



Fostering Customer Trust Through Sustainable Environmental Practices: Evidence from Small and Medium-Sized Enterprises in Thai Nguyen Province, Vietnam

Nguyen Thanh Vu^{ID}, Tran Quang Huy^{*ID}, Nguyen Dac Dung^{ID}, Dinh Hong Linh^{ID}

Thai Nguyen University of Economics and Business Administration, Thai Nguyen University, Thai Nguyen, 250000, Vietnam

Corresponding Author Email: tranhuyqtkd@tueba.edu.vn

Copyright: ©2026 The authors. This article is published by IIETA and is licensed under the CC BY 4.0 license (<http://creativecommons.org/licenses/by/4.0/>).

<https://doi.org/10.18280/ijstdp.210833>

ABSTRACT

Received: 22 June 2026

Revised: 11 August 2026

Accepted: 18 August 2026

Available online: 31 August 2026

Keywords:

customer trust, organizational capabilities, partial least squares, small and medium-sized enterprises, sustainable development, Vietnam

Sustainable practices may be associated with higher customer trust (CT) among small and medium-sized enterprises (SMEs), but evidence from emerging economies remains limited. This study develops an internal capability-sustainability-trust (ICST) framework and examines how stakeholder role, organizational readiness for change, sustainability awareness, internal organizational cohesion, and competitive motivation relate to sustainable development adoption (SDA), and how SDA relates to CT. Survey data from 248 SMEs in Thai Nguyen Province, Vietnam, were analyzed with Partial Least Squares Structural Equation Modeling (PLS-SEM) and 5,000 bootstrap resamples. All six structural paths were positive and statistically significant; internal organizational cohesion had the strongest association with SDA, while SDA was strongly associated with CT. The five antecedents explained 59.2% of the variance in SDA, and SDA explained 42.5% of the variance in CT. Inner variance inflation factors (VIF) ranged from 1.090 to 1.279, and Q^2 values were positive for SDA (0.576) and CT (0.420). The results emphasize coordinated internal capabilities and stakeholder engagement as foundations for sustainability adoption. The SDA-trust association is consistent with signaling theory; however, the signaling mechanism itself was not measured. Therefore, causal and signaling-mediation claims are avoided.

1. INTRODUCTION

Sustainable development has become a strategic concern for firms facing climate risk, resource constraints, changing regulation, and growing stakeholder expectations. Sustainable business-model research shows that environmental and social objectives can be integrated with value creation rather than treated as peripheral compliance activities [1, 2]. This challenge is especially important for small and medium-sized enterprises (SMEs), which account for a large share of employment and economic activity but often have limited financial, technical, and managerial resources [3]. Stakeholder-oriented business models can help smaller firms mobilize knowledge, legitimacy, and partnerships needed for sustainability transitions [4].

Customer trust (CT) is a central relational asset because it reduces perceived risk, supports loyalty, and stabilizes exchange relationships. Evidence in corporate social responsibility and sustainability settings links responsible conduct with CT, reputation, and loyalty [5-7]. For SMEs, these relationships may be particularly consequential because customers often evaluate the organization through direct experience and local reputation. However, the organizational capabilities that enable sustainability adoption and the strength of its association with CT remain underexamined in resource-constrained emerging-economy contexts.

This study examines SMEs in Thai Nguyen Province,

Vietnam, and develops an internal capability-sustainability-trust (ICST) framework. Five antecedents - stakeholder role, organizational readiness for change, sustainability awareness, internal organizational cohesion, and competitive motivation - are linked to sustainable development adoption (SDA), which is then linked to CT. The study contributes by integrating external stakeholder influence with internal organizational capabilities, applying the framework in an emerging industrial province, and distinguishing an observed SDA-trust association from the unmeasured signaling mechanism often invoked to explain it. The study addresses three questions: Which external and internal factors are associated with SDA? Which factor has the strongest association? How strongly is SDA associated with CT?

2. LITERATURE REVIEW

2.1 Sustainability adoption and customer trust in small and medium-sized enterprises

Sustainability adoption in SMEs involves embedding environmental, social, economic, and governance considerations into organizational routines and decisions. Firms may adopt such practices to respond to stakeholders, reduce resource use, improve reputation, or strengthen competitiveness [1-4]. Yet adoption is difficult when

organizations lack coordinated knowledge, managerial commitment, and change capacity. These constraints make internal cohesion and readiness important complements to external pressure.

Trust develops when customers perceive a firm as reliable, honest, and concerned with stakeholder welfare. Responsible business activities can inform these judgments, but the effect depends on what customers can observe and whether they regard the activity as credible [5-7]. Accordingly, an association between SDA and trust is compatible with signaling theory; it does not, by itself, establish that communication, visibility, authenticity, certification, or skepticism mediates that association.

