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# The base-of- the-pyramid orientation and export performance of Vietnamese small and medium enterprises

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## ABSTRACT

This study explores the impact of the baseofthepyramid orientation (BOPO) on export performance (EP) through the mediating mechanism of environmental sustainability practices (ESPs). In addition, it examines the moderating role of social innovation (SocInno) on the relationship between BOPO and ESPs. The proposed model and its hypotheses were tested, using covariance-based structural equation modeling (CB-SEM) on the data from 163 internationalized Vietnamese small and medium enterprises collected through a survey. The following were the study's conclusions: (1) BOPO positively affects ESPs; (2) the impact of BOPO on ESPs is amplified when SocInno is high; and (3) ESPs mediate the relationship between BOPO and EP. These findings reveal how BOPO contributes to the export success of small and medium enterprises in emerging markets through ESPs. Additionally, the present study elucidates the mechanism by which BOPO influences EP even as it adds to the current understanding of BOPO by introducing SocInno as a boundary condition.

## 1. Introduction

The internationalization of emerging market multinational enterprises (MNEs) has attracted much scholarly attention over the past two decades (Aulakh et al., 2000; Ciravegna et al., 2016; Gaur et al., 2014; Ramamurti & Singh, 2009). The burgeoning literature provides valuable insights into the factors that enable emerging market MNEs to enter foreign markets and attain success (Filatotchev et al., 2009; Gaur et al., 2014). Interestingly, scholars have noted that despite the challenges experienced by emerging market MNEs, they have an advantage over MNEs from developed economies when entering other emerging markets in the Global South (Cuervo-Cazurra & Genc, 2008). That said, although emerging market MNEs could have a comparative advantage when operating in other emerging markets, not all of them are likely to be equally successful. In particular, small and medium enterprises among them face unique barriers in dealing with internationalization (Bertrand et al., 2022; Chandra et al., 2020; Paul et al., 2017). These barriers are may get exacerbated in emerging foreign markets, for consumers in these markets have significantly less money to spend on goods and services than consumers in developed countries (Cavusgil et al., 2012; Cuervo-Cazurra & Ramamurti, 2017). Further, these emerging markets are generally characterized by corruption, illiteracy, inflation,

poor infrastructure, and red tapism (Adomako, Ahsan, et al., 2021; Ahsan et al., 2021; Kistruck et al., 2011).

Building on the market orientation literature, Zhu et al. (2019) identify a distinct firm capability, i.e., their base of the pyramid orientation (BOPO) that allows firms to create and capture opportunities in emerging markets. They argue that BOPO enables firms to better serve the needs of consumers as well as mitigate the risks and costs associated with emerging markets, consequently enhancing firm performance. All in all, this literature suggests that firms operating in emerging markets are more likely to succeed when they understand the needs of the consumers in emerging markets and the challenges associated with these markets and take appropriate actions to address them. However, despite the theorized and observed importance of BOPO in improving firm success (Adomako et al., 2022; Zhu et al., 2019), we have a limited understanding of how BOPO affects firm outcomes. In particular, we have little knowledge of the potential mechanisms through which firms' BOPO affects firm outcomes. Moreover, research is yet to properly address the assumed tensions between the strategies that the firms pursue to meet consumer needs in emerging markets and their environmental implications. Indeed, Arnold and Williams (2012) state that in their desire to serve consumers in emerging markets, firms may inadvertently harm themselves by degrading the natural environment

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on which many of them depend. In addition, [Khavul and Bruton \(2013, p. 285\)](#) contend that “if sustainability enhancing innovations introduced in developing countries are to stick, they need to be designed with local customers, networks, and business ecosystems in mind.” However, sustainability has received very little attention in the literature as it is implicitly assumed that consumers in emerging markets are primarily driven by economic factors and that environmental issues have few or no effects. We question this assumption as evidence indicates that a growing number of consumers in developing and emerging countries are environmentally conscious ([Close, 2021; Hicks, 2022](#)). We argue that the base of the pyramid-oriented (BOP-oriented) small and medium enterprises can meet the economic needs of consumers in emerging markets and alleviate their environmental concerns, thereby allowing them to achieve superior performance. Correspondingly, researchers have emphasized the adoption of holistic models that include social, environmental, and financial components ([Fisk, 2010; Jäger & Sathe, 2017](#)) as well as SocInno to integrate social, environmental, and financial outcomes ([Avelino et al., 2017; Perera & Abeysekera, 2020](#)). Indeed, [Pol and Ville \(2009, p.15\)](#) note that the Center for SocInno describes SocInno as “new ideas that resolve existing social, cultural, economic and environmental challenges for the benefit of people and planet.” As such, SocInno can also help in resolving the tensions between social, economic, and environmental benefits. Despite the existence of a rich body of literature, there is a dearth of research that empirically examines the relationship between the social, environmental, and financial dimensions of a firm’s strategy, particularly a dearth of research on firms that export to emerging markets. To address this critical gap, we examine the indirect relationship between a firm’s BOPO and export performance (EP) through environmental sustainability practices (ESPs). We argue that BOPO enables firms to develop and implement ESps by keeping the emerging market context in mind, including its consumers’ and stakeholders’ concerns, which consequently enhances firms’ EP. In addition, we examine the moderating role of SocInno in the relationship between BOPO and ESps. We suggest that the firms that attain learning benefits from SocInno will develop and implement ESps better than those that lack this experience.

Using data from 163 small and medium enterprises in Vietnam, we examine (1) the relationship between BOPO and ESps; (2) the moderating role of SocInno on the relationship between BOPO and ESps; and (3) the mediating role of ESps in the relationship between BOPO and EP. Vietnam is ranked 22nd globally in terms of export capacity and 26th in terms of the scale of international trade, and Vietnamese small and medium enterprises export their products to many countries with large emerging markets. Given that BOPO strives to achieve the triple bottom line approach – profit, people and planet – ([Adomako, Ning, et al., 2021; Durugbo & Amankwah-Amoah, 2019](#)), firms possessing this capability are likely to adopt practices and develop products that address the concerns and needs of consumers in emerging markets. This is consistent with the conceptualization of BOPO, which is described as ‘a firm capability that directs the development of firm products, and strategies tailored specifically to the unique characteristics of the emerging market segment’ ([Zhu et al., 2019, p. 3](#)). Therefore, we leverage the dynamic capabilities perspective ([Eisenhardt & Martin, 2000; Teece, 2007](#)) to investigate the influence of BOPO on EP through the mediating mechanism of ESps.

