Drivers of strategic green marketing orientation: An SME owner-manager perspective

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A R T I C L E   I N F O

A B S T R A C T

Small and Medium-Sized Enterprises (SME) are crucial in addressing climate change as they constitute more than 90% of global businesses. Building on the upper echelons theory, this study examines the driver of strategic green marketing orientation (SGMO) from the perspective of SME owner/manager. Through a survey involving 426 SME owners/managers in the United States, it reveals that SME owners/managers' biospheric values positively influence SGMO via perceived competitive advantage, which in turns influence business performance. It also identifies perceived stakeholder pressures, perceived behavioral control, and perceived risks as key boundary conditions on the relationship between SGMO and its drivers.

1. Introduction

The pressure to act on climate change mitigation is growing for businesses globally. A recent report by Deloitte (2022) reveals that climate change is estimated to cost US$178 trillion in global economic losses in the next 50 years, while 10% of the global population are projected to be displaced by 2030 as a result of extreme drought (Zurich Insurance, 2024). In retailing, a recent survey of retail Chief Experience Officers (CXOs) indicates a significant emphasis on sustainability within the industry, with 65% of respondents reported that their companies prioritize incorporating eco-friendly materials into their operations (Deloitte, 2023). Addressing climate change involves collaboration among economic actors, policymakers, and societal groups to transform business practices for environmental benefits (DiBella, 2020). In order to do so, firms need to integrate environmental sustainability in their strategy (Gupta et al., 2023).

The operational landscape of Small and Medium-Sized Enterprises (SMEs) encompasses a broad spectrum of industries, including retail, hospitality, and professional services. SMEs are crucial in addressing climate change as they constitute more than 90% of global businesses (The World Bank, 2019) and at least 50% of the worldwide greenhouse gas emissions within the business sector (OECD, 2022). In the United States, SMEs account for over 99% of all businesses and generate more than 40% of USA's gross domestic products (US Chamber of Commerce, 2023). USA is the second largest greenhouse gas emitter in the world (US

Environmental Protection Agency, 2024), and SMEs reportedly contribute to more than half of the country's greenhouse gas emissions (Olekanma et al., 2024).

Given their significant environmental footprint, SMEs have enormous potential to create substantial environmental improvements through adopting green business practices (Kauffmann and Cusmano, 2022). However, SMEs face more challenges in adopting green business practices because of resource constraints (Halme and Korpela, 2014) and their perceived inability to offer affordable green products or services (OECD, 2022). For instance, a recent research in the wine industry found that small and medium-sized vineyards were reluctant to adopt sustainable methods as doing so would require more labor while yielding less outputs than conventional production methods (Lichy et al., 2023a). Therefore, knowledge in what/how to drive SMEs to adopt sustainable practices is critical to realize the significant potentials SMEs have in contributing to environmental improvements.

Currently, a thorough investigation of what drives SMEs to engage in environmentally sustainable operations are limited (e.g., Danso et al., 2020; Leonidou et al., 2017; Papadas et al., 2019). Relatedly, because "marketing capabilities are a key driver to sustainable development" (Mariadoss et al., 2011, p.1306), there are calls for more research on the drivers of environmental sustainability from an organizational perspective (Casidy and Yan, 2022; Huang et al., 2022b; Rodríguez et al., 2021; Vesal et al., 2021). This study responds to these calls for research through investigating the factors influencing strategic green

marketing orientation (SGMO) from the viewpoint of SME owners/managers. In this research, we characterize SGMO as the extent to which companies incorporate environmental considerations into their strategic marketing choices (Papadas et al., 2017).

Recognizing how the values of SME owners and managers influence strategic choices is crucial, as individuals tend to make decisions that are consistent with their personal values (Gorgievski et al., 2011), and SME owners/managers tend to have more control over their firms compared to their counterparts in larger organizations. As such, their personal values can directly influence their firm's overall directions (Handrito et al., 2021; Schaefer et al., 2020). Within SME sector, green marketing decisions are often driven by the values of their owners/managers (Schaefer et al., 2020). However, empirical evidence supporting the link between SME owner/managers' values and SME environmentally sustainable engagement is limited. Schaefer et al. (2020, p. 642) noted that "values play an important mediating role in business environmental engagement, but relatively little research has been conducted on individual values in smaller organizations" (p. 642). The role of consumer's biospheric values (BV), in particular, has gained much attention in consumer green behavior literature (e.g., Lee and Jan 2015; Nguyen et al., 2016). BV reflects "an individual's concern with the biosphere and the quality of nature and the environment independently from the benefits it provides for human beings" (Nguyen et al., 2016, p.98). However, no studies have looked into how BV can affect green marketing decisions at a firm level, as these prior studies focused on green purchasing decision from a customer perspective (Yu et al., 2022). The current research addresses this gap by examining how BV impact firm-level green marketing decisions (i.e., SGMO) from the perspective of SME owner/manager.

Within the context of environmentally sustainable behavior, individuals may have favorable attitude towards the environment yet do not engage in actual environmentally responsible behavior (Cairns et al., 2022; Kumar and Utkarsh, 2023; Park and Lin, 2020). This is known in the literature as the attitude-behavior gap or the "green gap". That is, despite having positive attitudes toward the environment, individuals do not always follow through with environmentally conscious behavior (Johnstone and Tan, 2015). Similarly, those with strong BV may not always engage in environmentally responsible behavior as other internal/external factors can also play a role. It is important to look into how these internal and external factors can moderate the extent to which SME owners/managers BV translate into SGMO (Halme and Korpela, 2014). Drawing upon the Theory of Planned Behavior (TPB; Ajzen, 2020) this study analyzes the moderating effects of perceived capabilities, perceived risks, and stakeholder pressure on the relationship between BV, perceived competitive advantage, and SGMO in our conceptual framework (Paul et al., 2016).

This study has two main objectives. First, building upon upper echelons theory (UET), it aims to examine the driver of SGMO from SME owner/manager perspective by focusing on BV as the focal predictor construct. Second, it investigates the roles of perceived competitive advantage, risks and stakeholder pressures on the relationship between SGMO and its drivers.

2. Literature review and conceptual framework

We draw upon existing literature to identify relevant constructs in our conceptual framework. Table 1 provides a definition of our key constructs.

2.1. Strategic green marketing orientation (SGMO)

SGMO is a relatively new construct that integrates elements of marketing orientation and green marketing orientation (Papadas et al., 2017). Marketing orientation pertains to the ability of an organization to capture customer data and execute a data-based strategy to address customer needs and desires (Yoganathan et al., 2015). Notably, a

Table 1
Construct definition.