2.2 Theoretical foundation

Stakeholder theory holds that firms create and protect value through relationships with multiple constituencies [8]. Stakeholder engagement can provide information, resources, legitimacy, and implementation support, making it a plausible external driver of SDA [4]. The resource-based view identifies valuable, difficult-to-imitate organizational resources as sources of sustained advantage [9, 10]. In SMEs, shared values, coordination, and commitment may constitute an intangible resource that enables sustainability intentions to become consistent practice.

Dynamic-capability theory emphasizes sensing opportunities, seizing them, and reconfiguring resources in changing environments [11, 12]. Sustainability awareness helps firms recognize environmental and social issues; readiness for change supports resource mobilization and employee alignment; competitive motivation creates a strategic reason to act. Prior work links ecological responsiveness and proactive environmental strategies to competitive, legitimacy, and capability motives [13, 14]. Signaling theory explains how observable organizational actions can reduce information asymmetry [15]. Corporate responsibility communication can influence stakeholder interpretations [16], but the present model does not measure communication or a mediating signal. The theory is therefore used to interpret, not claim direct evidence for, the SDA-trust mechanism.

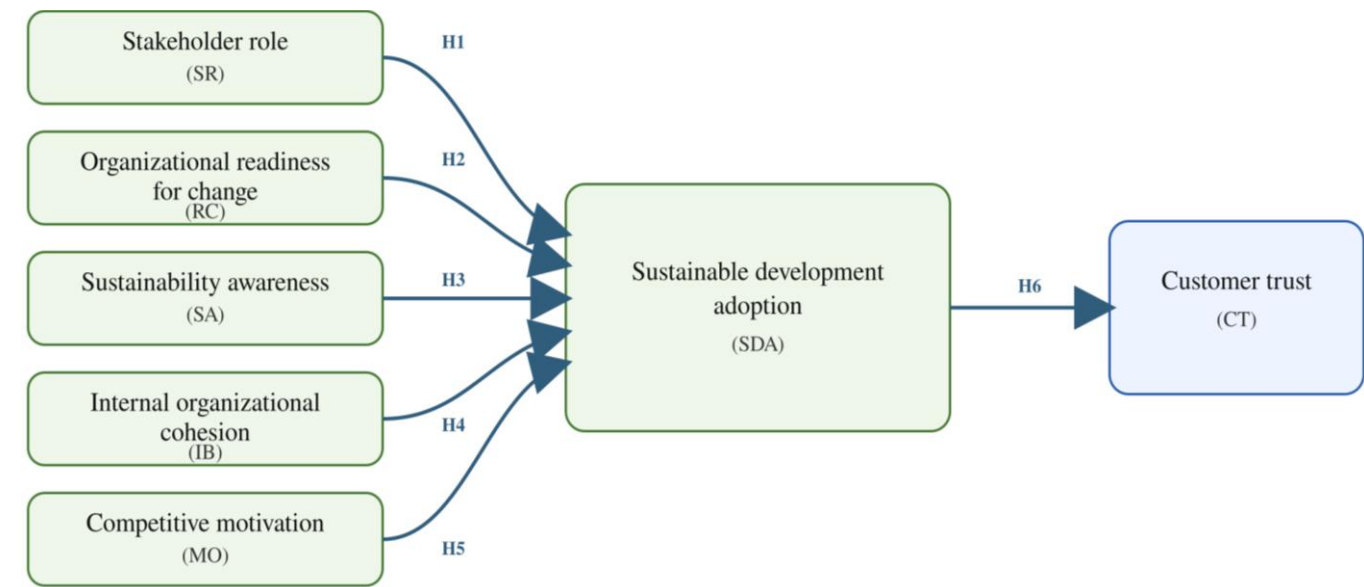


Figure 1. The internal capability-sustainability-trust (ICST) framework

2.3 Hypothesis development

Stakeholders influence priorities through customer expectations, supplier requirements, community norms, and regulation. Active engagement can strengthen access to knowledge and legitimacy and should therefore support SDA [4, 17].

H1: Stakeholder role is positively associated with SDA.

Readiness for change reflects shared commitment, perceived implementation capacity, and the availability of resources for transformation. A prepared organization is more capable of reconfiguring routines and implementing sustainability initiatives [11, 12, 18].

H2: *Organizational readiness for change is positively associated with SDA.*

Sustainability awareness helps managers and employees recognize risks, opportunities, and stakeholder expectations. Awareness should improve issue identification and support informed adoption decisions [3, 19].

H3: *Sustainability awareness is positively associated with SDA.*

Internal organizational cohesion captures shared values, collaboration, and strategic alignment. Cohesive SMEs can coordinate scarce resources, share knowledge, and maintain collective commitment to sustainability implementation [10, 19].

H4: *Internal organizational cohesion is positively associated with SDA.*

Competitive motivation encourages firms to seek efficiency, innovation, differentiation, and reputational benefits from environmental and social initiatives [13, 14, 20].

