial mediator in the IMO-IP relationship in Vietnam. It suggests that exporting and manufacturing SMEs with a strong IMO are more likely to adopt EFP, which subsequently positively influences their EP. This finding is in harmony with Hojnik *et al.* (2018), who found that eco-innovation mediates the link between internationalization and firm performance. This finding contributes to the literature by showing EFP as a mediator driving the association between IMO and IP.

Relating to controlled variables, this study shows the insignificant impacts of firm size, firm age, and export experience on IP. These findings are similar to Nakos *et al.* (2019) and Peng and Chang

(2023). They imply that in Vietnam, the SME's export success depends more on adopting IMO and EFP than their size, age, and export experience.

Practical Implications

The research highlights crucial strategies for Vietnamese SME managers and owners in manufacturing and exporting. Firstly, success in the international market is linked to adopting IMO. Managers should focus on understanding international markets, sharing this intelligence across departments and using it to align products with customer needs and regulations. It will improve financial metrics and success in gaining strategic goals in the international markets. Moreover, the findings indicate the importance of environmental intelligence when adopting IMO. As Vietnam's exports often go to developed markets with strict environmental standards, SMEs should adopt EFP to exploit this intelligence to offer products to meet these demands, differentiate from competitors, and achieve financial and strategic success in international markets.

CONCLUSIONS

This study addressed the interrelationship between IMO, EFP, and IP of Vietnamese exporting and manufacturing SMEs. Similar to other studies, this research identified limitations that merit consideration in future investigations. Firstly, it is crucial to acknowledge that this study predominantly focused on exporting and manufacturing SMEs in Vietnam. Therefore, we should add caution when extending these findings to other countries. To gain deeper insights into the applicability of the research model, future studies should replicate it using data from other emerging economies. Moreover, the study is limited by a cross-sectional approach, limiting the causality. Employing longitudinal research methods is recommended to explore response changes over time and establish causal relationships among variables. Lastly, it is important to mention that the study had a relatively low response rate. Future research could benefit from incorporating the step-by-step approach proposed by Dillman *et al.* (2014) to address this limitation to enhance survey response rates. It can be beneficial in overcoming the challenge of a low response rate.

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Acknowledgements and Financial Disclosure

The author would like to thank the anonymous referees for their useful comments, which allowed to increase the value of this article. There are no financial conflicts of interest to disclose.

Conflict of Interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Ministry of Education and Science
Republic of Poland

The journal is co-financed in the years 2022-2024 by the Ministry of Education and Science of the Republic of Poland in the framework of the ministerial programme "Development of Scientific Journals" (RCN) on the basis of contract no. RCN/SP/0583/2021/1 concluded on 13 October 2022 and being in force until 13 October 2024.