Construct	Definition
Business Performance (BP)	The extent to which SME firms' performance in the past year was better relative to other firms within the same industry sector (Leonidou et al., 2013; Torugsa et al., 2012).
Strategic Green Marketing Orientation (SGMO)	The extent to which SMEs "integrates the environmental imperative in strategic marketing decisions" (Papadas et al., 2017, p.240).
Perceived Competitive Advantage (PCA)	SME owner/manager's perception of the extent to which SME firms' pro-environmental practices could lead to cost, product, and marketplace advantages over their competition (Leonidou et al., 2017).
Perceived Stakeholder Pressure (PSP)	SME owner/manager's perception of the extent to which stakeholders expect the firm to be pro-environmental (Banerjee et al., 2003).
Perceived Behavioral Control (PBC)	Perceived ease or difficulty for the SME to engage in pro-environmental practices (Ajzen, 1991).
Biospheric Values (BV)	The degree to which SME owner/manager considers their firm's conduct "in light of the advantages and drawbacks for nature" (Martin and Czellar, 2017, p. 57).
Product Risks	The likelihood of core products becoming unpopular/unsellable due to climate change (Engel et al., 2015)
Reputational Risks	Threats to the firm's reputation due to poor action/inaction towards environmental issues (Engel et al., 2015).

marketing-oriented approach is instrumental in improving business performance (Chang et al., 2019). Green marketing reflects a holistic approach of business that prioritizes customer needs and the society, while also ensuring profitability and sustainability (Gleim et al., 2023). Papadas et al. (2017, p. 237) defines green marketing orientation as "a firm's comprehensive orientation toward the natural environment." In the present study, SGMO refers to a marketing orientation that places particular emphasis on the conduct and policies of a firm concerning its corporate environmental responsibility, proactive environmental approaches, and engagement with relevant environmental stakeholders (Papadas et al., 2017).

According to UET (Hambrick, 2007), top executives make decisions from a subjective perspective that is driven by their personal values (Bromiley and Rau, 2016). UET has been applied in SME context to explain the decision-making process of small businesses (Carr et al., 2020). Studies which have adopted UET to predict environmental sustainability have found that top executives' personal values play a critical role in influencing the implementation of green business model and innovations (Ali et al., 2021; Ren et al., 2020). Drawing upon UET, we identify SME owner/manager biospheric values as one of the key drivers of SGMO in our conceptual framework.

2.2. Biospheric values (BV)

Personal values are characterized as "desirable, trans-situational goals, varying in importance, that serve as guiding principles in people's lives" (Schwartz, 2007, p.165). Building on Schwartz's work, scholars have proposed three values which influence green behavior, namely egoistic values, altruistic values, and BV (de Groot and Steg, 2008; Martin and Czellar, 2017; Steg et al., 2014). Egoistic value relates to individuals' consideration of the costs and benefits of engaging in green behavior for themselves, whereas social-altruistic value relates to consideration of the costs and benefits of green behavior for others. BV, on the other hand, focuses on the "perceived costs and benefits [of green behavior] for the ecosystem and biosphere as a whole" (de Groot and Steg, 2008, p.334).

Prior studies found positive links between altruistic values, BV, and green behavior (e.g., Bouman et al., 2020; Nguyen et al., 2016).

Importantly, because of BV's strong emphasis on the natural elements of the environment (Choi et al., 2015; Yadav et al., 2024), prior research demonstrates that BV is stronger than altruistic values (de Groot and Steg, 2008, 2010) and egoistic values (Prakash et al., 2019) in predicting green behavior. Indeed, customers with a high level of BV were found to be more likely to consume organic food (Soyez, 2012) and have a strong preference to stay at green hotels (Yadav et al., 2019). More recently, utilizing a mixed-method (qualitative and quantitative) study involving 442 customers, Bhardwaj et al. (2023, p.7) found that "biospheric values are identified to be the prominent personal values affecting green purchase." Accordingly, the current study focuses on biospheric value as a predictor of SGMO in SMEs.

Past research indicates that BV has direct (Perera et al., 2022) and indirect effects on green product purchase (i.e. via product attributes, Schuitema and de Groot, 2015). For example, in a study involving 291 consumers, Wu and Zhu (2021) found that BV influences green behavior via personal norms. On the basis of TPB, Nguyen et al. (2016) found that BV influences green product purchase by boosting consumers' attitude towards the environment, subjective norms, and green self-identity, while alleviating the perceived barriers related to green products (i.e., inconvenience). In a corporate setting, Ruepert et al. (2017) demonstrated that BV was related with more green investment decisions. However, apart from Ruepert et al. (2017) study, no other studies have examined how BV influences green decision-making in corporate settings. As such, we know little about the underlying mechanisms through which BV influences strategic decision making at a firm level. Handrito et al. (2021) argue that the strategic orientation of SME is largely driven by owner/managers' characteristics and values. This argument relies on UET, which posits that the personal values and traits of top executives influence strategic decisions in alignment with their individual characteristics (e.g., Vesal et al., 2022). As such, we hypothesize that SME owner/manager with stronger BV would be more driven to engage in SGMO as such strategic orientation is aligned with their values. Formally:

H1. Biospheric values have positive effects on SGMO.

2.3. Perceived competitive advantage (PCA)

This study conceptualizes PCA as the degree to which SME owner/manager ascertains that the firm's pro-environmental practices could lead to cost, product, and marketplace advantages over their competitors (Leonidou et al., 2017). Our definition of PCA is aligned with prior studies that have examined competitive advantage from the perspective of SME owner/manager (Casidy et al., 2020; O'Donnell et al., 2002). According to the resource advantage theory of competition (RATC; Hunt and Morgan, 1996), firms can outperform their competitors by acquiring and leveraging unique, valuable, and non-substitutable resources (Hunt and Morgan, 1996; Wittmann et al., 2009). Accordingly, a firm that proactively integrates pro-environmental practices in its strategy could have a superior advantage against its competitors (Crittenden et al., 2011). Therefore, SME owners/managers' perceived competitive advantage can drive them to pursue green strategies to seek new market advantages (Purwandani and Michaud, 2021). This argument is consistent with prior academic studies and industry reports which widely suggest that environmentally-responsible strategies could translate into competitive advantage (Chou et al., 2020; Crittenden et al., 2011; Leonidou et al., 2013; OECD, 2022; Zhang et al., 2021). Importantly, various studies have found evidence that perceived competitive advantage positively leads to proactive environmental behaviors for both large firms (Mair and Jago, 2010; Marshall et al., 2005) and SMEs (e.g., D'Souza and Taghian, 2018; Purwandani and Michaud, 2021).

