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Community-Related Drivers of Sustainability Practices Adoption in Ethnic Minority-Owned Small and Medium-sized Enterprises (SMEs) in Bangladesh: A PLS-SEM Analysis of the Moderating Role of Social Capital

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Abstract

Ethnic minority-owned SMEs operate in close relationship with local communities, yet limited empirical evidence explains how community-related factors shape their sustainability practices in developing economy contexts. This study examines how community sustainability awareness, community normative pressure and perceived community support are associated with sustainability practices adoption among ethnic minority-owned SMEs in Bangladesh. Drawing on the Theory of Planned Behaviour and Social Capital Theory, the study further investigates the mediating roles of owner sustainability attitude and perceived behavioural control, and the moderating role of social capital. A quantitative cross-sectional survey was conducted with 390 owner-managers and key personnel from ethnic minority-owned SMEs in four districts of Sylhet division, Bangladesh. The data were analysed using partial least squares structural equation modelling. The findings show that all three community-related drivers are positively associated with owner sustainability attitude and perceived behavioural control. Owner sustainability attitude and perceived behavioural control are also positively associated with sustainability practices adoption. The mediation results indicate that these two cognitive mechanisms explain how community-related drivers are linked with adoption. Social capital is positively associated with sustainability practices adoption and strengthens the relationships between owner sustainability attitude, perceived behavioural control and adoption. The study contributes to SME sustainability literature by showing that sustainability adoption in ethnic minority-owned SMEs is shaped by community expectations, owner-manager cognition and socially embedded resources. The findings offer practical guidance for policymakers, SME support agencies and development organisations seeking to promote inclusive and locally grounded sustainability practices.

1. Introduction

Small and medium-sized enterprises (SMEs) contribute significantly to employment generation, local value chains, and inclusive growth, but their sustainability initiatives are frequently hindered by lack of financial resources, limited institutional support and reliance on informal networks (Soundararajan et al., 2018; Dasanayaka et al., 2022). This issue is particularly important in Bangladesh, where the Economic Census 2024 recorded 11,702,792 economic units and showed that cottage, micro, small and medium enterprises dominate the enterprise base and absorb a large share of employment (Bangladesh Bureau of Statistics, 2026). Moreover, the Asian Development Bank mentions that SME development is a policy priority in Bangladesh, with a target to increase the SME contribution to GDP from 25% to 32% (Asian Development Bank, 2024). These figures make SME sustainability more than environmental. It is also a matter of resilience, community livelihood and responsible local development.

The study is based on ethnic minority-owned SMEs in Sylhet division in Bangladesh including Sylhet, Sunamganj, Moulvibazar and Habiganj districts. The Bangladesh Population and Housing Census 2022 provides the demographic basis for locating such research within a highly populated and regionally diverse country (Bangladesh Bureau of Statistics, 2022). Related evidence on ethnic minority entrepreneurs suggests that they frequently operate local businesses through social networks that include customers, community leaders, suppliers and fellow entrepreneurs (Islam et al., 2025). In these contexts, sustainability efforts are not just a matter of management decision on efficiency and compliance. It is also influenced by the perception of owners and key personnel about the community awareness, its normative expectations and support for responsible business behaviour.

Although there has already been significant progress in existing SME sustainability research, the evidence is still patchy. Previous research demonstrates that environment and social practices can enhance competitiveness, legitimacy and performance of SMEs (Aboelmaged, 2018; Alraja et al., 2022; Cheffi et al., 2021; Crossley et al., 2021). The studies also point to the challenges of knowledge gaps, lack of funds, and low institutional capacity, particularly in SMEs in emerging economies (Bakos et al., 2020; Dasanayaka et al., 2022). More recent evidence from Bangladesh shows that SME sustainability practices remain influenced by environmental orientation and organisational constraints, but the community-based social conditions around adoption still require closer empirical attention (Hossain et al., 2025). This gap is more pronounced in the context of ethnic minority businesses, where sustainability can be assessed not just from a regulatory or market perspective, but also from cultural expectations and local acceptance and interpersonal trust (Islam et al., 2025).

The study aims to fill that gap by examining the community-related drivers of adopting sustainability practices in ethnic minority-owned SMEs. The model is grounded mainly in the Theory of Planned Behaviour, which explains behaviour through attitude, subjective norms and perceived behavioural control (Thoradeniya et al., 2015; Singh et al., 2021). In this study, community sustainability awareness and community normative pressure represent the perceived social environment in which SME owners make sustainability decisions. Perceived community support captures the encouragement, cooperation and recognition that owners associate with responsible business practices. Owner sustainability attitude and perceived behavioural control are used to explain how these community-related conditions translate into adoption intentions and practices. This framing is important because the study does not claim to measure community perceptions directly. Rather, it examines owner-managers' and key personnel's perceptions of community-related drivers, which is consistent with the respondent group and the unit of analysis.

The study also introduces social capital as a boundary condition. Social capital reflects trust, reciprocal ties and network strength that can help SMEs access information, legitimacy and cooperative support (Ooi et al., 2023; Alcalde-Calonge et al., 2024). In resource-constrained firms, strong social capital may increase the likelihood that positive attitudes and perceived capability are converted into actual sustainability practice adoption. This argument is consistent with recent work showing that social capital can strengthen the sustainability capacity of SMEs by improving knowledge flows, cooperation and adaptive capability (Ooi et al., 2023; Alcalde-Calonge et al., 2024). Therefore, social capital is not added as a statistical extension only. It is treated as a theoretically grounded condition that may shape when owner attitude and perceived behavioural control become more meaningful for sustainability adoption.

Accordingly, the study is guided by three research questions. First, how are community sustainability awareness, community normative pressure and perceived community support associated with owner sustainability attitude and perceived behavioural control in ethnic minority-owned SMEs? Second, how are owner sustainability attitude and perceived behavioural control associated with sustainability practices adoption? Third, does social capital strengthen

the relationships between owner sustainability attitude, perceived behavioural control and sustainability practices adoption? These questions are examined using a quantitative cross-sectional survey and PLS-SEM, which is suitable for prediction-oriented explanation in models involving multiple relationships and moderation, provided that causal claims remain cautious (Hair et al., 2019). The cross-sectional design means that the study tests theoretically supported associations rather than proving causality.

The study contributes to the literature in three ways. First, it extends SME sustainability research by shifting attention from general firm-level drivers to community-related drivers perceived by ethnic minority SME owners and key personnel. Second, it refines the application of the Theory of Planned Behaviour by embedding attitude and perceived behavioural control within a community-based social context. Third, it develops social capital as a boundary condition that explains when sustainability-related attitude and perceived capability may be more strongly associated with adoption. These contributions are relevant for policymakers, development agencies and SME support organisations seeking locally grounded ways to encourage sustainability practices among minority-owned enterprises in Bangladesh.

2. Literature Review

2.1 Theoretical Framework

This study is mainly grounded in the Theory of Planned Behaviour (TPB), supported by Social Capital Theory and the sustainability logic of the triple bottom line. TPB explains behaviour through attitude, subjective norms and perceived behavioural control, which makes it suitable for examining why owner-managers of ethnic minority-owned SMEs may adopt sustainability practices when they perceive community expectations, support and resource-related capability (Ajzen, 1991; Thoradeniya et al., 2015). In this study, community sustainability awareness and community normative pressure reflect the social environment surrounding the firm, while owner sustainability attitude and perceived behavioural control represent the internal cognitive mechanisms through which such pressures may be translated into adoption readiness (Singh et al., 2021; Yuriev et al., 2020). This framing is important because the respondents are owner-managers and key personnel, not general community members. Thus, the model reflects their perceptions of community-related drivers and not direct community evaluations.

Social Capital Theory builds on TPB by noting that trust, reciprocity, the strength of networks and shared norms can help to facilitate collective action and access to resources in socially embedded business contexts (Coleman, 1988; Putnam, 1995; Nahapiet and Ghoshal, 1998). This is applicable to ethnic minority-owned SMEs, as these businesses may rely on local connections and informal support and community recognition when formal and institutional support are scarce (Soundararajan et al., 2018; Islam et al., 2025). Recent research on SMEs' sustainability also indicates that social capital can augment a firm's commitment to the environment and its practices of implementing environmental innovation and sustainability, with an influence on cooperation and the exchange of knowledge (Ooi et al., 2023; Alcalde-Calonge et al., 2024; Roxas, 2021).

