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From green to growth: The effect of *Go Green* on entrepreneurial growth aspirations

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ABSTRACT

This paper examines the effect of small- and medium-sized enterprises' (SMEs') pursuit of *Go Green* attitudes, characterized by the inclusion of environmental objectives in their strategic planning, on their entrepreneurial growth aspirations (EGAs) through the theory of planned behavior. We theorize that embracing *Go Green* attitudes can lead to heightened growth intentions; however, the positive relationship between *Go Green* attitudes and EGAs is weakened in institutional contexts that have more pronounced green subjective norms. Furthermore, the relationship between *Go Green* attitudes and EGAs is positively mediated by firm innovation, which serves as a behavioral control for SMEs' aspirations to grow their businesses. The empirical results we obtained from investigating a large sample of 16,074 SMEs in 39 economies are consistent with our theorization, and robust against various checks.

1. Introduction

The green transition, known in the business context as *Go Green*, is characterized by the inclusion of environmental objectives in firms' strategic planning (Banerjee, 2002; Banerjee et al., 2003; Hamann et al., 2017; Liu et al., 2021). The transition, which is facilitated by market forces and supported by governments, aims to make businesses more responsible for the environment by means of incentives, public procurement schemes, and compliance regulations (Lema et al., 2020). Historically, businesses have been seen as profit-maximizing entities, but they now grappled with the challenge of balancing profitability with managing environmental sustainability. This specifically concerns SMEs, which have conventionally been viewed as more resource-constrained and, hence, less demonstrative of environment-focused activity in implementing sustainable practices (Martin-Tapia et al., 2008). Nevertheless, SMEs account for approximately 90 % of businesses worldwide and are responsible for over 50 % of employment globally, generating around 40 % of GDP in emerging economies (OECD, 2017; World Bank, 2019). At the same time, the combined CO_2 footprint of SMEs is estimated to represent around 60–70 % of global industrial carbon emissions (Martin-Tapia et al., 2008; OECD, 2018). These two facets of SMEs have encouraged a strand of published research examining SMEs' green transition and its influence on their economic outcomes (Bakos et al., 2020).

However, this strand of literature lacks a comprehensive theoretical framework to underpin the relationship between *Go Green* and its outcomes. *Go Green*, representing emerging strategic attitudes, consumes significant resources and does not provide immediate benefits. Given the resource-constrained nature of SMEs and the long-term nature of the benefits, pursuing *Go Green* attitudes presents

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significant challenges, discouraging the SMEs' engagement in green practices (Chien and Peng, 2012; Menguc and Ozanne, 2005). At the same time, Ambec and Lanoie (2008) posit that business engagement in environmental practices can enhance that business's growth performance through multiple channels, including improved market access, reduced costs, and increased product differentiation.

The findings of previous empirical studies remain mixed, frequently showing conflicting results (Grewatsch and Kleindienst, 2017). Park (2023) attributes this to overlooking the conditions and mechanisms of the *Go Green*-performance relationship and calls for more work to be done to understand the relationship's complexity. Earlier studies have attempted to address these conditions and mechanisms by considering primarily the external factors that moderate such relationships, such as environmental uncertainty (Maletič et al., 2018), market competition, regulatory intensity, and market dynamism (Leonidou et al., 2017; Zhong et al., 2022). Research focusing on firm-level factors in moderating or mediating such relationships has predominately focused on firm-level characteristics such as age, size, or ownership structure (Grewatsch and Kleindienst, 2017). However, the understanding of firm-level strategic contingencies or mechanisms has remained essentially neglected, gaining attention only recently (Park, 2023). A holistic theoretical and empirical approach to understanding the complexity of this relationship remains lacking.

To address this gap, we propose taking a step back and zooming into the mechanisms that could help us to understand why *Go Green* may affect SME growth performance. One of the most important determinants of SMEs' growth performance is the growth aspirations of their owner-managers (hereafter referred to as EGAs) (Estrin et al., 2022). A business cannot grow if its owner-managers do not anticipate its growth (Du and Nguyen, 2022). EGAs indicate SME owner-managers' intentions and ambitions for business expansion and development (Autio and Acs, 2010; Estrin et al., 2013), thereby determining SMEs' economic potential and guiding their future orientations (Gundry and Welsch, 2001; Kolvereid, 1992; Kolvereid and Isaksen, 2017). Empirically, Wiklund and Shepherd (2003) have shown that SME owner-managers' growth aspirations are significantly and positively associated with the actual growth levels achieved.

Investigating EGAs (an intention) instead of growth performance (an outcome) allows us to theorize why *Go Green* may influence owner-managers' intention to grow their businesses, and the role that *Go Green* attitudes, capabilities, and institutional conditions may play in shaping this intention. To do this, we employ the TPB (Ajzen, 1991, 2002, 2020), which posits that an intention to engage in a behavior is the primary predictor of whether the potential enactor will actually do so. This intention is influenced by attitudes, subjective norms, and perceived behavior control. TPB provides a suitable theoretical framework for postulating the relationship between *Go Green* and EGAs, as what are measured as growth "aspirations" in entrepreneurship literature align with the construct of "intentions" in the TPB (Fuentelsaz et al., 2023).

Building upon TPB, we theorize that *Go Green* attitudes, which capture SMEs' strategic orientation toward environmental issues, play a pivotal role in enhancing EGAs. In turn, subjective norms about environmental sustainability within a given institutional context establish the boundary conditions for the *Go Green* attitudes-EGA linkage. In contexts with well-established green subjective norms, *Go Green* attitudes become baseline expectations (Berrone et al., 2013) and their impact on EGAs is attenuated. In addition, we argue that the mechanism underlying this linkage involves the mediating role of behavioral control centered on firm innovation. Specifically, *Go Green* attitudes, characterized by the pursuit of other-regarding goals (Hoogendoorn et al., 2020), strengthen SMEs' innovation capabilities, thereby enhancing EGAs.

To empirically test our propositions, we utilize the data from the 2018–2020 wave of the BEEPS. Based on multilevel modelling, our empirical analysis includes 16,074 SMEs (i.e., those with fewer than 250 employees) across 39 emerging and developing economies. The results can empirically support our theorization. Our results are also robust to the instrumental variable (IV) approach and several robustness checks. As such, our study contributes both theoretically and empirically to the intersection of literature on business venture growth and sustainability.

Overall, this study makes three contributions to the business venture growth and sustainability literature. First, we contribute to the business venture growth literature by enhancing the understanding of EGAs determinants from an emerging strategic perspective (Decker et al., 2020; Estrin et al., 2013, 2022), proposing *Go Green* attitudes as a determinant and offering a nuanced understanding of EGA variations across similar institutional settings. Second, to address the void in the complex *Go Green*-performance relationship (Grewatsch and Kleindienst, 2017; Leonidou et al., 2017; Park, 2023), we consider EGAs a critical determinant of growth performance for SMEs, theorizing the relationship between *Go Green* attitudes and EGAs using the TPB. This approach explains the Why, When, and How of this relationship, highlighting the moderating role of societal green subjective norms and the mediating role of firms' innovation capabilities. Third, we expand previous studies on *Go Green* in a single economy and in developed economies for large corporates (e.g., Ardito et al., 2021; Leonidou et al., 2017; Park, 2023) by empirically testing our propositions with SME data from emerging and developing economies. We confirm our theoretical claims, revealing that less institutionalized green norms strengthen the *Go Green* attitudes-EGAs relationship due to untapped opportunities, suggesting SMEs should pursue *Go Green* attitudes as a strategic value-adding approach rather than as a mere response to regulations.

Our paper proceeds as follows. The next section, Section 2, presents the theoretical framework and develops the hypotheses. Section 3 outlines our research strategy and data. The discussion of the results and various robustness checks follows in Section 4. Section 5 summarizes the paper, contextualizing the results in the literature, and develops implications for different stakeholders. Finally, in Section 6, we draw the main conclusions.

2. Theoretical framework and hypotheses

2.1. 'Green windows of opportunities' and EGAs through the TPB

Owner-managers' intent to grow their business is essential to its actual growth (Autio and Rannikko, 2016; Kolvereid and Isaksen, 2017). This kind of intention could be facilitated by certain emerging strategic attitudes that owner-managers adopt and implement when planning their business operations. *Go Green*, as emerging strategic attitudes characterized by the inclusion of environmental objectives in strategic planning, may influence various aspects of business owner-managers' intentions, including their intention to grow the business. Therefore, we adopt the TPB to examine how SMEs' *Go Green* attitudes influence their growth aspirations.