One of the most important decisions that SME has to make is choosing a competitive strategy (Karami and Tang, 2019). Leonidou et al. (2017) recognized the significance of firm capabilities and

resources in adopting a green business approach for small businesses. Richey et al. (2014) found that environmental strategies integrated into firm objectives positively impact business performance. Additionally, SGMO has been found to have positive effects on sustained competitive advantage which in turns enhances financial performance (Papadas et al., 2019).

SMEs may pursue green strategy for various reasons including new market opportunities and commercial benefits such as new innovations (e.g., Chen, 2008; Purwandani and Michaud, 2021), potential cost reduction in daily operation which leads to better profit (Rao et al., 2009), a better public image and social responsibility (e.g., Bartolacci et al., 2020; Jansson et al., 2017; Torugsa et al., 2012), which in turns lead to better relationship with their stakeholders (e.g., Torugsa et al., 2012). Thus, drawing upon RATC, and in light of the findings of previous studies, we propose PCA as another key driver of SGMO. Formally:

H2. Perceived competitive advantage has positive effects on SGMO.

UET asserts that strategic choices of a firm reflect the values and cognition of the firm's top-executives (Hambrick, 2007). Owners/managers are powerful actors that make key strategic decisions in SMEs (Handrito et al., 2021). When SME owners/managers perceive that their commitment to the environment could result in a distinctive edge over competitors, this perception of competitive advantage can incentivize and facilitate the adoption of SGMO. As such, their perception of competitive advantages associated with green initiatives becomes the underlying link between their values (i.e., BV) and strategic choices to engage in pro-environmental practices (i.e., SGMO).

Individuals' values actively influence their perception that subsequently influences decision-making (Rintamäki and Kirves, 2017). In other words, value can affect decisions *directly* and *indirectly* through its impact on the decision-maker's perception. The effects of values on decisions have been well explored in past research. For instance, Nguyen et al. (2016) demonstrated that BV indirectly influences green product purchase decision by alleviating customer inconvenience associated with environmentally-friendly products. Torres-Moraga et al. (2021) demonstrated the positive effects of BV on consumers' identification, citizenship behavior, and patronage intention in green hotel context. Accordingly, we posit that while SME owners/managers' BV may have direct effects on SGMO, the effects are also mediated by their perception of competitive advantages associated with green initiatives. Formally:

H3. Perceived competitive advantage mediates the relationship between BV and SGMO

2.4. The moderating role of perceived behavioral control (PBC)

The examination of boundary conditions in our conceptual framework is important because the effects of values on behavior could be enhanced or attenuated by situational moderators (Sagiv and Roccas, 2021). According to the theory of planned behavior (TPB), these "situational moderators" could relate to the expectation of relevant others (i.e., subjective norms), and their ability to overcome barriers related to the behavior (i.e., perceived behavioral control; Ajzen, 2020). Within SME context, TPB has been adopted to identify relevant moderators on the link between drivers of green behavior and actual green behavior. For example, Nguyen et al. (2016) identified past behavior as the moderator between BV, attitude, and green purchase decision. Huang et al. (2022a) found that culture moderates the effect of BV on environmental engagements, as the effects are found to be stronger among respondents from collectivist culture. Drawing upon TPB, we identify perceived behavioral control, perceived stakeholder pressures and perceived risks as relevant moderators in our conceptual framework (Banerjee et al., 2003; Engel et al., 2015; Halme and Korpela, 2014).

In this research, we define PBC as SME owners/managers' perceptions of the degree of ease/difficulty of engaging in green practices at a firm level (Ajzen, 2020). PBC is a key component of TPB, and has

generally been found to be positively associated with consumers' green intentions and behaviors (e.g., Arli et al., 2018). For instance, PBC is found to mediate the impact of openness to change on intention to purchase green apparel (Tewari et al., 2022). Importantly, participation in environmental activities increases when people believe they are capable of making positive impact on the environment (Wei et al., 2018). In recent years, TPB has been applied to explain firm-level decision-making, especially in SME (Nasco et al., 2008; Rakshit et al., 2021) where the individual owners/managers have a more direct and considerable effect on business decisions (Uhlaner et al., 2012). Against the backdrop of the positive effect BV has on SGMO, we posit that SME owners/managers' belief in having the required capabilities and resources to engage in pro-environmental practices would strengthen the effects of BV on PCA and SGMO. Formally:

H4. Perceived behavioral control positively moderates the effects of BV on (a) PCA (b) SGMO.

Because we hypothesize that PCA mediates the effects of BV on SGMO, we posit that the indirect effects of BV on SGMO via perceived competitive advantage is moderated by PBC. Specifically, we contend that the mediating effects of perceived competitive advantage are stronger when SME owner/manager believes that their firm has the capability to participate in pro-environmental practices. Formally:

H5. Perceived behavioral control positively moderates the mediating effects of PCA on SGMO.

2.5. The moderating role of perceived stakeholder pressures (PSP)

As TPB exerts, an individual's intention to engage in a certain behavior is affected by the perceived social pressure to behave as such (i. e., subjective norm; Ajzen, 2020). In a study on the social media use intentions of small retail businesses, Kwon et al. (2021) argue that these businesses operate within a social system comprising various stakeholders. The external pressures from these stakeholders can create a social influence that motivates the use of social media. A similar argument can be extended to pro-environmental practices. Scholars argue that stakeholder pressures could significantly motivate organizations to engage in proactive environmental strategies (Banerjee et al., 2003; Chung, 2020). That is, firms may engage in various pro-environmental initiatives due to stakeholder pressures. For example, Zhang et al. (2021) argued that organizations engage in green product innovation to align with customer expectations. Studies also show that pressures from stakeholders have pushed firms to participate in various sustainability practices including green supply chain management, green purchasing, and the implementation of corporate social responsibility initiatives (Chabowski et al., 2022). Overall, the influence of PSP on firms' green behavior has been well documented (Sarkis et al., 2010). Drawing upon TPB and the findings of prior studies, we argue that perceived stakeholder pressures will further enhance the relationship between BV, perceived competitive advantage, and SGMO. Therefore, we hypothesize that.

H6. Perceived stakeholder pressures positively moderate the effects of BV on (a) PCA (b) SGMO.

We also postulate that the indirect influence of BV on SGMO via perceived competitive advantage are moderated by perceived stakeholder pressures. In particular, we contend that the indirect effects of BV on SGMO are stronger when SME owners/managers believe that there is a high level of stakeholder pressures for the firms to engage in pro-environmental practices. Formally:

H7. Perceived stakeholder pressures positively moderate the mediating effects of PCA on SGMO.