This paper makes several contributions to the extant literature. First, it finds that the BOPO of exporting firms influences their ESps, which contributes to the emerging literature that examines ESps in developing and emerging countries ([Hasan & Ali, 2015; Nekmahmud & Fekete-Farkas 2020](#)). Given that firms strive to achieve the triple bottom line approach – profit, people and planet – ([Adomako, Ning, et al., 2021; Durugbo & Amankwah-Amoah, 2019](#)), firms serving emerging markets, particularly those with BOPO, are likely to demonstrate awareness of the concerns of stakeholders (e.g., governments, media, consumers, and NGOs). Second, our study extends the literature related to BOPO ([Adomako et al., 2022; Zhu et al., 2019](#)) by highlighting the moderating

effect of SocInno in the BOPO–ESps relationship. Specifically, we find that SocInno enhances the positive effect of BOPO on ESps. This adds to the literature by enriching our understanding of when the BOPO and SocInno interactively yield increased sustainability value. Finally, this study provides insights into the mediating role of ESps ([Roxas et al., 2017](#)) through which BOPO fosters export success in Vietnamese small and medium enterprises. Specifically, we find that ESps mediate the link between BOPO and EP.

## 2. Theoretical background and hypotheses

### 2.1. Dynamic capabilities and the base of the pyramid

This paper draws from the dynamic capability’s perspective ([Eisenhardt & Martin, 2000; Teece, 2007](#)) to explain the influence of BOPO on EP through the mediating mechanism of ESps. Dynamic capabilities reflect the processes and routines used by a firm in adopting, altering, deploying and protecting resources to generate competitive advantage ([Teece et al., 1997](#)). The tenet of this perspective is by developing and leveraging capabilities, firms will be better positioned to outcompete their rivals in terms of success ([Barney & Clark, 2007; Eisenhardt & Martin, 2000](#)). Insights from the dynamic capability’s perspective suggest that a firm’s ability to capture the market represents a critical competitive advantage ([Newbert, 2007; Teece, 2007](#)).

Emerging markets are particularly challenging as a significant number of individuals in such markets lack income and education ([Cuervo-Cazurra & Ramamurti, 2017; Dawar & Chattopadhyay, 2002; Dahan et al., 2010](#)). Firms need to invest significant time and capital to understand the needs of consumers and develop products that fit the needs of emerging markets ([Arunachalam et al., 2020; Nakata & Weidner, 2012](#)). Furthermore, firms need to possess unique organizational capabilities to overcome the challenges associated with emerging markets as these contexts (that is, developing and emerging countries) generally have weak institutional environments ([Ahsan et al., 2021; Kistruck et al., 2011](#)). Recent research describes BOPO as a capability that enables firms to mitigate the challenges of emerging markets and enhance their performance ([Adomako et al., 2022; Zhu et al., 2019](#)). According to [Zhu et al. \(2019\)](#) and [Adomako et al. \(2022\)](#), BOPO allows firms to create and capture value for three reasons. The first reason is that BOP-oriented organizations are better able to understand the unique needs of emerging markets and the factors that are important to consumers in these markets. Even consumers in emerging markets are concerned about environmental degradation as it can directly or indirectly affect their health ([Angeli & Jaiswal, 2021; Khare, 2015; Zhao et al., 2016](#)). For example, the recent fire at a landfill in Delhi, India affected many people, particularly those at the BOP, as these individuals tend to live or work near such locations ([Agence France-Presse \[AFP\], 2022; Rosenberg, 2022](#)). A firm with a strong BOPO understands the importance of environmental sustainability to consumers in emerging markets. Indeed, the findings from a recent Credit Suisse survey of 10,000 people in the age group of 16 to 40 years across ten countries indicate that environmental sustainability issues are becoming increasingly important to consumers in developing and emerging countries ([Credit Suisse Research Institute \[CSRI\], 2021](#)). The second reason is that BOPO allows firms to develop innovative products that fulfil the requirements of emerging markets. Researchers suggest that by pursuing SocInno, firms can integrate the three components of the triple bottom line – people, planet, and profit – to resolve social, environmental and economic challenges ([Avelino et al., 2017; Fisk, 2010; Pol & Ville, 2009](#)). Firms that are adept at SocInno will be better at developing and implementing ESps. The third reason is that BOPO allows firms to develop products that fit the needs of consumers in emerging markets ([Hart et al., 2016; Nakata & Weidner, 2012; Pillai et al., 2021](#)), which creates value for both parties. As the emerging market covers many developing and emerging countries, BOPO can lead to positive EP. Indeed, the literature indicates that the firms that understand the

customers' needs are likely to have better EP (Racela et al., 2007). Given that a proactive stance on environmental sustainability yields increasing benefits for consumers in developing and emerging countries (Adomako, Ning, et al., 2021; Bıçakcıoğlu, Theoharakis, & Tanyeri, 2019), firms that are oriented toward emerging markets could attain reputational benefits, which could also lead to positive EP.

Based on the foregoing logic, the conceptual model in Fig. 1 suggests that BOPO fosters ESPs, which lead to strong EP. In addition, we suggest that the impact of BOPO on ESPs is moderated by SocInno. In the following subsections, we conceptually link the independent and mediating variables to EP.

2.2. The base of the pyramid and environmental sustainability practices (ESPs)

The impact of environmental proactivity on firm performance has received increasing attention in the literature. Multiple meta-analyses show that firms that engage in ESPs can improve their performance outcomes more than firms that do not take sustainability issues seriously (Ambec & Lanoie, 2008; Margolis & Walsh, 2003). While this outcome is interesting, it is unclear how organizational capabilities increase the organizations' ability to engage in ESPs.