Pioneered by Ajzen (1991), the TPB has been predominantly used in psychology to explain various human behaviors in different contexts. The TPB asserts that a person's intentions to engage in actions can be effectively predicted by examining three key elements: (1) their attitudes toward the behavior, (2) the social pressures they perceive (i.e., the subjective norms), and (3) their perceived control over the behavior. The application of TPB has been extended to the field of entrepreneurship, where it is used to understand individuals' entrepreneurial intentions (Carr and Sequeira, 2007; Kautonen et al., 2015). Examples include starting up a women-led business (Balcar et al., 2024) and a new venture pursuing social objectives (Kruse et al., 2019).

The TPB has also been applied to the analysis of new venture performance, measured by engagement of owner-managers of new ventures in product innovation and self-efficacy (Sastre et al., 2022), as well as EGAs (Fuentelsaz et al., 2023). Specifically, EGAs refer to the extent to which owner-managers of new ventures aim to expand their business significantly (Kolvereid, 1992), thereby determining its economic potential (Kolvereid and Isaksen, 2017). These aspirations play a critical role in understanding a firm's strategic behavior, as they are closely linked to a business's future orientation and strategic planning (Gundry and Welsch, 2001). Growth aspirations may vary widely among different ventures, and part of the variation may be attributed to their strategic orientation in specific business strategies (Estrin et al., 2022).

While TPB is conventionally employed for studying individuals' behaviors, its recent application extends beyond the analysis of the behaviors of nascent entrepreneurs. Specifically, it has been employed to offer insights into SMEs' behaviors. This extension is plausible because in smaller firms, unlike larger corporations, owners also play managerial roles or actively engage alongside managers, keeping ownership and management intertwined (Runst and Thomä, 2021). Owner-managers' active provision of entrepreneurial services plays a crucial role in fostering the firm's growth by enhancing the team's creativity and vision (Kor et al., 2016). Moreover, SMEs feature business teams with more interconnected relationships characterized by flatter hierarchies, which enable more direct interactions and collaboration among team members, fostering commitment to shared goals (Polyviou et al., 2020). SMEs also exhibit an entrepreneurial spirit not only in their strategic orientation but also in their practical decision-making processes, resembling the dynamic and sometimes precarious decision environments faced by individual entrepreneurs (Klotz et al., 2014). As such, the TPB has the potential to be leveraged for organizational-level analysis for SMEs.

As argued by Fuentelsaz et al. (2023, p. 299), "*what empirical entrepreneurship literature measures as growth 'aspiration' correspond to the theory construct of 'intentions' when they are described utilizing the language of the TPB*". Accordingly, we propose using the TPB to explain SMEs' *Go Green* attitudes and their growth aspirations. We reveal the mechanism by which SMEs' stronger business mindset, characterized by a committed attitude toward environmental sustainability, influences their growth aspirations. A firm's *Go Green* attitudes, often exemplified by integrating environmental objectives and targets into strategic planning or appointing managers in charge of environmental sustainability matters, are shaped by the expected economic benefits and costs of a firm's commitment to the green strategy (Banerjee, 2002; Cordano et al., 2010; Nguyen and Vu, 2024). Pursuing *Go Green* attitudes presents both opportunities and costs for business ventures, in turn affecting their growth expectations. Given that SMEs are often resource-constrained (Beck et al., 2005; Nguyen et al., 2023), the opportunity cost associated with dedicating these scarce resources to a specific strategy, such as adopting sustainable practices to execute *Go Green* attitudes, increases with the level of committed attitudes toward environmental sustainability.

An SME's *Go Green* attitudes are also shaped by societal expectations and norms around environmental sustainability (*green subjective norms*). These norms enhance a firm's commitment to environmental goals, influencing both its strategic directions and operational behaviors. Such norms manifest via customers' increased demands for environmental certifications or adherence to certain environmental standards as a condition for doing business, or an economy's overall environmental performance. These green subjective norms are indicative of societal endorsement of green values and practices (thus constituting informal institutions), as well as the efficacy of laws and regulations designed to address environmental challenges and promote ecological sustainability (and hence representing formal institutions) (Bueno-Garcia et al., 2021; Konara et al., 2021).

We expect green subjective norms in a given economy to reflect how multiple stakeholders support and align with environmentally sustainable principles. Along with exerting pressures on the private sector to comply with environmental standards and regulations, such norms drive market demand for green technologies and products, opening new '*green windows of opportunity*' for businesses to embrace green investments as a value-adding strategy rather than as merely an environmental obligation (Ambec and Lanoie, 2008). In the next section, we elaborate in more depth on the link between *Go Green* attitudes and EGAs.

2.2. Go Green attitudes and EGAs

The first element of the TPB is attitudes, which refer to the positive or negative evaluations of engaging in a specific behavior and its potential outcomes. In this context, *Go Green* attitudes reflect SMEs' strategic orientation toward integrating environmental objectives into their operations, including appointing a manager specifically responsible for environmental sustainability. These attitudes reflect

owner-managers' positive beliefs about the benefits and feasibility of aligning their firms' economic objectives with environmental sustainability goals (Bakos et al., 2020; Hoogendoorn et al., 2015; Soundararajan et al., 2018; Wiesner et al., 2018), which may then lead to enhanced EGAs.

Embracing *Go Green* attitudes reflects owner-managers' positive perceptions that the economic gains outweigh the costs, aligning with the attitude dimension of the TPB. Within this framework, attitudes are shaped by the perceived outcomes of behaviors and the evaluations of those outcomes. For SMEs, the pursuit of *Go Green* attitudes entails substantial initial costs, such as investing in green technologies, training employees, or transitioning to circular economy models (Hoogendoorn et al., 2015). These costs can impose significant burdens on resource-constrained firms like SMEs (Beck et al., 2005; Nguyen et al., 2023). However, positive evaluations of the anticipated benefits—such as enhanced market competitiveness, improved stakeholder relationships, and greater product differentiation—can make these investments appear not only feasible but also strategically advantageous (Bakos et al., 2020; Leonidou et al., 2017). As such, the pursuit of *Go Green* attitudes demonstrates owner-managers' confidence and intention in growing their businesses.

Moreover, while the *Go Green* attitudes held by SMEs have increasingly been driven by institutional pressures to reduce environmental burdens (Hillary, 2004; Melville, 2010), these attitudes represent more than mere compliance with regulations; they signal strategic alignment with broader market and societal expectations. According to the TPB, attitudes encompass evaluations of behaviors based on their anticipated outcomes. For SMEs, *Go Green* attitudes are positively evaluated not only for ensuring compliance with environmental regulations but also for enhancing legitimacy and competitiveness (Leonidou et al., 2017; Nguyen and Vu, 2024). These attitudes help firms align with stakeholders' expectations, fostering trust and credibility, which can translate into significant competitive advantages (Ambec and Lanoie, 2008; Banerjee et al., 2003; Kunapatarawong and Martínez-Ros, 2016; Martin-de Castro, 2021; Stucki, 2019). Furthermore, these attitudes enable SMEs to view *Go Green* not as obligatory burdens but as proactive measures to seize growth opportunities. This perspective encourages owner-managers to integrate sustainability into their strategic planning, positioning their businesses to meeting emerging market demands both domestically and internationally, and realize associated long-term economic benefits (Ambec and Lanoie, 2008; Kunapatarawong and Martínez-Ros, 2016; Leonidou et al., 2017).

Also, in emerging and developing economies, where environmental responsibility often remains optional for SMEs, embracing *Go Green* attitudes can offer a significant strategic advantage (Gugler and Shi, 2009; Hamann et al., 2017). These attitudes represent a proactive commitment to environmental sustainability, positioning SMEs as forward-thinking and adaptable in contexts where such practices are not yet the norm. In such settings, SMEs are keen to optimize their resource use to overcome high opportunity costs. This effort may involve intensifying entrepreneurial activities or fostering innovation (Jacobs, 2007). In addition, given the limited resources available in emerging and developing economies, SMEs adopting *Go Green* attitudes inherently set higher expectations for the outcomes of their investments (Autio and Acs, 2010). This results in stronger EGAs as owner-managers seek to justify their strategic choices and capitalize on the potential for first-mover advantages in less-saturated green markets. By adopting *Go Green* attitudes, SMEs align their strategic direction with anticipation of returns, reinforcing their confidence and intent to grow.

Summarizing these arguments on the heightened growth expectations derived from *Go Green* attitudes, it can be argued that *Go Green* attitudes reflect owner-managers' positive beliefs and informed expectations about their businesses' growth potential and, therefore, positively influence their EGAs. Consequently, we postulate our first hypothesis.

Hypothesis 1 (H1). For SMEs, pursuing *Go Green* attitudes is positively associated with EGAs.