Adoption of sustainability practices is more specifically defined in this study in line with the triple bottom line perspective: the integration of environmental, social and economic responsibilities into SME operations (Elkington, 1998; Crossley et al., 2021). Overall, the framework links community-related drivers, owner-manager cognition and social capital to sustainability practices adoption in a theoretically consistent way without claiming causal proof from cross-sectional survey data.

2.2 Community-related drivers and owner-manager sustainability cognition

Community related drivers are included in this study as the perception of owner-managers regarding the social surroundings of ethnic minority-owned SMEs. The clarification is relevant because the respondents are business owners, managers and key personnel, not community residents. In a theory of planned behaviour context, community sustainability awareness, community normative pressure and perceived community support can be considered as contextual belief structures, which influence the attitudes and beliefs of owner-managers regarding sustainability, and their perceived self-efficacy in implementing sustainability (Thoradeniya et al., 2015; Yuriev et al., 2020; Singh et al., 2021). Previous SME sustainability studies generally revealed that external expectations are important, but did not necessarily focus on the community embedded context of minority-owned businesses (Baah et al., 2021; Nguyen and Adomako, 2022; Singh et al., 2022). This allows for a further exploration of how cognitive mechanisms that owner-managers use to consider sustainability practices relate to awareness, pressure and support at the community level.

The community sustainability awareness is the perception on the part of the owner-managers about the community stakeholders' knowledge about environmental protection, social responsibility, ethics in business and sustainable local development. The visibility of sustainability and stakeholders' awareness can minimise the risk of sustainability being interpreted as optional or symbolic in SME contexts (Aboelmaged, 2018; Madrid-Guijarro and Duréndez, 2024). But the literature is not so cohesive. Awareness is shown to inspire green practices where it is communicated and converted into clear expectations and reputation-based accountability (Baah et al., 2021; Singh et al., 2022). However, for the case of barriers to SME sustainability, the findings reveal that awareness is insufficient if owners do not have the resources, knowledge, or managerial commitment (Dasanayaka et al., 2022; Madrid-Guijarro and Duréndez, 2024). Community sustainability awareness is likely to be relevant in the current study, as ethnic minority SMEs are socially conspicuous and many of them rely on the acceptance of the community and repeat customers, along with community reputation (Islam et al., 2025). Where owner-managers sense an understanding of sustainability issues in the community, they are more likely to make positive judgements about sustainability practices and feel they can do so with practical support and social legitimacy. Therefore, this study proposes:

H1: Community Sustainability Awareness is positively associated with Owner Sustainability Attitude.

H2: Community Sustainability Awareness is positively associated with Perceived Behavioural Control.

Community normative pressure reflects perceived social expectations from customers, community leaders, religious and cultural groups and local networks. The TPB literature treats normative beliefs as an important source of intention because individuals often consider whether important referents approve of a behaviour before they commit to it (Thoradeniya et al., 2015; Yuriev et al., 2020). In the SME literature, stakeholder pressure has been associated with green innovation, environmental practices and sustainability-oriented responses, particularly where SMEs are exposed to reputational scrutiny and market expectations (Nguyen and Adomako, 2022; Rubio-Andrés et al., 2023; Singh et al., 2022). Yet, high pressure may also create compliance-oriented behaviour if owner-managers see sustainability as an obligation rather than a strategic or ethical choice (Baah et al., 2021; Madrid-Guijarro and Duréndez, 2024). For ethnic minority-owned SMEs, normative pressure may be especially relevant because business conduct is often judged within close social networks where trust, cultural expectations and community approval are important for continuity (Islam et al., 2025). Normative pressure is therefore expected to be associated not only with a favourable owner attitude, but also with stronger perceived behavioural control because social expectations can make resources, advice and cooperation more accessible. Thus, this study proposes:

H3: Community Normative Pressure is positively associated with Owner Sustainability Attitude.

H4: Community Normative Pressure is positively associated with Perceived Behavioural Control.

Perceived community support reflects the owner-managers' perception that community and customers support, cooperate with and reward responsible SME practices. This kind of construct is distinct from normative pressure, which involves social obligations. Research on SMEs reveals that stakeholder engagement and support can enhance their ability to adopt responsible practices, especially when sustainability necessitates learning, cooperation and legitimacy outside of the firm (Cheffi et al., 2021; Hristov and Appolloni, 2022; Rubio-Andrés et al., 2023). In developing and emerging-economy SME settings, limited finance and institutional support often restrict adoption, so supportive local networks can become an informal resource base (Aboelmaged, 2018; Alraja et al., 2022; Hossain et al., 2025). This argument is also consistent with evidence that ethnic minority-owned SMEs are shaped by culturally embedded relationships, customer loyalty and community recognition, although such networks may also constrain change if sustainability is poorly understood (Islam et al., 2025). On balance, when owner-managers perceive the community as supportive, they are more likely to hold favourable attitudes towards sustainability and to feel that they possess the social encouragement and practical ability needed to adopt sustainability practices. Hence:

H5: Perceived Community Support is positively associated with Owner Sustainability Attitude.

H6: Perceived Community Support is positively associated with Perceived Behavioural Control.

2.3 Owner sustainability attitude, perceived behavioural control and sustainability practices adoption

Owner sustainability attitude and perceived behavioural control represent the more immediate cognitive mechanisms in the proposed model. In TPB-based studies, attitude captures the positive or negative evaluation of a behaviour, while perceived behavioural control reflects the perceived ease, capability and resource availability associated with that behaviour (Thoradeniya et al., 2015; Yuriev et al., 2020). This distinction is important for SME research because owners may support sustainability in principle but still hesitate to adopt it when they perceive limited knowledge, finance, skills or institutional assistance (Bakos et al., 2020; Dasanayaka et al., 2022). Therefore, the adoption of sustainability practices can be explained not as a mere response to pressure from outside, but by considering both evaluative beliefs and control beliefs.

It is expected that a favourable attitude towards owner sustainability will be positively related with the adoption of sustainability practices, given that in SMEs, owner-managers may be directly involved in day-to-day decisions, resource allocation and relationships with stakeholders. According to empirical studies, managerial commitment and pro-sustainability orientation has been recognised as a key factor shaping the environmental and social practices of SMEs, but this relationship is dependent on whether or not sustainability is perceived as relevant to the survival of the business, reputation and long-term performance (Cheffi et al., 2021; Malesios et al., 2018; Singh et al., 2021). In other fields, research indicates that green practices are more likely to be adopted when sustainability is both tied to operational value and to legitimacy and competitive capability, and not only perceived as a moral responsibility (Aboelmaged, 2018; Alraja et al., 2022; Hossain et al., 2025). Attitude can be especially important in SMEs that are owned by ethnic minorities, as the personal values, cultural expectations and community relationships of the owner manager can influence their understanding of what is good business conduct (Islam et al., 2025). Accordingly:

H7: Owner Sustainability Attitude is positively associated with Sustainability Practices Adoption.

Sustainability practices adoption is also expected to be positively associated with perceived behavioural control. SME research has consistently found that lack of capital, technical know-how, formal systems and institutional support are barriers to adoption (Dasanayaka et al., 2022; Nudurupati et al., 2022; Bakos et al., 2020). But, if owner-managers feel that they can do it and have the support, sustainability practices are more achievable and less risky. Evidence from Bangladesh manufacturing SMEs further shows that awareness of environmental issues is a crucial factor in the adoption of environmental practices, along with other conditions such as environmental knowledge and resource commitment (Hossain et al., 2025). This aligns with the overall literature that SMEs need to have not only positive beliefs but also the control of resources and the process of implementing for sustainability (Aboelmaged, 2018; Alraja et al., 2022). Perceived behavioural control could be a measure of internal ability and informal support from family, community or business networks for ethnic minority-owned SMEs.

H8: Perceived Behavioural Control is positively associated with Sustainability Practices Adoption.

