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Those Who Mind Matter: The Relationship Between Stakeholder Demands, Business Model Innovation, and Corporate Sustainability

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ABSTRACT

This study explores how the characteristics of the stakeholder environment shape business model innovation and corporate sustainability by analysing survey responses from 870 top and middle managers in Denmark, Norway, and Sweden. The findings demonstrate that the level and consistency of stakeholder demands are positively related to business model innovation and corporate sustainability. In environments with high stakeholder demands, organizations are more likely to innovate business models and pursue sustainability activities. Moreover, the moderating effect of resource availability is positive for the level of stakeholder demands but negligible for demand consistency. The study provides new insights on the stakeholder-related antecedents of business model innovation. Moreover, it contributes to corporate sustainability research by indicating that the level and consistency of stakeholder demands in general influence commitment to corporate sustainability. Demanding stakeholders are an important driver of organizational changes.

1 | Introduction

Stakeholder theory has found a big audience within the field of business ethics, corporate social responsibility (CSR), and corporate sustainability (Freeman et al. 2010). The theory has been frequently used to analyze business and society relationships, and stakeholders are often directly referenced in definitions of corporate sustainability and corporate social responsibility (Dahlsrud 2008; Hörisch et al. 2014; Montiel and Delgado-Ceballos 2014). More recently, stakeholder thinking has also been embedded in the fast-growing literature on business models for sustainability, which focuses on how companies can create, deliver, and capture value in accordance with the needs and wants of a broad set of stakeholders (Bocken et al. 2014; Freudenreich et al. 2020). Within this literature, a stakeholder perspective is also important for understanding how organizations innovate their business models to better address social and environmental concerns. Fundamentally, business model innovation for sustainability aims to create value for stakeholders by improving the sustainability impacts of activities within the organization and in its larger value network (Bocken et al. 2014; Dembek et al. 2023; Geissdoerfer et al. 2018).

However, the exact relationship between stakeholders, corporate sustainability, and business model innovation remains somewhat blurry. There is only partial knowledge about how stakeholder environment characteristics shape business model innovation and corporate sustainability, respectively. For instance, the nature of an organization's stakeholder relationships has not been explicitly included in recent models for measuring the association between business model innovation and corporate sustainability (Kajtazi et al. 2023; Klein et al. 2021;

Pedersen et al. 2018). This is noteworthy because corporate sustainability literature has historically emphasized relationships between the magnitude and consistency of stakeholder demands and the organization's social and environmental commitments (Darnall et al. 2010; Ferrón-Vilchez et al. 2017; Henriques and Sadorsky 1999; Pedersen and Gwozdz 2014; Rueda-Manzanares et al. 2008). More generally, there is limited evidence of the relationship between the stakeholder environment and business model innovation (Foss and Saebi 2017; Saebi et al. 2017). Stakeholders are likely to shape an organization's ability to reconfigure its business architecture and develop new offerings, which will, in turn, benefit stakeholders (Dembek et al. 2023; Rosati et al. 2023). Accordingly, Amit and Zott (2015) consider stakeholder activities as a key antecedent of business model design.

This study aims to examine the relationship between stakeholder demands and the level of business model innovation and corporate sustainability. We posit that business model changes and commitment to corporate sustainability are shaped by managerial perceptions of the stakeholder environment. Our focus is restricted to organizational stakeholders—those groups and individuals who "are directly related to an organisation and have the ability to impact the bottom line directly" (Henriques and Sadorsky 1999, 89). Prior evidence indicates that managers primarily orient themselves toward these stakeholder categories (Pedersen et al. 2017). Empirically, the study analyses quantitative data collected through an online survey of 870 managers in three Nordic countries: Denmark, Norway, and Sweden. The survey responses provide insights on how managers across countries, sectors, and differently sized organizations perceive the relationships between organizational stakeholders, business model innovation, and corporate sustainability.

The results indicate that stakeholder demands *in general* influence business model innovation and corporate sustainability. Organizations perceiving themselves as operating in an environment characterized by high stakeholder demands are more likely to invest in innovation and corporate sustainability. These stakeholder demands do not necessarily have to address social and environmental issues. This study enriches the literature by advancing existing knowledge of the stakeholder-related drivers of business model innovation and corporate sustainability (Foss and Saebi 2018; Pedersen et al. 2018). Although there is some evidence of a relationship between business model innovation and corporate sustainability, the internal and external antecedents of this relationship are little understood. Essentially, we consider the nature of stakeholder relationships as foundational for how organizations self-organize, innovate their business model, and address social and environmental concerns.

2 | Hypothesis Development

There are numerous definitions of business models (for an overview, see Foss and Saebi 2018; Geissdoerfer et al. 2018). This study uses the term "business model" to describe the logic of how an organisation creates, delivers, and captures value (Foss and Saebi 2017; Osterwalder and Pigneur 2010; Teece 2010). The language of business models emerged in the 1990s amid the dot-com boom but gradually became integrated into mainstream management vocabulary (Lüdeke-Freund and Dembek 2017). While the early business model literature focused on value creation, delivery, and capture from a commercial perspective, the concept was later adopted by scholars and practitioners within the field of corporate sustainability, defined broadly as organizational activities "demonstrating the inclusion of social and environmental concerns in business operations and in interactions with stakeholders" (Van Marrewijk 2003, 102). Today, there are considerable studies examining sustainable business models and related subcategories, including circular (Bocken and Konietzko 2022), sharing (Netter et al. 2019), sufficiency-driven (Bocken and Short 2016), and frugal business models (Rosca et al. 2017). Central to the literature on sustainable business models is the expansion of organizational horizons from (1) commercial success to social, environmental, and economic value; (2) customer orientation to a stakeholder perspective; and (3) focus on short-term financial results to long-term societal impacts (Dembek et al. 2023; Rosati et al. 2023).

Business model innovation, a more recent subfield of the broader business model literature, addresses "designed, novel, and nontrivial changes to the key elements of a firm's [business model] and/or the architecture linking these elements" (Foss and Saebi 2017, 216). While debate continues over what constitutes business model innovation, the phenomenon is generally acknowledged to extend beyond traditional product and service development to the broader mechanisms by which the organisation creates, delivers, and captures value (Chesbrough 2010; Foss and Saebi 2018). A research stream has evolved around the intersection between business model innovation and corporate sustainability (Evans et al. 2017). Examples of business model innovation for sustainability include the development of new sharing platforms and base-of-the-pyramid solutions (Geissdoerfer et al. 2018). While traditional business model innovation has a customer-centric approach, business model innovation for sustainability has a broader purpose and considers wider impacts on society and the environment (Bocken and Geradts 2020).

Despite being conceptually and practically distinct, business model innovation and corporate sustainability have been merged in the literature. Business model innovation does not necessarily improve corporate sustainability performance, and corporate sustainability activities do not necessarily require business model innovation. However, few studies have explicitly examined the relationship between business model innovation and corporate sustainability as separate phenomena. Kajtazi et al. (2023) a positive relationship between business model innovation and corporate sustainability among companies in the Western Balkan countries. Similar findings were reported in a study on Nordic fashion companies, which identified a relationship between business model innovation and corporate sustainability (Pedersen et al. 2018). The results appear to have been influenced by the underlying cultural orientation: organizations dominated by flexibility values were found to demonstrate higher levels of business model innovation and corporate sustainability than organizations with more mechanistic characteristics (Pedersen et al. 2018).

Based on the available evidence, we posit that there is a positive relationship between business model innovation and corporate

sustainability. Innovative companies are expected to have organizational characteristics that better equip them to address corporate sustainability. For instance, companies with flexible boundaries (e.g., across functions and professions) that allow knowledge sharing and collaboration are expected to be more innovative and sustainable (Hoffman 2010; Risi et al. 2023). We thus propose:

Hypothesis 1. *Business model innovation is positively related to corporate sustainability.*

Stakeholder theory focuses on the relationships between the groups and individuals with stakes in an organisation (Parmar et al. 2010). Fundamentally, it posits that an organisation has responsibilities towards the groups and individuals who influence and/or are influenced by its conduct, and that managing with their interests in mind is a better way to run a business (Freeman et al. 2007; Harrison and Wicks 2013). As Dmytriyev et al. (2021, 144) note, "in stakeholder theory, one of the core tasks for managers is generating mutual benefits for various stakeholders." Stakeholder theory is fundamentally based on a collaborative and relational perspective emphasizing how organizations can create value for all constituents, such as shareholders, customers, suppliers, employees, and the local community (Freeman and Velamuri 2006). Although the theory's roots stretch back to (at least) the 1960s, the field was mainstreamed in R. Edward Freeman's landmark book, *Strategic Management: A Stakeholder Approach*, which defines a stakeholder as: "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman 1984, 46). The definition remains a common point of reference, though the exact meaning of "stakeholder" remains debated.

Originally introduced as a strategic management approach (Freeman 1984), stakeholder thinking has subsequently permeated other academic fields, including corporate sustainability and corporate social responsibility (Dmytriyev et al. 2021; Montiel and Delgado-Ceballos 2014). As noted by Hörisch et al. (2014, 328), "[s]takeholder theory is one of the major, if not the most frequently used, approaches in social, environmental, and sustainability management research." Relevant to the present study, research has explored the relationship between stakeholder relationships and corporate sustainability (Castellano et al. 2022; Darnall et al. 2010; Murillo-Luna et al. 2008). For instance, Rueda-Manzanares et al. (2008) concluded that stakeholder integration capability is related to the adoption of an environmental strategy. Moreover, Aragón-Correa et al. (2008) found links between stakeholder management capabilities and proactive environmental strategies in small companies. Therefore, research indicates a strong association between stakeholder relationships and corporate sustainability (Lee et al. 2018; Wolf 2014).

There is significantly less research on the relationship between the stakeholder environment and business model innovation. This gap reflects a general paucity of empirical studies of the antecedents of business model innovation (Foss and Saebi 2017; Saebi et al. 2017). However, the importance of internal and external stakeholders is generally acknowledged in the literature on business model innovation (Amit and Zott 2015; Chesbrough 2010; Foss and Saebi 2017; Saebi et al. 2017). It is difficult to envision the development of new business models without interaction with key stakeholders such as employees, suppliers, and customers, given that a business is constituted by the set of relationships between its stakeholders (Dmytriyev et al. 2021). For instance, a case study in the aerospace industry demonstrated how business models evolve through interplay between key business partners in a stakeholder network (Ferreira et al. 2013). Ma and Chen (2025) also suggest a positive relationship between stakeholder pressures from regulators and customers and a company's product and process innovation. Overall, the ability to recognize, understand, and respond to stakeholder demands is an important management skill that helps the organisation evaluate business opportunities and balance oppositional demands during the innovation process (Bocken and Geradts 2020; Watson et al. 2018). Conversely, failure to understand and interact with stakeholders makes it difficult to develop new, successful business models (Geissdoerfer et al. 2018).