2.3. Green subjective norms as a boundary condition

According to the TPB, subjective norms can shape the extent to which attitudes are translated into intentions (Ajzen, 2020). In the context of SMEs, the positive association between *Go Green* attitudes and EGAs could be moderated by green subjective norms, which are defined as the perceived societal values and expectations about environmental sustainability in a given economy (Berrone et al., 2013).

Specifically, in institutional contexts where green subjective norms are strongly pronounced, the relationship between *Go Green* attitudes and EGAs may be attenuated. From the perspective of the TPB, subjective norms bring about social pressures to engage in or refrain from a particular behavior. In contexts with strongly pronounced green subjective norms, SMEs face significant external pressures to prioritize environmental objectives over other business outcomes, including growth (Revell and Blackburn, 2007). These normative pressures often create a lexicographic ordering of preferences, where ecological sustainability is considered paramount and economic growth is relegated to secondary importance (Weiss and Cattaneo, 2017). Empirical evidence supports this dynamic, showing that environments with stringent environmental regulations often compel firms to allocate substantial resources to meet compliance requirements, leaving fewer resources available for productive investments aimed at growth (Broberg et al., 2013). This aligns with the TPB's framework, where strong subjective norms can moderate the relationship between attitudes and intentions. In this case, the dominant societal emphasis on sustainability redirects the focus of *Go Green* attitudes toward legitimacy and compliance rather than economic performance. This redirection dilutes the impact of *Go Green* attitudes on EGAs, as owner-managers may perceive that achieving environmental compliance is the primary goal for survival rather than expanding their businesses.

However, in institutional contexts with weak green subjective norms, SMEs embracing *Go Green* attitudes can leverage these practices to achieve both environmental and competitive advantages. Specifically, in settings where green values are not yet widely adopted or expected, SMEs pursuing *Go Green* attitudes can position themselves as pioneers, demonstrating environmental leadership and strengthening their market competitiveness (Djupdal and Westhead, 2015; Lema et al., 2020). This strategic differentiation allows such firms to stand out in the marketplace, capturing the attention of stakeholders and capitalizing on untapped opportunities for green

branding and innovation (Chen, 2008; Leonidou et al., 2017). In these weaker institutional contexts, *Go Green* attitudes enable SMEs to align their environmental initiatives with EGAs, as owner-managers are not constrained by the need to conform to rigid societal expectations. Instead, they can use sustainability as a strategic tool for differentiation, innovation, and market expansion. This flexibility enhances their ability to integrate green practices into growth-oriented strategies, reinforcing the positive relationship between *Go Green* attitudes and EGAs.

In sum, we propose that green subjective norms may moderate the association between pursuing *Go Green* attitudes and EGAs. This leads to the following hypothesis:

Hypothesis 2 (H2). For SMEs, the positive relationship between *Go Green* attitudes and EGAs is moderated by green subjective norms. Specifically, in contexts with stronger green subjective norms, the positive linkage between pursuing *Go Green* attitudes and EGAs is attenuated. Conversely, in contexts with weaker green subjective norms, the positive linkage between pursuing *Go Green* attitudes and EGAs is strengthened.

2.4. Innovation as a mechanism of behavioral control for EGA

Pursuing *Go Green* attitudes may positively influence EGAs through various channels, with innovation serving as a critical mediating mechanism. Within the framework of TPB, perceived behavioral control reflects the extent to which individuals or organizations believe they have the resources, skills, and opportunities to perform a specific behavior. In this context, innovation represents a key organizational practice that enhances perceived behavioral control, enabling firms to translate their *Go Green* attitudes into concrete, actionable growth strategies (Tatoglu et al., 2020).

Go Green attitudes often encourage firms to engage in innovation as a strategic response to environmental challenges (Schaltegger and Wagner, 2011), serving as a tangible mechanism that empowers firms to translate environmental commitments into actionable growth strategies (Ardito et al., 2021). For SMEs, innovation fosters the development of new products, processes, or business models that align with environmental objectives. This alignment strengthens firms' ability to implement their green strategies effectively, reinforcing their confidence in achieving both sustainability and economic goals. According to TPB, such reinforcement of perceived behavioral control enhances the likelihood of forming intentions—in this case, EGAs—by reducing uncertainty and demonstrating the feasibility of achieving desired outcomes.

Previous research shows that innovation emerges as a key outcome of embracing *Go Green* attitudes (Hoogendoorn et al., 2020). This fosters a stronger sense of agency, enhancing SMEs' perceived control over the growth process (de Jong, 2013), thereby boosting EGAs. Also, empirical evidence from Ardito et al. (2021) shows that small businesses in the United States benefit from adopting green practices and enhancing product and process innovation. For instance, electronics firms have developed new production techniques that improve waste management and reduce energy consumption (Lim et al., 2006).

Moreover, innovation provides firms with the tools to differentiate themselves in the market, enhancing competitive advantage and market positioning (Blichfeldt and Faullant, 2021; Khanra et al., 2022; Weerawardena and Mavondo, 2011). By adopting innovative practices, SMEs can meet the dual demands of sustainability and market expansion, creating opportunities for growth in environmentally conscious markets (Khanra et al., 2022; Zameer et al., 2021). This dual achievement not only validates their *Go Green* attitudes but also generates clear potential for success, further reinforcing their belief in their capacity to grow.

In this way, innovation acts as a mediating mechanism that links *Go Green* attitudes to EGAs. It operationalizes the perceived benefits of sustainability, demonstrating how environmental commitments can lead to practical outcomes (e.g., innovation) that support growth aspirations. By enhancing perceived behavioral control, innovation reduces barriers to achieving growth and enables SMEs to align their green strategies with broader business objectives. This mediating role highlights the critical interplay between organizational practices, strategic attitudes, and entrepreneurial intentions, as emphasized in the TPB framework.

Therefore, we propose Hypothesis 3 as follows:

Hypothesis 3 (H3). For SMEs, firm innovation positively mediates the relationship between pursuing *Go Green* attitudes and EGAs.

Our overall theoretical framework and hypotheses are summarized in Fig. 1.

3. Research methodology

3.1. Data and sample

This study primarily relies on the BEEPS data (https://www.beeps-ebrd.com/data/) provided collectively by the European Bank for Reconstruction and Development, the European Investment Bank, and the World Bank. The survey was initiated to investigate the business environments in which SMEs operate across different economies. The BEEPS has been conducted on several occasions since 1999; this study employs its most up-to-date wave (2018–2020) because it contains a *Green Economy* module, which is in line with this paper's primary focus.

The BEEPS data has proven extremely valuable academically because it offers abundant information on firms' characteristics, including their strategies, operations, management, and performance (e.g., Eddleston et al., 2020; Hellman et al., 2003; Nguyen, 2020; Shinkle and McCann, 2014; Zeume, 2017). More importantly, the sample drawn from BEEPS meets a set of criteria that ensure its representativeness. Specifically, the sampling frame (in descending priority) is as follows: coverage, currency (i.e., the extent to which it is up to date), availability of detailed stratification variables, location identifiers (i.e., address and phone number), email, electronic

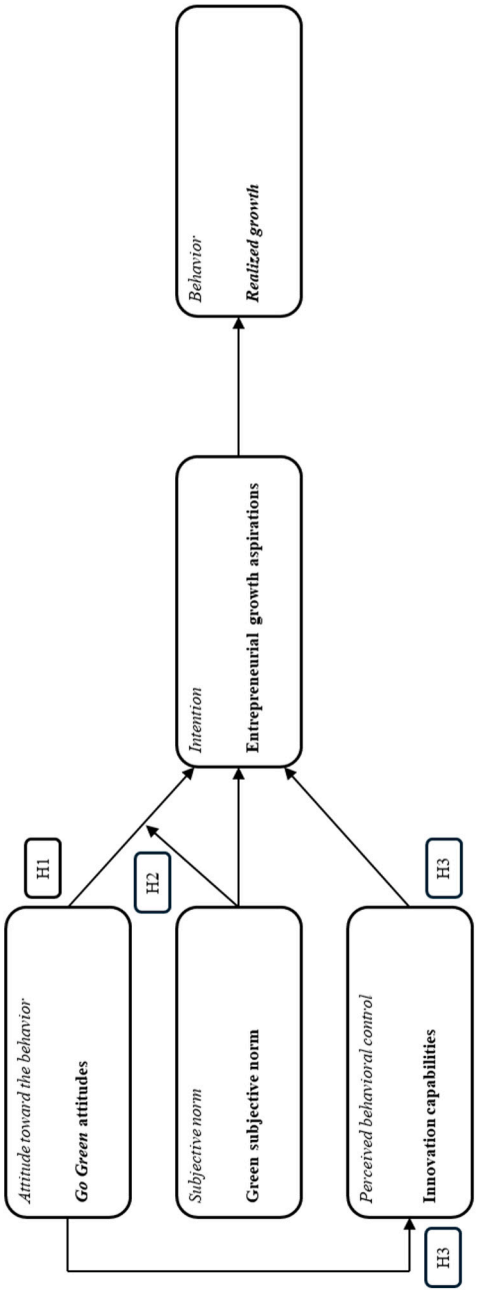

Fig. 1. Theoretical framework and hypotheses.

format availability, and contact names. The sampling frame used for the surveys thus consists of the list of enterprises in each country that most optimally meet these requirements. In every country for which a reliable sampling frame was available, the sample was selected using a stratified random sampling technique. Three levels of stratification were used in all countries: industry, establishment size, and region. Hence, the sample is sufficiently representative to allow us to draw conclusions about SMEs.