2.3.1 Mediating role of owner sustainability attitude and perceived behavioural control

TPB suggests that social cues become more closely linked with behaviour when they first shape individuals' evaluations and perceived capability (Ajzen, 1991; Yuriev et al., 2020). This logic is applicable to SMEs as sustainability decisions are typically taken by the owner-managers under resource constraints and informal governance in the community where they operate, and where they are well known (Aboelmaged, 2018; Alraja et al., 2022). Sustainability-related attitudes might manifest ethical, religious, social and environmental issues as increased willingness to engage in responsible practices (Thoradeniya et al., 2015; Singh et al., 2021). But when owners are lacking in knowledge, finance and/or institutional access, attitude alone could become weak. Perceived behavioural control thus embodies the capability pathway by which community awareness, the norm, and community support might be linked to adoption (Thoradeniya et al., 2015; Hossain et al., 2025).

In ethnic minority-owned SMEs, community sustainability awareness may strengthen positive evaluations of sustainability and improve perceived feasibility. Community normative pressure may create a sense of responsibility and encourage owners to respond to local expectations. Perceived community support may reduce uncertainty by signalling cooperation, customer approval and informal assistance. Recent SME evidence also shows that behavioural intention, technology readiness and perceived capability can explain pathways to sustainability-related technology adoption (Gokmen et al., 2026). Accordingly, this study proposes:

H9a

Owner Sustainability Attitude mediates the positive association between Community Sustainability Awareness and Sustainability Practices Adoption.

H9b

Owner Sustainability Attitude mediates the positive association between Community Normative Pressure and Sustainability Practices Adoption.

H9c

Owner Sustainability Attitude mediates the positive association between Perceived Community Support and Sustainability Practices Adoption.

H10a

Perceived Behavioural Control mediates the positive association between Community Sustainability Awareness and Sustainability Practices Adoption.

H10b

Perceived Behavioural Control mediates the positive association between Community Normative Pressure and Sustainability Practices Adoption.

H10c

Perceived Behavioural Control mediates the positive association between Perceived Community Support and Sustainability Practices Adoption.

2.4 Social capital as a direct and boundary-condition mechanism

Social capital is included in the model as both a direct driver of sustainability practices adoption and a boundary-condition mechanism. It refers to the trust, reciprocity, shared norms and network ties that allow owner-managers to access information, cooperation and legitimacy through social relationships (Roxas, 2021; Ooi et al., 2023; Alcalde-Calonge et al., 2024). The relevance of this is particularly for SMEs, where many lack formal sustainability systems, specialist staff and financial reserves, and where informal networks and relational resources play a key role in organisational change (Malik et al., 2022; Soni et al., 2023). The literature generally agrees that social capital can support sustainability engagement, but it also suggests that its role depends on context. For instance, social capital can facilitate knowledge exchange and environmental performance in manufacturing SMEs, but its influence can still depend on how sustainability is valued by influential actors (Roxas, 2021; Ooi et al., 2023; Keçi et al., 2026). This makes social capital theoretically useful for explaining variation in adoption among community-embedded firms.

As a direct mechanism, social capital is expected to be positively associated with sustainability practices adoption because it gives owner-managers access to resources that are not always available through formal institutions. Prior research links social capital with environmental engagement, circular economy adoption, commitment to sustainability and SME resilience because networks can provide advice, customer trust, supplier cooperation and shared problem-solving capacity (Roxas, 2021; Malik et al., 2022; Ooi et al., 2023; Alcalde-Calonge et al., 2024). Similarly, social network support has been shown to strengthen SME sustainability in Hong Kong, which indicates that network-based resources can become particularly valuable when SMEs face uncertainty or resource limitations (Nie et al., 2025). For ethnic minority-owned SMEs, this mechanism is likely to be relevant because business relationships are often embedded in community ties, repeated interaction and informal trust. Therefore:

H11

Social Capital is positively associated with Sustainability Practices Adoption.

Social capital may also strengthen the association between owner sustainability attitude and sustainability practices adoption. A positive attitude may not lead to adoption when owner-managers lack trusted partners, practical advice or community endorsement. In contrast, strong social capital can make positive attitudes more actionable by providing encouragement, legitimacy and informal learning opportunities (Roxas, 2021; Ooi et al., 2023; Alcalde-Calonge et al., 2024). Recent sustainability studies also indicate that stakeholder engagement and network-based capabilities can condition how SMEs respond to sustainability expectations (Hristov and Appolloni, 2022; Agyabeng-Mensah et al., 2024). In this sense, social capital is not only another

independent factor. It can operate as a boundary condition that helps explain when favourable owner attitudes are more likely to be associated with actual adoption. Thus:

H12a

Social Capital moderates the positive association between Owner Sustainability Attitude and Sustainability Practices Adoption.

A similar moderation logic applies to perceived behavioural control. Even when the owner-manager is in a position to commit to sustainability, they might need relational support to make capability happen; for example, if sustainability involves customers, local legitimacy, supplier changes or community involvement. Social capital can reduce perceived risk and transaction costs by enabling information sharing and coordinated action (Malik et al., 2022; Soni et al., 2023; Nie et al., 2025). Studies on social networks, stakeholder pressure and circular supply chain practices further show that relational and information-exchange capabilities can strengthen sustainability-oriented responses in SMEs and supply-chain settings (Singh et al., 2022; Agyabeng-Mensah et al., 2024). In the context of ethnic minority-owned SMEs in Bangladesh, higher social capital may therefore make perceived behavioural control more strongly associated with adoption because trusted relationships can compensate for limited formal institutional support. Accordingly:

H12b

Social Capital moderates the positive association between Perceived Behavioural Control and Sustainability Practices Adoption.

2.5 Conceptual Framework

The proposed research model examines how community-related drivers are associated with sustainability practices adoption in ethnic minority-owned SMEs in Bangladesh. Community sustainability awareness, community normative pressure and perceived community support are positioned as external social drivers that are expected to relate positively to owner sustainability attitude and perceived behavioural control. Owner sustainability attitude and perceived behavioural control are then linked to sustainability practices adoption as the main behavioural outcome. Social capital is included both as a direct predictor of sustainability practices adoption and as a boundary condition that may strengthen the associations of owner sustainability attitude and perceived behavioural control with adoption. This structure follows the TPB logic while extending it through Social Capital Theory in a community-embedded SME context.

3. Methodology

3.1 Research Design, Philosophy and Study Context

This study adopted a quantitative, cross-sectional survey design to examine theory-guided associations between community-related drivers, owner-level mechanisms, social capital and sustainability practices adoption in ethnic minority-owned SMEs. It followed a positivist philosophy and deductive reasoning because the model was developed from prior theory and tested using numerical survey data (Hair et al., 2019; Sarstedt et al., 2022). As the data are cross-sectional and perceptual, the study avoids causal claims and interprets the results as theory-consistent associations (Bollen and Pearl, 2013; Hair et al., 2019).

The unit of analysis is the perception of owner-managers and key personnel of ethnic minority-owned SMEs. This is important because the constructs refer to perceived community awareness, perceived community pressure, perceived support, owner attitude, perceived behavioural control, social capital and self-reported sustainability practices. Data were collected from four districts of Sylhet division: Sylhet, Sunamganj, Moulvibazar and Habiganj. Sylhet division is suitable because the 2022 census reports 136,594 ethnic minority people in the division, representing 1.24% of the divisional population (Bangladesh Bureau of Statistics, 2022). The SME setting is also policy-relevant, as Bangladesh's SME policy agenda has targeted an increase in SME contribution to GDP from 25% to 32% (Asian Development Bank, 2024), while the Economic Census 2024 provides the latest official enterprise baseline for Bangladesh (Bangladesh Bureau of Statistics, 2026). These conditions support the relevance of the selected context.

3.2 Sampling and Data Collection Methods

The target population comprised ethnic minority-owned SMEs operating in the selected districts of Sylhet division. Respondents were eligible when they were owners, managers or key personnel with direct knowledge of the business, its community relationships and its day-to-day sustainability practices. This criterion eliminated the possibility of unit-of-analysis mismatch, since while general community members can determine external legitimacy, they do not necessarily have insight into owner attitude or internal resources or practice adoption. A total of 390 valid responses were obtained. The study did not employ a closed probability list, so the results are to be interpreted with care and should not be regarded as estimates of the population.