This study predicts that stakeholder demands are positively related to business model innovation (see Hypothesis 2 below). Demanding stakeholders are more likely to receive management attention and inspire reflections about the current business model, leading in turn to new innovations. Conversely, organizations facing few demands from stakeholders will have little incentive to rethink their business model (Velter et al. 2022). Likewise, we expect a positive relationship between stakeholder demands and corporate sustainability (Hypothesis 3). Extant literature suggests that pressures from internal and external stakeholders are positively related to the firm's commitment to corporate sustainability, although this relationship can depend on the stakeholder group in question and the type of corporate sustainability activity (Adomako and Tran 2022; Broccardo et al. 2023; Ernst et al. 2022; Rhee et al. 2021). Organizations operating in demanding stakeholder environments have a greater incentive to proactively approach corporate sustainability. As Sarkis et al. (2010, 164) note, "stakeholder pressures result in significant motivation for organisations to adopt various environmental practices." The incentive is likely to be stronger for demands from primary stakeholders with direct influence on the organisation (Barnett 2019). Conversely, organisations experiencing few demands from stakeholders have little reason to reduce risks or seek new opportunities through corporate sustainability. Therefore, we propose:

Hypothesis 2. *Stakeholder demands are positively related to business model innovation.*

Hypothesis 3. *Stakeholder demands are positively related to corporate sustainability.*

Stakeholder theory assumes that stakeholder interests increasingly align over time (Freeman et al. 2007; Freeman and Velamuri 2006). It also posits that systematic neglect of the demands of key stakeholder groups is unsustainable, although trade-offs and prioritizations tend to be inevitable in the short term. This harmonious view of stakeholder thinking seems to diverge from recent academic discussions of tensions and paradoxes, which assume that opposing demands are built into the fabric of an organisation (Gaim et al. 2021; Van der Byl and Slawinski 2015). Scholars also suggest that tension is inherent to corporate sustainability as it obligates balancing economic, social, and environmental goals, which are not always congruent (Haffar and Searcy 2019).

The consistency of stakeholder demands is likely to influence business model innovation and corporate sustainability, although this relationship can vary. Competing stakeholder demands create a more complex environment that may inspire organisations to make minor adjustments rather than big changes in strategy and operations (Rueda-Manzanares et al. 2008). However, some studies indicate that conflicting stakeholder demands can also inspire change. For instance, Pedersen and Gwozdz (2014) found that consistent demands for corporate sustainability inspired fashion companies to be conformists rather than opportunity seekers. However, their study only covered stakeholder demands linked to corporate sustainability, not general demands from organizational constituents.

This study predicts that the consistency of stakeholder demands is positively related to both business model innovation (Hypothesis 4) and corporate sustainability (Hypothesis 5). Consistent stakeholder demands lower complexity, making it less risky to invest in new products, services, and solutions, as well as easier to implement corporate sustainability in organisations and value networks. Upstream, lack of consistency in the needs and wants of the supplier base can impede innovation and supply chain sustainability (Wolf 2014). Downstream, the commercial success of business model innovation and corporate sustainability ultimately depends on customer demands and willingness to pay (Osterwalder and Pigneur 2010). Inconsistent customer demands will make it difficult to align company offerings with market expectations. In summary, business model innovation and corporate sustainability are expected to be easier when the organisation operates in an environment with consistent stakeholder demands. We thus propose:

Hypothesis 4. *Consistency in stakeholder demands is positively related to business model innovation.*

Hypothesis 5. *Consistency in stakeholder demands is positively related to corporate sustainability.*

How an organisation responds to stakeholder demands depends on its capacity. The role of resource availability has received little attention in business model innovation research but has long been studied in the general innovation and sustainability literature (Nohria and Gulati 1996; Waddock and Graves 1997). For instance, financial constraints have been identified as a common internal barrier to corporate sustainability (Delgado-Ceballos et al. 2012). Resource constraints have also been associated with a higher risk of short-termism, whereby the organisation tends to favor investments that will quickly generate a return on investment (Slawinski and Bansal 2015). However, the effects of resource scarcity on innovation and corporate sustainability are not uniform (Lu et al. 2023; Voss et al. 2008). For instance, Nohria and Gulati (1996) suggest a U-shaped curve, indicating that both too little and too much resource slack can constrain innovation. Regarding corporate sustainability, it has also been suggested that organisations with abundant resources have more power to lobby against, and otherwise resist, new stakeholder demands (Darnall et al. 2010). Moreover, the role of resource scarcity in organizational responses to stakeholders appears to depend on the institutional context (Xiao et al. 2018).

This study predicts that the level of resource availability will moderate the relationships of stakeholder demands with business model innovation and corporate sustainability. Existing evidence indicates that resource scarcity can bring tension and negatively influence organizational performance (Miron-Spektor et al. 2018). Regarding corporate sustainability, organisations with slack resources are likely to have greater leverage in responding to stakeholder pressures (Xiao et al. 2018). Moreover, resource availability makes it easier for managers to introduce corporate sustainability activities without experiencing push-backs from other parts of the organisation (Lu et al. 2023). In summary, access to financial, human, and technical resources allows organisations to invest in new initiatives based on signals from the stakeholder environment, whereas organisations with fewer resources have fewer opportunities to explore new business prospects and introduce corporate sustainability initiatives. We thus propose:

Hypothesis 6. *Resource availability moderates the relationships between stakeholder demands and business model innovation (H6a), stakeholder demands and corporate sustainability (H6b), and business model innovation and corporate sustainability (H6c).*

3 | Methodology

The hypotheses were tested by analysing data collected through a survey conducted by an external data provider between November and December 2022. Respondents were selected from a citizen panel in three Nordic countries (Denmark, Norway, and Sweden) based on their job status (full-time or part-time employment) and organisation size (10 or more employees). A total of 21,933 citizens were invited to participate, of which 7144 completed the survey—a 32.6% response rate. The respondents comprised top managers (3.4%), middle managers (22.1%), and staff with no management responsibilities (74.4%) and represented a wide variety of sectors, of which health (11.5%), education (11.2%), and manufacturing (9.7%) were most common. There were a relatively equal proportion of males (49.3%) and females (50.7%). For the purpose of this study, we only included responses from top and middle managers ($N = 870$), assumed to be better positioned to answer questions concerning strategy and business model innovation. However, to test the robustness of our findings, we also ran the tests with the sample expanded to include employees without management responsibilities. Overall, the findings show consistency across all respondent categories irrespective of employment status. A possible explanation is that most respondents work in smaller organisations where all staff members have knowledge of strategy and operations.

3.1 | Measurement of Variables

3.1.1 | Corporate Sustainability

Corporate sustainability (CORP_SUS) is an umbrella term covering various social and environmental activities. Drawing on the literature, we developed a list of nine corporate sustainability activities linked to three core organizational stakeholders,

two internal and one external: managers/owners (MANOWN), employees (STAFF), suppliers, and customers (EXT). The items were derived from existing scales used to measure corporate sustainability (Banerjee 2003; Murillo-Luna et al. 2008; Pondeville et al. 2013):

- Management has formulated clear social and environmental goals (MO_1).
- Management has initiated a number of concrete social and environmental improvements (MO_2).
- Management considers social and environmental consequences when making important decisions (e.g., on investments and new products) (MO_3).
- Management measures and reports on social and environmental performance (MO_4).
- Staff members are offered training and education on social and environmental topics if needed (S_1).
- Staff members receive sufficient resources (e.g., time and budget) to implement social and environmental improvements (S_2).
- Staff members are recognised and/or rewarded for contributing to social and environmental improvements (S_3).
- My organisation sets social and environmental requirements for suppliers (E_1).
- My organisation encourages customers to make socially and environmentally friendly choices (E_2).

3.1.2 | Business Model Innovation

This study measures the construct BMI using the nine-item scale developed by Pedersen et al. (2018), itself based on Osterwalder and Pigneur's (2010) business model canvas. Respondents were asked to assess the strategic focus of their workplace in nine dimensions, answering on a seven-point scale:

- Value proposition: 1 = Focus on improving EXISTING products and/or services. 7 = Focus on developing NEW products and/or services (BMOD_1).
- Customer segments: 1 = Focus on serving EXISTING markets and customer segments. 7 = Focus on serving NEW markets and customer segments (BMOD_2).
- Key resources: 1 = Focus on nurturing EXISTING resources and competencies (technology, people, IT systems, etc.). 7 = Focus on developing and/or acquiring NEW resources and competencies (BMOD_3).
- Key activities: 1 = Focus on improving EXISTING processes and activities (design, logistics, marketing, etc.). 7 = Focus on developing NEW processes and activities (BMOD_4).
- Key partnerships: 1 = Focus on deepening relationships with EXISTING partners (suppliers, distributors, end-users, etc.). 7 = Focus on establishing relationships with NEW partners (BMOD_5).
- Customer relationships: 1 = Focus on improving EXISTING tools for building customer relationships (personal service, memberships, etc.). 7 = Focus on developing NEW tools for building customer relationships (BMOD_6).
- Channels: 1 = Focus on selling products and/or services through EXISTING channels (own stores, partner stores, online, etc.). 7 = Focus on selling products and/or services through NEW channels (BMOD_7).
- Cost structure: 1 = Focus on minimizing EXISTING operational costs. 7 = Focus on developing a NEW operational cost structure (BMOD_8).
- Revenue streams: 1 = Focus on improving sales from EXISTING revenue streams (products, services, leasing, etc.). 7 = Focus on developing brand NEW ways of generating revenue (BMOD_9).

3.1.3 | Stakeholder Demands

To measure this construct (STK), respondents were asked about five key constituents: managers, owners, employees, customers, and suppliers. These stakeholders are essential to organisation survival, business model operations/development, and corporate sustainability activities (Buysse and Verbeke 2003; Osterwalder and Pigneur 2010). First, we asked respondents to indicate the level of stakeholder demands (STK_LEV): *To what extent is your organisation met with demands from the following stakeholder group on a daily basis?* Responses were rated on a seven-point scale (1 = No/very few demands; 7 = Very high demands). Second, we asked respondents about the consistency of stakeholder demands (STK_CON): *To what extent are the various demands of this stakeholder group consistent with the demands of other stakeholders?* Responses were rated on a seven-point scale (1 = Very little consistency; 7 = Complete consistency).

3.1.4 | Measurement of Resource Availability

We measured the construct resource availability (RES_AB) by asking respondents to indicate their level of agreement with two statements regarding their job situation (1 = Strongly disagree, 7 = Strongly agree):

- My organisation is doing well financially (RA_1).
- My organisation has resources (budget, staff, tools, etc.) to run daily operations and invest in relevant developmental activities (RA_2).