We further merge BEEPS data with the data from the World Bank. After merging the BEEPS data with country-level data, the final sample consists of 16,074 SMEs in 39 economies, mostly developing ones in Northern Africa, Western Asia and Eastern Europe. Table 1 displays the sample distribution across these economies.

3.2. Measures

3.2.1. Dependent variable

3.2.1.1. Entrepreneurial growth aspirations. EGAs are often measured as business owner-managers' anticipation of employment increase within the coming two or more years (Kolvereid, 1992; Estrin et al., 2013). However, as noted by Tominc and Rebernik (2007, p. 244), EGAs actually reflect anticipated "creation of new markets and market expansion" by owner-managers of business ventures. As such, following Kotha et al. (2023), we measure EGAs as business owner-managers' aspired percentage change in annual sales for the next year compared to previous year. Expected changes in sales over a shorter period can also serve as a good proxy for long-term growth aspirations since EGAs are not always lofty or long-term Kotha et al. (2023). Many business venture owner-managers adopt a pragmatic approach, setting achievable, short-term goals as stepping stones to broader aspirations. As such, the aspired percentage change in annual sales for the next year can provide a tangible, measurable target for these business ventures to strive toward.

In this operationalization, positive figures suggest projected growth, negative figures indicate projected negative growth (i.e., a decrease), and 0 indicates a projection of no change (stay-as-same). The variable is derived from items bmd1a and bmd1b in the BEEPS.

Table 1
Sample distribution.

Country/region	Freq.	Percent
Jordan	165	1.030
West Bank and Gaza	255	1.590
Morocco	296	1.840
Albania	254	1.580
Belarus	380	2.360
Georgia	308	1.920
Tajikistan	108	0.670
Turkey	1097	6.820
Ukraine	679	4.220
Uzbekistan	634	3.940
Russia	739	4.600
Poland	298	1.850
Serbia	211	1.310
Kazakhstan	714	4.440
Moldova	255	1.590
Bosnia and Herz.	186	1.160
Azerbaijan	55	0.340
North Macedonia	207	1.290
Armenia	301	1.870
Kyrgyz Rep.	244	1.520
Mongolia	336	2.090
Estonia	260	1.620
Czech Rep.	381	2.370
Hungary	607	3.780
Latvia	221	1.370
Lithuania	284	1.770
Slovak Rep.	361	2.250
Slovenia	288	1.790
Bulgaria	323	2.010
Croatia	280	1.740
Montenegro	99	0.620
Egypt	2418	15.04
Greece	479	2.980
Portugal	618	3.840
Lebanon	447	2.780
Tunisia	356	2.210
Cyprus	258	1.610
Italy	489	3.040
Malta	183	1.140
Total	16,074	100

Given that this is self-reported data, the variable is winsorized at 1 % and 99 % levels to control for the effect of outliers (e.g., theoretically unrealistic value of growth aspirations). Furthermore, such winsorization practice can be seen in previous papers using the same BEEPS dataset, including Lee et al. (2023) and Zeume (2017).

3.2.2. Independent variable

3.2.2.1. Go Green attitudes. It is measured as a composite index that includes two dummy measures: (1) whether the firm's strategic objectives encompass environmental or climate change issues in the last fiscal year (item bmga1 in the BEEPS); and (2) whether the firm has established a managerial position responsible for environmental or climate change matters in the last fiscal year (item bmga2 in the BEEPS) (Banerjee, 2002). A principal component analysis suggests that two items can be loaded onto one scale, with the eigenvalue for the first factor being >1 and the eigenvalue for the second factor being <1. The Cronbach's α is 0.6611, showing an acceptable level of scale reliability (Guerrero and Siegel, 2024; Shook et al., 2004).

3.2.3. Moderating variable

3.2.3.1. Green subjective norms. It is measured as the country-level aggregated pressures from customers requiring certifications or adherence to environmental standards. The related item in the BEEPS is bmga4.

3.2.4. Mediating variables

3.2.4.1. Innovation. Following Puente et al. (2017) and Cosh et al. (2012), this is measured as a dichotomous variable that equals 1 if a firm has introduced new products/services or new/significantly improved process, and 0 otherwise. It is derived from items h1 and h5 in the BEEPS. The use of dummy variables to measure innovation in the context of SMEs has been widely used in previous research

Table 2
Descriptive statistics.

Variable	Definition	Data source	Mean	SD
Outcome variable				
Entrepreneurial growth aspirations	Entrepreneurs' self-reported percentage changes in annual sales for the next fiscal year as compared to the values of this year.	BEEPS-bmd1a & bmd1b	5.015	21.444
Explanatory variables				
Go Green attitudes	A composite index consisting of two dimensions: (1) whether the firm's strategic objectives encompass environmental or climate change issues, and (2) whether the firm has established a managerial position responsible for environmental or climate change matters.	BEEPS-bmga1&bmga2	0.119	0.275
Green subjective norms	Country-level aggregated percentage of firms responding yes to "*Customers Require Certifications or Adherence To Some Environmental Standards*".	BEEPS-bmga4	0.129	0.055
Innovation	A dichotomous variable indicating whether firms have experienced significant improvements in product or process innovation, coded as 1 for yes and 0 for no.	BEEPS-h1&h5	0.290	0.454
Female top manager	A dichotomous variable indicating the gender of the top manager, coded as 1 for female and 0 for male.	BEEPS-b7a	0.154	0.361
Top manager experience	Number of years spent working in the sector by the top manager.	BEEPS-b7	21.610	11.561
Number of competitors	Number of competitors for the main product/service in the main market.	BEEPS-e2b	967.152	992.950
Family ownership	The percentage of shares owned by the same family.	BEEPS-bmb1	47.537	47.334
Foreign ownership	The percentage of shares owned by foreign individuals or entities.	BEEPS-b2b	4.789	19.864
Firm age	Number of years since the firm has formally registered.	BEEPS-a14y&b6b	20.283	13.918
Firm size	The natural logarithm of the number of permanent full-time employees	BEEPS-l1	3.063	1.107
Political connections	A dichotomous variable indicating whether the firm's owner/CEO/top manager/board member has ever been elected or appointed to a political position, coded as 1 for yes and 0 for no.	BEEPS-bmb5	0.054	0.227
Fixed assets purchase	A dichotomous variable indicating whether the firm purchased any fixed assets in the last fiscal year, coded as 1 for yes and 0 for no.	BEEPS-k4	0.367	0.482
Intangible assets purchase	A dichotomous variable indicating whether the firm purchased any trademarks, copyrights, patents, or other intangible assets in the last fiscal year, coded as 1 for yes and 0 for no.	BEEPS-bmk6	0.053	0.224
Sales (three years ago)	The natural logarithm of the firm's sales three years ago, adjusted for the Purchasing Power Parity rate.	BEEPS-n3 & IMF	17.743	4.819
Green regulation compliance	A dichotomous variable indicating whether the firm was subject to an energy tax or levy in the last fiscal year, coded as 1 for yes and 0 for no.	BEEPS-bmgd6	0.214	0.410
Energy standard compliance	A dichotomous variable indicating whether the firm was subject to an energy performance standard in its operation, coded as 1 for yes and 0 for no.	BEEPS-bmgd7	0.118	0.322
GDP growth	The annual rate of growth in GDP.	The World Bank	3.915	2.019
GDP per capita	GDP per capita at purchasing power parity, held constant at 2015 international USD.	The World Bank	10,232.110	7716.022

Note: $N = 16{,}074$; BEEPS = Business Environment and Enterprise Performance Survey; EPI = Environmental Performance Indicator; GDP = Gross Domestic Product; USD = United States dollar; PRI = Principle for Responsible Investment.

(Maietta, 2015; Rogers, 2004). Unlike big public corporations, SMEs are wary of revealing too much information about their innovation activities. Therefore, in designing the innovation questions, the BEEPS employs the "yes/no" structure to ensure that most firms are willing to provide basic information about their innovation practices.