The study entailed a purposive sampling strategy because the respondents needed to have certain ownership, role and location characteristics. When a full sampling frame of the focal sub-group is not available, and the factor of respondents' knowledge is an important element to construct validity, as in SME research, this approach is acceptable (Islam et al., 2025; Hair et al., 2019). After explanation of purpose of the study, voluntary participation and confidentiality, the questionnaire was given to eligible respondents. Participation was anonymous, with no information collected that would identify participants. Before analysis, the data set was screened for incomplete responses, role ineligibility, duplicate responses, straight-lining and inconsistent response patterns. Sample size adequacy was determined by taking into account the PLS-SEM-specific sample size guidance, and not just the 10-times rule (Kock and Hadaya, 2018). Moreover, conventional power logic was also considered (Cohen, 1988; Faul et al., 2009).

3.3 Measurement of Instruments

The questionnaire measured seven latent constructs: community sustainability awareness, community normative pressure, perceived community support, owner sustainability attitude, perceived behavioural control, social capital and sustainability practices adoption. All constructs were specified as reflective because the indicators were expected to represent manifestations of the underlying construct rather than separate non-interchangeable components (Hair et al., 2020). The full list of constructs, item codes, wording, dimensions and theoretical/literature sources is presented in Appendix A.

The instrument was developed and adapted from theoretical and literature sources related to the theory of planned behaviour, social capital and SME sustainability. Community sustainability awareness captured owners' perceptions of the community's awareness of environmental, social and ethical responsibility. Community normative pressure measured perceived social expectations surrounding responsible business conduct. Perceived community support captured support, cooperation and recognition available through customers, community members and local networks. Owner sustainability attitude reflected positive evaluation of sustainability practices, while perceived behavioural control measured perceived knowledge, resources, institutional support and confidence. Social capital assessed trust, reciprocity and network strength, and sustainability practices adoption captured environmental, social and ethical practices.

Items were measured using a Likert-type agreement scale. The questionnaire wording was reviewed to ensure that items were understandable for SME respondents and aligned with the local business context. Particular attention was given to the constraint-based perceived behavioural control item on financial constraints because reverse-coded items can distort reliability and validity if coding is not handled consistently. Similar SME sustainability studies have used owner or managerial respondents for sustainability engagement and practice adoption (Aboelmaged, 2018; Alraja et al., 2022; Islam et al., 2025).

3.4 Common Method Bias

Common method bias was addressed through procedural and statistical remedies, due to the use of a single-source, same-time, self-administered questionnaire. In terms of procedure, respondents were told that participation was voluntary and anonymous, and that there were no right or wrong answers. The questionnaire was worded neutrally, did not include leading questions, and was split into predictor, mediator, moderator and outcome sections, as much as possible. To minimise social desirability, evaluation apprehension and consistency motives (Podsakoff et al., 2003; Podsakoff et al., 2012; Fuller et al., 2016), the following steps were taken:

Common method bias was evaluated with a number of statistical checks. Harman's single-factor test was used as a basic descriptive check. The threshold used was that the first unrotated factor should account for less than 50% of total variance; a factor beyond this point would suggest potential method bias as per Podsakoff et al. (2003) and Fuller et al. (2016). Common rater effects can also manifest as inflated latent-variable collinearity and so this was also assessed for full collinearity VIF. The threshold was set at VIF < 3.3 for the conservative rule (Kock, 2015) and at VIF < 5.0 for the larger threshold that was used in some PLS-SEM studies (Hair et al., 2019). Indicator and inner model VIF values were also checked, and values below 5.0 were considered acceptable and those above 3.3 were checked with caution for the overlap of items (Hair et al., 2020). This approach was used because relying only on Harman's test has limited diagnostic value (Fuller et al., 2016; Baumgartner et al., 2021).

3.5 Data Analysis Techniques

The data were analysed using partial least squares structural equation modelling in SmartPLS. PLS-SEM was chosen as the study involves a prediction-oriented model involving multiple latent variables, mediation paths and moderation effects. The method can be used to explain variance and to test complex relationships and not only to confirm a mature covariance structure (Hair et al., 2019; Sarstedt et al., 2022). The analysis procedure consisted of two stages: the first stage was the assessment of the reflective measurement model, and the second stage involved the structural model assessment.

Indicator reliability, internal consistency, convergent validity, discriminant validity and collinearity were used to assess the measurement model. Indicator loadings of 0.708 or higher were deemed acceptable and those loadings between 0.40 and 0.70 were evaluated for retention based on theory, content validity, CR and AVE (Hair et al., 2020). Cronbach's alpha and composite reliability and rho_A were interpreted based on the recommended range (0.70 to 0.95); values that exceeded .95 were explored as this may reflect item redundancy. Convergent validity was assessed using AVE, with 0.50 as the minimum acceptable threshold (Fornell and Larcker, 1981; Hair et al., 2020). Discriminant validity was assessed mainly through HTMT, with values below 0.85 considered strict and values below 0.90 considered acceptable for conceptually related constructs. Bootstrapped HTMT confidence intervals were checked to ensure that they did not include 1.00 (Henseler et al., 2015).

The structural model was assessed through path coefficients, t-values, p-values, confidence intervals, inner VIF, R2, adjusted R2, f2 and predictive relevance. Bootstrapping with 5,000 subsamples and two-tailed testing at the 5% level was used to assess direct, indirect and interaction effects. Mediation was examined through bootstrapped indirect effects and interpreted alongside direct and total effects to avoid unsupported claims of partial mediation (Nitzl et al., 2016). Moderation was assessed through interaction terms between social capital and the relevant predictor constructs. Effect sizes were interpreted using Cohen's benchmarks of 0.02, 0.15 and 0.35 for small, medium and large effects (Cohen, 1988). Predictive relevance was examined using Stone-Geisser Q2, where values above zero indicate predictive relevance, and PLSpredict was considered to compare prediction errors with a linear model benchmark (Geisser, 1974; Stone, 1974; Shmueli et al., 2019). The results are viewed as theory-based relationships, rather than proof of causality.

4. Results and Findings

4.1 Respondent profile

A total of 390 valid responses were used for the analysis, as shown in Table 1. The male respondents constituted 54.5 per cent of the sample and the female respondents 45.6 per cent. The age profile was reasonably distributed with the highest age group being 31-40 years and more than 50 years with

22.6 per cent each. The businesses covered the grocery, handloom, betel leaf, vegetable-related and other SME types with no restriction on a narrow business category.

Table 1 *Demographic profile of respondents*

Description	Category	N	Percentage (%)
Gender	Male	212	54.5
	Female	178	45.6
Age	Less than 20	76	19.5
	21-30	64	16.4
	31-40	88	22.6
	41-50	74	19.0
	More than 50	88	22.6
Business type	Grocery	72	18.5
	Handloom	82	21.0
	Betel leaf	74	19.0
	Vegetables	82	21.0
	Other	80	20.5
Designation of respondents	Owner	122	31.3
	Manager	140	35.9
	Key personnel	128	32.8
Business experience	Up to 5	102	26.2
	6-10	96	24.4
	11-15	98	25.1
	16-20	94	24.1
Income of respondent	Less than 20000	88	22.6
	20001-30000	66	16.9
	30001-40000	76	19.5
	40001-50000	98	25.1
	More than 50000	62	15.9

Note. Percentages are based on 390 usable responses.

The respondent profile also supports the study's unit-of-analysis logic: owners represented 31.3 percent, managers 35.9 percent and key personnel 32.8 percent. Therefore, the respondents were positioned to assess internal sustainability practices and their perceptions of community-related drivers. Business experience was also balanced across the four categories, while income was concentrated mainly within the 40001 to 50000 group, followed by the less than 20000 group.

4.2 Measurement model assessment

The measurement model was assessed before testing the structural paths, following common PLS-SEM reporting practice (Hair et al., 2019; Hair et al., 2020). Table 2 reports the indicator loadings, internal consistency reliability and convergent validity statistics. All indicator loadings were strong, ranging from 0.822 to 0.932. The lowest loading was recorded for CSA2, while the highest loading was recorded for SPA3. Since all items loaded clearly on their respective constructs, the indicators provide adequate evidence of item reliability.