2.6. The moderating role of perceived risks

The application of TPB has been extended in various contexts by integrating perceived risks as an additional dimension of TPB which influences behavior (Liao et al., 2010; Pillai et al., 2022). Accordingly, we theorize that perceived risks positively moderate the link between BV, perceived competitive advantage, and SGMO. In this study, perceived risks refer to SME owners/managers' perception of the degree to which climate change would have negative consequences on their firm. Specifically, in green marketing context, climate change-driven perceived risks is considered a driving force of engagement in green initiatives (e.g., Khan et al., 2023; Mahmoud et al., 2023).

Engel et al. (2015) identified six major climate change-driven perceived risks which include physical, price, product, ratings, regulation, product, and reputational dimensions. Of these six dimensions, product risks (i.e., the likelihood of core products becoming unpopular/unsellable due to climate change) and reputational risks (i.e., threats to the firm's reputation due to poor action/inaction towards climate change) are among the most extensively discussed in the business literature. For instance, Hoejmose et al. (2014) demonstrated that top executives engagement in responsible supply chain management is driven by reputational risks consideration, as they anticipate serious threats to their firm reputation if they do not engage in sustainable practices. With regards to product risks, an increasing environmental awareness among consumers may negatively influence demand for certain products. For example, McKinsey (2022) predicted a significant decline in demand for coal, oil, and carbon-emissive cars, with sales of zero-emission vehicles predicted to increase from 5% in 2020 to 100% by 2050.

Top executives may view product and reputational risks as either *threats* or *opportunities*. As such, personal values were essential in underpinnings SMEs' owners/managers engagement with climate change. Against the backdrop of the positive effect of BV on green behavior, we posit that climate change risks would further strengthen the link between BV, perceived competitive advantage, and SGMO. In other words, we posit that owners/managers with high level of BV would perceive significant advantages associated with pro-environmental practices, which in turns lead to higher level of SGMO, if they anticipate high level of product and reputational risks associated with climate change. Formally:

H8. Product risks positively moderate the effects of BV on (a) PCA (b) SGMO.

H9. Reputational risks positively moderate the effects of BV on (a) PCA (b) SGMO.

We also postulate that the indirect effects of BV on SGMO via perceived competitive advantage is moderated by perceived risks. In particular, we contend that the indirect effects of BV on SGMO via perceived competitive advantage are stronger when SME owner/manager believes that there is a significant product risks and reputational risks related to climate change. Formally:

H10. Product risks positively moderate the mediating effects of PCA on SGMO.

H11. Reputational risks positively moderate the mediating effects PCA on SGMO.

2.7. SGMO and business performance

Research has shown that when companies integrate environmental issues into their strategic planning, they can get better results and stay ahead of the competition as they would save on costs in the long-term and establish green reputation among customers (Fraj et al., 2013; Gabler et al., 2015; Opoku et al., 2023). Moreover, studies also showed that adoption of green marketing strategy could enhance firm image (e.

g., Vesal et al., 2021) and their financial performance (e.g., Eccles et al., 2014; Papadas et al., 2019), which is vital for building long-term business-to-business relationships as buyers increasingly demand greener products and services (Casidy and Yan, 2022).

Business performance has been measured based on (a) financial (e.g., profitability, return on assets, cash flow): and (b) market dimensions which capture the firm's ability to keep their current customers satisfied and grow their business by attracting new customers (Leonidou et al., 2017; Torugsa et al., 2012). Some believe that the implementation of green strategy might have negative effects on firms' financial performance due to increased expenditures relating to green initiatives (Li et al., 2018). However, research has revealed the positive effects of green strategy on a firm's financial performance when green initiatives are well-embedded within the firm's strategic planning (Leonidou et al., 2017). As such, we contend that the adoption of SGMO is expected to affect both the financial and market performance of SME. Some scholars suggest that financial performance is boosted by sales from previously unexplored segments (eg., Wang et al., 2024; Yue et al., 2024). Relatedly, green marketing has also been found to have a positive impact on market performance. For example, environmental reputation resulting from green practices has been found to positively influence brand image (Vesal et al., 2021), brand satisfaction (Opoku et al., 2023), and loyalty (Gelderman et al., 2021). Papadas et al. (2019) asserted that these positive associations occur because SGMO has become a source of a sustainable competitive advantage. Indeed, this view aligns with Yang et al. (2023) who contended that a firm can achieve sustained competitive advantage by managing the environmental impact of their operations. Hence, we propose that:

H12. SGMO has positive effects on business performance.

Fig. 1 depicts our conceptual framework.

3. Methods

3.1. Data collection procedure

We appointed a research consultancy firm to distribute our survey invitations to a sample of U.S respondents who owned and/or managed SME at the time of data collection in November 2022. To qualify as an SME, the participating firms must have less than 200 employees (Casidy and Nyadzayo, 2019). Importantly, we only recruited respondents who were active decision-makers in their firm when the survey was conducted. In total, 426 respondents (57% Male; $M_{age} = 39$) took part in the study. Table 2 provides a description of the sample characteristics. The majority of the respondents are in retailing (23%) and consumer services (38%) with the remainder 18% in professional services (e.g., consulting, IT/software, research and events, and 21% in manufacturing, building and construction).

3.2. Measures

We utilized existing scale items from the literature to operationalize our constructs (Table 3). We measure BV using items adapted from Martin and Czellar (2017) and de Groot and Steg (2008). We adapted the perceived stakeholder pressure measure from Banerjee et al. (2003), perceived competitive advantage measure from Leonidou et al. (2017), and perceived behavioral control measure from Thakur and AlSaleh (2018). As for perceived risks, we measure perceived probability and perceived severity of threats against SME product and reputation that is driven by climate change (Engel et al., 2015). The central construct of our study, SGMO was assessed with the original items developed by Papadas et al. (2017). Finally, our outcome construct: business performance was measured with items adapted from Leonidou et al. (2013) that encompass both financial and market outcomes.

3.3. Procedure to minimize common method bias (CMB)

We conducted a number of tests prescribed in the literature (MacKenzie and Podsakoff, 2012) to minimize CMB issues. First, we randomized the question order among respondents and confirmed that the survey can be done within 15 min to ensure that the respondents remain focused during data collection. We then implemented several statistical tests to assess CMB in our data. First, we implemented a marker variable approach using firm revenue as the marked construct for the analysis. Our results found no significant changes in the correlation between our core constructs, with a low level of partialled correlations (r = −.08). Second, we employed a common method factor analysis in structural equation modeling, specifying an alternate structural model by adding all indicators of our core constructs to a common factor. Our common method factor analysis reveals that the relationships between constructs are still significant after the common method factor was included in the model. As such, on the basis of these two analyses, we did not find substantial evidence of CMB in our model.