3.2.5. Control variables

Following previous research, we use three groups of control variables reflecting entrepreneur-level, firm-specific, and country/region-level characteristics that could affect EGAs.

First, owner-manager's gender is found to influence EGAs (Autio and Acs, 2010; Estrin and Mickiewicz, 2011; Estrin et al., 2013; Lajqi and Krasniqi, 2017). Hence, we control for *female top manager* using a dichotomous variable that equals 1 if an SME's owner-manager is female and 0 otherwise (item b7a in the BEEPS). *Top manager experience* can also affect EGAs because it improves self-efficacy "both through learning by doing and learning by seeing" (Estrin and Mickiewicz, 2011, p. 572). This is measured as the number of years of owner-manager's experience in the sector in which the firm currently operates (item b7 in the BEEPS).

Second, we also include a set of firm-specific characteristics. Specifically, the *number of competitors*, capturing the competitiveness of the market, can influence business venture's projections and intentions for business expansion (Lajqi and Krasniqi, 2017). The variable is derived from item e2b in the BEEPS. Ownership structure is also argued to influence EGAs to a large extent since this is related to entrepreneurs' motivation to expand their businesses (Bu and Cuervo-Cazurra, 2020; Lee et al., 2021). Therefore, we control for *family ownership*, measured as the percentage of shares owned by the same family, and *foreign ownership*, measured as the percentage of shares owned by foreign nationals. The variables are derived from items bmb1 and b2b in the BEEPS, respectively. Following Lajqi and Krasniqi (2017), we control for *firm age* and *firm size*, which are argued to influence EGAs. Firm age is measured as the number of years the firm has been established (item b6b in the BEEPS). Firm size is measured as the natural logarithm of the number of full-time employees (item l1 in the BEEPS).

To account for the effect of the firm's access to resources on EGAs, we have controlled for (a) *political connections*, (b) *fixed asset purchase*, and (c) *intangible asset purchase*. These are dummy variables that capture (a) whether the firm's owner/CEO/top manager/board member has ever been elected or appointed to a political position (item bmb5 in the BEEPS), (b) whether the firm purchased any fixed assets (item k4 in the BEEPS), and (c) whether the firm purchased any intangible assets (e.g., trademarks and copyrights) in the last fiscal year (item bmk6 in the BEEPS). Additionally, we have controlled for *sales (three years ago)*, measured as the natural logarithm of the firm's sales three years ago, adjusted to constant prices using the Purchasing Power Parity rate. Furthermore, we include *green regulation compliance* (item bmgd6 in the BEEPS) and *energy standard compliance* (item bmgd7 in the BEEPS) to account for compulsory environmental regulatory pressures.

Third, following Estrin et al. (2022), we control for *GDP growth*, measured as a country's annual rate of growth in GDP, to capture a business cycle effect; and *GDP* per capita at purchasing power parity, held constant at 2015 international USD, to capture the impact of a country's level of economic development. Table 2 summarizes all the variables included in this study, along with their definitions and data sources.

3.3. Research strategy

Given the hierarchical structure of our data (i.e., SMEs (Level 1) nested within sectors (Level 2) and countries (Level 3)), we have employed a multilevel modelling regression analysis to address a data clustering issue (Estrin et al., 2013; Boudreaux et al., 2019). Without using this technique, the estimation raises concerns about potential endogeneity, stemming from unobserved or omitted variables at the industry or country levels which are not directly accounted for in the model but which may influence the residuals (Rabe-Hesketh and Skrondal, 2012). Additionally, to test our Hypothesis3 on the mediating relationship, we have employed causal mediation analysis that estimates the total effects of *Go Green* attitudes on EGAs and decomposes them into a direct effect (i.e., the effect not transmitted through innovation) and indirect effect (i.e., the effects transmitted through innovation) (Nguyen et al., 2021).

4. Results

4.1. Main results

Table 2 displays the mean and standard deviation (SD) values for all included variables. Our key explanatory variable, *Go Green* attitudes, has a mean of 0.119 and an SD of 0.275. We have also plotted aggregated *Go Green* attitudes across 39 economies (Fig. 2). While Morocco ranks first in aggregated *Go Green* attitudes, it is closely followed by Greece and the Slovak Republic. Meanwhile, Turkey and Egypt are among the lowest in the aggregated *Go Green* attitudes. Table 3 presents the correlation matrix among all included variables and shows that there is a positive association between *Go Green* attitudes and EGAs ($r = 0.058$), providing initial evidence for H1 that supports further examination.

Table 4 reports the results of the multilevel random intercept model, showing the impact of *Go Green* attitudes on EGAs. Model 1 includes the key explanatory variable of interest (*Go Green* attitudes) and the moderating variable capturing green subjective norms, proxied by customers' demands for certificates aggregated to a country level, whereas Model 2 includes these variables and their interaction term.

As reported in Model 1 of Table 4, the coefficients of *Go Green* attitudes are consistently significant and positive across all specifications, thereby providing empirical support for H1. Model 2 of Table 4 shows the interaction effect of *Go Green* attitudes × Green subjective norms ($\beta = -20.458$, $p < 0.10$), which is marginally statistically significant, thus providing support for H2. Furthermore,