H5: *Competitive motivation is positively associated with SDA.*

Sustainability activities may provide customers with evidence of responsibility and long-term orientation, thereby supporting trust [5-7, 21]. Because the proposed communication and credibility mechanisms are not measured, the hypothesis is stated as an association rather than a tested mediation claim.

H6: *SDA is positively associated with CT.*

Figure 1 presents the ICST framework and the six hypothesized associations.

3. METHODOLOGY

3.1 Research design, context, and sampling

A cross-sectional quantitative survey was used to examine owners, directors, senior managers, and other organizational decision-makers in SMEs located in Thai Nguyen Province. The province is an industrializing area integrated into domestic and international supply chains. Partial Least Squares Structural Equation Modeling (PLS-SEM) was selected because the study emphasizes prediction and the simultaneous assessment of measurement and structural models [22].

Sampling frame and procedure. The sampling frame was obtained from the Thai Nguyen Provincial Department of Planning and Investment enterprise registry, with support from its statistical division. The registry, updated on 30 November 2024, covered legally registered enterprises operating in the province. A stratified random design was used, with strata defined by district and industry sector to improve geographic and sectoral coverage. From this frame, 1,000 SMEs were randomly selected.

SME definition. Firms were identified in accordance with Vietnam's Law on Support for SMEs and Decree No. 80/2021/ND-CP, which classify enterprises using the average number of employees participating in social insurance and either annual revenue or total capital, with thresholds varying by sector and size category [23]. For descriptive reporting in Table 1, the questionnaire used employee-count groups of fewer than 10, 10-49, and 50-199 employees.

Data collection and survey administration. The survey was conducted by the research team of Thai Nguyen University of Economics and Business Administration in collaboration with

the Thai Nguyen Provincial Department of Planning and Investment. Data were collected from December 2024 to March 2025 through email and professional networks and through face-to-face administration at business premises. The questionnaire was translated into Vietnamese and independently back-translated into English, as described in Appendix A. Of 1,000 distributed questionnaires, 284 were returned; 36 were excluded because of missing values, incomplete responses, or response inconsistencies. The final sample comprised 248 usable responses, corresponding to an effective response rate of 24.8%.

Sample characteristics. Table 1 summarizes the final sample. Manufacturing firms accounted for 38.7%, trade and services for 34.3%, agriculture and forestry for 15.7%, and construction for 11.3%. Owners or directors represented 42.3% of respondents, senior managers 31.5%, and other key decision-makers 26.2%. Using the descriptive employee-count categories, 28.6% of firms had fewer than 10 employees, 45.2% had 10-49, and 26.2% had 50-199. Mean firm age was 8.4 years (SD = 5.2); 67.3% were private limited companies, 31.5% were export-oriented, and 18.5% held a sustainability-related certification.

Non-response bias assessment. Potential non-response bias was assessed through an early-versus-late wave comparison. Early respondents (December 2024-January 2025, n = 162) were compared with late respondents (February-March 2025, n = 86) on firm size, industry sector, and firm age. Independent-samples t-tests and chi-square tests indicated no statistically significant differences between the groups (p > 0.05 for all comparisons), providing no evidence of differences on these observed characteristics, although non-response bias cannot be ruled out.

Table 1. Sample characteristics (n = 248)

Characteristic	Distribution
Sector	Manufacturing 38.7%; trade and services 34.3%; agriculture and forestry 15.7%; construction 11.3%
Respondent position	Owner/director 42.3%; senior manager 31.5%; other key decision-maker 26.2%
Firm size	Micro (< 10 employees) 28.6%; small (10-49) 45.2%; medium (50-199) 26.2%
Firm age	Mean = 8.4 years; SD = 5.2
Ownership	Private limited company 67.3%
Export orientation	Export-oriented firms 31.5%
Sustainability certification	Certified firms 18.5% (e.g., ISO 14001 or Vietnam Green Label)

Note: Firm-size groups are the descriptive employee-count categories used in the questionnaire; legal SME classification followed Decree No. 80/2021/ND-CP [23].

3.2 Measurement

The study used seven-point Likert-type responses (1 = strongly disagree; 7 = strongly agree) for seven constructs: stakeholder role (SR), organizational readiness for change (RC), sustainability awareness (SA), internal organizational cohesion (IB), competitive motivation (MO), SDA, and CT. All constructs were modeled as reflective in the analysis. Of the 35 administered indicators, IB2 was excluded; the final model retained 34 indicators, comprising four IB indicators and five indicators for each of the other six constructs.

The five SDA indicators describe observable manifestations of an underlying organizational sustainability-adoption orientation: implementation of environmentally friendly practices, integration into strategy, investment in sustainability, influence on operational decisions, and continuous improvement. They are expected to covary as

adoption strengthens and are not framed as a noninterchangeable checklist of separate environmental, social, economic, and governance pillars. A reflective specification was therefore retained for the model. Studies that operationalize distinct sustainability pillars should instead evaluate a formative or higher-order specification and report indicator weights, collinearity, and relevance.