Organizational capabilities, such as BOPO, enable firms to gain a deep understanding of their consumers. For instance, BOPO would enable firms to better understand the needs of consumers in emerging markets (e.g., Cambodia, India, and Mexico). As environmental degradation concerns are important to consumers in emerging markets, they are willing to participate in activities that benefit the environment (Angeli & Jaiswal, 2021; Khare, 2015; Zhao et al., 2016). A firm with a BOPO can adopt ESPs to address the concerns of consumers in emerging markets and better serve them. This is consistent with extant literature, which suggests that knowledge of customer needs and concerns enables firms to take informed actions and satisfy customers (Kohli & Jaworski, 1990), including the adoption of ESPs (Green et al., 2015). Furthermore, BOP-oriented firms are likely to be motivated to adopt ESPs, as it could enable them to integrate social and environmental issues to develop strategic resources that yield a competitive advantage (Hult, 2011). In simple terms, BOPO enables firms to better understand the needs and concerns of consumers in emerging markets, including their increasing interest in environmental sustainability, and take appropriate steps to address these needs and concerns. Furthermore, researchers have observed that firms formulate triple bottom line strategies to target consumers in emerging markets (Tate & Bals, 2018; Verwaal et al., 2021), as this enables the firms to integrate economic and social issues (e.g., satisfying the needs of consumers in emerging markets) as well as environmental sustainability issues (e.g., addressing the environmental degradation concerns of consumers in emerging markets). Such

strategies can benefit firms and lead to resource developments that are valuable, rare and inimitable that are the basis of a sustainable competitive advantage (Hart, 1995). Based on the preceding arguments, we propose the following hypothesis:

H1: The base of the pyramid orientation is positively associated with environmental sustainability practices

2.3. The moderating role of social innovation

Consumers in emerging markets experience many social, environmental, and economic difficulties (Pol & Ville, 2009; Varadarajan & Kaul, 2018). To resolve these challenges, firms engage in the innovation process to develop new products and services (Kruse et al., 2019; Schubert, 2018). SocInno is described as innovations that solve major issues and lead to societal transformation and progress (Cajaiba-Santana, 2014; Lee et al., 2019; Meister et al., 2021). For example, SocInno solutions such as micro-finance and fair-trade labels are considered the main engine of inclusive growth and social change in emerging markets (Lee et al., 2019; Phillips et al., 2015; Phills et al., 2008). The development of socially valuable products tailored to the characteristics and needs of consumers in emerging markets is a vital step in responding to the different stakeholders' pressures regarding sustainability (Govindarajan & Trimble, 2012), including addressing consumers' concerns regarding environmental degradation (Zhao et al., 2016).

While there are many benefits to SocInno, a key benefit that firms attain by developing new products and services to solve societal issues is the learning experience (Nicolopoulou et al., 2017; Vassallo et al., 2019). This improves the efficiency and effectiveness of their capability to develop and implement environmentally sustainable activities (Nishitani, 2010; Phillips et al., 2015). Firms that have previously developed SocInno are well aware of the process of developing products and services that solve societal issues and are in a better position to develop and implement ESPs. Furthermore, the organizations' ability to engage in SocInno increases the confidence of the managers to pursue ESPs (Kornilaki et al., 2019), prompting them to initiate actions necessary to implement them and address the concerns of consumers in emerging markets. In other words, firms that develop SocInnos are adept at engaging with consumers in emerging markets to understand their needs and concerns, developing sustainability-enhancing innovations, and working with government and non-government stakeholders to implement solutions in developing and emerging countries (Guerrero & Urbano, 2020; Khavul & Bruton, 2013; Letelier, Flores, & Spinosa, 2003). To summarize, the knowledge that firms accrue by engaging in SocInno motivates them to address environmental degradation concerns in emerging markets. It enhances their ability to develop and implement ESPs. Thus, SocInno strengthens the relationship between BOPO and ESPs. Therefore, we propose the following hypothesis:H2: Social

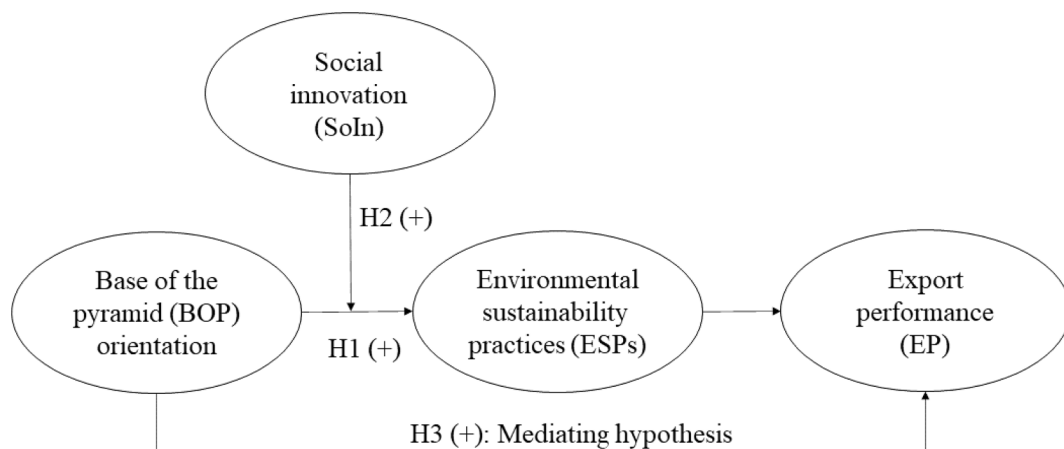


Fig. 1. Theoretical model.

innovation moderates the relationship between the base of the pyramid orientation and environmental sustainability practices

### 2.4. The mediating role of environmental sustainability

We further argue that ESPs mediate the BOPO–EP linkage. The concept of ESPs reflects the firm-wide culture to promote shared values, norms, and behaviors that focus on the effort to implement sustainable environmental practices resulting from different stakeholder concerns (Borland, 2009; Buysse & Verbeke, 2003; Li et al., 2017) and represents the cultural and behavioral tendencies that the firm seeks to adopt environmentally friendly practices aimed at a higher performance (Hult, 2011). Moreover, ESPs allow firms to engage in desirable behaviors (Roxas et al., 2017) that are particularly important to consumers in emerging markets (Angeli & Jaiswal, 2021; Zhao et al., 2016).