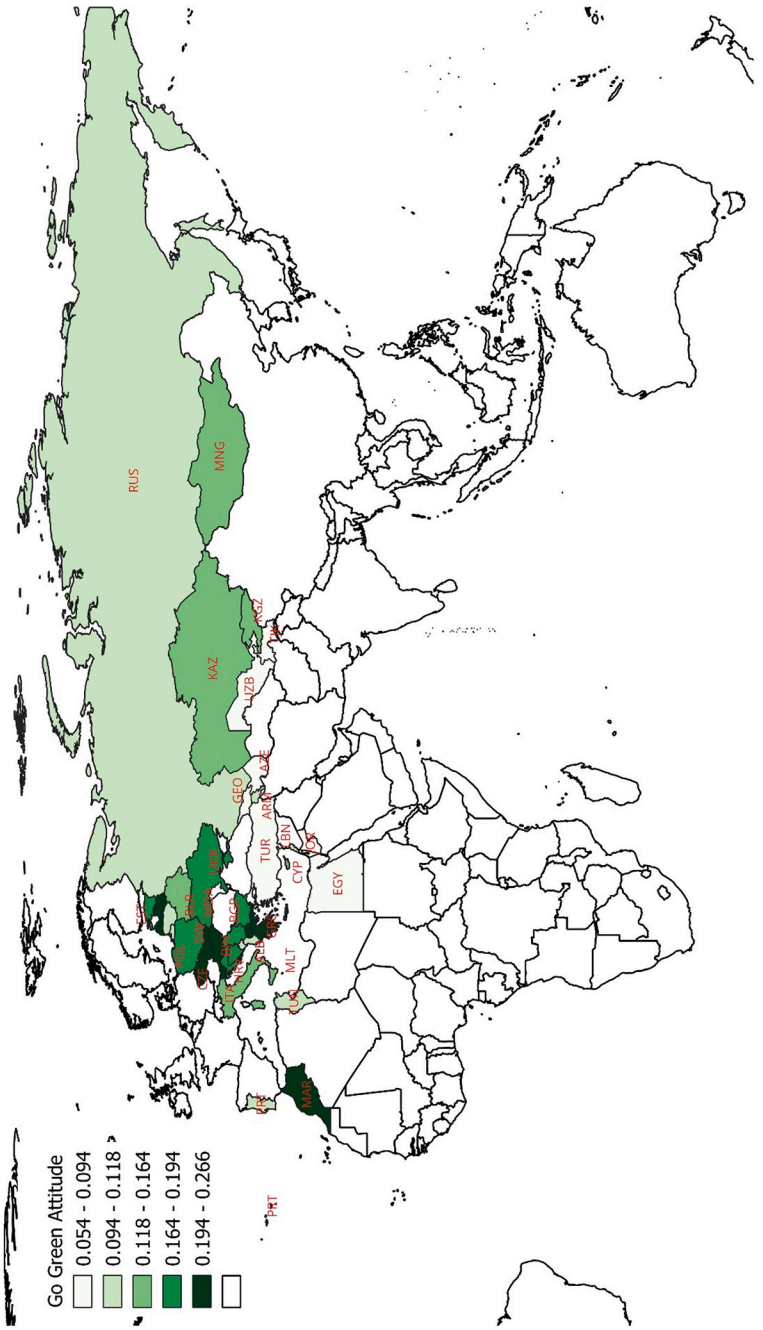

Fig. 2. Country-level aggregated *Go Green* attitudes

Table 3
Correlation matrix.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Entrepreneurial growth aspirations	1.000																		
2. *Go Green* attitudes	0.058	1.000																	
3. Green subjective norms	0.093	0.137	1.000																
4. Innovation	0.125	0.163	0.207	1.000															
5. Female top manager	0.023	−0.013	0.115	0.064	1.000														
6. Top manager experience	−0.120	0.038	−0.050	−0.007	−0.089	1.000													
7. Number of competitors	−0.053	−0.078	−0.211	−0.217	−0.048	−0.021	1.000												
8. Family ownership	−0.010	0.026	0.115	0.089	0.053	0.179	−0.118	1.000											
9. Foreign ownership	0.028	0.107	0.066	0.083	0.024	−0.050	−0.068	−0.059	1.000										
10. Firm age	−0.090	0.092	−0.012	−0.000	−0.054	0.440	−0.036	0.104	−0.021	1.000									
11. Firm size	0.071	0.253	0.064	0.136	−0.073	0.074	−0.074	−0.069	0.181	0.175	1.000								
12. Political connections	0.048	0.047	0.036	0.064	−0.007	−0.002	−0.024	−0.001	−0.008	0.028	0.075	1.000							
13. Fixed assets purchase	0.092	0.170	0.196	0.330	0.025	0.013	−0.181	0.113	0.084	0.006	0.207	0.062	1.000						
14. Intangible assets purchase	0.061	0.112	0.082	0.165	0.011	−0.014	−0.059	0.011	0.036	−0.016	0.083	0.048	0.141	1.000					
15. Sales (three years ago)	0.049	0.057	−0.102	0.064	−0.025	−0.070	−0.108	−0.151	0.024	−0.068	0.227	0.005	0.035	0.034	1.000				
16. Green regulation compliance	0.017	0.082	−0.060	0.058	0.012	0.006	−0.003	0.004	0.025	0.023	0.054	0.026	0.052	0.033	−0.018	1.000			
17. Energy standard compliance	0.090	0.194	0.004	0.118	0.009	−0.066	−0.018	−0.025	0.046	−0.030	0.075	0.035	0.074	0.076	0.102	0.368	1.000		
18. GDP growth	0.172	−0.051	−0.138	0.060	0.028	−0.139	−0.024	−0.166	−0.000	−0.122	−0.043	0.011	0.003	0.003	0.080	0.087	0.095	1.000	
19. GDP per capita	−0.057	0.099	0.249	0.080	0.043	0.206	−0.173	0.308	0.029	0.173	0.033	−0.057	0.148	0.012	−0.273	−0.024	−0.088	−0.228	1.000

Note: $N = 16{,}074$.

Table 4
Results of multilevel random intercept analysis.

Variable	Entrepreneurial growth aspirations	
	(1)	(2)
Go Green attitudes	1.875***	4.844***
	(0.621)	(1.659)
Green subjective norms	25.918**	28.650
	(20.055)	(20.079)
Go Green attitudes × green subjective norms		−20.458*
		(10.606)
Female top manager	−0.321	−0.330
	(0.457)	(0.457)
Top manager experience	−0.062***	−0.063***
	(0.016)	(0.016)
Number of competitors	−0.000***	−0.000***
	(0.000)	(0.000)
Family ownership	0.022***	0.022***
	(0.004)	(0.004)
Foreign ownership	0.004	0.004
	(0.008)	(0.008)
Firm age	−0.062***	−0.062***
	(0.013)	(0.013)
Firm size	1.313***	1.318***
	(0.196)	(0.196)
Political connections	2.753***	2.801***
	(0.705)	(0.705)
Fixed assets purchase	2.579***	2.571***
	(0.368)	(0.368)
Intangible assets purchase	3.217***	3.233***
	(0.716)	(0.716)
Sales (three fiscal years ago)	−0.372***	−0.377***
	(0.110)	(0.110)
Green regulation compliance	−0.124	−0.127
	(0.457)	(0.457)
Energy standard compliance	1.537***	1.520***
	(0.576)	(0.576)
GDP growth	1.044***	1.051***
	(0.244)	(0.244)
GDP per capita	−0.000*	−0.000*
	(0.000)	(0.000)
Constant	1.541	1.243
	(3.774)	(3.774)
Year of responding to the survey dummy	Yes	Yes
Observations	16,074	16,074
Number of country groups	39	39
Number of industry groups	188	188
Wald Chi2	336.91***	340.82***
Log likelihood	−70,903.062	−70,901.203
Random effects parameters		
sigma_u	1.853***	1.851***
	(0.124)	(0.124)
sigma_v	0.902***	0.898***
	(0.106)	(0.107)
sigma_e	2.984***	2.984***
	(0.006)	(0.006)

Note: Standard errors in parentheses.
*** $p < 0.01$.
** $p < 0.05$.
* $p < 0.10$.

following Brambor et al. (2006), we plot the marginal effect of *Go Green* attitudes on EGAs over the range of values of our moderating variable in Fig. 3, with the dotted line depicting the 95 % confidence interval. As shown in Fig. 3, the marginal effect of *Go Green* attitudes on EGAs is the highest (above 4 %), when the green subjective norms aggregate is at the lowest level of its distribution. The marginal effect decreases as green subjective norms increase. The *Go Green* attitudes-EGA relationship becomes insignificant when the subjective norms aggregate reaches a relatively high value of approximately 0.17 or above, corresponding to the 75th percentile of its distribution.

Next, we report the results of casual mediation analysis in Table 5. The treatment variable in our study, *Go Green* attitudes, is divided into three levels. The first level is taken at the minimum value of 0; the second level is at the mean value of 0.119; and the third level is at the value of 0.394 (mean + 1 SD). When compared with the first level, the natural indirect effects for both are significantly

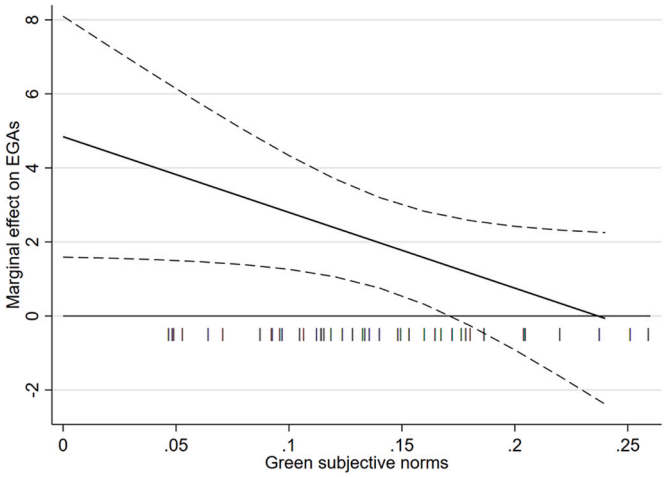

Fig. 3. The marginal effect of *Go Green* attitudes on EGAs, conditional on the distribution of green subjective norms

Table 5
Results of mediation analysis using *mediate*.

	Coeff.	Std. err.	*z*	*p*	95 % CI	
Net indirect effect						
Go Green attitudes						
1 vs 0	0.037	0.007	5.58	0.000	0.243	0.051
2 vs 0	0.095	0.023	4.17	0.000	0.050	0.139
Net direct effect						
Go Green attitudes						
1 vs 0	0.030	0.076	3.97	0.000	0.153	0.452
2 vs 0	0.998	0.251	3.97	0.000	0.506	1.491
Total effect						
Go Green attitudes						
1 vs 0	0.340	0.076	4.45	0.000	0.190	0.489
2 vs 0	1.093	0.250	4.37	0.000	0.603	1.583

	Proportion	Std. err.	*z*	*p*	95 % CI	
Go Green attitudes						
1 vs 0	0.110	0.031	3.62	0.000	0.051	0.170
2 vs 0	0.087	0.029	3.00	0.003	0.030	0.143

Note: Treatment is divided into three levels: 0 is when *Go Green* attitudes = 0 [minimum value], 1 is when *Go Green* attitudes = 0.119 (mean value); 2 is when *Go Green* attitudes = 0.394 [mean value + 1 standard deviation].

positive (second level: $\beta = 0.037$, $p < 0.01$; third level: $\beta = 0.095$, $p < 0.01$). In addition, the proportion of total effects mediated by innovation is 11.0 % when comparing the first level with the second level of the treatment variable, and 8.7 % when comparing the first level with the third level of the treatment variable. As such, H3 is also empirically supported, suggesting that SME's innovation activities operate as a partial mediator of the relationship between *Go Green* attitudes and EGAs.