3.3 Common-method safeguards and analysis

Procedural safeguards were used to reduce common-method bias: participation was voluntary, responses were treated confidentially and analyzed in aggregate, instructions emphasized that there were no right or wrong answers, and item wording was reviewed for clarity and contextual fit. The Harman single-factor result (first unrotated factor = 33.42%) is retained only as a descriptive diagnostic, not as evidence that

common-method bias is absent. Because all constructs were reported by one respondent in one survey, a marker-variable or latent-method test could not be reconstructed post hoc and the residual single-source risk is acknowledged [24, 25].

The measurement model was assessed using indicator reliability, Cronbach's alpha, composite reliability (CR), average variance extracted (AVE), and the heterotrait-monotrait ratio (HTMT) [22, 26]. The structural model used 5,000 bootstrap resamples. The analysis reports inner variance inflation factors (VIF), R^2 , f^2 , and Q^2 values. Because SRMR, bootstrapped HTMT confidence intervals, and PLSpredict benchmark errors were not available for this analysis, the analysis does not make claims that depend on those statistics [22, 27]. Effect sizes were interpreted using conventional thresholds [28].

4. RESULTS AND DISCUSSION

4.1 Measurement model

Table 2 summarizes the consolidated measurement-model output. Cronbach's alpha ranged from 0.856 to 0.923, CR from 0.900 to 0.943, and AVE from 0.644 to 0.767. These values exceed conventional reliability and convergent-validity thresholds [22]. Outer loadings ranged from 0.750 to 0.915. Table A1 reports the exact wording, adaptation source, and final loading or exclusion status for all 35 administered

indicators.

Table 3 shows that all HTMT point estimates were below 0.85, with the highest value between SDA and CT (0.734). This supports discriminant validity at the point-estimate level [26]. Because bootstrapped HTMT confidence intervals were not available, the inference is limited to the reported point estimates.

4.2 Structural model

Table 4 and Figure 2 present the structural-model results based on 5,000 bootstrap resamples. All six path coefficients were positive, and their 95% confidence intervals excluded zero, supporting H1-H6.

Tables 5 and 6 summarize collinearity, effect sizes, explained variance, and predictive relevance. The five antecedents jointly explained 59.2% of the variance in SDA. Inner VIF values ranged from 1.090 to 1.279, indicating that predictor collinearity was not problematic. Internal organizational cohesion had the largest path coefficient ($\beta = 0.3342$; $f^2 = 0.217$), followed by stakeholder role ($\beta = 0.2972$; $f^2 = 0.174$), competitive motivation ($\beta = 0.2234$; $f^2 = 0.112$), sustainability awareness ($\beta = 0.2167$; $f^2 = 0.102$), and readiness for change ($\beta = 0.1431$; $f^2 = 0.039$). The ordering highlights a practical point: external expectations matter, but implementation depends heavily on internal alignment and coordination.

Table 2. Construct-level reliability and convergent validity

Construct	Items	Alpha	CR	AVE	Final Loading Range
Stakeholder role (SR)	5	0.923	0.943	0.767	0.865-0.895
Organizational readiness for change (RC)	5	0.886	0.919	0.694	0.766-0.915
Sustainability awareness (SA)	5	0.860	0.900	0.644	0.750-0.849
Internal organizational cohesion (IB)	4	0.856	0.902	0.699	0.768-0.899
Competitive motivation (MO)	5	0.887	0.917	0.690	0.781-0.867
Sustainable development adoption (SDA)	5	0.884	0.915	0.684	0.750-0.883
Customer trust (CT)	5	0.900	0.926	0.714	0.809-0.901

Note: Appendix A reports exact questionnaire wording, source citations, and item-level loadings. IB2 was administered but excluded during measurement-model refinement.