Previous studies have suggested that environmental sustainability activities have the potential to provide firms with a competitive advantage (e.g., Hart & Dowell, 2011; Hult, 2011) and ultimately enhance their performance (e.g., Adomako et al., 2019; Adomako, Ning, et al., 2021; Roxas et al., 2017). In the export market environment, research has highlighted the positive influence of ESPs on EP (e.g., Li et al., 2017). In addition, the desire to conduct business operations in emerging markets motivates firms to design and develop sustainable products for consumers (Gold et al., 2013). Such strategies enable firms to better engage consumers in emerging markets and satisfy their concerns and needs, which will lead to competitive advantage and higher firm performance.

These arguments suggest that ESPs are likely to mediate the link between BOPO and EP. First, the concerns of consumers in emerging markets inspire the creation of socially sustainable superior products, which could ultimately increase the operation efficiency of the exporting firm (Darnall et al., 2008; Li et al., 2017). Second, environmental issues are a concern to consumers in emerging markets (Angeli & Jaiswal, 2021; Khare, 2015; Zhao et al., 2016). Firms that understand consumers' needs and concerns and take action to address them will achieve higher performance. This is consistent with prior findings that showed creating value for customers by satisfying their needs leads to positive performance in international markets (Boso, Cadogan, et al., 2013; Morgan et al., 2009; Murray et al., 2011). Thus, we propose the following hypothesis: *H3*. Environmental sustainability practices mediate the relationship between the base of the pyramid orientation and export performance

## 3. Method

### 3.1. Research setting

The research setting of this study is Vietnam, an emerging country that recently established itself as a significant player in Southeast Asia. Strategically located in the Asia-Pacific region, Vietnam is home to nearly 100 million people and has a promising economy that has averaged a 7 % annual growth over the last decade. Since the late 1980 s, when Vietnam adopted the 'Doi Moi' ('renovation') program, the country has pursued an active and constructive foreign policy to diversify and multi-lateralize its international relations. Vietnam's pursuit of deeper economic integration and a greater political role has provided an opportunity for the international community to encourage the once-pariah state to establish a peaceful, stable and prosperous regional order.

Even though the COVID-19 pandemic had a significant impact on global trade and investment, the country ranks high (22nd in terms of export capacity and 26th in international trade), a factor that may add to the momentum for future breakthroughs in export activities. Importantly, in 2020, the total export revenue reached 282.66 billion USD, which was an increase of 7 % compared to 2019. This export growth is outstanding compared to the major economies and countries in the

region (MoIT, 2021). Since 2016, the trade balance of Vietnam has always been in surplus, with an increasing trade surplus over time, from USD 1.77 billion in 2016 to 19.95 billion USD in 2020. Regarding the export structure, the value of processed industrial goods accounted for 85.2 % of the entire export value, agriculture and aquatic goods placed second at 8.9 % and fuels and minerals accounted for less than 1 % (MoIT, 2021). Notably, several items from the country rank among the top five export products globally, including rice, cashew nuts, coffee, textiles, footwear, and seafood. This shows that Vietnam is an appropriate setting for this study, as it is an ideal export hub to reach other Southeast Asian nations due to its strategic location for global enterprises with operations throughout the area.

### 3.2. Data collection

To validate the proposed model and hypotheses, quantitative data was collected through an online survey, as this approach did away with the risks of COVID-19 infection for the researchers and study participants as a result of their interactions for the purpose of this study. The selected informants were senior- and mid-level managers in manufacturing small and medium enterprises. The firms selected in the sample satisfied the following criteria: (1) manufacturing with export activities; (2) less than 300 full-time equivalent staff, which is a requirement for being classified as small and medium enterprises in Vietnam (National Assembly of Vietnam, 2017); and (3) firms exporting to major emerging markets (Table 1).

We reached respondents from manufacturing small and medium enterprises located across Vietnam in the current study through LinkedIn, which is the most common and extensive professional networking site (Mintz & Currim, 2013). A two-wave survey was conducted to eliminate the possibility of common method bias (Podsakoff et al., 2003). The questionnaire maintained a language equivalence by focusing on back-translation. It was first published in English, then translated into Vietnamese before being retranslated into English by bilingual writers.

In Wave 1, the informants provided sociodemographic information, telephone numbers, email addresses, and their opinions regarding BOPO, SocInno, and environmental sustainability. Each member of the list received an email invitation detailing the study's scope and objectives and guidance on accessing the survey questionnaire if they desired to participate. We obtained 3,251 completed responses from LinkedIn users in our networks and followed up with a reminder email two weeks later. After removing the invalid responses from non-manufacturing companies, non-small and medium enterprises, and firms without export operations as well as responses from low-level managers and

**Table 1**  
Main Export Markets and Products of Sampling Firms (n = 163).

	n	%
<i>Main export market</i>		
Cambodia	28	17.2
Indonesia	23	14.1
Thailand	20	12.3
India	19	11.7
Philippines	16	9.8
Mexico	13	8.0
China	12	7.4
Brazil	10	6.1
Laos	9	5.5
Others	13	8.0
<i>Main product</i>		
Food and beverages*	74	45.4
Wooden products, yarn, textile, foot-wares	45	27.6
Machinery and equipment	24	14.7
Others	20	12.3

**Note.** \* Mostly rice, fruits, vegetables, fishery, cashew nut, pepper, tea, pastycooks, sweets, and cereals products.

those with less than two years of work experience in their respective firms, we received 205 valid responses for Wave 1. We compared early and late respondents (i.e., respondents in the first quartile versus those in the fourth quartile) to determine a non-response bias following [Armstrong and Overton's \(1977\)](#) procedure. Independent *t*-test results indicated that the early respondents were not significantly different from the late respondents ( $p > 0.05$ ). This demonstrates that non-response bias was not a serious concern.