4.2. Robustness check

4.2.1. Instrumental variables approach

We have employed the multilevel random intercept approach to handle the data in a hierarchical structure and included control variables from different levels to mitigate the endogeneity concern. However, one could still argue that SMEs with high growth aspirations are more inclined to pursue *Go Green* attitudes and capitalize green windows of opportunities (Ambec and Lanoie, 2008). As such, we use an IV approach to alleviate the endogeneity concern arising from reverse causality. More specifically, we select two variables that can be treated as exogenous instruments: (1) *green party vote share*, and (2) *number of Principles for Responsible Investment (PRI) signatories*.

First, green party vote share reflects political preferences for environmental policies, which can directly influence SMEs' pursuit of *Go Green* attitudes (Carter, 2013; Gröschl et al., 2019). However, while such political-environmental institutions on environmental issues "*instantiate a sustainable ecosphere*" (Gümüsay et al., 2020:10), they have not been identified as antecedents in previous studies

linking institutions to EGAs (e.g., Estrin et al., 2013). Second, aligned with the United Nations Global Compact, the PRI is one of most prominent initiatives supporting sustainable investment. The number of PRI signatories in a given economy represents financial preferences for a sustainability agenda, which can also directly influence SMEs' pursuit of *Go Green* attitudes (Bauckloh et al., 2021; Cohen et al., 2023). While PRI signatories influence the broader financial ecosystem by promoting a sustainability agenda, their focus is on incentivizing sustainable behaviors rather than explicitly shaping growth ambitions.

Table 6 reports the results of the IV approach. For the first stage of modelling, we regress *Go Green* attitudes on two IVs. The two IVs have statistically significant effects on our key explanatory variable (green party vote share: $\beta = 0.001$, $p < 0.01$; number of PRI signatories: $\beta = -0.010$, $p < 0.01$). The first-stage F-statistic for the excluded instruments is 27.75, which exceeds the rule of thumb threshold of 10. Relatedly, the Sanderson-Windmeijer multivariate F-tests yield a *p*-value of 0.00, indicating that the null hypothesis of underidentification for the endogenous variables can be rejected. In the second stage, we regress EGAs on the instrumented *Go Green* attitudes. The results show a significantly positive impact by *Go Green* attitudes on EGAs, once potential endogeneity biases have been controlled for ($\beta = 24.692$, $p < 0.05$).

To further justify the validity of two IVs, we regress the IVs on EGAs using a multilevel random intercept approach. Detailed results are provided in Appendix 1. The coefficients of the IVs are not statistically significant in explaining EGA, supporting the validity of the IVs. Furthermore, we use the Sargan-Hansen test to assess the validity of our instruments. The null hypothesis for this test is that the instruments are not correlated with the error term, implying they are valid. The test yields a Sargan statistic with a *p*-value of 0.283, indicating that we fail to reject the null hypothesis. This larger *p*-value suggests that our selected instruments are valid.

4.2.2. Other robustness checks

Our first robustness check employs an alternative composite index measuring *Go Green* attitudes. To construct it, we add two further items to the original index. They are based on the following additional questions from the BEEPS: (1) whether the firm monitors water usage and (2) carbon emissions in the last fiscal year. This alternative composite index does not show a substantial gain in Cronbach's α, which increases from 0.6611 to 0.6655. The results of testing the four hypotheses based on constructing a 4-item *Go Green* attitudes index remain consistent with our main results. Detailed results of Robustness Check 1 are presented in Appendix 2.

Second, we replace EGAs with actual sales to proxy for the realized growth as an alternative measure of SMEs' performance outcome. It is measured as the natural logarithm of sales one fiscal year ago, and in the model, we also control for the natural logarithm of the firm's sales three years ago. Unfortunately, this is not an ideal measure of a firm's realized performance given the measurements of *Go Green* attitudes and sales are both for the last fiscal year. Hence, we only consider using it for robustness checks rather than relying on it as our main measure of a firm's growth performance. The results of testing four hypotheses based on the new outcome variable also remain consistent with our main results. Detailed results of Robustness Check 2 are presented in Appendix 3.

Third, previous studies, such as those by Hessels et al. (2008) and Stephan et al. (2015), highlight the influence of national culture, particularly postmaterialism values, on entrepreneurship and EGA. To incorporate this aspect, we attempt to merge BEEPS with the World Value Survey data. However, the limited country coverage of the survey leads to a significant reduction in observations. Consequently, we do not include postmaterialism as a control variable in our main analysis, using it instead as a robustness check. Our results of Robustness Check 3 show that adding postmaterialism as an additional control variable does not alter the statistical significance and positive coefficient of *Go Green* attitudes, providing further validity to our baseline findings. The operationalization of postmaterialism and detailed results can be found in Appendix 4.

Fourth, it is critical to account for a firm's access to resources; therefore, our main analysis includes political connections, fixed asset purchase, and intangible asset purchase. However, these variables are measured as dummies, which may obscure the true magnitude of a firm's access to resources. The BEEPS dataset provides more detailed data on the monetary value of previous investments in fixed assets, including equipment, land and buildings, albeit with a significant reduction in the number of observations. Consequently, we replace the dummy measures of fixed asset purchase with log-transformed monetary measures at Purchasing Power Parity. Due to the significant reduction in observations, we do not include these variables in the main analysis but use them as a robustness check, testing

Table 6
Results of instrumental variables approach.

Variable	First stage *Go Green* attitudes	Second stage Entrepreneurial growth aspirations
Go Green attitudes [instrumented]		24.692**
		(10.784)
Instrumental variable 1 – Green party vote share	0.001***	
	(0.000)	
Instrumental variable 2 – Number of PRI signatories (log)	−0.010***	
	(0.002)	
Control variables	Yes	Yes
Observations	15,240*	15,240
F-statistics (*p*-value)	27.75 (0.000)	
Sargan statistics (*p*-value)	1.153 (0.283)	

Note: PRI = Principle for Responsible Investment. Standard errors in parentheses.
*** $p < 0.01$.
** $p < 0.05$.
* $p < 0.10$.

only the baseline relationship. The results show that the coefficient of *Go Green* attitudes is statistically significant and positive, providing further validity for our findings on the baseline relationship. Detailed results of Robustness Check 4 are presented in Appendix 5.

Fifth, some may still challenge the use of winsorized EGAs, so we also use robust regression analysis on non-winsorized measures of EGAs as recommended by Leone et al. (2019). We can also gain empirical support for the baseline relationship when using robust regression analysis. Detailed results of Robustness Check 5 can be seen in Appendix 6.

Sixth, to account for firm-level unobserved heterogeneity, we include the country averages of individual firm-level covariates, making the estimator equivalent to 'correlated random effects' as described and recommended by Wooldridge (2018). After adding country-level average of covariates as additional control variables, we obtain similar empirical support in the multilevel regression analysis. The detailed results are presented in Appendix 7.

Last, a common source bias is typically acknowledged in the literature as a concern for studies using survey data. However, our study is less vulnerable to this concern. Common source bias can be mitigated by "complicated specifications of regression models", which are proposed in the current paper, because it is hard for respondents to formulate a "cognitive map" of the question items they addressed (Change et al., 2010, p. 179). The BEEPS follows strict procedures to maintain the anonymity and confidentiality of respondents, thereby adding considerable credibility to the data validity. The survey's original intention was to investigate the business environment, and therefore we could anticipate the authentic answers in the green module, which are what this study primarily utilizes. Moreover, we include other data sources in addition to the BEEPS in the moderating variable and some control variables. These make our research design unlikely to suffer from common source bias.

Our results are robust against these checks, as summarized in Table 7. The results for the first six robustness checks are presented in Appendices 2–7.

5. Discussion

A growing body of literature has recently highlighted that SMEs face various challenges, such as limited financial resources and insufficient knowledge of green technologies, which together hinder their ability to adopt sustainable practices (Leonidou et al., 2017). However, recent research indicates that firms can improve economic performance by implementing environmentally friendly strategies, suggesting that profitability and sustainability can be pursued together for long-term success (Ambec and Lanoie, 2008; Farza et al., 2021; Shrivastava and Tamvada, 2019). The findings regarding SMEs' sustainability-performance remain largely inconclusive, and have encouraged researchers to consider various contingent factors that may offer better understanding of the complexity of the relationship between smaller businesses' environmental responsibility and their performance (Park, 2023).

Building on the TPB (Ajzen, 1991, 2002, 2020), our study explores the complexity of the relationship between SMEs' *Go Green* attitudes and performance, focusing on EGAs. EGAs indicate business venture owner-managers' ambitions for business expansion (Autio and Acs, 2010), and consequently, determine small businesses' economic potential (Kolvereid and Isaksen, 2017). We theorize that *Go Green* attitudes enhance EGAs, while being moderated by societal norms related to environmental sustainability and mediated by firms' innovation capabilities.