3.1.5 | Control Variables

Organisation size is generally expected to influence the scale and scope of corporate sustainability (Wickert et al. 2016). For instance, large organisations adopt more formalized approaches to corporate sustainability (Morsing and Spence 2019). They are also more visible in the business landscape and, hence, have a greater incentive to adopt

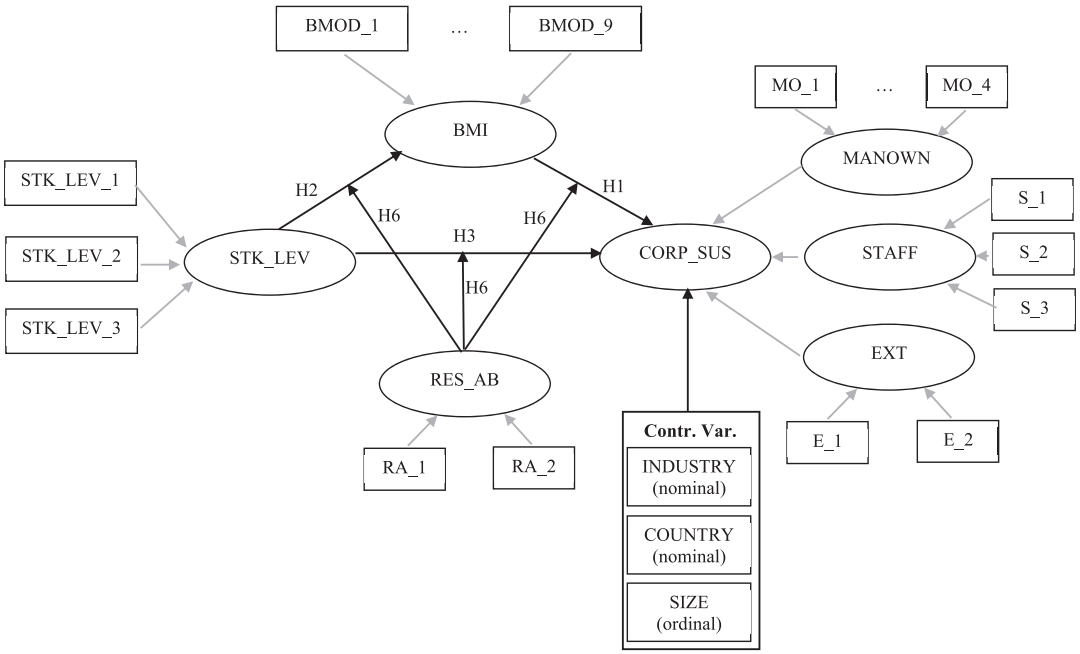


FIGURE 1 | Model 1 (M1).

corporate sustainability to reduce reputational risk (Jackson and Apostolakou 2010). In this study, we controlled for organisation size (SIZE), as well as SECTOR and COUNTRY.

3.1.6 | Analysis Method

Structural equation modelling (SEM) was used to test the validity of the hypotheses. The two most popular methods are partial least squares (PLS-SEM) and covariance-based SEM (Dash and Paul 2021). We chose the former for three reasons: (1) the presence of higher-order formative constructs in the tested models, (2) the non-normality of the survey data, and (3) the use of bootstrapping to test the moderation hypothesis (H6a–c) (Hair Jr. et al. 2017, 2019). In particular, non-normal survey data makes PLS-SEM a better choice than traditional regression techniques (Hair Jr. et al. 2019). Calculations were performed in SEMinR, an R package (version 4.1.2) for SEM (Ray et al. 2021). Hypothesis testing was based on 2000-iteration bootstrapping, along with Aguirre-Urreta and Rönkkö's (2018) percentile method for confidence intervals (Hair Jr. et al. 2017).

3.1.7 | Models for Hypothesis Testing

Figures 1–3 show the three models used to test hypotheses 1–6.

Model 1 (M1) tests the effects of STK_LEV, an exogenous construct, on BMI and CORP_SUS (H2 and H3). Next, Model 2 (M2) tests the same effects of STK_CON, an exogenous construct (H4 and H5). In Model 3 (M3), STK_LEV and STK_CON are combined in the second-order construct STK, and the same relationships are investigated (H2–H5). The effects of BMI on CORP_SUS (H1) and the moderating role of resource availability on all the studied relationships (H6a–c) are tested in all three models.

The rationale for splitting the examined relationships between three models derives from the mechanics of PLS-SEM. M1 is needed to explicitly test the effect of stakeholder demands on corporate sustainability and business model innovation (H2 and H3). The same is true for M2 (H4 and H5). M3 repeats the test in H2–H5 by slightly changing how the level and consistency of stakeholder demands are represented. In M1 and M2, the effects of STK_LEV and STK_CON are tested separately, whereas M3 evaluates their joint effect as one higher level construct. Coherence or incoherence in the results will provide additional information about the patterns of effects of stakeholder demands on corporate sustainability. An analogous explanation applies to the testing of H1 and H6: the evaluation tests whether changing the main endogenous construct—level and consistency of stakeholder demands—indirectly affects the relationship between business model innovation and corporate sustainability and the moderating effect of resource availability.

4 | Results

4.1 | Evaluation of Lower-Order Constructs

Each measurement model was evaluated starting from lower-order constructs and then moving on to higher-order constructs (Sarstedt et al. 2019). In M1 and M2, six first-order constructs were tested in the first step (STK_LEV/STK_CON, BMI, RES_AB, MANOWN, STAFF, and EXT) and one second-order construct was assessed in the second step (CORP_SUS). In M3, an additional second-order construct was tested in the second step (STK). All constructs are formative, except for resource availability (RES_AB). Considering the similarity between the models and their assessment outcomes, a broad description is provided here. The approach to construct validation follows the recommendations of Hair Jr. et al. (2021).

Beginning with resource availability (RES_AB), in each model the loadings of its two indicators are above 0.708, confirming acceptable construct–indicator correlation. The internal

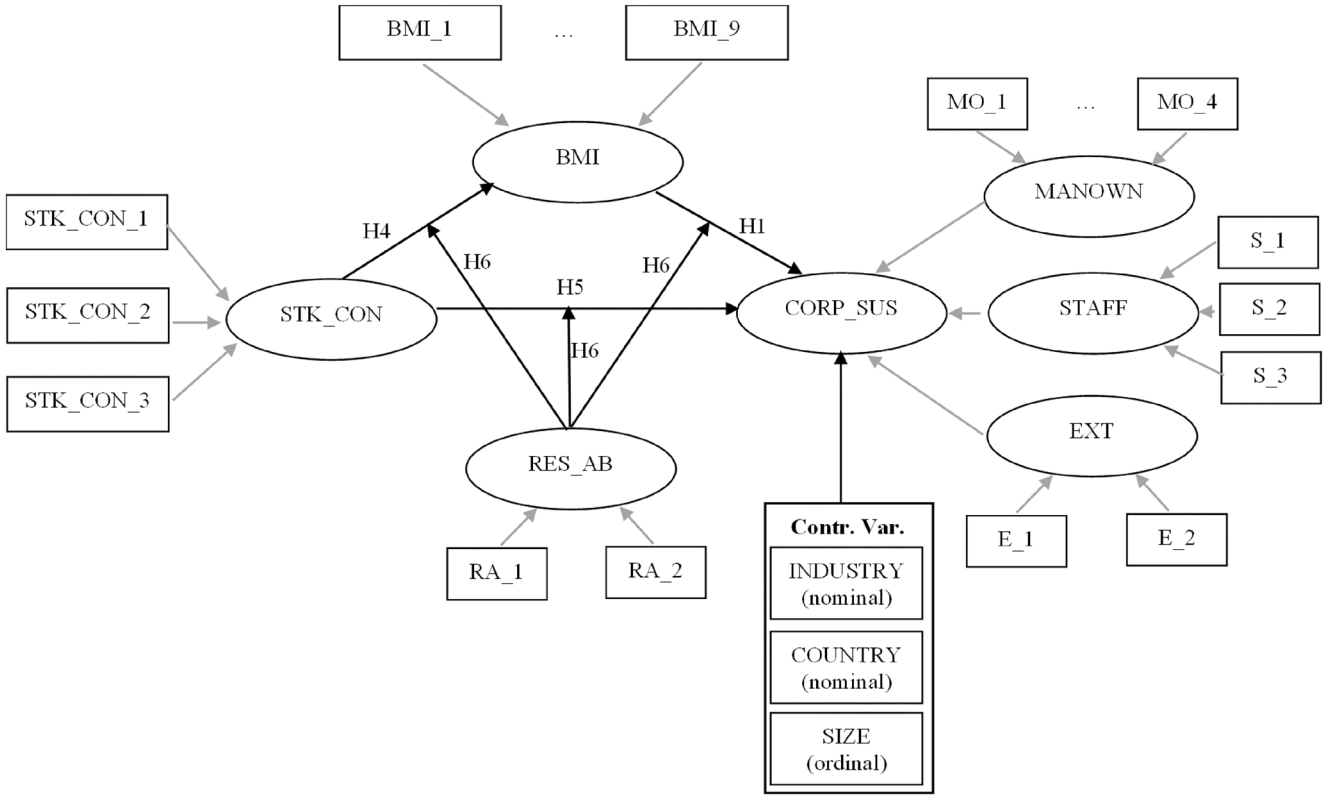


FIGURE 2 | Model 2 (M2).

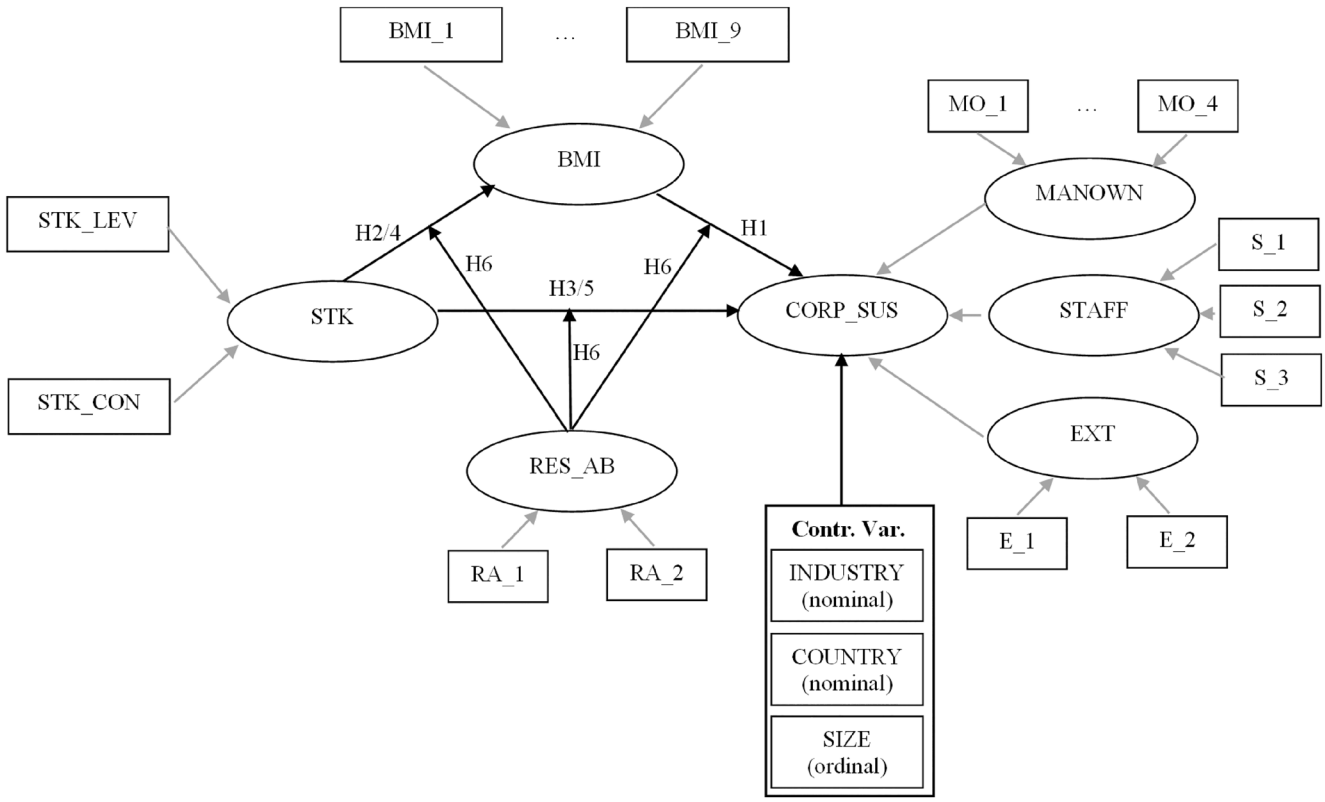


FIGURE 3 | Model 3 (M3).