In Wave 2, the dependent variable, i.e., EP was captured via email, telephone and hand delivery from Wave 1 respondents with a six-month time lag. In this stage, this mixed-mode survey approach was appropriate to maximize the response rate for the survey given the increasingly enforcing lockdown due to the COVID-19 pandemic in Vietnam. We performed an independent *t*-test to compare EP between each pair of three survey modes and found no significant difference ( $p > 0.05$ ), implying the mixed-mode survey in Wave 2 had no result bias. Using a unique identifier assigned to each respondent, the two waves of data were matched. After several months of reminders and follow-ups, we received a total of 163 replies, which was a response rate of 79.51 % (i.e.,  $[163 / 205] \times 100$ ). Due to the organizational level of this study, we scanned the sample carefully for possible duplicate responses from the same organization. The scanning procedure involved verifying the company information (e.g., company name, business email, and domain name) to ensure that each firm in the sample gave only one response. During the scanning process, no such instances were detected. To ensure eligible respondents completed the survey, the profiles of the 163 respondents were verified by examining their email addresses. Twenty-six used a company email address, while the remaining 137 used a personal one. We telephoned or emailed 30 (or 22 %) of the respondents in the latter group to confirm their company affiliation. All but 23 of the 30 call-backs indicated that they were still affiliated with the company listed on their LinkedIn profiles. Although the remaining seven employees had recently changed jobs without updating their profiles, they responded to the survey from the view of their previous employer. Our sample comprised manufacturing firms with an average age of 20.63 (standard deviation [SD] = 23.24) years and a median number of full-time employees of 88.33 (SD = 49.02).

[Table 1](#) shows the main BOP export markets and products of sampling firms.

### 3.3. Measurement scales

Unless otherwise stated, all the multi-item measures were captured using established measures on a seven-point Likert scale.

### 3.4. BOP Orientation (BOPO)

We measured BOPO with six items from [Zhu et al. \(2019\)](#). The respondents of the study were asked to answer in a way that reflected their firms' orchestrated efforts to develop a better understanding of the consumers in emerging markets and the products and services that could fulfil their needs.

### 3.5. Environmental Sustainability Practices (ESPs)

The eight items measuring ESPs were derived from [Roxas et al. \(2017\)](#). Previous research has found this measure to be robust in a developing country setting ([Amankwah-Amoah et al., 2019](#)). A formative scale was applied for ESPs, given that the eight items of this construct indicate that an organization's ESPs are complementary and not interchangeable, as they do not have the same content ([Jarvis et al., 2003](#)). The composite score for ESPs was created during the analysis.

### 3.6. Social Innovation (SocInno)

The six items measuring SocInno were developed based on insights

from in-depth personal interviews with managers of small and medium enterprises and previous conceptual studies ([Cajaiba-Santana, 2014](#); [Lee et al., 2019](#); [Weerawardena & Mort, 2012](#)). Following [Churchill \(1979\)](#), we developed a list of items based on an extensive literature review and then revised the items based on feedback from managers from ten small and medium enterprises. We included six items in the finalized questionnaire to measure SocInno. The items reflect the firm's capability to create novel product and service solutions to address social problems effectively and efficiently to ensure social progress. The exploratory factor analysis (EFA) yielded one factor for the SocInno variable. Based on this, we used all six items to capture the SocInno construct.

### 3.7. Export Performance (EP)

We measured EP using three items from [Boso, Story, et al., \(2013\)](#). CEOs were asked to indicate their company's EP (i.e., profitability, growth in profitability, and profit margin) in the emerging markets over the past three years.

### 3.8. Control variables

Following previous studies (e.g., [Arora & De, 2020](#); [Boso, Story, et al., 2013](#); [Li et al., 2017](#)), we included ownership structure, firm size, and age as the control variables of EP. The ownership structure was measured using a dummy (1 = with foreign capital and 2 = without foreign capital). The firm size was measured using the number of full-time equivalent employees and total assets, and the firm age by using the number of years since the firm's establishment.

## 4. Results

### 4.1. Measurement model assessment

The measurement and structural models were estimated using covariance-based structural equation modeling (CB-SEM) with AMOS version 25.0.0. First, we computed the traditional chi-square divided by the degrees of freedom ( $\chi^2 / df$ ) and other fit indices to evaluate the overall model fit. We found that fit indices were adequate (i.e.,  $\chi^2 / df = 3.11$ ; root mean square error of approximation = 0.04; Comparative fit index = 0.98; Tucker-Lewis index = 0.97), suggesting that the proposed model has a good fit with the data.

The measurement model was checked for reliability and validity using SPSS version 26.0.0.0. As shown in [Table 2](#), the outer loadings for all observed variables, ranging between 0.71 and 0.97, were well above the cut-off value of 0.50. The average variance extracted (AVE) values were between 0.56 and 0.83, and all were above the 0.50 limit, which indicated convergent validity. The composite reliability of the latent variables ranged from 0.79 to 0.97, all of which exceeded the acceptable standards for exploratory research ([Kline, 2016](#)).