3.4. Examination of model fit via confirmatory factor analysis (CFA)

We utilized CFA to assess whether our proposed model fits well with the data. Our analysis reveals that the fit indices of the model are within the acceptable level ($\chi^2 = 657.877$, $df = 296$; Normed Chi-Square = 2.22; Root Mean Square Error of Approximation = .054; Comparative Fit Index = .953; Tucker-Lewis Index = .944). An observation of the correlation matrix (Table 3) supports discriminant validity as the square root of the average variance extracted (i.e., AVE) exceeds the correlations shared between variables. Further, the Heterotrait -Monotrait Ratios (HTMT) values (Henseler et al., 2015) are lower than .8, hence indicating further support for discriminant validity.

4. Results

4.1. Main effects and mediating effects

We used a structural equation modeling (SEM) approach to test our model with the aid of a bias-corrected bootstrap method in Mplus with 5000 bootstrap resamples. The model has good fit with the data as reflected by the relevant indices ($\chi^2 = 436.548$, $df = 144$; Normed Chi-Square = 3.03; Root Mean Square Error of Approximation = .069; Comparative Fit Index = .941; Tucker-Lewis Index = .930). We included firm revenue as a covariate in our model as firms with high revenues might be more willing to invest in sustainable operations as they can afford to do so (Balasubramanian et al., 2021). The model explained 54% of variance in SGMO and 34% of the variance in performance. We present a summary of our empirical results in Table 4.

First, we observed the direct effects of BV on SGMO and firm performance before estimating the mediating effects. We found that BV has positive effects on SGMO ($\beta = .407$, $p < .001$), thereby confirming H1. We also found that BV have positive direct effects on business performance ($\beta = .217$, $p < .001$). However, as displayed in Table 5, the effects of BV on SGMO and business performance became non-significant after incorporating perceived competitive advantage as a mediator in the model, thereby indicating evidence of full mediation.

Our analysis found that BVs have positive effects on perceived competitive advantage ($\beta = .521$, $p < .001$), and perceived competitive advantage in turns, have positive effects on SGMO ($\beta = .676$, $p < .001$), supporting H2. Importantly, SGMO has significant effects on business performance ($\beta = .232$, $p = .019$), thereby supporting H12. Moreover, we found significant indirect effects of BV on SGMO via perceived competitive advantage ($\beta_{indirect} = .352$, $p < .001$), in support of H4. Though not hypothesized, we also found evidence for the serial mediation effects of BV on business performance via perceived competitive advantage and SGMO ($\beta_{indirect} = .082$, $p = .026$; see Table 5). The significant relationships between the constructs reported in this study
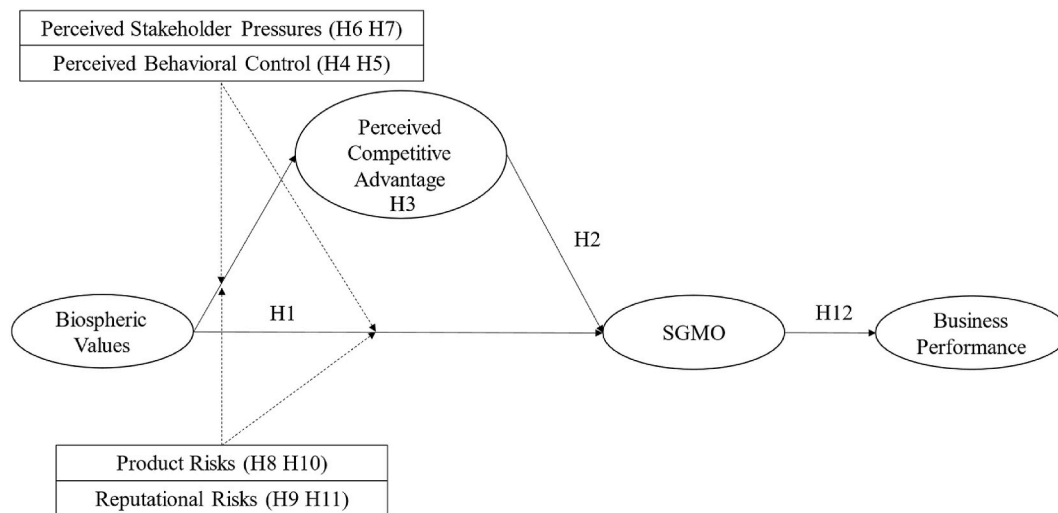
Fig. 1. Conceptual framework.

Table 2
Sample characteristics.

n = 426	(%)
Gender	
Man	57.0
Woman	43.0
Age	
Gen Z (27 and Under)	11.0
Gen Y (28–43)	53.5
Gen X (44–59)	30.8
Boomers (60 and above)	4.7
Firm income	
Less than $1,000,000	63.4
$1,000,000 - $5,000,000	25.8
$5,000,000 to $10,000,000	7.0
More than $10,000,000	3.8
Highest level of education	
University degree	44.8
Vocational education	30.8
High school diploma	24.4

remain consistent even when the covariate (i.e., firm revenue) is excluded from the analysis.[1]

4.2. Moderation effects

We utilized SPSS PROCESS Model 8 (Hayes, 2018) to test our moderation as well as moderated mediation hypotheses (H5 - H11). We entered SGMO as our key dependent variable, BV as the independent variable, perceived competitive advantage as the mediating variable, and firm revenue as a covariate in the model. We run a separate analysis with each moderator: perceived behavioral control (PBC), perceived stakeholder pressures (PSP), reputational risks, and product risks, to estimate the moderation effect of each construct on the paths between BV – perceived competitive advantage, and BV - SGMO.

Our analysis reveals that PBC positively moderates the effects of BV on perceived competitive advantage ($\beta_{interaction} = .112, p < .001$); as PBC increases, the effect of BV on perceived competitive advantage also increases, thereby supporting H4a. We also found that PBC positively moderates the effect of BV on SGMO ($\beta_{interaction} = .080, p = .005$); as PBC increases, the effect of BV on SGMO also increases, thereby supporting

H4b. Importantly, our analysis finds support for H5, as the indirect effects of BV on SGMO via perceived competitive advantage increases as PBC increases (see Table 6). The index of moderated mediation is significant at .05 level ($\beta = .043$, 95% CI [.0194, .0703]).

Our analysis showed that PSP significantly moderates the effects of BV on perceived competitive advantage ($\beta_{interaction} = .070, p = .003$). Specifically, as PSP increases, the effects of BV on perceived competitive advantage also increases, thereby supporting H6a. However, we found no significant interaction between BV and PSP ($\beta_{interaction} = .021, p = .419$) in influencing SGMO, thereby failing to support H6b. Our analysis finds support for H7, as the indirect effects of BV on SGMO via perceived competitive advantage increases as PSP increases (see Table 6). The index of moderated mediation is significant at .05 level ($\beta = .028$, 95% CI [.0066, .0523]).