consistency measures ρ_C, ρ_A, and α are all close to the "good" threshold of 0.9 (Diamantopoulos et al. 2012; Jöreskog 1971): 0.914, 0.818, and 0.811 for M1; 0.914, 0.819, and 0.813 for M2; and 0.912, 0.815, and 0.808 for M3. Average variance extracted (AVE) is above 0.5 in each case, indicating that the construct has convergent validity (Hair Jr. et al. 2017). Finally, discriminant

validity was assessed using the heterotrait–monotrait (HTMT) criterion (Henseler et al. 2015) to test the correlation between resource availability (RES_AB) and its related constructs (level and consistency of stakeholder demands, business model innovation, and corporate sustainability). The bootstrapped correlations did not exceed 0.5 for any pair in each model. This value is significantly below Henseler et al.'s (2015) conservative threshold of 0.85, indicating that the level of correlation is not problematic.

To validate the formative constructs, three aspects were considered: collinearity, weight significance, and indicator loadings. Collinearity was assessed through variance inflation factors (VIFs). All VIFs were below both the recommended threshold of 5 and the more conservative threshold of 3 (Becker et al. 2015; Hair Jr. et al. 2021). Conversely, some indicators had nonsignificant weights. For example, in M3 the weights of two BMI indicators (BMOD_2 and BMOD_8) were not significant. However, all indicators with nonsignificant weights but bootstrapped loadings significantly below the 0.5 threshold value were included in the measurement model (Hair Jr. et al. 2021). In M2 and M3, the corporate sustainability indicator MO_4 had a nonsignificant weight and a bootstrapped loading below 0.5. As recommended by Hair Jr. et al. (2021), this indicator was eliminated. For consistency, MO_4 was also eliminated from M1 despite having a bootstrapped loading above 0.5.

4.2 | Evaluation of Higher-Order Constructs

Before evaluating the structural models, the validity of the two second-order constructs was assessed: CORP_SUS in M1–3 and STK in M3. For both constructs, a disjoint two-stage approach was adopted (Agarwal and Karahanna 2000; Becker et al. 2012; Jarvis et al. 2003).

As for the lower-order constructs, collinearity, weight significance, and indicator loadings were assessed (Hair Jr. et al. 2021). Some VIFs are slightly above the more conservative threshold of 3 (e.g., 3.014 for STAFF in M1); however, all VIFs are much lower than the recommended threshold of 5, so collinearity can be excluded for the second-order constructs too. The weights are all positive and significant except in a small number of cases (e.g., t-stat of 1.864 for STAFF in M1). Since no loadings are significantly below 0.5, the higher-order constructs are considered to behave well.

Finally, before evaluating the models, common method bias (CMB) was tested using Harman's single-factor test, selected because of its straightforward implementation, conservative outcome, and wide acceptance among management scholars (Fuller et al. 2016; Kock et al. 2021). In all three models, the percentage of variance explained by the single fictitious factor built for the test is below the 50% threshold (always between 25% and 30%), indicating that CMB is not serious.

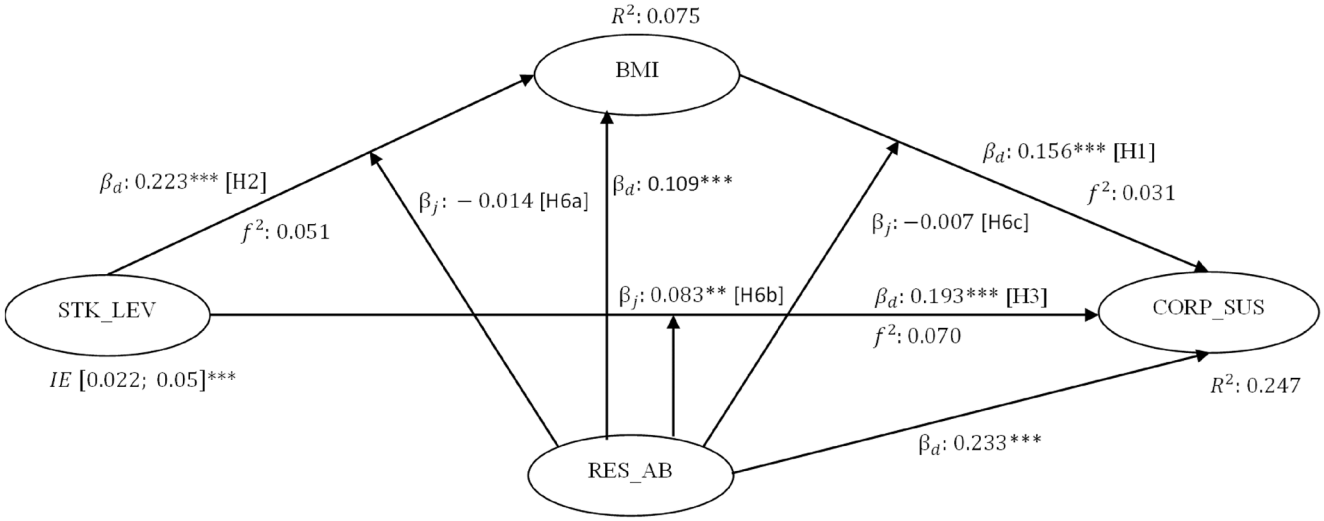
4.3 | Evaluation of the Structural Model and the Hypotheses

Collinearity is first excluded as the VIFs of the only endogenous construct, CORP_SUS, are below 3 in each model (Hair Jr. et al. 2021). Thus, the models can be used to evaluate the hypotheses. The evaluation was conducted using a two-stage procedure to derive the composite scores of the second-order constructs and then bootstrap the results (Chin et al. 2003; Sarstedt et al. 2019; Streukens and Leroi-Werelds 2016). The relevant measures resulting from the procedure—path significance, R^2, f^2, and indirect effects—are reported for each model in Figures 4–6, respectively.

The results for M1 (Figure 4) address H1, H2, H3, and H6a–c, while the M2 results (Figure 5) address H1, H4, H5, and H6a–c. All the hypotheses can be evaluated using the M3 results (Figure 6).

Starting with M1, STK_LEV has a moderate, very significant effect on CORP_SUS (0.193), suggesting the validity of H3. Its effect on BMI is higher and equally significant (0.223); therefore, H2 can be considered valid too. Regarding H1, the effect of BMI on CORP_SUS is smaller than the two effects of STK_LEV (0.156) but equally significant. To help interpret the result, the indirect effect of STK_LEV on CORP_SUS through BMI was also evaluated. Though somewhat low (between 0.02 and 0.05), the effect is highly significant, suggesting that it is unlikely to be explained by chance. One interpretation of these patterns is that stakeholder demands for more corporate sustainability are satisfied with only a marginal impact on firms' business models (Calabrese et al. 2023). For instance, organisations can replace polluting materials with environmentally friendly alternatives and introduce social and environmental standards into supply chains without innovating their business models. Stakeholder demands for more business model innovation have little positive impact on corporate sustainability. Conversely, firms are keen to incorporate stakeholder demands for more innovation in their business models (the beta for STK_LEV → BMI is highest in M1).

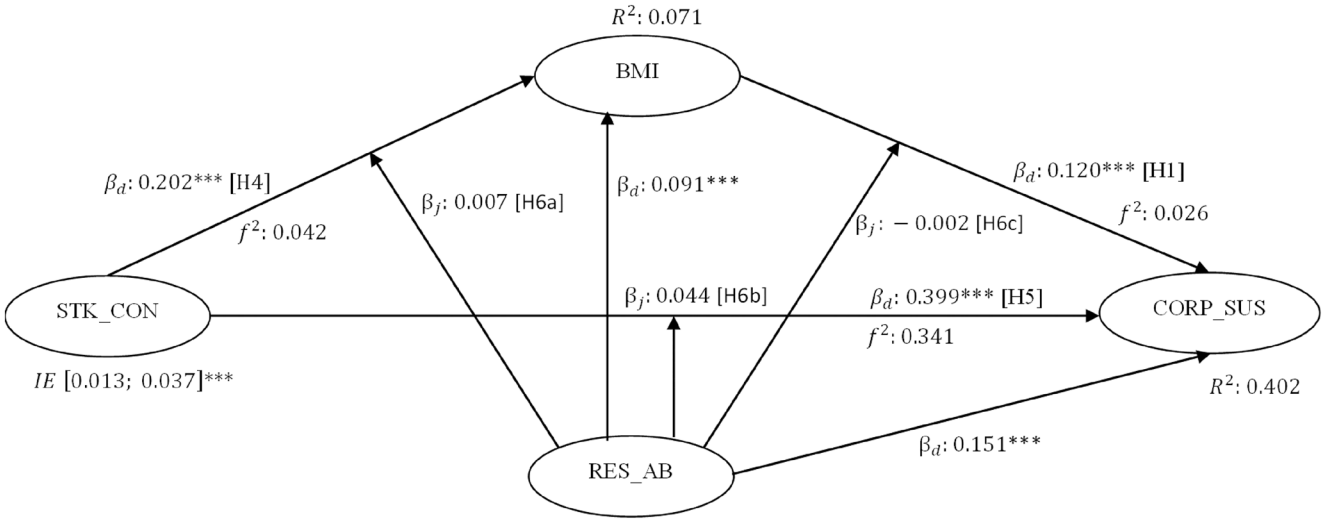
Regarding H6a–c, the effect of resource availability (RES_AB) is heterogeneous. As expected, its direct effects on BMI and CORP_SUS are high and significant (0.109 and 0.233, respectively). These findings support the slack resources hypothesis, which posits that resource availability is a precondition for investing in corporate sustainability (Lu et al. 2023; Waddock and Graves 1997). Rejecting H6a and H6c, the moderated effects are nonsignificant (H6a and H6c) for (1) the level of stakeholder demands on business model innovation (STK_LEV*RES_AB → BMI) and (2) business model innovation on corporate sustainability (BMI*RES_AB → CORP_SUS). By contrast, the moderated effect of the level of stakeholder demands on corporate sustainability (STK_LEV*RES_AB → CORP_SUS) is significant, supporting H6b. The first finding suggests that organisations align with stakeholder demands to innovate their business models, irrespective of resource availability. Conversely, the third finding indicates that resource availability reinforces the relationship between stakeholder demands and corporate sustainability. Overall, corporate sustainability seems to be sensitive to resource availability, supporting the prior finding that slack resources have less explanatory power for organizational responses to stakeholder demands in countries with high sustainability performance (Xiao et al. 2018). A slightly more negative interpretation is that corporate sustainability may still be



Legend

*** significant at 0.1%	β_d – direct effect of construct X on Y: X → Y
** significant at 1%	β_j – joint effect of construct X and Z on Y: X*Z → Y
* significant at 5%	IE – indirect effect of construct X on Y through Z: X → Y (through Z)

FIGURE 4 | Model 1 results.