The discriminant validity was assessed following the procedure proposed by [Fornell and Larcker \(1981\)](#). As shown in [Table 3](#), the square root of the AVE of the main constructs (excluding the formative construct) ranged from 0.75 to 0.89, which was well above the corresponding bootstrapped correlation coefficients. In addition, there were no individual correlations (ranging from 0.17 to 0.54) that were higher than their respective composite reliabilities (ranging from 0.79 to 0.96), while most correlation coefficients were consistently lower than the 0.70 cut-off value. These results indicate a satisfactory discriminatory validity. In addition to [Fornell and Larcker's \(1981\)](#) approach, we used a more rigorous Heterotrait-Monotrait (HTMT) test ([Henseler et al., 2015](#)). The HTMT values that were calculated ranged between 0.06 and 0.72 based on the bootstrapping routine. The evidence for discriminant validity is further reinforced, as these values were significantly below 1.00

**Table 2**  
Evaluation of Constructs and Scale Items.

Constructs and their measures	Loading	CR	AVE
<b>BOP orientation (BOPO) (Zhu et al., 2019)</b>		0.97	0.83
<i>In the past three years, our firm has</i>			
endeavored to explore market opportunities in the BOP market (by, among other things, developing new products and formulating business strategies to serve this market)	0.89		
invested in uncovering the BOP consumer characteristics	0.95		
thoroughly considered the needs of BOP consumers in serving this segment	0.97		
thoroughly considered BOP consumer product usage context in serving this segment	0.89		
thoroughly considered BOP consumer affordability in serving this segment	0.95		
thoroughly considered BOP consumer's education level to understand product-related information in serving this segment	0.80		
<b>Environmental sustainability practices (ESPs) (Roxas et al., 2017)*</b>	-	-	
Our company practices recycling of wastes	-		
We practice water and electricity conservation	-		
Our company embarks on environmental awareness training	-		
We participate in environmental programs	-		
We utilize low impact manufacturing technology	-		
We communicate with customers/buyers	-		
Deal with environment-friendly suppliers	-		
Sustainability is an integral part of our business plans and operations	-		
<b>Social innovation (SocInno) (Newly developed scale)</b>		0.94	0.72
Our company develops products and services that have social impacts	0.82		
The value of our products and services is beneficial to society as a whole	0.87		
Our products and services serve both material and non-material human needs	0.82		
Our company develops products and services that solve social problems	0.91		
Our products and services improve the standards of life	0.91		
Our company develops products and services that satisfy social needs and improve living standards	0.76		
<b>Export performance (EP) (Boso et al., 2013)</b>		0.79	0.56
<i>On average, what has been the EP of your company in emerging markets over the past three years?</i>			
Profitability	0.76		
Growth in profitability	0.71		
Profit margins	0.77		

**Note.** CR: Composite reliability, AVE: Average variance extracted; \*: loading, *t*-value, CR and AVE are not applicable for the formative construct (i.e., sustainability practices).

**Table 3**  
Discriminant Validity Analysis.

	1	2	3	4	5	6	7
1. BOPO	<b>0.91</b>						
2. ESPs	0.46**	N/A					
3. EP	0.34**	0.54**	<b>0.75</b>				
	0.45	N/A					
4. SocInno	0.28*	0.29**	0.17*	<b>0.85</b>			
	0.29	N/A	0.21				
5. Size (Assets)	0.20**	0.38**	0.43**	0.22**	<b>1.00</b>		
	0.20	N/A	0.55	0.21			
6. Size (Employees)	0.24**	0.41**	0.45**	0.18*	0.72**	<b>1.00</b>	
	0.24	N/A	0.58	0.18	0.72		
7. Firm age	0.05	0.20*	0.03	0.10	0.29**	0.39**	<b>1.00</b>
	0.06	N/A	0.06	0.10	0.29	0.39	
Mean	4.40	5.61	4.42	6.12	4.97	3.54	20.63
Standard deviation	1.42	0.69	0.74	0.80	2.21	1.87	23.24

**Note.** 1st value = Correlation between variables (off diagonal); 2nd value (italic) = HTMT ratio; Square root of average variance extracted (bold diagonal); \*, \*\*: Correlations are significant at the 5% and 1% levels respectively (2-tailed *t*-test); N/A: Square root of average variance extracted is not applicable for the formative construct (i.e., Environmental sustainability practices).

4.2. Common method bias and multicollinearity issues

The potential problem of common method bias had to be addressed, given that the measures of the various constructs were derived using a self-reported and single informant approach (Podsakoff et al., 2003). The Harman single factor test was performed, and the results showed that no single factor accounted for most of the variance (the first factor accounted for 30.87% of the 65.17% explained variance). Since the Harman test is very conservative in detecting common method bias (Malhotra et al., 2006), we also used the marker-variable technique (Lindell & Whitney, 2001). The single item, 'Do you want to go to a seaside during this summer?', which was intentionally included in the questionnaire, was used as a marker variable to test for common method bias as single-item measures can be as valid as multiple-item measures (Bergkvist, 2015; Bergkvist & Rossiter, 2007). When the effects of the shared correlation, resulting from common method variance (CMV) (*r*M) were partialled, the mean change in the correlations of the key constructs, i.e., the gap between the uncorrected correlation (*r*U) and the CMV-adjusted correlation (*r*A), was insignificant at 0.03. Thus, the risk of common method bias is considered small in our study. We also used the common latent factor test to account for common method bias (Podsakoff et al., 2003). We found no significant difference in the standardized regression weights of all items for models with or without the common latent factor. All the tests highlighted that common method bias was not an issue for this study. To assess for possible multicollinearity issues, we examined the variance inflation factor (VIF) values of the independent variables (O'Brien, 2007). The results showed that as the inner VIF values ranged between 1.12 and 2.32, which are well below the criterion of ten, no serious multicollinearity problems were observed.

4.3. Hypothesis Testing results

To test the hypotheses, three hierarchical CB-SEM models were developed in AMOS. Model 1 drew a direct connection between BOPO and ESPs. Model 2 was the same as Model 1 with the addition of SocInno to serve as a moderator between BOPO and ESPs. Model 3 was the final and complete model, which was the same as Model 2 with the addition of ESPs as a mediator in the relationship between the BOP and SocInno.

Table 4 represents the indices used to determine the predictive strength of the individual routes ( $\beta$  coefficients, *t*-values) and the R<sup>2</sup> values (i.e., the squared multiple correlations) for EP. These indices were calculated using a bootstrapping sampling technique of 5,000 times. EP had R<sup>2</sup> values greater than 0.10 (ranging from 0.47 to 0.59), which is the advised threshold for demonstrating that the variance of the dependent variable is acceptable (Falk & Miller, 1992).