Table 3. Heterotrait-monotrait ratio (HTMT) matrix

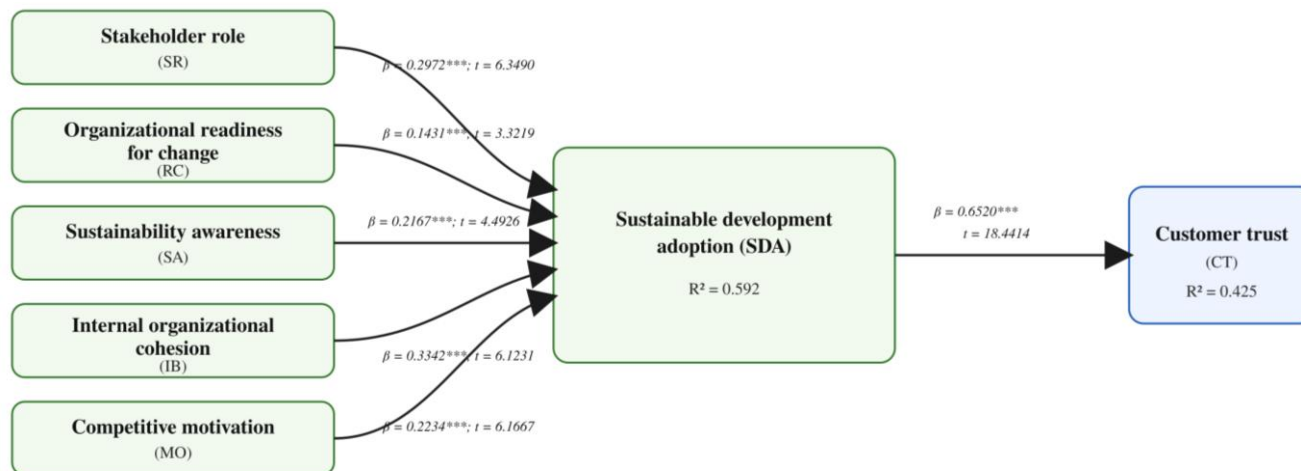
Construct	SR	RC	SA	IB	MO	SDA	CT
SR	-						
RC	0.381	-					
SA	0.250	0.304	-				
IB	0.334	0.434	0.308	-			
MO	0.269	0.155	0.076	0.230	-		
SDA	0.609	0.505	0.471	0.666	0.429	-	
CT	0.581	0.298	0.256	0.470	0.331	0.734	-

Note: All HTMT point estimates are below 0.85; bootstrapped HTMT confidence intervals were not available for this analysis. Sustainable development adoption (SDA).

Table 4. Consolidated 5,000-resample bootstrap results

Hyp.	Path	β	SE	t	p	95% CI	Decision
H1	SR → SDA	0.2972	0.0468	6.3490	< 0.001	[0.2051, 0.3889]	Supported
H2	RC → SDA	0.1431	0.0431	3.3219	< 0.001	[0.0614, 0.2291]	Supported
H3	SA → SDA	0.2167	0.0482	4.4926	< 0.001	[0.1208, 0.3092]	Supported
H4	IB → SDA	0.3342	0.0546	6.1231	< 0.001	[0.2274, 0.4409]	Supported
H5	MO → SDA	0.2234	0.0362	6.1667	< 0.001	[0.1505, 0.2927]	Supported
H6	SDA → CT	0.6520	0.0354	18.4414	< 0.001	[0.5904, 0.7267]	Supported

Note: Estimates are based on 5,000 bootstrap resamples. β = standardized path coefficient; SE = standard error; CI = confidence interval; SDA = sustainable development adoption.



Notes: β = standardized path coefficient; R^2 = coefficient of determination.

*** $p < 0.001$. Estimates are from the consolidated 5,000-resample PLS-SEM results workbook.

Figure 2. Consolidated Partial Least Squares Structural Equation Modeling (PLS-SEM) structural model

Table 5. Collinearity and path-specific effect sizes

Path	Inner VIF	f^2
SR → SDA	1.245	0.174
RC → SDA	1.279	0.039
SA → SDA	1.133	0.102
IB → SDA	1.266	0.217
MO → SDA	1.090	0.112
SDA → CT	-- (single predictor)	0.740

Note: Sustainable development adoption (SDA).

Table 6. Explained variance and predictive relevance

Endogenous Construct	Predictor(s)	R^2	Q^2
SDA	SR, RC, SA, IB, MO	0.592	0.576
CT	SDA	0.425	0.420

Note: Q^2 values are reproduced as reported in the analysis output. The estimation procedure and validation settings were not documented, so these values should be interpreted cautiously. For CT, $0.6520^2 = 0.425$ and $0.425/(1 - 0.425) = 0.739$, consistent with $f^2 = 0.740$ within rounding precision. SDA = sustainable development adoption.

SDA was strongly associated with CT ($\beta = 0.6520$). The consolidated results are internally coherent for this single-predictor equation: β squared equals $R^2 = 0.425$ after rounding, and the corresponding f^2 is 0.740. The reported Q^2 values were positive for SDA (0.576) and CT (0.420). However, the estimation procedure and PLSpredict benchmark errors were unavailable, so these values alone do not establish out-of-sample predictive performance or superiority over a linear benchmark.

Table 7. Exploratory indirect effects through sustainable development adoption (SDA)

Indirect Path	Effect	SE	t	p	95% CI
SR → SDA → CT	0.1938	0.0313	6.1974	<0.001	[0.1328, 0.2548]
RC → SDA → CT	0.0933	0.0279	3.3394	<0.001	[0.0401, 0.1487]
SA → SDA → CT	0.1413	0.0315	4.4845	<0.001	[0.0781, 0.2031]
IB → SDA → CT	0.2179	0.0373	5.8388	<0.001	[0.1467, 0.2932]
MO → SDA → CT	0.1457	0.0231	6.2975	<0.001	[0.1009, 0.1918]

Note: These are structural indirect effects through SDA; they do not test a signaling, communication, credibility, or authenticity mechanism.