Legend

*** significant at 0.1%	β_d – direct effect of construct X on Y: X → Y
** significant at 1%	β_j – joint effect of construct X and Z on Y: X*Z → Y
* significant at 5%	IE – indirect effect of construct X on Y through Z: X → Y (through Z)

FIGURE 5 | Model 2 results.

considered an add-on activity exclusively for organisations with excess resources.

Moving on to M2, STK_CON has a strong and very significant effect on CORP_SUS (0.399), supporting H5. The effect of STK_CON on BMI is also very significant, but more moderate (0.202), supporting H4. The former coefficient is almost double the latter, suggesting that contrasting stakeholder demands are particularly detrimental to corporate sustainability. These findings seem to contradict the perceived importance of engaging in dialogue with critical stakeholders whose interests differ from those of the organisation (Freeman et al. 2007). However, it is important to note that the survey focuses on organizational stakeholders who directly influence operations. It is reasonable to assume that corporate sustainability becomes easier when the interests of core organizational stakeholders are aligned. A survey covering a broader range of secondary stakeholders with a more indirect influence on organizational activities may reach different conclusions.

For H1, the results are analogous to those in M1: BMI has a significant effect on CORP_SUS (0.120). The indirect effect of STK_CON on CORP_SUS via BMI is lower (0.01–0.04). While RES_AB has a strong direct effect on BMI and CORP_SUS, none of the moderated effects are significant, rejecting H6a–c.

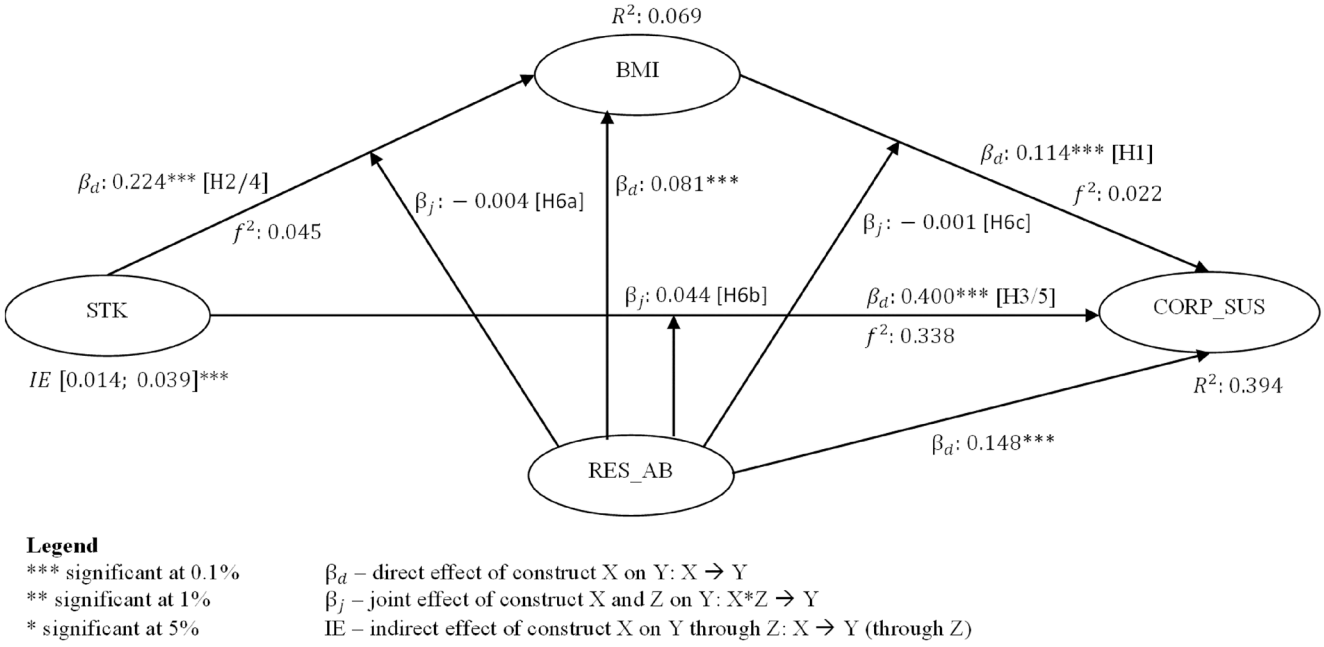


FIGURE 6 | Model 3 results.

TABLE 1 | Summary of hypothesis test results.

	M1	M2	M3
H1	*v*	*v*	*v*
H2	*v*	NA	*v*
H3	*v*	NA	*v*
H4	NA	*v*	*v*
H5	NA	*v*	*v*
H6[a]	$x(a)-v(b)-x(c)$	$x(a)-x(b)-x(c)$	$x(a)-x(b)-x(c)$

Abbreviations: NA = not applicable, i.e., the hypothesis is not tested in the corresponding model; *v* = hypothesis is verified; *x* = hypothesis is rejected.
[a]For H6, three moderated effects were tested (H6a–c).

The results in M3, which combines the level and consistency of stakeholder demands into the second-order construct STK, are similar to those in M2. There is a strong, significant direct effect of STK on BMI, while the moderating effect of RES_AB is not significant. Evidently, when the level and consistency of stakeholder demands are combined, the effect of the latter prevails.

Table 1 summarizes the results of hypothesis testing in all three models. It shows that H1–H5 are valid in all settings, whereas H6a and H6c are rejected, and H6b is only supported in M1.

4.4 | Evaluation of the Structural Models' Goodness of Fit

Regarding the models' in-sample predictive power (Rigdon 2012), R^2 is good for corporate sustainability in M2 and M3, while weaker but still satisfactory in M1 (Hair et al. 2011). R^2 for business model innovation is low in all three models, which is attributable to its heterogeneous components. The assessment of how each endogenous construct's R^2 is affected by the removal of its predictors, f^2, follows the same ranking as R^2, further evidencing the validity of the models' fit (Hair Jr. et al. 2021).

The full models' out-of-sample predictive power could not be calculated using the $PLS_{predict}$ routine in the package used for analysis (Shmueli et al. 2016, 2019), so the moderator and second-order constructs were omitted. With these modifications, the models lack out-of-sample predictive power (Shmueli et al. 2019), which may also reflect the prevalence in the fitted models of formative constructs, known to provide better in-sample metrics (Shmueli et al. 2019). In any case, the good in-sample explanatory power (R^2) observed is sufficient to test the validity of the causal relationships in a wider population (Shmueli et al. 2016), which is the primary goal of this study.

Endogeneity was tested as the final check for model validity. As suggested by Hult et al. (2018), considering the data at hand, two approaches were adopted: the addition of control variables (Bernerth and Aguinis 2016) and the Gaussian copula (Park and Gupta 2012). These are most suitable when data are non-normal and there are no additional constructs to be used as instrumental variables (Hult et al. 2018). Control variables were added irrespective of the need to remove endogeneity because their relevance has strong theoretical support (Bernerth and Aguinis 2016). As is customary, they are added directly to the main endogenous construct, CORP_SUS (Hult et al. 2018). Their effect is not reported to avoid excessive information in Figures 4–6. No Gaussian copula is significant for any relevant constructs, so endogeneity can be ruled out.

5 | Discussion

This study examined the relationships between stakeholder demands, business model innovation, and corporate

sustainability. The results indicate that higher stakeholder demands are linked to higher levels of business model innovation and corporate sustainability. These findings are novel in the empirical literature on antecedents of business model innovation, which has thus far paid only piecemeal attention to the influence of stakeholder demands on organizations' development of new, sustainable business models. The findings also add nuance to existing studies of the factors influencing business model innovation. For instance, existing evidence indicates that organisations dominated by flexibility values are more likely to innovate their business models (Pedersen et al. 2018). The importance of organizational flexibility for business model innovation may also be linked to internal and external stakeholder demands: demanding stakeholders foster business model innovation, in turn necessitating flexible organizational structures.

As regards the corporate sustainability literature, this study's findings resonate with those of previous research examining organizational responses to social and environmental pressures from stakeholders (Aragón-Correa et al. 2008; Buysse and Verbeke 2003; Darnall et al. 2010; Henriques and Sadorsky 1999; Kassinis and Vafeas 2006; Lee et al. 2018). However, whereas existing research on corporate sustainability has primarily focused on social and environmental stakeholder pressures, this study's findings indicate that stakeholder demands *in general* are positively related to business model innovation and corporate sustainability. A plausible explanation is that a demanding stakeholder environment itself motivates organisations to develop new offerings and adopt corporate sustainability.

This study also indicates that resource availability moderates the relationship between the level of stakeholder demands and corporate sustainability. These findings echo existing evidence that the availability (or lack) of resources is an important contributor to variations in corporate sustainability (Delgado-Ceballos et al. 2012; Lee et al. 2018). The availability of financial, technical, human, and other resources tends to facilitate meeting stakeholder demands, even when incongruous. Conversely, organisations facing serious resource constraints are more likely to make trade-offs and prioritizations when addressing stakeholder demands, which will inhibit corporate sustainability. Ultimately, such trade-offs may result in value destruction and undermine the support of key stakeholders. According to stakeholder theory, organisations cannot ignore the interests of key stakeholders in the long run (Freeman et al. 2007). Managing for stakeholders inspires innovation and growth, whereas trade-off thinking causes stagnation and inertia (Freeman et al. 2007). The moderating role of resource availability may also indicate that managers are not always convinced about the win-win potentials of corporate sustainability and still consider these activities as a cost, at least in the short run.

Managers are important organizational actors who have direct relationships with all other stakeholders and decision-making authority on strategic prioritization, resource allocation, and contracting (Aguilera et al. 2007; Fassin 2008). This study's findings have practical implications by highlighting how managerial perceptions of stakeholder demands are linked to both business model innovation and corporate sustainability. Our results suggest that managers perceiving high stakeholder demands are driven to focus on developing new ways to create, deliver, and capture value and to make social and environmental commitments. These findings resonate with the literature indicating that managers' ability to sense threats and opportunities in the environment is a precondition for developing the business model (Inigo et al. 2017). It is critical that management understands when a new business model is needed, and information from the stakeholder environment provides valuable cues (Massa and Tucci 2014).