Table 2 *Measurement model results: indicator loadings, reliability, and convergent validity*

Construct	Indicator	Loading	α	ρA	CR	AVE
Community Sustainability Awareness (CSA)	CSA1	0.863	0.910	0.913	0.932	0.734
	CSA2	0.822				
	CSA3	0.872				
	CSA4	0.872				
	CSA5	0.853				
Community Normative Pressure (CNP)	CNP1	0.849	0.908	0.912	0.931	0.730
	CNP2	0.837				
	CNP3	0.853				
	CNP4	0.869				
	CNP5	0.863				
Perceived Community Support (PCS)	PCS1	0.887	0.910	0.918	0.933	0.736
	PCS2	0.839				
	PCS3	0.888				
	PCS4	0.828				
	PCS5	0.845				
Owner Sustainability Attitude (OSA)	OSA1	0.882	0.936	0.937	0.952	0.797
	OSA2	0.888				
	OSA3	0.906				
	OSA4	0.899				
	OSA5	0.889				
Perceived Behavioural Control (PBC)	PBC1	0.892	0.940	0.941	0.954	0.807
	PBC2	0.916				
	PBC3	0.906				
	PBC4	0.895				
	PBC5	0.881				
Social Capital (SOC)	SOC1	0.841	0.909	0.913	0.932	0.733
	SOC2	0.854				
	SOC3	0.854				
	SOC4	0.894				
	SOC5	0.836				
Sustainability Practices Adoption (SPA)	SPA1	0.925	0.952	0.953	0.963	0.838
	SPA2	0.911				
	SPA3	0.932				
	SPA4	0.921				
	SPA5	0.888				

Note. α = Cronbach's alpha; ρA = composite reliability rho_A; CR = composite reliability rho_C; AVE = average variance extracted. Indicator loadings of .70 or above and AVE values of .50 or above indicate acceptable convergent validity. Reliability values between .70 and .95 are generally considered satisfactory, while values above .95 were considered when assessing possible item redundancy.

The reliability results were also acceptable. Cronbach's alpha values ranged from 0.908 for Community Normative Pressure to 0.952 for Sustainability Practices Adoption. rho_A values ranged from 0.912 to 0.953, and composite reliability values ranged from 0.931 to 0.963. The AVE values ranged from 0.730 to 0.838, indicating that each construct explained a sufficient proportion of variance in its indicators. Although the reliability statistics for Sustainability Practices Adoption were high, with alpha of 0.952 and composite reliability of 0.963, this does not require item deletion by itself.

Table 3 *Discriminant validity: HTMT criterion*

	CSA	CNP	PCS	OSA	PBC	SOC	SPA
CSA							
CNP	0.186						
PCS	0.181	0.175					
OSA	0.568	0.469	0.427				
PBC	0.558	0.505	0.386	0.703			
SOC	0.185	0.151	0.141	0.380	0.418		
SPA	0.567	0.349	0.372	0.768	0.769	0.476	

Note. HTMT values below .90 generally support discriminant validity. The highest HTMT values are observed for SPA with PBC (.769) and SPA with OSA (.768), which remain below the commonly used .90 threshold.

Table 4 *Discriminant validity: Fornell-Larcker criterion*

	CSA	CNP	PCS	OSA	PBC	SOC	SPA
CSA	0.857						
CNP	0.170	0.854					
PCS	0.168	0.162	0.858				
OSA	0.526	0.436	0.399	0.893			
PBC	0.519	0.468	0.360	0.660	0.898		
SOC	0.172	0.140	0.133	0.351	0.389	0.856	
SPA	0.529	0.330	0.348	0.725	0.729	0.446	0.915

Note. Diagonal values represent the square root of AVE. The diagonal values are higher than the corresponding inter-construct correlations, supporting discriminant validity under the Fornell-Larcker criterion.

Discriminant validity was assessed using the HTMT criterion and the Fornell-Larcker criterion. Henseler et al. (2015) recommend HTMT as a stricter approach for assessing discriminant validity in variance-based SEM. As shown in Table 3, all HTMT values remained below the commonly used 0.90 threshold. The highest HTMT values were observed between SPA and PBC at 0.769 and between SPA and OSA at 0.768. These values are close enough to show conceptual relatedness, but not high enough to indicate a discriminant validity problem. Table 4 also supports discriminant validity because the square roots of AVE, ranging from 0.854 to 0.915, were higher than the relevant inter-construct correlations. The largest correlation was between SPA and PBC at 0.729, followed closely by SPA and OSA at 0.725, which is theoretically expected because both OSA and PBC are direct antecedents of SPA.

4.3 Model fit, explanatory power and predictive assessment

Model fit statistics were reported descriptively because global fit indices in PLS-SEM are not interpreted in the same way as covariance-based SEM fit measures (Hair et al., 2019). Table 5 shows that the SRMR value was 0.045 for the saturated model and 0.083 for the estimated model. These results suggest that the model had an acceptable descriptive fit for PLS-SEM reporting, although the main emphasis remains on measurement quality, explained variance, prediction and structural paths. The d_ULS, d_G, chi-square and NFI values are therefore treated as supporting diagnostics rather than as strict acceptance or rejection criteria.

Table 5 *Model fit summary*

Fit index	Saturated model	Estimated model
SRMR	0.045	0.083
d_ULS	1.268	4.377
d_G	0.700	0.863
Chi-square	1537.925	1723.721
NFI	0.876	0.861

Table 6 shows the explanatory power of the endogenous constructs. The model explained 47.3 percent of the variance in Owner Sustainability Attitude and 46.9 percent of the variance in Perceived Behavioural Control. The adjusted R squared values were similar, at 0.469 for OSA and 0.465 for PBC, suggesting that the explanatory power was not inflated by the number of predictors. The model also explained 72.3 percent of the variance in Sustainability Practices Adoption, with an adjusted R squared of 0.720. This indicates substantial explanatory strength for the main outcome construct.

Table 6 *Explanatory power of endogenous constructs*

Endogenous construct	R^2	Adjusted R^2
OSA	0.473	0.469
PBC	0.469	0.465
SPA	0.723	0.720

Note. R^2 indicates the proportion of variance explained by the predictors, while adjusted R^2 accounts for model complexity. Values are reported for the endogenous constructs in the structural model.

Predictive relevance was assessed through PLSpredict, as recommended for prediction-oriented PLS-SEM studies (Shmueli et al., 2019). Table 7 shows that all Q^2predict values were positive: 0.464 for OSA, 0.459 for PBC and 0.545 for SPA. The RMSE values were 0.736 for OSA, 0.739 for PBC and 0.679 for SPA, while the MAE values were 0.590, 0.600 and 0.553, respectively. These values indicate that the model has predictive relevance for all three endogenous constructs.

Table 7 *PLSpredict latent-variable summary*

Construct	Q^2predict	RMSE	MAE
OSA	0.464	0.736	0.590
PBC	0.459	0.739	0.600
SPA	0.545	0.679	0.553

Note. RMSE = root mean squared error; MAE = mean absolute error. Q^2predict values above zero indicate predictive relevance for the respective endogenous constructs.

Table 8 *CVPAT benchmark comparison of predictive performance*

Construct	PLS loss	IA loss	Δ PLS-IA	p	LM loss	Δ PLS-LM	p
OSA	1.001	1.584	-0.583	< .001	0.926	0.075	.008
PBC	0.966	1.530	-0.564	< .001	0.895	0.071	.019
SPA	0.699	1.282	-0.583	< .001	0.750	-0.051	.048
Overall	0.889	1.465	-0.577	< .001	0.857	0.031	.108

Note. IA = indicator average benchmark; LM = linear model benchmark. Δ denotes average loss difference, calculated as PLS-SEM loss minus benchmark loss. Negative values indicate lower prediction loss for PLS-SEM than the benchmark. p values below .001 are reported as < .001.

Table 8 provides additional benchmark evidence through CVPAT (Liengaard et al., 2021). Against the indicator average benchmark, the PLS model showed lower prediction loss for OSA, PBC and SPA, with loss differences of negative 0.583, negative 0.564 and negative 0.583, respectively. Against the linear model benchmark, the evidence was more mixed. SPA showed lower loss for PLS-SEM, with a loss difference of negative 0.051 and a p value of 0.048, while OSA and PBC showed slightly higher PLS loss than the linear benchmark. The overall comparison against the linear model was not significant, with a p value of 0.108. Therefore, the predictive assessment supports the model most clearly when compared with the indicator average benchmark, while the linear model comparison should be interpreted more cautiously.