The strong SDA-CT association is consistent with the idea that responsible practice can contribute to favorable customer judgments [5-7]. It does not demonstrate that sustainability

All five exploratory indirect effects through SDA were positive and their bootstrap confidence intervals excluded zero (Table 7). Internal organizational cohesion showed the largest indirect association with CT (0.2179), whereas readiness for change showed the smallest (0.0933). These effects describe the proposed structural sequence; they do not establish the unmeasured signaling process.

4.3 Theoretical and practical implications

The results support an integrated view of SME sustainability. Stakeholder engagement provides external information and legitimacy, whereas internal cohesion and change readiness provide the coordinating capacity needed to implement new routines. The comparatively large IB coefficient is consistent with resource-based reasoning: shared values, collaboration, and commitment can function as strategically important intangible resources [9, 10]. The positive RC, SA, and MO paths are also consistent with a dynamic-capability account in which awareness, motivation, and preparedness support resource reconfiguration [11, 12].

For SME managers, sustainability programs should be treated as cross-functional change rather than isolated compliance projects. Managers can establish shared targets, clarify responsibilities, involve employees in implementation, and maintain structured dialogue with customers, suppliers, regulators, and communities. Policymakers and business associations can complement financial incentives with practical training, peer networks, certification support, and sector-specific implementation guidance.

operated as a signal, because communication, visibility, credibility, certification, authenticity, and greenwashing skepticism were not modeled. Future studies should test these

mechanisms explicitly and compare self-reported organizational adoption with customer-reported trust.

4.4 Robustness and limitations

Four limitations constrain interpretation. First, the cross-sectional single-respondent design does not establish temporal or causal order and remains exposed to common-method bias despite the procedural safeguards. Second, the structural model did not include organizational controls; although Table 1 reports industry, size, age, ownership, export orientation, and certification distributions, their conditional effects were not assessed in the reported model. Third, the single-province setting limits generalization. Fourth, bootstrapped HTMT confidence intervals, SRMR, detailed Q² estimation settings, and PLSpredict benchmark errors were unavailable; the reported Q² values therefore do not establish out-of-sample predictive performance.

5. CONCLUSION

This study links stakeholder influence and internal organizational capabilities to SDA and CT among 248 SMEs in Thai Nguyen Province. All six proposed associations are positive and statistically significant. Internal organizational cohesion is the strongest antecedent of SDA, and SDA is strongly associated with CT. The findings suggest that sustainability adoption depends not only on external pressure or awareness but also on an organization's capacity to coordinate people and resources.

The SDA-trust relationship is compatible with signaling theory but does not directly test a signaling mechanism. The cross-sectional, single-respondent design also precludes causal inference. Future research should combine organizational and customer data and explicitly test the communication and credibility mechanisms through which sustainability adoption may relate to CT.