Overall, the findings suggest that managing for stakeholders is at least partly a precondition for developing new offerings and investing in social and environmental improvements (Freeman et al. 2007). Nonetheless, managerial awareness of stakeholder demands is only the first step in building and maintaining meaningful stakeholder relationships. Although stakeholders set demands on organisations, their needs and wants can be interpreted and acted upon differently. More knowledge is needed on how stakeholder demands are interpreted by managers and translated into action through various stakeholder engagement mechanisms, such as stakeholder awareness and consultation, materiality assessments, and measurement systems. Moreover, both business model innovation and corporate sustainability take time, implying that stakeholders' roles may vary at different stages of the process (Ringvold et al. 2023). Longitudinal studies could provide valuable insights about the role of stakeholder demands throughout change processes.

As a final caveat, this study focuses exclusively on stakeholder demands, which can only explain part of the complex puzzle regarding antecedents of business model innovation and corporate sustainability, both multifaceted social phenomena. Business model innovation and corporate sustainability can be influenced by various individual, organizational, and institutional factors (Aguinis and Glavas 2012; Foss and Saebi 2017; Ringvold et al. 2023; Saebi et al. 2017; Vermunt et al. 2019). Therefore, future research should aim to provide cross-disciplinary insights into the dynamic interplay between the multiple internal and external drivers of business model innovation and corporate sustainability.

6 | Conclusion

Contradicting Dr. Seuss's contention that "Those Who Mind Don't Matter, and Those Who Matter Don't Mind," this study suggests that stakeholders who matter also mind by setting demands on the organisation. More specifically, the study reveals how stakeholder demands shape business model innovation and corporate sustainability. While stakeholder theory has a long history in conceptual discussions of business model innovation, there is scarce empirical knowledge on how characteristics of the stakeholder environment shape the adaptation and renewal of dominant business infrastructures. Based on survey responses from top and middle managers in three Nordic countries, we found that the level and consistency of stakeholder demands are significantly positively related to business model innovation and corporate sustainability, even when these demands are not directly related to social and environmental issues. Moreover, this study shows how resource availability positively moderates the influence of the level of stakeholder demand on corporate

sustainability and business model innovation. Overall, the study results indicate that managerial perceptions of the stakeholder environment are closely linked to organizational operations and development.

This study has limitations that need to be acknowledged. First, the tested hypotheses do not cover all internal, interorganisational, and external antecedents of business model innovation and corporate sustainability, which could influence the results. We focused explicitly on the role of stakeholder demands, while controlling for organisation size, sector, and country. Second, the study is limited to Nordic countries, which are quite homogeneous and may adopt specific patterns of business model innovation and corporate sustainability. Existing research suggests that the institutional context influences organizational responses to stakeholder demands regarding corporate sustainability (Jackson and Apostolakou 2010; Xiao et al. 2018). Therefore, future research should replicate this study in other geographical contexts. Third, this study focuses on a limited set of stakeholders without whom the organisation would cease to exist (Dmytriyev et al. 2021). Future studies could include a broader range of stakeholders, such as non-governmental organisations, local communities, and public authorities. Pressures from primary and secondary stakeholders may be important drivers of sustainability and innovation (Schaltegger and Wagner 2011), but the type of changes may depend on the stakeholder group. For instance, Henri et al. (2021) found that perceived pressures from societal stakeholders are more likely to expand the strategic orientation of the organisation, whereas primary stakeholders tend to inspire actions that maintain the current strategic scope. Finally, this study used a survey methodology, which is advantageous in overviewing the relationships between phenomena but is limited in explaining how these relationships develop in actual organizational practices. Future research should seek a deeper understanding of the dynamic interaction between an organisation and its stakeholders in driving business model innovation and corporate sustainability.

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References

Adomako, S., and M. D. Tran. 2022. "Environmental Collaboration, Responsible Innovation, and Firm Performance: The Moderating Role of Stakeholder Pressure." *Business Strategy and the Environment* 31, no. 4: 1695–1704. https://doi.org/10.1002/bse.2977.

Agarwal, R., and E. Karahanna. 2000. "Time Flies When You're Having Fun: Cognitive Absorption and Beliefs About Information Technology Usage." *MIS Quarterly* 24, no. 4: 665–694. https://doi.org/10.2307/3250951.

Aguilera, R. V., D. E. Rupp, C. A. Williams, and J. Ganapathi. 2007. "Putting the S Back in Corporate Social Responsibility: A Multilevel Theory of Social Change in Organizations." *Academy of Management Review* 32, no. 3: 836–863. https://doi.org/10.5465/amr.2007.25275678.

Aguinis, H., and A. Glavas. 2012. "What We Know and Don't Know About Corporate Social Responsibility: A Review and Research Agenda." *Journal of Management* 38, no. 4: 932–968. https://doi.org/10.1177/0149206311436079.

Aguirre-Urreta, M. I., and M. Rönkkö. 2018. "Statistical Inference With PLSc Using Bootstrap Confidence Intervals." *MIS Quarterly* 42, no. 3: 1001–1020. https://doi.org/10.25300/MISQ/2018/13587.

Amit, R., and C. Zott. 2015. "Crafting Business Architecture: The Antecedents of Business Model Design." *Strategic Entrepreneurship Journal* 9, no. 4: 331–350. https://doi.org/10.1002/sej.1200.

Aragón-Correa, J. A., N. Hurtado-Torres, S. Sharma, and V. J. García-Morales. 2008. "Environmental Strategy and Performance in Small Firms: A Resource-Based Perspective." *Journal of Environmental Management* 86, no. 1: 88–103. https://doi.org/10.1016/j.jenvman.2006.11.022.

Banerjee, S. B. 2003. "Who Sustains Whose Development? Sustainable Development and the Reinvention of Nature." *Organization Studies* 24, no. 1: 143–180. https://doi.org/10.1177/0170840603024001341.

Barnett, M. L. 2019. "The Business Case for Corporate Social Responsibility: A Critique and an Indirect Path Forward." *Business and Society* 58, no. 1: 167–190. https://doi.org/10.1177/0007650316660044.

Becker, J. M., K. Klein, and M. Wetzels. 2012. "Hierarchical Latent Variable Models in PLS-SEM: Guidelines for Using Reflective-Formative Type Models." *Long Range Planning* 45, no. 5–6: 359–394. https://doi.org/10.1016/j.lrp.2012.10.001.

Becker, J. M., C. M. Ringle, M. Sarstedt, and F. Völckner. 2015. "How Collinearity Affects Mixture Regression Results." *Marketing Letters* 26, no. 4: 643–659. https://doi.org/10.1007/s11002-014-9299-9.

Bernerth, J. B., and H. Aguinis. 2016. "A Critical Review and Best-Practice Recommendations for Control Variable Usage." *Personnel Psychology* 69, no. 1: 229–283. https://doi.org/10.1111/peps.12103.

Bocken, N., and J. Konietzko. 2022. "Circular Business Model Innovation in Consumer-Facing Corporations." *Technological Forecasting and Social Change* 185: 122076. https://doi.org/10.1016/j.techfore.2022.122076.

Bocken, N. M. P., and T. H. J. Geradts. 2020. "Barriers and Drivers to Sustainable Business Model Innovation: Organization Design and Dynamic Capabilities." *Long Range Planning* 53, no. 4: 101950. https://doi.org/10.1016/j.lrp.2019.101950.

Bocken, N. M. P., and S. W. Short. 2016. "Towards a Sufficiency-Driven Business Model: Experiences and Opportunities." *Environmental Innovation and Societal Transitions* 18: 41–61. https://doi.org/10.1016/j.eist.2015.07.010.

Bocken, N. M. P., S. W. Short, P. Rana, and S. Evans. 2014. "A Literature and Practice Review to Develop Sustainable Business Model Archetypes." *Journal of Cleaner Production* 65: 42–56. https://doi.org/10.1016/j.jclepro.2013.11.039.

Broccardo, L., A. Zicari, F. Jabeen, and Z. A. Bhatti. 2023. "How Digitalization Supports a Sustainable Business Model: A Literature Review." *Technological Forecasting and Social Change* 187: 122146. https://doi.org/10.1016/j.techfore.2022.122146.

Buysse, K., and A. Verbeke. 2003. "Proactive Environmental Strategies: A Stakeholder Management Perspective." *Strategic Management Journal* 24, no. 5: 453–470. https://doi.org/10.1002/smj.299.

Calabrese, A., R. Costa, L. Tiburzi, and A. Brem. 2023. "Merging Two Revolutions: A Human-Artificial Intelligence Method to Study How Sustainability and Industry 4.0 Are Intertwined." *Technological Forecasting and Social Change* 188: 122265. https://doi.org/10.1016/j.techfore.2022.122265.

Castellano, R., G. Punzo, G. Scandurra, and A. Thomas. 2022. "Exploring Antecedents of Innovations for Small- and Medium-Sized Enterprises' Environmental Sustainability: An Interpretative Framework." *Business Strategy and the Environment* 31, no. 4: 1730–1748. https://doi.org/10.1002/bse.2980.

Chesbrough, H. 2010. "Business Model Innovation: Opportunities and Barriers." *Long Range Planning* 43, no. 2–3: 354–363. https://doi.org/10.1016/j.lrp.2009.07.010.

Chin, W. W., B. L. Marcolin, and P. R. Newsted. 2003. "A Partial Least Squares Latent Variable Modeling Approach for Measuring Interaction Effects: Results From a Monte Carlo Simulation Study and an Electronic-Mail Emotion/Adoption Study." *Information Systems Research* 14, no. 2: 189–217. https://doi.org/10.1287/isre.14.2.189.16018.

Dahlsrud, A. 2008. "How Corporate Social Responsibility Is Defined: An Analysis of 37 Definitions." *Corporate Social Responsibility and Environmental Management* 15, no. 1: 1–13. https://doi.org/10.1002/csr.132.

Darnall, N., I. Henriques, and P. Sadorsky. 2010. "Adopting Proactive Environmental Strategy: The Influence of Stakeholders and Firm Size." *Journal of Management Studies* 47, no. 6: 1072–1094. https://doi.org/10.1111/j.1467-6486.2009.00873.x.

Dash, G., and J. Paul. 2021. "CB-SEM vs PLS-SEM Methods for Research in Social Sciences and Technology Forecasting." *Technological Forecasting and Social Change* 173: 121092. https://doi.org/10.1016/j.techfore.2021.121092.

Delgado-Ceballos, J., J. A. Aragón-Correa, N. Ortiz-de-Mandojana, and A. Rueda-Manzanares. 2012. "The Effect of Internal Barriers on the Connection Between Stakeholder Integration and Proactive Environmental Strategies." *Journal of Business Ethics* 107, no. 3: 281–293. https://doi.org/10.1007/s10551-011-1039-y.