Our analysis showed that product risks marginally moderate the effects of BV on perceived competitive advantage ($\beta_{interaction} = .039, p = .086$); as product risks increase, the effects of BV on perceived competitive advantage also increases, thereby supporting H8a. However, we found no significant interaction between BV and product risks in influencing SGMO ($\beta_{interaction} = -.033, p = .151$), thereby failing to support H8b. Our analysis finds support for H10, as the indirect effects of BV on SGMO via perceived competitive advantage increases as product risks increase (see Table 6). The index of moderated mediation is marginally significant at .05 level ($\beta = .026$, 90% CI [.0018, .0492]).

Finally, our analysis found no significant interaction between BV and reputational risks in influencing perceived competitive advantage ($\beta_{interaction} = .018, p = .446$), thus failing to confirm H9a. Further, contrary to our expectation, we found that BV negatively interacts with reputational risks in influencing SGMO ($\beta_{interaction} = -.056, p = .018$); the effects of BV on SGMO are significant in low reputational risks conditions, but not significant in high reputational risks conditions, thus failing to confirm H9b. There was also no support for H11, as there are no substantial differences on the indirect effects of BV on SGMO via perceived competitive advantage in the low and high reputational risks condition (Table 6). The index of moderated mediation is not significant at .05 level ($\beta = .012$, 95% CI [-.0170, .0389]). We present our updated model with empirical results in Fig. 2.

5. Discussion

This research integrates UET, RATC, and TPB to examine the drivers of SGMO from SME owner/manager perspective. Our findings suggest that SME owners/managers' BV are important determinants of SGMO, which in turns influence business performance. An examination of the

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[1] Our covariate: firm revenue has significant effects on SGMO ($\beta = .136, p = .001$), competitive advantage ($\beta = .144, p = .002$), and performance ($\beta = .141, p = .003$).

Table 3

Measurement items.

Construct (items)	SFL	Standard Errors	t
Biospheric Values			
Please indicate to what extent the following are important as a guiding principle in your life			
Preventing pollution: protecting natural resources.	.909	.025	36.583
Protecting the environment: preserving nature.	.890	.025	35.554
Perceived Stakeholder Pressures (PSP)			
Our customers are increasingly demanding environmentally friendly products and services.	.808	.021	38.522
Our customers expect our firm to be environmentally friendly.	.839	.019	44.176
Our stakeholders expect our company to be friendly to the environment.	.811	.021	39.015
Perceived Behavioral Control (PBC)			
Our firm has the resources to engage in pro-environmental practices.	.847	.022	38.950
Our firm has the knowledge and ability to engage in pro-environmental practices.	.805	.023	34.341
Perceived Competitive Advantages			
Being an environmentally-conscious firm can lead to cost advantages within our firm.	.737	.025	29.840
Through systematic investment in Research & Development for environmentally friendly goods, our firm can be a market leader.	.838	.017	48.063
Our firm can enter new, lucrative markets with the adoption of environmental strategies.	.819	.019	43.532
Our firm can penetrate the market by making existing goods more friendly to the environment.	.842	.017	48.952
By reducing the environmental impact of our firm's activities, the quality of the products will improve.	.762	.023	33.243
Strategic Green Marketing Orientation (SGMO)			
We invest in Research & Development programs in order to create environmentally friendly products/services.	.865	.015	59.433
We have created a separate department/unit specializing in environmental issues for our organization.	.744	.024	31.507
We participate in environmental business networks.	.816	.018	44.526
We use specific environmental policy for selecting our partners.	.841	.016	51.271
We implement market research to detect green needs in the marketplace.	.867	.014	60.217
Business Performance			
Return on assets (earnings generated from invested assets)	.755	.027	28.061
Firm's profitability before tax	.775	.025	30.410
Market share	.695	.030	23.205
Customer satisfaction	.697	.031	22.601
Customer loyalty	.758	.026	28.622
Reputation among customers	.715	.030	23.894
Product Risks			
Core products becoming unpopular or even unsellable due to climate change			
Extremely unlikely:Extremely likely	.870	.024	36.807
Not severe at all:Extremely severe	.896	.023	38.682
Reputational Risks			
Damage to the firm's brand reputation and relationship with firm's stakeholders due to climate change issues			
Extremely unlikely:Extremely likely	.909	.021	44.246
Not severe at all:Extremely severe	.905	.021	43.877

SFL=Standardized Factor Loadings.

underlying mechanism and boundary conditions indicates that the effect of BV on SGMO is fully mediated by perceived competitive advantage, and moderated by firm-level perceived behavioral control, perceived stakeholder pressures, and perceived product risks associated with climate change. In light of the limited studies on the drivers of SGMO among SMEs, the current research provides contributions to the literature with relevant practical insights.

5.1. Theoretical implications

This study provides several theoretical implications. First, underpinned by UET, we examine the drivers of SGMO from owner/manager perspectives. In recent years, scholars have called for more research to examine the drivers of strategic marketing decisions from an owner/manager perspective (e.g., Casidy and Nyadzayo, 2019; Casidy et al., 2020). Specifically, in green marketing context, Yu et al. (2022) noted that "knowledge on individuals who make such (green) buying decisions is still under-developed" (p.240). Our findings have contributed to this gap as we highlight the importance of BV in influencing green decisions (i.e., SGMO) in SME context.

Second, SGMO is a relatively new construct, and little studies have been done to examine its drivers, particularly from owner/manager perspectives. We address this gap and extend UET (Hambrick, 2007) by demonstrating that the characteristics (i.e. personal values) of owner/manager play an important role in SMEs, with direct consequences on strategic decisions (i.e. SGMO). Such decisions in turns influence business performance. Further, by focusing on BV as the key driver of SGMO, we directly address Yu et al. (2022, p.250) recent call for research to "better capture the effect of pro-environmental values [on green behavior]."

Third, our research extends RATC by espousing the central role of perceived competitive advantage in linking BV and SGMO. While owners/managers' personal values are important, our analysis suggests that values *per se* may not be sufficient to translate into SGMO. Owners/Managers are inclined to adopt and implement green marketing orientation only when they recognize substantial benefits linked to pro-environmental practice. We also contribute to the literature by integrating RATC with TPB to identify important boundary conditions in our framework. In light of TPB, we provide empirical evidence of the significance of firm-level perceived behavioral control and perceived stakeholder pressures in moderating the link between BV and perceived competitive advantage.