**Table 4**  
Hypothesis Testing Results.

Dependent variable	Model 1	Model 2 (with SocInno as the mediating variable)		Model 3 (with ESPs as the mediating variable and SocInno as the moderating variable)		
		EP	ESPs	EP	ESPs	EP
<i>Independent variable</i>						
H1	BOPO	0.31 (3.17) <sup>c</sup>	0.45 (5.71) <sup>c</sup>	0.15 (1.53)	0.47 (6.21) <sup>c</sup>	0.15 (1.53)
H2	ESPs			0.48 (4.24) <sup>c</sup>		0.48 (4.24) <sup>c</sup>
	SocInno				0.28 (3.67) <sup>c</sup>	
H3	SocInno × BOPO				0.43 (6.12) <sup>c</sup>	
<i>Control variable</i>						
	Ownership	-0.14 (1.46)		-0.08 (0.94)		-0.08 (0.94)
	Firm size (assets)	0.24 (1.83) <sup>a</sup>		0.20 (1.62)		0.20 (1.62)
	Firm size (employees)	0.41 (2.93) <sup>c</sup>		0.34 (2.56) <sup>b</sup>		0.34 (2.56) <sup>b</sup>
	Firm age	-0.22 (2.28) <sup>b</sup>		-0.26 (2.63) <sup>c</sup>		-0.26 (2.63) <sup>c</sup>
R <sup>2</sup> of EP		0.47		0.59		0.59
Indirect effect			Estimate	LLCI	ULCI	
H3	BOPO → ESPs → EP			0.11	0.06	0.16

**Note.** BOPO: base of the pyramid orientation; ESPs: environmental sustainability practices; SocInno: SocInno; EP: export performance; SocInno × BOPO: the interaction between SocInno and BOPO; numbers in brackets: *t*-values; <sup>a</sup>, <sup>b</sup>, <sup>c</sup>: denote significance at 10 %, 5 %, and 1 % levels respectively (two-tailed *t*-test); LLCI: lower level of confidence interval; ULCI: upper level of confidence interval.

H1 proposed that BOPO is positively associated with ESPs, and we find support for this hypothesis (model 1:  $\beta = 0.31$ ; *t*-value = 3.17). To test H2 regarding the moderating effect of SocInno on the relationship between BOPO and ESPs, the interaction term SocInno × BOPO was created after mean centering the independent variable (i.e., BOPO) and the moderating variable (i.e., SocInno) on avoiding multicollinearity issues (Aiken et al., 1991). H2 was supported because the path between SocInno × BOPO and ESPs was positive and significant (model 3:  $\beta = 0.43$ ; *t*-value = 6.12). To illustrate the nature of this significant interaction, the effect of BOPO on ESPs was plotted using the Johnson-Neyman approach (Hayes & Matthes, 2009) for low (-1 SD), medium,

and high (+1 SD) levels of SocInno. According to Fig. 2, the influence of BOPO on ESPs is more profound for firms with a higher degree of SocInno than those with medium and lower levels of SocInno.

To test H3, we examined the indirect effect of BOPO on EP via ESPs using PROCESS Macro in SPSS. We found that this effect was significant ( $\beta = 0.11$ ; 95 % confidence interval = [0.06; 0.16]), which indicates the mediating role of ESPs in the relationship between BOPO and EP in support of H3. Moreover, when the variable ESPs was added as the mediator in the link between BOPO and EP, the BOPO-EP path became insignificant (model 2:  $\beta = 0.15$ ; *t*-value = 1.53), which implies the fully mediating role of ESPs and confirms H3.

### 5. Discussion and conclusion

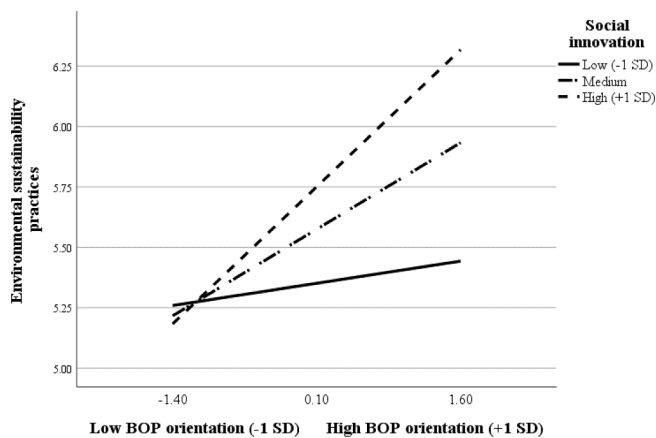
Emerging economies have attracted investments from several multinational enterprises and growing attention from scholars (da Silva-Oliveira et al., 2021; Meyer, 2004; Peng et al., 2008). Despite the unique characteristics of the emerging markets and the significant growth in the literature, we have limited insights into the relationship between the social, environmental, and financial dimensions of a firm’s strategy in these contexts. Therefore, in this paper, we examined the actions firms take to address the needs and concerns of consumers in emerging markets and how this leads to positive EP. In addition, we investigated the moderating effect of SocInno on the relationship between BOPO and ESPs. By investigating these relationships, our study provides several theoretical and practical contributions, which we discuss below.

#### 5.1. Implications for research

Previous research affirms that addressing consumer needs in emerging markets is vital for a firm’s success (Arunachalam et al., 2020; Zhu et al., 2019). However, this relationship depends on several factors such as the environment and firm-specific conditions. Our findings indicate that the relationship between BOPO and EP is mediated by ESPs, suggesting that the BOPO-performance relationship is more complex than previously assumed. Our findings enhance our understanding of the beneficial effects of BOPO on EP through the mediating role of ESPs and make an important contribution to the literature examining performance in foreign markets. In particular, the findings expand our knowledge of the role played by BOPO in facilitating export success through ESPs. The mainstream international business literature highlights the costs and risks associated with serving the emerging market by arguing that this segment of the market lacks disposable income that could be used to purchase goods and services (Cavusgil et al., 2012; Cuervo-Cazurra & Ramamurti, 2017). In contrast, our study shows that firms can enhance EP by addressing the needs and concerns of consumers in emerging markets.