Dembek, K., F. Lüdeke-Freund, F. Rosati, and T. Froese. 2023. "Untangling Business Model Outcomes, Impacts and Value." *Business Strategy and the Environment* 32, no. 4: 2296–2311. https://doi.org/10.1002/bse.3249.

Diamantopoulos, A., M. Sarstedt, C. Fuchs, P. Wilczynski, and S. Kaiser. 2012. "Guidelines for Choosing Between Multi-Item and Single-Item Scales for Construct Measurement: A Predictive Validity Perspective." *Journal of the Academy of Marketing Science* 40, no. 3: 434–449. https://doi.org/10.1007/s11747-011-0300-3.

Dmytriyev, S. D., R. E. Freeman, and J. Hörisch. 2021. "The Relationship Between Stakeholder Theory and Corporate Social Responsibility: Differences, Similarities, and Implications for Social Issues in Management." *Journal of Management Studies* 58, no. 6: 1441–1470. https://doi.org/10.1111/joms.12684.

Ernst, R.-A., M. Gerken, A. Hack, and M. Hülsbeck. 2022. "SMES' Reluctance to Embrace Corporate Sustainability: The Effect of Stakeholder Pressure on Self-Determination and the Role of Social Proximity." *Journal of Cleaner Production* 335: 130273. https://doi.org/10.1016/j.jclepro.2021.130273.

Evans, S., D. Vladimirova, M. Holgado, et al. 2017. "Business Model Innovation for Sustainability: Towards a Unified Perspective for Creation of Sustainable Business Models." *Business Strategy and the Environment* 26, no. 5: 597–608. https://doi.org/10.1002/bse.1939.

Fassin, Y. 2008. "Imperfections and Shortcomings of the Stakeholder Model's Graphical Representation." *Journal of Business Ethics* 80, no. 4: 879–888. https://doi.org/10.1007/s10551-007-9474-5.

Ferreira, F. N. H., J. F. Proença, R. Spencer, and B. Cova. 2013. "The Transition From Products to Solutions: External Business Model Fit and Dynamics." *Industrial Marketing Management* 42, no. 7: 1093–1101. https://doi.org/10.1016/j.indmarman.2013.07.010.

Ferrón-Vilchez, V., N. Darnall, and J. A. Aragón Correa. 2017. "Stakeholder Influences on the Design of Firms' Environmental Practices." *Journal of Cleaner Production* 142: 3370–3381. https://doi.org/10.1016/j.jclepro.2016.10.129.

Foss, N. J., and T. Saebi. 2017. "Fifteen Years of Research on Business Model Innovation: How Far Have We Come, and Where Should We Go?" *Journal of Management* 43, no. 1: 200–227. https://doi.org/10.1177/0149206316675927.

Foss, N. J., and T. Saebi. 2018. "Business Models and Business Model Innovation: Between Wicked and Paradigmatic Problems." *Long Range Planning* 51, no. 1: 9–21. https://doi.org/10.1016/j.lrp.2017.07.006.

Freeman, R. E. 1984. *Strategic Management: A Stakeholder Approach*. Pitman.

Freeman, R. E., J. S. Harrison, and A. C. Wicks. 2007. *Managing for Stakeholders: Survival, Reputation, and Success*. Yale University Press.

Freeman, R. E., J. S. Harrison, A. C. Wicks, B. L. Parmar, and S. De Colle. 2010. *Stakeholder Theory: The State of the Art*. Cambridge University Press. https://doi.org/10.1017/CBO9780511815768.

Freeman, R. E., and S. R. Velamuri. 2006. "A New Approach to CSR: Company Stakeholder Responsibility." In *Corporate Social Responsibility: Reconciling Aspiration With Application*, edited by A. Kakabadse and M. Morsing, 9–23. Palgrave Macmillan. https://doi.org/10.1057/9780230599574_2.

Freudenreich, B., F. Lüdeke-Freund, and S. Schaltegger. 2020. "A Stakeholder Theory Perspective on Business Models: Value Creation for Sustainability." *Journal of Business Ethics* 166, no. 1: 3–18. https://doi.org/10.1007/s10551-019-04112-z.

Fuller, C. M., M. J. Simmering, G. Atinc, Y. Atinc, and B. J. Babin. 2016. "Common Methods Variance Detection in Business Research." *Journal of Business Research* 69, no. 8: 3192–3198. https://doi.org/10.1016/j.jbusres.2015.12.008.

Gaim, M., S. Clegg, and M. P. Cunha. 2021. "Managing Impressions Rather Than Emissions: Volkswagen and the False Mastery of Paradox." *Organization Studies* 42, no. 6: 949–970. https://doi.org/10.1177/0170840619891199.

Geissdoerfer, M., D. Vladimirova, and S. Evans. 2018. "Sustainable Business Model Innovation: A Review." *Journal of Cleaner Production* 198: 401–416. https://doi.org/10.1016/j.jclepro.2018.06.240.

Haffar, M., and C. Searcy. 2019. "How Organizational Logics Shape Trade-Off Decision-Making in Sustainability." *Long Range Planning* 52, no. 6: 101912. https://doi.org/10.1016/j.lrp.2019.101912.

Hair, J. F., C. M. Ringle, and M. Sarstedt. 2011. "PLS-SEM: Indeed a Silver Bullet." *Journal of Marketing Theory & Practice* 19, no. 2: 139–152. https://doi.org/10.2753/MTP1069-6679190202.

Hair, J. F., Jr., J. J. Risher, M. Sarstedt, and C. M. Ringle. 2019. "When to Use and How to Report the Results of PLS-SEM." *European Business Review* 31, no. 1: 2–24. https://doi.org/10.1108/EBR-11-2018-0203.

Hair, J. F., Jr., T. G. M. Hult, C. M. Ringle, and M. Sarstedt. 2017. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. 2nd ed. Sage Publications.

Hair, J. F., Jr., T. G. M. Hult, C. M. Ringle, M. Sarstedt, N. P. Danks, and S. Ray. 2021. *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R*. Springer.

Harrison, J. S., and A. C. Wicks. 2013. "Stakeholder Theory, Value, and Firm Performance." *Business Ethics Quarterly* 23, no. 1: 97–124. https://doi.org/10.5840/beq20132314.

Henri, J. F., M. Journeault, and M. Rodrigue. 2021. "The Domino Effect of Perceived Stakeholder Pressures on Eco-Controls." *Accounting and the Public Interest* 21, no. 1: 105–136. https://doi.org/10.2308/API-2020-015.

Henriques, I., and P. Sadorsky. 1999. "The Relationship Between Environmental Commitment and Managerial Perceptions of Stakeholder Importance." *Academy of Management Journal* 42, no. 1: 87–99. https://doi.org/10.2307/256876.

Henseler, J., C. M. Ringle, and M. Sarstedt. 2015. "A New Criterion for Assessing Discriminant Validity in Variance-Based Structural Equation Modeling." *Journal of the Academy of Marketing Science* 43, no. 1: 115–135. https://doi.org/10.1007/s11747-014-0403-8.

Hoffman, A. J. 2010. "Climate Change as a Cultural and Behavioral Issue." *Organizational Dynamics* 39, no. 4: 295–305. https://doi.org/10.1016/j.orgdyn.2010.07.005.

Hörisch, J., R. E. Freeman, and S. Schaltegger. 2014. "Applying Stakeholder Theory in Sustainability Management: Links, Similarities, Dissimilarities, and a Conceptual Framework." *Organization & Environment* 27, no. 4: 328–346. https://doi.org/10.1177/1086026614535786.

Hult, G. T. M., J. F. Hair, D. Proksch, M. Sarstedt, A. Pinkwart, and C. M. Ringle. 2018. "Addressing Endogeneity in International Marketing Applications of Partial Least Squares Structural Equation Modeling." *Journal of International Marketing* 26, no. 3: 1–21. https://doi.org/10.1509/jim.17.0151.

Inigo, E. A., L. Albareda, and P. Ritala. 2017. "Business Model Innovation for Sustainability: Exploring Evolutionary and Radical Approaches Through Dynamic Capabilities." *Industry and Innovation* 24, no. 5: 515–542. https://doi.org/10.1080/13662716.2017.1310034.

Jackson, G., and A. Apostolakou. 2010. "Corporate Social Responsibility in Western Europe: An Institutional Mirror or Substitute?" *Journal of Business Ethics* 94, no. 3: 371–394. https://doi.org/10.1007/s10551-009-0269-8.

Jarvis, C. B., S. B. Mackenzie, and P. M. Podsakoff. 2003. "A Critical Review of Construct Indicators and Measurement Model Misspecification in Marketing and Consumer Research." *Journal of Consumer Research* 30, no. 2: 199–218. https://doi.org/10.1086/376806.

Jöreskog, K. G. 1971. "Simultaneous Factor Analysis in Several Populations." *Psychometrika* 36, no. 4: 409–426. https://doi.org/10.1007/BF02291366.

Kajtazi, K., G. Rexhepi, A. Sharif, and I. Ozturk. 2023. "Business Model Innovation and Its Impact on Corporate Sustainability." *Journal of Business Research* 166: 114082. https://doi.org/10.1016/j.jbusres.2023.114082.

Kassinis, G., and N. Vafeas. 2006. "Stakeholder Pressures and Environmental Performance." *Academy of Management Journal* 49, no. 1: 145–159. http://www.jstor.org/stable/20159751.

Klein, S. P., P. Spieth, and S. Heidenreich. 2021. "Facilitating Business Model Innovation: The Influence of Sustainability and the Mediating Role of Strategic Orientations." *Journal of Product Innovation Management* 38, no. 2: 271–288. https://doi.org/10.1111/jpim.12563.

Kock, F., A. Berbekova, and A. G. Assaf. 2021. "Understanding and Managing the Threat of Common Method Bias: Detection, Prevention and Control." *Tourism Management* 86: 104330. https://doi.org/10.1016/j.tourman.2021.104330.

Lee, J. W., Y. M. Kim, and Y. E. Kim. 2018. "Antecedents of Adopting Corporate Environmental Responsibility and Green Practices." *Journal of Business Ethics* 148, no. 2: 397–409. https://doi.org/10.1007/s10551-016-3024-y.

Lu, H., X. Liu, and O. Osiyevskyy. 2023. "Doing Safe While Doing Good: Slack, Risk Management Capabilities, and the Reliability of Value Creation Through CSR." *Strategic Organization* 21, no. 4: 874–904. https://doi.org/10.1177/14761270221122428.

Lüdeke-Freund, F., and K. Dembek. 2017. "Sustainable Business Model Research and Practice: Emerging Field or Passing Fancy?" *Journal of Cleaner Production* 168: 1668–1678.

Ma, Y., and B. Chen. 2025. "Impact of Stakeholder Pressure on Green Innovation: A Moderated Mediation Model." *Journal of Environmental Planning and Management* 168: 1165–1186. https://doi.org/10.1016/j.jclepro.2017.08.093.