Finally, in recent years, scholars have prescribed the need for more studies on the integration of consumer behavior theories to explain industrial buying behavior (Casidy et al., 2022; Mohan et al., 2022). We leveraged upon TPB in this study to identify important boundary conditions in our framework. In doing so, we extend TPB by integrating perceived risks as key moderators in our framework that moderates the link between biospheric values, perceived competitive advantage, and SGMO. Our findings reveal that product risks moderate the path between BV and perceived competitive advantage. Moreover, the indirect effects of BV on perceived competitive advantage are stronger when SME owners/managers believe there is a high level of products risks associated with climate change. Interestingly, we found no support for the significance of reputational risks in moderating these relationships. Perhaps, SME owners/managers are more concerned about protecting the core elements of their business (i.e., product) rather than reputation due to their relatively smaller size compared to large/multinational firms. Given that prior literature has emphasized on the importance of reputational risks in green marketing context (Petersen and Lemke, 2015; Roehrich et al., 2014), our study contributes to the literature by suggesting that reputational risks may play a less important role in influencing green marketing decisions among SMEs.

5.2. Managerial implications

Given the large representation of SMEs in the world's economy and their significant environmental footprint (ITU, 2022), this study responds to the increasing calls from policy makers to enhance green marketing practices among SMEs (OECD, 2021). Specifically, our findings demonstrate the roles personal values have in SMEs' environmental engagement. Our findings establish that SME owners/managers' BV and perceived competitive advantage drive their decisions to adopt strategic green marketing orientation in their firms. This is further amplified by

Table 4
Inter-construct correlations and discriminant validity.

	CR	AVE	1	2	3	4	5	6	7	8
1. Perceived Competitive Advantage	.899	.641	*.801*							
2. Perceived Stakeholder Pressures	.860	.672	.726	*.819*						
			.733							
3. Biospheric Values	.895	.809	.525	.528	*.900*					
			.525	.526						
4. Perceived Behavioral Control	.811	.683	.723	.733	.442	*.826*				
			.736	.739	.449					
5. SGMO	.916	.685	.724	.791	.409	.812	*.828*			
			.718	.791	.363	.804				
6. Performance	.874	.538	.533	.414	.219	.533	.511	*.733*		
			.537	.417	.222	.530	.518			
7. Product Risks	.876	.780	.225	.336	.063[ns]	.157	.336	.095[ns]	*.883*	
			.227	.338	.063	.156	.344	.090		
8. Reputational Risks	.903	.823	.254	.375	.113*	.209	.368	.155	.649	*.907*
			.250	.379	.111*	.207	.374	.154	.650	

Note: CR = Composite Reliability; AVE = Average of Variance Extracted; SGMO = Strategic Green Marketing Orientation. Correlations are displayed on the top column and the bottom column indicates HTMT ratio. *significant at .05 level; ns = $p > .10$. Unless otherwise indicated, all correlations are significant at $p < 0.01$ level. The square root of AVE is displayed in italics.

Table 5
Mediation hypotheses tests.

Direct Effects		β		SE	t	p
		Std	Unstd			
H1	Biospheric Values → SGMO[a]	.050	.062	.065	.953	.341
	Biospheric Values → Business Performance[a]	−.082	−.069	.049	−1.403	.161
	Biospheric Values → Perceived Competitive Advantage	.521	.424	.048	8.896	<.001
H2	Perceived Competitive Advantage → SGMO	.676	1.020	.098	10.437	<.001
H12	SGMO → Business Performance	.232	.158	.068	2.339	.019
Indirect Effects						
H3	Biospheric Values → Perceived Competitive Advantage → SGMO	.352	.432	.049	8.801	<.001
	Biospheric Values → Perceived Competitive Advantage → SGMO → Business Performance	.082	.068	.031	2.228	.026

Notes: Std = Standardized Unstd = Unstandardized Coefficients; SE=Standard Errors.
[a] Direct effect is significant before the inclusion of mediating effects.

Table 6
Moderated mediation analysis.

Hypotheses		β	SE	95% CI	
				LL	UL
Biospheric Values → Perceived Competitive Advantage → SGMO					
H5	Low Perceived Behavioral Control	.059	.023	.0181	.1085
	High Perceived Behavioral Control	.167	.032	.1066	.2310
H7	Low Perceived Stakeholder Pressure	.060	.024	.0154	.1101
	High Perceived Stakeholder Pressure	.144	.030	.0902	.2096
H10	Low Product Risks	.259	.047	.1780	.3621
	High Product Risks	.364	.045	.2750	.4525
H11	Low Reputational Risks	.277	.046	.1940	.3742
	High Reputational Risks	.330	.047	.2409	.4251

Note: The figures above are non-standardized; LL = lower-limit of 95% confidence interval; UL = upper-limit of 95% confidence interval.

perceived stakeholder pressures and owners/managers' perception of whether their firms are capable of engaging in pro-environmental practices (i.e., firm-level perceived behavioral control). Policy makers could develop educational programs to encourage greater pro-environmental practices among SMEs by triggering BV among SME owners/managers. Additionally, policymakers could prime BV among individuals using message framing techniques through social marketing campaigns (see Evans et al., 2013). Such campaign should be accompanied by a message highlighting the competitive advantages SMEs could gain through an effective integration of environmental issues into their strategy (e.g. Fraj et al., 2013; Opoku et al., 2023).

This study found that product risk only marginally moderates the effects of BV on perceived competitiveness. This implies that SME owners/managers generally do not view environmentally friendly products as a significant competitive advantage. Furthermore, the results indicate no significant interaction between BV and reputational risks in influencing perceived competitive advantage. However, interestingly, BV negatively interacts with reputational risks in influencing SGMO. Specifically, the effects of BV on SGMO are pronounced under low reputational risk conditions but become insignificant under high reputational risk conditions. This suggests that strategic decisions may be primarily driven by the owners/managers' initiative rather than external reputational pressures. Consequently, public policy should prioritize educating SME owners/managers about the importance of integrating environmental strategies rather than relying on reputational pressures as a means of driving sustainable business practices.

Finally, our study found that perceived stakeholder pressures play a significant role in rendering BV into perceived competitive advantage (Tsai et al., 2020). Today, there is a growing awareness among consumers globally to shop for sustainable alternatives aiming to minimize their environmental footprint (Cairns et al., 2022; Lichy et al., 2023b). As such, policy makers should engage important stakeholders within the SME sector (i.e., customers and suppliers) to put a stronger pressure for SMEs to adopt sustainable practices. An increasing pressure from stakeholders could drive SMEs to foster greater environment engagement as a way to establish legitimacy while facing such pressures (Martin-de Castro, 2021; Papadas et al., 2019). Additionally, policy makers could design/provide initiatives such as grants and training aiming at developing SMEs' resources and knowledge to engage in green practices. Such practical support would enhance perceived behavioral control among SME owners/managers, which could further enhance SME commitment to adopt green practices.