Furthermore, our study provides empirical evidence of the relationship between BOPO and ESPs. In doing so, we integrate the BOPO-related literature (Adomako et al., 2022; Zhu et al., 2019) with the environmental sustainability literature (Lartey et al., 2020; Roxas & Coetzer, 2012; Roxas et al., 2017). While the extant literature emphasizes the importance of triple bottom line strategies, there is a lack of empirical evidence of the relationship between an organization’s social, environmental and financial dimensions, particularly in contexts of developing and emerging countries. To the best of our knowledge, this study is the first to provide empirical support for this relationship. The positive impact of BOPO on ESPs confirms that this crucial firm-level capability can help organizations to adopt practices that are important to consumers in emerging markets. Specifically, our findings indicate that BOPO is positively related to ESPs, and this could help in addressing the concerns of consumers in emerging markets about environmental degradation (Angeli & Jaiswal, 2021; Zhao et al., 2016).

Moreover, our study explains the mechanism through which BOPO impacts EP. It explains why BOPO leads to export success, namely ESPs. The notion of sustainability has been discussed extensively in the



**Fig. 2.** Interaction effect of the BOP base of the pyramid orientation (BOPO) with social innovation (SocInno) on environmental sustainability practices (ESPs).



literature, primarily as a firm capability that can improve a company's environmental strategy (Adomako, Ning, et al., 2021; Chen et al., 2015). Our study extends the literature examining environmental consciousness in emerging economies (Angeli & Jaiswal, 2021; Khare, 2015; Zhao et al., 2016). Evidence from our study indicates that ESPs could be an effective mechanism for firms to engage with consumers in emerging markets and address their concerns, which consequently enhances EP. This contributes to the growing body of literature examining the relationship between exporting and environmental sustainability (Arora & De, 2020; Gruber & Schlegelmilch, 2015; Li et al., 2017) and provides insights into how firms could develop and implement strategies to achieve the triple bottom line (Adomako, Ning, et al., 2021; Fisk, 2010).

Finally, our study emphasizes the advantage of triple bottom line practices in emerging markets by explaining the boundary conditions for the effects of BOPO on ESPs. Using insights from the SocInno literature (Cajaiba-Santana, 2014; Nishitani, 2010; Vassallo et al., 2019), we develop a new measure for SocInno and find that the effect of BOPO on ESPs is contingent on SocInno. In particular, we show that the positive effect of BOPO on ESPs is amplified when SocInno is high. These findings suggest that the benefits of BOPO for sustainability are dependent on firm-level capabilities, such as SocInno.

### 5.2. Implications for practice

Our study also offers unique insights for managers of small and medium enterprises exporting to emerging markets. First, the positive impact of BOPO on EP through the mediating mechanism of ESPs highlights the importance of understanding the needs and concerns of consumers in emerging markets that are different from those of the consumers in developed markets. By effectively serving consumers in emerging markets, small and medium enterprises could outperform their rivals. We suggest that small and medium enterprises should invest time and resources to understand the needs and concerns of consumers as this could help them to achieve success in these markets. Second, small and medium enterprises should pay particular attention to the increasing importance of ESPs in emerging markets as this can enhance firms' performance. In particular, we recommend that managers do not assume that the purchasing decisions of consumers in emerging markets are driven only by economic factors. By developing and implementing ESPs, small and medium enterprises can create long-term value for both the firm and the consumers in emerging markets. Additionally, managers of small and medium enterprises should consider the impact of SocInno when developing strategies for emerging markets. Our findings indicate that the benefits of BOPO are stronger for firms that can develop innovative product and service solutions to address social problems. Therefore, it would be prudent for small and medium enterprises to develop their SocInno capability along with BOPO.

### 6. Limitations and future research directions

Despite the valuable contributions our study makes, it has several limitations that present interesting opportunities for future research. First, this study was cross-sectional and was conducted during the lockdown period in Vietnam and other countries, and these reduced inferences concerning causal relationships between BOPO, ESPs, SocInno, and EP. Therefore, a subsequent longitudinal study is needed to confirm such relationships in the post-COVID-19 pandemic era. Second, although Vietnamese small and medium enterprises export to several emerging markets, researchers should be cautious about generalizing the findings of our study to small and medium enterprises from other countries. Additional studies should be conducted in other developing and emerging countries so that researchers can examine the effects of unique contextual elements (e.g., culture, institutions, politics, foreign relations, and trade policy) on the relationship between BOPO and EP to glean additional insights. Third, because acquiring objective data on EP from small and medium enterprises in Vietnam is difficult due to privacy

concerns, this study relied on self-reported information collected only from managers. As a result, future studies should obtain objective data to measure EP. Although our measure for EP was based on prior literature (Boso, Story, et al., 2013) and appropriate for our study, future scholars could consider including other EP measures to better capture the success of exporting firms (Carneiro et al., 2016; Chen et al., 2016). Fourth, we do not examine which market segment the small and medium enterprises are specifically targeting in the emerging markets. In particular, we do not examine what percentage of sales are from BOP consumers and non-BOP consumers. Future research could extend the insights of our study by examining these nuances. Finally, our study examined EP using only three control variables: ownership structure, firm size and firm age. Future research could incorporate additional control variables (e.g., resource availability, international networks, and competitive intensity) that may affect EP.

### CRedit authorship contribution statement

**Nguyen Phong Nguyen:** data collection and analysis. **Samuel Adomako:** Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Mujtaba Ahsan:** Writing – review & editing, Writing – original draft, Data curation, Conceptualization.

### Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

### Data availability

Data will be made available on request.

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### Further reading

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