Massa, L., and C. L. Tucci. 2014. "Business Model Innovation." In *The Oxford Handbook of Innovation Management*, edited by M. Dodgson, D. M. Gann, and N. Phillips. Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199694945.013.002.

Miron-Spektor, E., A. Ingram, J. Keller, W. K. Smith, and M. W. Lewis. 2018. "Microfoundations of Organizational Paradox: The Problem Is How We Think About the Problem." *Academy of Management Journal* 61, no. 1: 26–45. https://doi.org/10.5465/amj.2016.0594.

Montiel, I., and J. Delgado-Ceballos. 2014. "Defining and Measuring Corporate Sustainability: Are We There Yet?" *Organization & Environment* 27, no. 2: 113–139. https://doi.org/10.1177/1086026614526413.

Morsing, M., and L. J. Spence. 2019. "Corporate Social Responsibility (CSR) Communication and Small and Medium Sized Enterprises: The Governmentality Dilemma of Explicit and Implicit CSR Communication." *Human Relations* 72, no. 12: 1920–1947. https://doi.org/10.1177/0018726718804306.

Murillo-Luna, J. L., C. Garcés-Ayerbe, and P. Rivera-Torres. 2008. "Why Do Patterns of Environmental Response Differ? A Stakeholders' Pressure Approach." *Strategic Management Journal* 29, no. 11: 1225–1240. https://doi.org/10.1002/smj.711.

Netter, S., E. R. G. Pedersen, and F. Lüdeke-Freund. 2019. "Sharing Economy Revisited: Towards a New Framework for Understanding Sharing Models." *Journal of Cleaner Production* 221: 224–233. https://doi.org/10.1016/j.jclepro.2019.02.225.

Nohria, N., and R. Gulati. 1996. "Is Slack Good or Bad for Innovation?" *Academy of Management Journal* 39, no. 5: 1245–1264. https://doi.org/10.2307/256998.

Osterwalder, A., and Y. Pigneur. 2010. *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers*. Wiley.

Park, S., and S. Gupta. 2012. "Handling Endogenous Regressors by Joint Estimation Using Copulas." *Marketing Science* 31, no. 4: 567–586. https://doi.org/10.1287/mksc.1120.0718.

Parmar, B. L., R. E. Freeman, J. S. Harrison, A. C. Wicks, L. Purnell, and S. de Colle. 2010. "Stakeholder Theory: The State of the Art." *Academy of Management Annals* 4, no. 1: 403–445. https://doi.org/10.5465/19416520.2010.495581.

Pedersen, E. R. G., and W. Gwozdz. 2014. "From Resistance to Opportunity-Seeking: Strategic Responses to Institutional Pressures for Corporate Social Responsibility in the Nordic Fashion Industry." *Journal of Business Ethics* 119, no. 2: 245–264. https://doi.org/10.1007/s10551-013-1630-5.

Pedersen, E. R. G., W. Gwozdz, and K. K. Hvass. 2018. "Exploring the Relationship Between Business Model Innovation, Corporate Sustainability, and Organisational Values Within the Fashion Industry." *Journal of Business Ethics* 149, no. 2: 267–284. https://doi.org/10.1007/s10551-016-3044-7.

Pedersen, E. R. G., L. M. Lauesen, and A. Kourula. 2017. "Back to Basics: Exploring Perceptions of Stakeholders Within the Swedish Fashion Industry." *Social Responsibility Journal* 13, no. 2: 266–278. https://doi.org/10.1108/SRJ-08-2016-0148.

Pondeville, S., V. Swaen, and Y. D. De Rongé. 2013. "Environmental Management Control Systems: The Role of Contextual and Strategic Factors." *Management Accounting Research* 24, no. 4: 317–332. https://doi.org/10.1016/j.mar.2013.06.007.

Ray, S., N. Danks, and A. Calero Valdez. 2021. "SEMinR: Domain-Specific Language for Building, Estimating, and Visualizing Structural Equation Models in R." *SSRN Electronic Journal*: 1–16. https://doi.org/10.2139/ssrn.3900621.

Rhee, Y. P., C. Park, and B. Petersen. 2021. "The Effect of Local Stakeholder Pressures on Responsive and Strategic CSR Activities." *Business & Society* 60, no. 3: 582–613. https://doi.org/10.1177/0007650318816454.

Rigdon, E. E. 2012. "Rethinking Partial Least Squares Path Modeling: In Praise of Simple Methods." *Long Range Planning* 45, no. 5–6: 341–358. https://doi.org/10.1016/j.lrp.2012.09.010.

Ringvold, K., T. Saebi, and N. Foss. 2023. "Developing Sustainable Business Models: A Microfoundational Perspective." *Organization & Environment* 36, no. 2: 315–348. https://doi.org/10.1177/10860266221117250.

Risi, D., C. Wickert, and T. Ramus. 2023. "Coordinated Enactment: How Organizational Departments Work Together to Implement CSR." *Business & Society* 62, no. 4: 745–786. https://doi.org/10.1177/00076503221110213.

Rosati, F., V. P. Rodrigues, F. Cosenz, and J. Li-Ying. 2023. "Business Model Innovation for the Sustainable Development Goals." *Business Strategy and the Environment* 32, no. 6: 3752–3765. https://doi.org/10.1002/bse.3334.

Rosca, E., M. Arnold, and J. C. Bendul. 2017. "Business Models for Sustainable Innovation – An Empirical Analysis of Frugal Products and Services." *Journal of Cleaner Production* 162: S133–S145. https://doi.org/10.1016/j.jclepro.2016.02.050.

Rueda-Manzanares, A., J. A. Aragón-Correa, and S. Sharma. 2008. "The Influence of Stakeholders on the Environmental Strategy of Service Firms: The Moderating Effects of Complexity, Uncertainty and Munificence." *British Journal of Management* 19, no. 2: 185–203. https://doi.org/10.1111/j.1467-8551.2007.00538.x.

Saebi, T., L. Lien, and N. J. Foss. 2017. "What Drives Business Model Adaptation? The Impact of Opportunities, Threats and Strategic Orientation." *Long Range Planning* 50, no. 5: 567–581. https://doi.org/10.1016/j.lrp.2016.06.006.

Sarkis, J., P. Gonzalez-Torre, and N. Adenso-Diaz. 2010. "Stakeholder Pressure and the Adoption of Environmental Practices: The Mediating Effect of Training." *Journal of Operations Management* 28, no. 2: 163–176. https://doi.org/10.1016/j.jom.2009.10.001.

Sarstedt, M., J. F. Hair Jr., J. H. Cheah, J. M. Becker, and C. M. Ringle. 2019. "How to Specify, Estimate, and Validate Higher-Order Constructs in PLS-SEM." *Australasian Marketing Journal* 27, no. 3: 197–211. https://doi.org/10.1016/j.ausmj.2019.05.003.

Schaltegger, S., and M. Wagner. 2011. "Sustainable Entrepreneurship and Sustainability Innovation: Categories and Interactions." *Business Strategy and the Environment* 20, no. 4: 222–237. https://doi.org/10.1002/bse.682.

Shmueli, G., S. Ray, J. M. Velasquez Estrada, and S. B. Chatla. 2016. "The Elephant in the Room: Predictive Performance of PLS Models." *Journal of Business Research* 69, no. 10: 4552–4564. https://doi.org/10.1016/j.jbusres.2016.03.049.

Shmueli, G., M. Sarstedt, J. F. Hair Jr., et al. 2019. "Predictive Model Assessment in PLS-SEM: Guidelines for Using PLSpredict." *European Journal of Marketing* 53, no. 11: 2322–2347. https://doi.org/10.1108/EJM-02-2019-0189.

Slawinski, N., and P. Bansal. 2015. "Short on Time: Intertemporal Tensions in Business Sustainability." *Organization Science* 26, no. 2: 531–549. https://doi.org/10.1287/orsc.2014.0960.

Streukens, S., and S. Leroi-Werelds. 2016. "Bootstrapping and PLS-SEM: A Step-By-Step Guide to Get More out of Your Bootstrap Results." *European Management Journal* 34, no. 6: 618–632. https://doi.org/10.1016/j.emj.2016.06.003.

Teece, D. J. 2010. "Business Models, Business Strategy and Innovation." *Long Range Planning* 43, no. 2–3: 172–194. https://doi.org/10.1016/j.lrp.2009.07.003.

Van der Byl, C. A., and N. Slawinski. 2015. "Embracing Tensions in Corporate Sustainability: A Review of Research From Win-Wins and Trade-Offs to Paradoxes and Beyond." *Organization & Environment* 28, no. 1: 54–79. https://doi.org/10.1177/1086026615575047.

Van Marrewijk, M. 2003. "Concepts and Definitions of CSR and Corporate Sustainability: Between Agency and Communion." *Journal of Business Ethics* 44, no. 2–3: 95–105. https://doi.org/10.1023/A:1023331212247.

Velter, M. G. E., V. Bitzer, and N. M. P. Bocken. 2022. "A Boundary Tool for Multi-Stakeholder Sustainable Business Model Innovation." *Circular Economy and Sustainability* 2, no. 2: 401–431. https://doi.org/10.1007/s43615-021-00103-3.

Vermunt, D. A., S. O. Negro, P. A. Verweij, D. V. Kuppens, and M. P. Hekkert. 2019. "Exploring Barriers to Implementing Different Circular Business Models." *Journal of Cleaner Production* 222: 891–902. https://doi.org/10.1016/j.jclepro.2019.03.052.

Voss, G. B., D. Sirdeshmukh, and Z. G. Voss. 2008. "The Effects of Slack Resources and Environmental Threat on Product Exploration and Exploitation." *Academy of Management Journal* 51: 147–164. https://doi.org/10.5465/amj.2008.30767373.

Waddock, S. A., and S. B. Graves. 1997. "The Corporate Social Performance–Financial Performance Link." *Strategic Management Journal* 18, no. 4: 303–319. https://doi.org/10.1002/(SICI)1097-0266(199704)18:4<303::AID-SMJ869>3.0.CO;2-G.

Watson, R., H. N. Wilson, P. Smart, and E. K. Macdonald. 2018. "Harnessing Difference: A Capability-Based Framework for Stakeholder Engagement in Environmental Innovation." *Journal of Product Innovation Management* 35, no. 2: 254–279. https://doi.org/10.1111/jpim.12394.

Wickert, C., A. G. Scherer, and L. J. Spence. 2016. "Walking and Talking Corporate Social Responsibility: Implications of Firm Size and Organizational Cost." *Journal of Management Studies* 53, no. 7: 1169–1196. https://doi.org/10.1111/joms.12209.

Wolf, J. 2014. "The Relationship Between Sustainable Supply Chain Management, Stakeholder Pressure and Corporate Sustainability Performance." *Journal of Business Ethics* 119: 317–328. https://doi.org/10.1007/s10551-012-1603-0.

Xiao, C., Q. Wang, D. P. van Donk, and T. van der Vaart. 2018. "When Are Stakeholder Pressures Effective? An Extension of Slack Resources Theory." *International Journal of Production Economics* 199: 138–149. https://doi.org/10.1016/j.ijpe.2018.03.002.