Using data from the 2018–2020 BEEPS, covering 16,074 SMEs across 39 emerging and developing economies, we demonstrate the EGA-enhancing effect of *Go Green* attitudes. This effect manifests through SMEs' strategic inclusion of environmental objectives and the strategic appointment of environmental managers. Our findings also suggest that in contexts with less institutionalized green norms, this association is strengthened due to the availability of untapped green opportunities. Conversely, in contexts with well-established green norms, normative pressures may prioritize environmental objectives over economic growth, often compelling SMEs to align with these norms for legitimacy rather than pursuing growth-oriented greening strategies, thereby weakening the positive relationship between *Go Green* attitudes and SMEs' growth aspirations. In addition, we find that innovation, viewed from the perspective of a firm's

Table 7
A summary of robustness checks.

Robustness check	H1 – baseline	H2 – moderating	H3 – mediating
1. Measure *Go Green* attitudes as a 4-item index with the inclusion of whether the firm monitors water usage and carbon emissions.	Supported	Supported	Supported
2. Replace EGA with actual sales (i.e., sales one fiscal year ago).	Supported	Supported	Supported
3. Add a control variable of postmaterialism to account for the impact of national culture.	Supported	Not applicable due to the significantly dropped observations (i.e., 7640)	Not applicable due to the significantly dropped observations (i.e., 7640)
4. Replace the dummy measure of fixed assets purchase with two monetary measures of investment in equipment and investment in land and buildings to account for the impact of business opportunities.	Supported	Not applicable due to the significantly dropped observations (i.e., 1217)	Not applicable due to the significantly dropped observations (i.e., 1217)
5. Use robust regression analysis on un-winsorized EGA as recommended by Leone et al. (2019)	Supported	Not applicable	Not applicable
6. Include country-level average of covariates as additional control variables	Supported	Supported	Not applicable
7. Alleviate common method bias	Supported	Supported	Supported

behavioral control, constitute an important channel through which the positive effect of *Go Green* attitudes on EGAs manifests.

Overall, this study makes three contributions to the business venture growth and sustainability literature. First, we contribute to the business venture growth literature by advancing the understanding of the determinants of EGAs through an emerging strategic perspective. Previous studies have explored the determinants of EGAs from a socio-political standpoint by focusing primarily on institutions (Martínez-Fierro et al., 2020). For instance, Estrin et al. (2013) highlight that EGAs are constrained according to the level of corruption but encouraged by property rights enforcement. Meanwhile, Capelleras et al. (2019) argue that regional social acceptance of new business venturing positively influences EGAs. Nevertheless, institutional factors cannot easily be altered in the short term (Huarng and Yu, 2022; Williamson, 2000), which overshadows the dynamic nature of EGAs. Specifically, owner-managers' aspirations to grow their businesses are rarely static and solely influenced by institutional forces but vary depending on firm-level strategic attitudes (Estrin et al., 2022). By proposing the pursuit of *Go Green* attitudes as a determinant of EGAs, we add to the extant literature a nuanced understanding of why EGAs vary across SMEs embedded in similar institutional settings (i.e., those that can be clustered by sectors and countries).

Second, we theorize the relationship between *Go Green* and EGAs through the lens of TPB by embracing a more holistic approach that accommodates a boundary condition set by societal green subjective norms and a mechanism arising from firms' innovation capabilities, serving as an important behavioral control facilitating the *Go Green* attitudes-EGA relationship. This theoretical framework helps to explain Why, When, and How *Go Green* attitudes boost EGAs for SMEs. By theorizing the direct *Go Green* relationship, we aim to answer the question of *Why*. From the perspective of the TPB's subjective norm element, we explore the question *When* (i.e. under what environmental conditions it happens). More specifically, we theorize a positive relationship between *Go Green* attitudes and EGAs being weakened in institutional contexts with more pronounced green subjective norms. Finally, understanding the process through which *Go Green* attitudes are translated to EGAs (i.e., the question of *How*) is important because it reveals the black box in the literature, which usually assumes that *Go Green* is a "good" attitude and should be adopted by SMEs without a clear explanation as to *why* that is the case (Bakos et al., 2020; Shrivastava and Tamvada, 2019).

Third, by testing our propositions empirically using a large sample of emerging and developing economies, we confirm our theoretical propositions. Previous studies examining the *Go Green* and performance relationship have predominately focused on single countries only, such as Spain (Kunapatarawong and Martínez-Ros, 2016), Cyprus (Leonidou et al., 2017), Germany (Farza et al., 2021), and the United States (Ardito et al., 2021; Park, 2023). The contextual environment is important for better understanding some contingency effects. For example, while Leonidou et al. (2017) find that higher environmental regulatory intensity had a positive moderating effect on SMEs' green orientation and their performance in the context of an advanced economy like Cyprus, out study reveals that in the context of emerging and developing economies, less institutionalized green subjective norms strengthen the *Go Green*-EGAs relationship due to the availability of untapped green opportunities. By capitalizing on these opportunities, these countries can circumvent traditional, more polluting development paths and transition directly to an environmentally sustainable future (Lema et al., 2020). Overall, our findings suggest that SMEs pursue *Go Green* attitudes as a value-adding business strategy, rather than merely as a response to mandatory environmental regulations.

Moreover, this study offers the following implications to owner-managers of SMEs and policymakers. It highlights *Go Green* as an important strategic choice that leads to enhanced EGAs. As such, policymakers should encourage SMEs to embrace *Go Green* attitudes in order to boost their growth aspirations, by offering various incentives for them to engage in green practices. In addition, embedding green practices in SMEs' innovation activities from the outset would help them strengthen their innovation capabilities, further shaping their growth ambitions. In the context of emerging and developing economies, where green subjective norms are weak, engaging with green practices brings greater benefits. As such, we suggest that owner-managers of SMEs in such contextual environments explore their windows of green opportunity and build up their first-mover advantages by embracing *Go Green* attitudes strategically.

Our study is not without limitations, which also identify some avenues for future research. First, innovation is a partial mediator identified from the *Go Green* attitude-EGAs link. It could be fruitful for future studies to concentrate on other strategic choices resulting from *Go Green* attitudes that may further affect EGAs. For example, recent studies suggest that firms can enhance their performance by integrating environmentally friendly strategies with digital initiatives (Bendig et al., 2023). However, the environmental impact of digitalization, such as that caused by reliance on large data centers and increased computing power consumption, is often overlooked (Baumers et al., 2017). Future research should explore how SMEs can simultaneously pursue green and digital strategies to mitigate these effects.

Second, the binary measurement of innovation may underestimate the complexity of the relationship. Therefore, future studies can utilize other data that allow a more concentrated investigation of the number and quality of patents. Patent data can equally be useful for exploring the phenomenon of green digitalization and the various trade-offs SMEs face when embarking on dual transformations of their businesses. In addition, while expected changes in sales over a one-year period are considered a good proxy for EGAs, the use of this proxy is also necessitated by the limitations of the survey dataset. We encourage future research to explore other datasets with more direct measures of EGAs, if available, to revisit the relationship examined in our study.

Finally, the survey dataset we have employed is limited in its temporal horizons due to its cross-sectional nature, which introduces potential endogeneity issues (Semadeni et al., 2014). Some might argue that an unmeasured variable could influence EGAs, or that SMEs with higher EGAs are more likely to pursue *Go Green* attitudes. To address these concerns, we have included relevant control variables, utilized a multilevel random intercept estimation, and employed an IV approach. Nonetheless, the availability of panel data would significantly better address endogeneity and establish causal pathways. In addition, the availability of panel data in the future can enable researchers to understand the effect of environmental institutional dynamics on EGAs, and also to explore how SMEs' environmental practices and their implications for EGAs may change throughout different stages of SMEs' life cycles.

6. Conclusion

This study explores the complex relationship between *Go Green* attitudes and SME owner-managers' growth aspirations. Using a large cross-sectional sample of SMEs from emerging and developing economies, we illustrate that SMEs' *Go Green* attitudes significantly enhance EGAs directly and indirectly, being moderated by societal norms regarding environmental sustainability and mediated by firms' innovation capabilities. Overall, our work makes meaningful contributions to the research in the fields of business venture growth and sustainability.

CRediT authorship contribution statement

Xiaolong Shui: Writing – original draft, Methodology, Formal analysis, Conceptualization. **Julia Korosteleva:** Writing – review & editing, Methodology, Conceptualization. **Bach Nguyen:** Writing – review & editing, Methodology, Conceptualization.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jbusvent.2025.106494.

Data availability

Data will be made available on request.

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