4.4 Structural model and hypothesis testing

The structural model results are reported in Tables 9, 10 and 11. Structural collinearity was not a major concern because the inner VIF values in Table 9 ranged from 1.049 to 2.044, which is comfortably below the commonly used threshold of 3.3 for PLS-SEM reporting (Hair et al., 2019). All direct associations were statistically supported. Community Sustainability Awareness was positively associated with OSA, with a path coefficient of 0.425, and with PBC, with a path coefficient of 0.419. These results support H1 and H2 and indicate that community awareness was the strongest community-related driver of both attitudinal and capability-related cognition.

Community Normative Pressure was also positively associated with OSA and PBC. H3 and H4 were supported by the path to PBC (0.360) and the path to OSA (0.319). This indicates that there may be a connection between norms and positive attitudes, as well as perceived self-efficacy to act responsibly. Positive associations were found between Perceived Community Support and OSA, with a path coefficient of 0.276, as well as Perceived Community Support and PBC, with a path coefficient of 0.231, thereby supporting H5 and H6, respectively. Although these effects were not as large as those of CSA and CNP, they were statistically meaningful and significant. The results of the effect sizes corroborate this interpretation. CSA had medium-to-large effects on OSA and PBC, with f^2 values of 0.326 and 0.315, while PCS showed smaller effects, especially on PBC at 0.096.

Table 9 *Direct structural effects and hypothesis testing*

Hypothesis	Path	β	SD	t	95% CI	p	VIF	f²	Decision
H1	CSA -> OSA	0.425	0.036	11.66	[0.354, 0.495]	< .001	1.052	0.326	Supported
H2	CSA -> PBC	0.419	0.037	11.30	[0.344, 0.491]	< .001	1.052	0.315	Supported
H3	CNP -> OSA	0.319	0.036	8.82	[0.246, 0.388]	< .001	1.049	0.184	Supported
H4	CNP -> PBC	0.360	0.036	10.08	[0.289, 0.430]	< .001	1.049	0.233	Supported
H5	PCS -> OSA	0.276	0.037	7.51	[0.204, 0.349]	< .001	1.049	0.137	Supported
H6	PCS -> PBC	0.231	0.040	5.78	[0.151, 0.308]	< .001	1.049	0.096	Supported
H7	OSA -> SPA	0.347	0.039	8.857	[0.272, 0.424]	< .001	1.902	0.229	Supported
H8	PBC -> SPA	0.307	0.041	7.464	[0.223, 0.384]	< .001	2.044	0.167	Supported
H11	SOC -> SPA	0.167	0.034	4.963	[0.102, 0.232]	< .001	1.213	0.083	Supported

Note. β = standardized path coefficient; SD = bootstrapped standard deviation; CI = percentile confidence interval; VIF = inner variance inflation factor; f² = effect size. p values below .001 are reported as < .001. VIF values below 3.3 indicate no serious structural collinearity. f² values of approximately .02, .15 and .35 indicate small, medium and large effects, respectively.

Table 10 *Moderating effects of social capital*

Hypothesis	Path	β	SD	t	95% CI	p	VIF	f²	Decision
H12a	SOC x OSA -> SPA	0.167	0.039	4.282	[0.089, 0.243]	< .001	2.190	0.047	Supported
H12b	SOC x PBC -> SPA	0.141	0.037	3.825	[0.072, 0.216]	< .001	2.180	0.037	Supported

Note. β = standardized interaction coefficient; SD = bootstrapped standard deviation; CI = percentile confidence interval; VIF = inner variance inflation factor; f² = effect size. Social capital was specified as the moderating construct, and positive interaction coefficients indicate stronger associations at higher levels of social capital.

The two immediate cognitive predictors of adoption were also supported. OSA was positively associated with SPA, with a path coefficient of 0.347, while PBC was positively associated with SPA, with a path coefficient of 0.307. These findings support H7 and H8. Social Capital was positively associated with SPA, with a coefficient of 0.167 and a small effect size of 0.083, supporting H11. Although this direct effect was weaker than those of OSA and PBC, it remains important because social capital is also theorised as a boundary condition in the model.

Table 11 reports the mediating effects. All six indirect associations were statistically supported. Through OSA, the strongest indirect association was found for CSA to SPA, with a coefficient of 0.148, followed by CNP to SPA at 0.111 and PCS to SPA at 0.096. Through PBC, the indirect association from CSA to SPA was 0.129, while the CNP pathway was 0.111 and the PCS pathway was 0.071. These findings support H9a to H9c and H10a to H10c. The results indicate that both attitude and perceived behavioural control operate as meaningful cognitive mechanisms, although the attitude route appears slightly stronger for CSA and PCS.

Table 11 *Mediating effects*

Indirect path	β	SD	t	95% CI	p	Decision
H9a: CSA -> OSA -> SPA	0.148	0.023	6.398	[0.105, 0.195]	< .001	Supported
H10a: CSA -> PBC -> SPA	0.129	0.022	5.859	[0.087, 0.173]	< .001	Supported
H9b: CNP -> OSA -> SPA	0.111	0.018	6.130	[0.077, 0.149]	< .001	Supported
H10b: CNP -> PBC -> SPA	0.111	0.019	5.945	[0.075, 0.149]	< .001	Supported
H9c: PCS -> OSA -> SPA	0.096	0.018	5.440	[0.064, 0.133]	< .001	Supported
H10c: PCS -> PBC -> SPA	0.071	0.016	4.473	[0.041, 0.104]	< .001	Supported

Note. β = standardized indirect effect; SD = bootstrapped standard deviation; CI = percentile confidence interval. Indirect effects are interpreted as mediated associations, consistent with the cross-sectional survey design.

Table 10 presents the moderation results. The interaction between Social Capital and OSA was positively associated with SPA, with a coefficient of 0.167, supporting H12a. The interaction between Social Capital and PBC was also positive, with a coefficient of 0.141, supporting H12b. The corresponding f² values were 0.047 and 0.037, which indicate small but relevant interaction effects. These results suggest that social capital strengthens the role of owner-manager cognition in sustainability practices adoption. However, because the study is based on cross-sectional survey data, these findings should be interpreted as supported associations within the proposed model rather than as proof of causal effects.

5. Discussion of Findings

The findings show that community-related drivers are meaningfully associated with owner-manager sustainability cognition in ethnic minority-owned SMEs. Community sustainability awareness had the strongest association with owner sustainability attitude and perceived behavioural control, followed by community normative pressure and perceived community support. This suggests that when owner-managers perceive local communities as more aware of environmental, social and ethical business expectations, they are more likely to evaluate sustainability positively and feel more capable of adopting such practices. This finding is consistent with TPB-based sustainability studies, where social expectations and perceived control are central to explaining sustainability-oriented behaviour (Ajzen, 1991; Thoradeniya et al., 2015; Yuriev et al., 2020). It also supports SME research showing that external pressures and stakeholder expectations are important for sustainability engagement, particularly where firms operate close to local communities (Aboelmaged, 2018; Nguyen and Adomako, 2022; Singh et al., 2022).

The positive associations of owner sustainability attitude and perceived behavioural control with sustainability practices adoption support the argument that sustainability adoption in SMEs is not only a response to outside pressure but also depends on owner-manager cognition. Owner sustainability attitude was slightly stronger than perceived behavioural control, indicating that favourable evaluation of sustainability may be especially important in community-embedded ethnic minority-owned SMEs. This aligns with Singh et al. (2021), who found that attitude and moral evaluation are relevant to environmental sustainability behaviour in small firms. However, the strong role of perceived behavioural control also confirms that positive attitudes alone are unlikely to be sufficient when owners face resource, knowledge or institutional constraints (Aboelmaged, 2018; Dasanayaka et al., 2022). This point is important because ethnic minority-owned SMEs often rely on informal networks and local legitimacy rather than formal institutional support (Soundararajan et al., 2018; Islam et al., 2025).