REFERENCES

- [1] Bocken, N.M.P., Short, S.W., Rana, P., Evans, S. (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>
- [2] Lüdeke-Freund, F., Carroux, S., Joyce, A., Massa, L., Breuer, H. (2018). The sustainable business model pattern taxonomy—45 patterns to support sustainability-oriented business model innovation. *Sustainable Production and Consumption*, 15: 145-162. <https://doi.org/10.1016/j.spc.2018.06.004>
- [3] OECD. (2019). *OECD SME and Entrepreneurship Outlook 2019*. OECD Publishing, Paris. <https://doi.org/10.1787/34907e9c-en>
- [4] Freudenreich, B., Lüdeke-Freund, F., Schaltegger, S. (2020). A stakeholder theory perspective on business models: Value creation for sustainability. *Journal of Business Ethics*, 166(1): 3-18. <https://doi.org/10.1007/s10551-019-04112-z>
- [5] Han, S.L., Lee, J.W. (2021). Does corporate social responsibility matter even in the B2B market?: Effect of B2B CSR on customer trust. *Industrial Marketing Management*, 93: 115-123. <https://doi.org/10.1016/j.indmarman.2020.12.008>
- [6] Castaldo, S., Perrini, F., Misani, N., Tencati, A. (2009). The missing link between corporate social responsibility and consumer trust: The case of fair trade products. *Journal of Business Ethics*, 84(1): 1-15. <https://doi.org/10.1007/s10551-008-9669-4>
- [7] Pivato, S., Misani, N., Tencati, A. (2007). The impact of corporate social responsibility on consumer trust: The case of organic food. *Business Ethics: A European Review*, 17(1): 3-12. <https://doi.org/10.1111/j.1467-8608.2008.00515.x>
- [8] Freeman, R.E. (2010). *Strategic Management: A Stakeholder Approach*. Cambridge University Press. <https://doi.org/10.1017/CBO9781139192675>
- [9] Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1): 99-120. <https://doi.org/10.1177/014920639101700108>
- [10] Hart, S.L. (1995). A natural-resource-based view of the firm. *Academy of Management Review*, 20(4): 986-1014. <https://doi.org/10.5465/amr.1995.9512280033>
- [11] Teece, D.J., Pisano, G., Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7): 509-533. [https://doi.org/10.1002/\(SICI\)1097-0266\(199708\)18:7%3C509::AID-SMJ882%3E3.0.CO;2-Z](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7%3C509::AID-SMJ882%3E3.0.CO;2-Z)
- [12] Teece, D.J. (2018). Business models and dynamic capabilities. *Long Range Planning*, 51(1): 40-49. <https://doi.org/10.1016/j.lrp.2017.06.007>
- [13] Bansal, P., Roth, K. (2000). Why companies go green: A model of ecological responsiveness. *Academy of Management Journal*, 43(4): 717-736. <https://doi.org/10.2307/1556363>
- [14] Sharma, S., Vredenburg, H. (1998). Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities. *Strategic Management Journal*, 19(8): 729-753. [https://doi.org/10.1002/\(SICI\)1097-0266\(199808\)19:8%3C729::AID-SMJ967%3E3.0.CO;2-4](https://doi.org/10.1002/(SICI)1097-0266(199808)19:8%3C729::AID-SMJ967%3E3.0.CO;2-4)
- [15] Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics*, 87(3): 355-374. <https://doi.org/10.2307/1882010>
- [16] Du, S.L., Bhattacharya, C.B., Sen, S. (2010). Maximizing business returns to corporate social responsibility: The role of CSR communication. *International Journal of Management Reviews*, 12(1): 8-19. <https://doi.org/10.1111/j.1468-2370.2009.00276.x>
- [17] Delmas, M.A., Toffel, M.W. (2008). Organizational responses to environmental demands: Opening the black box. *Strategic Management Journal*, 29(10): 1027-1055. <https://doi.org/10.1002/smj.701>
- [18] Holt, D.T., Armenakis, A.A., Feild, H.S., Harris, S.G. (2007). Readiness for organizational change: The systematic development of a scale. *The Journal of Applied Behavioral Science*, 43(2): 232-255. <https://doi.org/10.1177/0021886306295295>
- [19] Yusliza, M.Y., Yong, J.Y., Tanveer, M.I., Ramayah, T., Juhari, N.F., Muhammad, Z. (2020). Structural model of the impact of green intellectual capital on sustainable performance. *Journal of Cleaner Production*, 249: 119334. <https://doi.org/10.1016/j.jclepro.2019.119334>
- [20] Khan, O., Daddi, T., Iraldo, F. (2020). The role of

- dynamic capabilities in circular economy implementation and performance of companies. *Corporate Social Responsibility and Environmental Management*, 27(6): 3018-3033. <https://doi.org/10.1002/csr.2020>
- [21] Morgan, R.M., Hunt, S.D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, 58(3): 20-38. <https://doi.org/10.1177/002224299405800302>
- [22] Hair, J.F., Jr., Hult, G.T.M., Ringle, C.M., Sarstedt, M., Danks, N.P., Ray, S. (2021). *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R: A Workbook*. Springer. <https://doi.org/10.1007/978-3-030-80519-7>
- [23] Government of Vietnam. (2021). Decree No. 80/2021/ND-CP detailing and guiding the implementation of a number of articles of the Law on Support for Small and Medium-sized Enterprises. <https://vanban.chinhphu.vn/?docid=203941&pageid=27160>.
- [24] Podsakoff, P.M., MacKenzie, S.B., Podsakoff, N.P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63: 539-569. <https://doi.org/10.1146/annurev-psych-120710-100452>
- [25] Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of e-Collaboration*, 11(4): 1-10. <https://doi.org/10.4018/ijec.2015100101>
- [26] Henseler, J., Ringle, C.M., Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1): 115-135. <https://doi.org/10.1007/s11747-014-0403-8>
- [27] Shmueli, G., Sarstedt, M., Hair, J.F., et al. (2019). Predictive model assessment in PLS-SEM: Guidelines for using PLSpredict. *European Journal of Marketing*, 53(11): 2322-2347. <https://doi.org/10.1108/EJM-02-2019-0189>
- [28] Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*, 2nd ed. Routledge. <https://doi.org/10.4324/9780203771587>
- [29] Hörisch, J., Freeman, R.E., Schaltegger, S. (2014). Applying stakeholder theory in sustainability management: Links, similarities, dissimilarities, and a conceptual framework. *Organization & Environment*, 27(4): 328-346. <https://doi.org/10.1177/1086026614535786>
- [30] Gadenne, D.L., Kennedy, J., McKeiver, C. (2009). An empirical study of environmental awareness and practices in SMEs. *Journal of Business Ethics*, 84(1): 45-63. <https://doi.org/10.1007/s10551-008-9672-9>
- [31] Li, H., Zhang, M. (2010). The development and validation of an organizational cohesion inventory. *Frontiers of Business Research in China*, 4(4): 653-684. <https://doi.org/10.1007/s11782-010-0115-y>
- [32] Cantele, S., Zardini, A. (2018). Is sustainability a competitive advantage for small businesses? An empirical analysis of possible mediators in the sustainability-financial performance relationship. *Journal of Cleaner Production*, 182: 166-176. <https://doi.org/10.1016/j.jclepro.2018.02.016>
- [33] Dyllick, T., Muff, K. (2016). Clarifying the meaning of sustainable business: Introducing a typology from business-as-usual to true business sustainability. *Organization & Environment*, 29(2): 156-174. <https://doi.org/10.1177/1086026615575176>