5.3. Limitations and future research directions

There are a few limitations to this study that could be considered in future research. First, while SGMO is a useful construct that has gained increasing interests in the literature since its inception, the construct does not measure firms' actual spending for pro-environmental
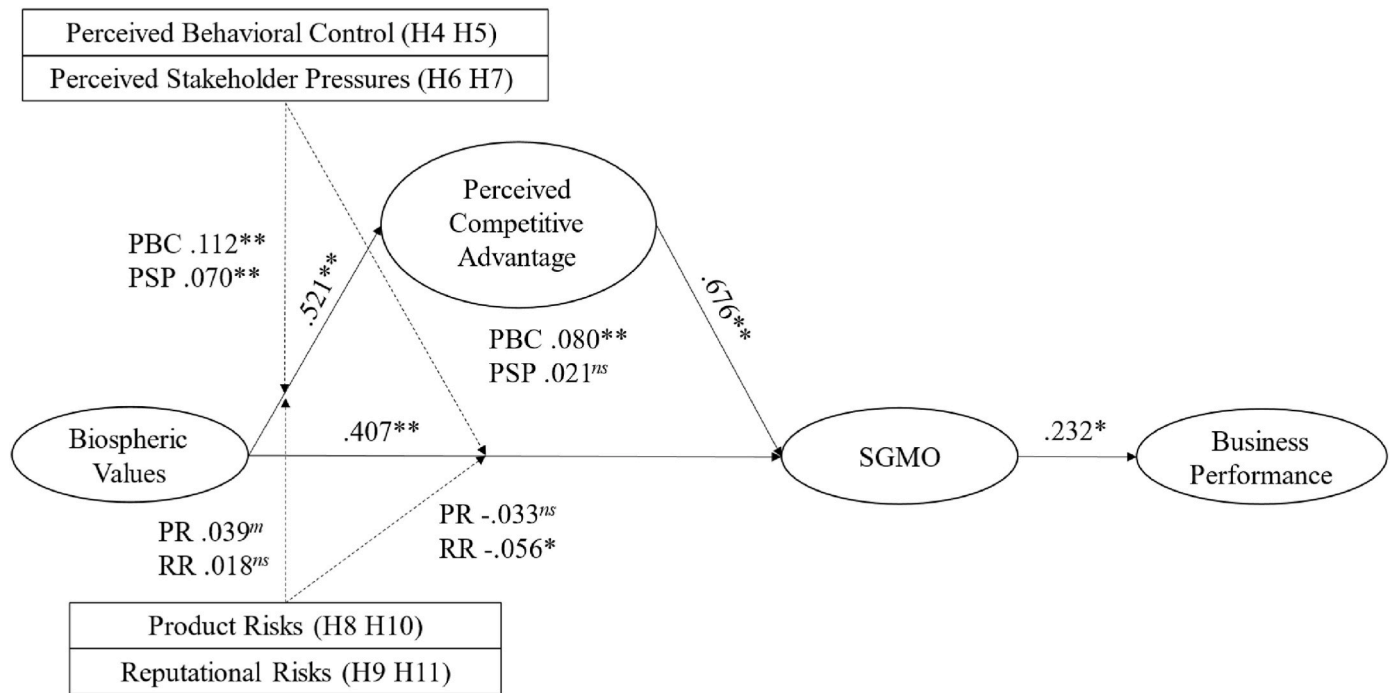
Fig. 2. Empirical Results.
Note: PBC=Perceived Behavioral Control PSP=Perceived Stakeholder Pressures PR=Product Risks RR=Reputational Risks. **significant at .01 level *.05 level m = marginally significant at <.10 level. ns = not significant.

practices. As such, we were not able to gauge the extent to which owners/managers' biospheric values and perceived competitive advantage drive firms' actual spending for green initiatives. Future studies could address this shortcoming by utilizing actual spending data for green initiatives at a firm level as the outcome constructs, to provide better insights as to how owners/managers' values translate into actual green marketing investments.

Second, while our framework is grounded in existing literature, there may be other underlying reasons behind SME owners/managers' decisions to engage in SGMO that could only be explored by a qualitative study. Thus, we encourage future research to extend the validity of the present study's findings by undertaking in-depth interviews with SME owners/managers to gain a deeper insight into the drivers and barriers of SGMO.

Third, while SMEs play a significant role in addressing climate change, many large firms are responsible for pollution and other environmentally unsustainable conducts that negatively affect the environment. In the context of large firms, top executives may consist of diverse individuals with distinctive characteristics. Future research could extend our findings by examining how top executives' personal values interact with employees' values in influencing green strategic decision making. Moreover, firm size may affect the importance of boundary conditions examined in the present study. For example, while we do not find reputational risk as a significant moderator in our framework, it may play a more important role in larger firms, as these firms have a greater level of reputational risks at stake if they are not involved in any green initiatives. Moreover, this study focused on product risks and reputational risks. Although these risks are among the most extensively discussed in the business literature, it is important to acknowledge that climate change driven risks are multidimensional, spanning across nature, politics, economy, society, and culture (Liu et al., 2022). Future research could incorporate a macro perspective to gain a more comprehensive understanding of how SMEs are affected and thereby respond to various climate change driven risks. In addition, this study collected data in the USA. The findings and implications should be interpreted within the USA contexts. It will be worthwhile to replicate

the study in other countries/regions to allow for comparative analyses. An understanding of regional variations in pro-environmental business practices against the backdrop of their political, natural, socio-economical, cultural differences (Liu et al., 2022) can inform policy-makers about the specific needs and challenges of SMEs in different regions, leading to more targeted environmental policies.

Finally, we draw upon existing paradigms to incorporate personal (i.e., biospheric values), social (i.e., perceived stakeholder pressures), and rational factors (i.e., perceived risks, perceived competitive advantage, perceived behavioral control) as drivers and moderators of SGMO in our model. However, we recognize that green decision-making is not always rational, and thus we ask for future studies to analyze the role that emotions may play in influencing green decision-making at a firm level. Future studies could address this by comparing the strength of rational vs. emotional appeals in influencing green strategic decision-making at a firm level. As climate change becomes a more critical issue for many years to come, we anticipate that the present research will bring more attention to this research domain.

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Declaration of competing interest

The authors have declared no conflict of interest.

Data availability

Data will be made available on request.

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