The mediation findings further clarify the mechanism through which community-related drivers are associated with sustainability practices adoption. All six indirect paths through owner sustainability attitude and perceived behavioural control were significant. This supports the TPB logic that external social cues are more closely linked with behaviour when they are internalised through attitude and perceived capability (Ajzen, 1991; Yuriev et al., 2020). The results extend prior SME sustainability studies by showing that community awareness, normative pressure and perceived support do not operate only as direct social influences. Instead, they are associated with adoption through owner-manager evaluation and perceived feasibility. This adds a more process-based explanation to studies that have mainly examined stakeholder pressure or green practices as direct predictors of SME sustainability outcomes (Aboelmaged, 2018; Alraja et al., 2022; Hossain et al., 2025).

Social capital was also positively associated with sustainability practices adoption and significantly moderated the OSA to SPA and PBC to SPA relationships. This finding is consistent with Social Capital Theory, which views trust, reciprocity and network ties as resources that facilitate collective action and access to support (Coleman, 1988; Putnam, 1995; Nahapiet and Ghoshal, 1998). It also agrees with recent SME evidence showing that social capital can support environmental engagement, innovation and sustainability-oriented practices (Roxas, 2021; Ooi et al., 2023; Alcalde-Calonge et al., 2024). The contribution of this study is that social capital is not only treated as a direct resource but also as a boundary condition. In practical terms, owner-managers with favourable attitudes or stronger perceived control appear more likely to translate these cognitions into sustainability practices when their social networks provide trust, cooperation and community-level reinforcement.

6. Conclusion, Implications and Policy Recommendations

Conclusion

This study examined how community-related drivers are associated with sustainability practices adoption in ethnic minority-owned SMEs in Bangladesh, with owner sustainability attitude and perceived behavioural control as mediating mechanisms and social capital as a moderating condition. The results show that community sustainability awareness, community normative pressure and perceived community support are all positively linked with owner sustainability attitude and perceived behavioural control. In turn, both cognitive mechanisms are positively associated with sustainability practices adoption. The mediation results suggest that community-related factors are not translated into adoption only through external pressure, but also through owner-managers' evaluation of sustainability and their perceived ability to act. Social capital also shows a direct positive association with adoption and strengthens the links from attitude and perceived behavioural control to adoption. Overall, the study indicates that sustainability adoption in ethnic minority-owned SMEs is shaped by a combination of community expectations, owner-manager cognition and socially embedded resources. The findings should be interpreted as associations, not causal effects, because the study uses cross-sectional survey data and perceptual measures from business respondents in a specific regional setting.

Implications and Policy Recommendations

The study contributes to SME sustainability literature by showing that community-related drivers work through owner-manager cognition rather than operating only as external pressures. This adds a clearer mechanism to TPB-based sustainability research by linking community awareness, normative pressure and perceived support with attitude, perceived behavioural control and adoption. The results also contribute to the extension of Social Capital Theory by positioning social capital as a direct resource and a boundary condition. This is particularly relevant in the case of ethnic minority-owned SMEs, where trust, reciprocity and local networks can play a significant role in encouraging owner-managers to adopt sustainability practices as a result of positive evaluations and perceived capability. The study thus provides a context-specific account of sustainability adoption in socially embedded small businesses in Bangladesh, particularly in the absence of formal support.

Findings indicate that sustainability support for ethnic minority-owned SMEs should integrate awareness and capability building for both practice and policy. Programmes should be developed at the community level by local authorities and SME agencies and/or development organisations to clarify the

business benefits of environmental, social and ethical practices. Training should also include skills, low-cost sustainability measures and access to institutional support. Policy interventions should not rely only on regulation. Policymakers should invest in community networks, business associations and community-based trust platforms, providing social support and encouragement for owner-managers of the sector to adopt as well as practical support for the adoption process. Practical and directed financial guidance, peer learning and easy reporting mechanisms can also further decrease the perceived barriers to implementation and increase the likelihood of SMEs maintaining adoption.

Limitations

This study has some limitations. First, the cross-sectional study design precludes causal interpretations and the results must be interpreted as model-based associations. Second, the data were gathered from owner-managers and key personnel of four districts of Sylhet division, which might not be generalised to all ethnic minority-owned SMEs in Bangladesh. Third, all constructs were measured by self-reported surveys, but some procedural and statistical checks were used.

Future Research Directions

Future research might consider longitudinal or mixed-method designs to explore over time community-related influences on sustainability uptake. Establishing external validity through comparative study between regions, ethnic groups and sectors would also be beneficial. Future studies could include other boundary conditions, including institutional support, and digital capability or market turbulence. It would also be useful to have community-member, employee or multi-source data to validate perceived community-related constructs and to minimise single-source limitations.

Declarations

Conflict of Interest

There are no potential conflicts of interest concerning this article's research findings, participant consent, authorship, and publication.

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Ethical Statement

This study was carried out in compliance with recognized ethical guidelines and involved human subjects. Prior to participation, informed consent was obtained, and respondents were guaranteed anonymity and confidentiality. Participation was voluntary, and participants had the right to withdraw at any time. Data were used solely for academic purposes. Ethical statement approved by ethical approval committee of the School of Management and Business Administration, Shahjalal University of Science and Technology, Sylhet-3114.

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Author Contribution

Author contributions Mohammad Mizenur Rahaman (Corresponding Author 1): Conceptualization, research design, supervision, methodology, data validation, interpretation of results, and final revision of the manuscript. Anamul Hoque Uzzol (Corresponding Author 2): Co-conceptualization, data analysis using Structural Equation Modeling (SEM), drafting major sections of the manuscript, and managing cor¬respondence with the journal. Fahmida Akter Liza: Literature review development, theoretical framework construction, and contribution to discussion and policy implications. Sarwat Kashfi Konoy : Data collection, organization of survey instruments, preliminary data analysis, and preparation of figures and tables. Nazira Akter : Review of related works, editing and refinement of the manuscript, format¬ting, and assisting in references and citations.

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Figures

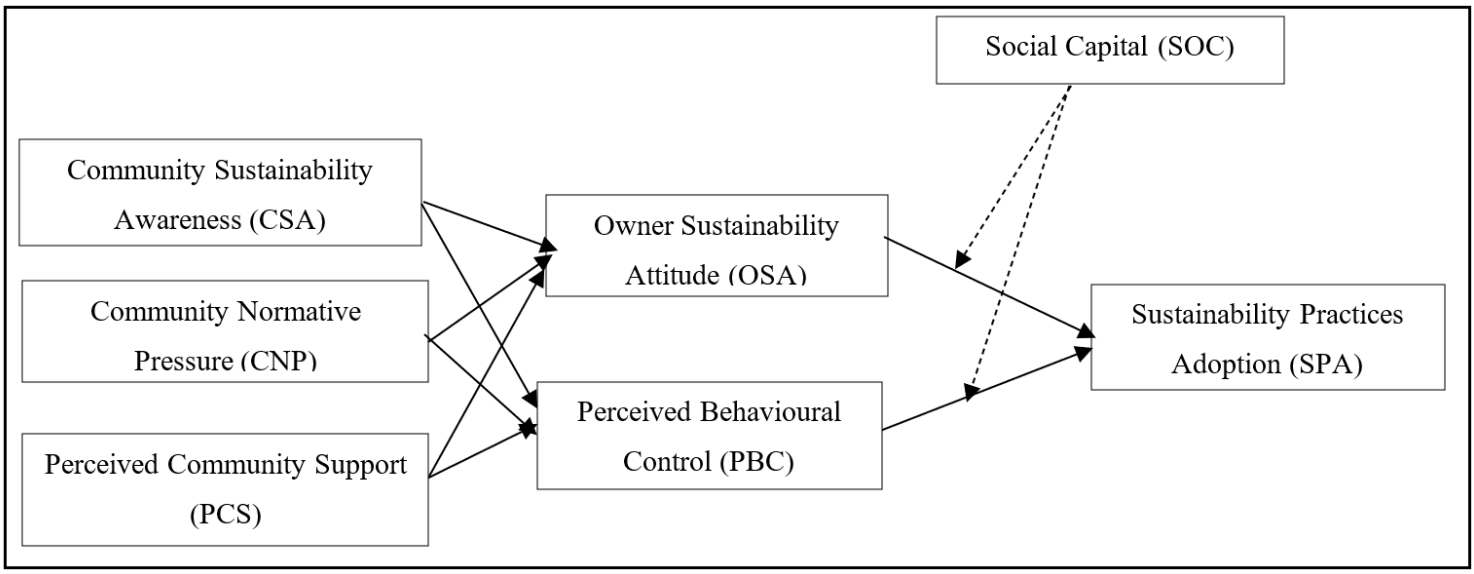


Figure 1

Conceptual framework of community-related drivers, social capital and sustainability practices adoption

Source: *Authors' own construction*

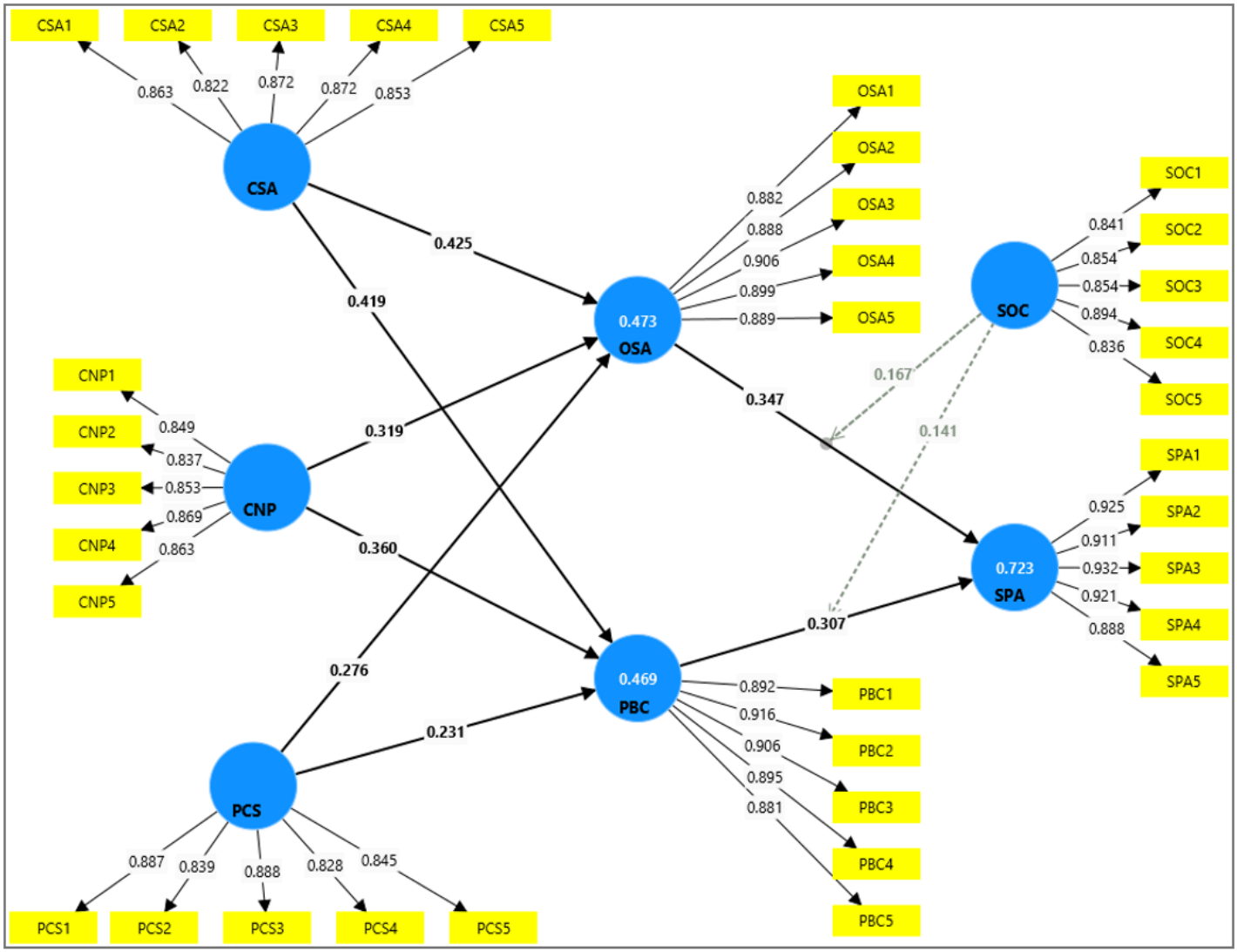


Figure 2

PLS-SEM measurement model with indicator loadings and path coefficients
Source: *Authors' SmartPLS output.*

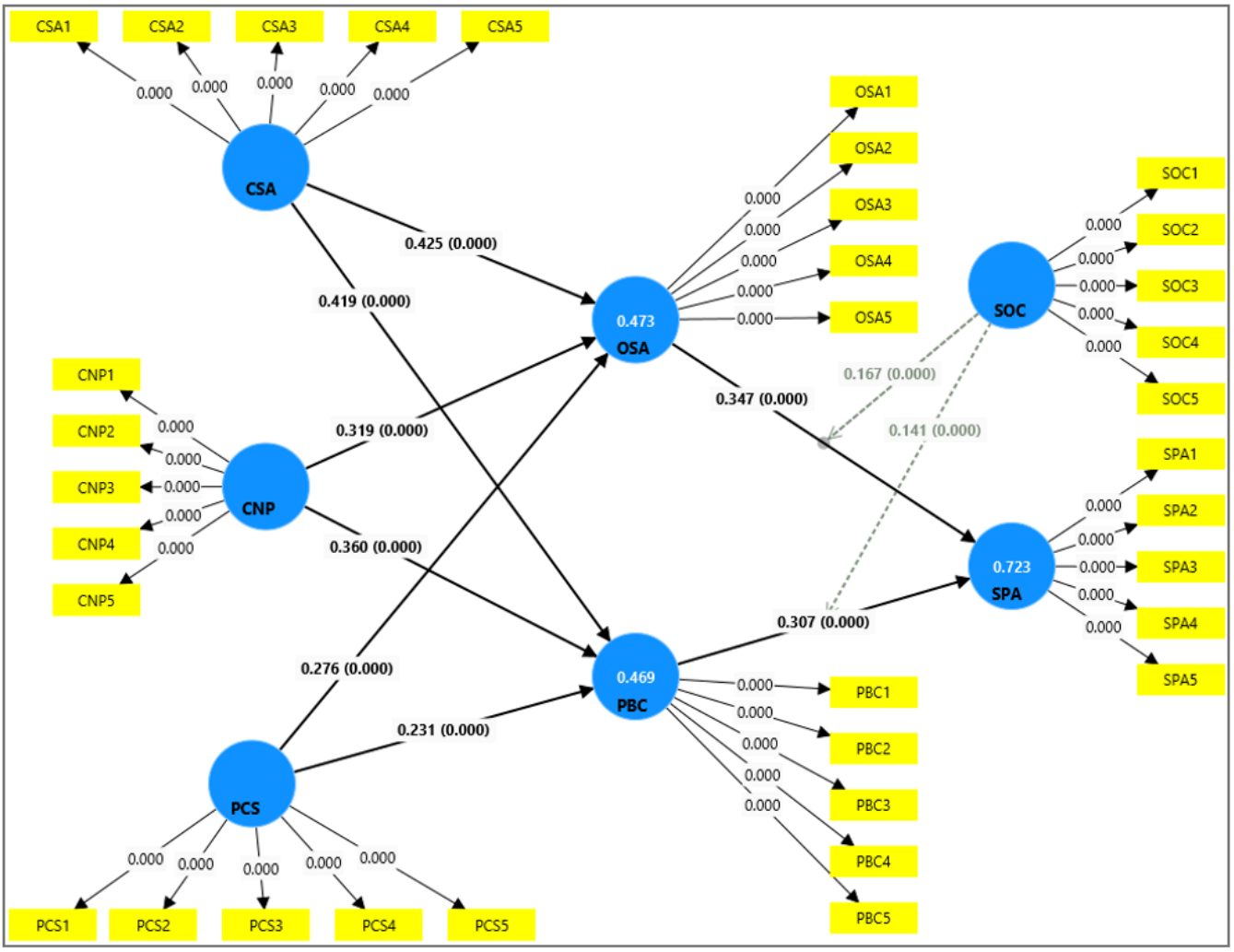


Figure 3

Bootstrapped structural model results with path significance values
Source: Authors' SmartPLS bootstrapping output.

Supplementary Files

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- AppendixA.docx