APPENDIX

A. Measurement Instrument, Item Sources, and Final Outer Loadings

A1. Scope and response format

Table A1 presents the documented English wording of the measurement items. The measurement instrument comprises seven reflective constructs and 35 administered statements. Respondents indicated agreement on a seven-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neutral, 5 = somewhat agree, 6 = agree, and 7 = strongly agree). No item is reverse-coded. The respondent-profile, enterprise-profile, and open-ended questions are not PLS-SEM indicators and are therefore outside Table A1.

A2. Documented item adaptation and language procedure

After construct selection, the English item wording was contextualized to the enterprise-level unit of analysis, the SME setting, and sustainability-related decisions and practices. The English questionnaire was translated into Vietnamese and independently back-translated into English. The research team compared the versions and reconciled semantic differences. Academic experts and SME practitioners then reviewed the instrument for clarity and contextual relevance, and minor wording revisions were made before field administration. Table A1 reproduces the exact English-equivalent wording used to document the administered measurement instrument. All items were measured on the same seven-point agreement scale described in Section A1.

Item-source disclosure. The indicators were contextually adapted at the construct level rather than reproduced verbatim. The source column therefore identifies the validated scale or theoretical/adaptation basis used for each indicator; all cited sources and DOI/URL links appear in the article's consolidated reference list.

A3. Measurement items and final outer loadings

Table A1. Exact questionnaire wording, item provenance, and final PLS-SEM loading

Item	Exact Questionnaire Wording	Original/Adaptation Source	Final Loading
SR	Stakeholder Role		
SR1	Customers increasingly expect our enterprise to engage in environmentally and socially responsible business practices.	Author-contextualized indicators; construct/adaptation basis [17, 29]	0.8708
SR2	Government regulations encourage our enterprise	Author-contextualized indicators; construct/adaptation basis [17,	0.8655

	to adopt sustainable development practices.	29]	
SR3	Business partners and suppliers expect our enterprise to operate sustainably.	Author-contextualized indicators; construct/adaptation basis [17, 29]	0.8736
SR4	Local communities influence our sustainability-related decisions.	Author-contextualized indicators; construct/adaptation basis [17, 29]	0.8733
SR5	Stakeholder expectations play an important role in shaping our sustainability strategies.	Author-contextualized indicators; construct/adaptation basis [17, 29]	0.8945
RC	Organizational Readiness for Change		
RC1	Employees are willing to support sustainability-related changes within the enterprise.	Adapted at construct level from the organizational-readiness scale [18]	0.7663
RC2	Our enterprise is prepared to allocate financial and human resources to sustainability initiatives.	Adapted at construct level from the organizational-readiness scale [18]	0.8426
RC3	The organization is willing to modify existing business processes to improve environmental and social performance.	Adapted at construct level from the organizational-readiness scale [18]	0.8587
RC4	Employees adapt effectively to sustainability-related policies, practices, and technologies.	Adapted at construct level from the organizational-readiness scale [18]	0.7753
RC5	Top management actively promotes organizational transformation toward long-term sustainability goals.	Adapted at construct level from the organizational-readiness scale [18]	0.9148
SA	Sustainability Awareness		
SA1	Managers clearly understand sustainability-related issues affecting the enterprise.	Adapted at construct level from SME environmental-awareness measures [30]	0.8136
SA2	Employees are aware of the environmental impacts of business operations.	Adapted at construct level from SME environmental-awareness measures [30]	0.8213
SA3	Our enterprise recognizes the importance of social responsibility.	Adapted at construct level from SME environmental-awareness measures [30]	0.7760
SA4	Sustainability issues are regularly discussed within the organization.	Adapted at construct level from SME environmental-awareness measures [30]	0.7496
SA5	Our enterprise actively seeks information about sustainable business practices.	Adapted at construct level from SME environmental-awareness measures [30]	0.8488
IB	Internal Organizational Cohesion		
IB1	Employees share common values regarding sustainable development.	Adapted at construct level from the Organizational Cohesion Inventory [31]	0.8994
IB2	Employees openly communicate and share ideas related to sustainability within the organization.	Adapted at construct level from the Organizational Cohesion Inventory [31]	Excluded
IB3	There is strong collaboration among employees in achieving sustainability goals.	Adapted at construct level from the Organizational Cohesion Inventory [31]	0.8388
IB4	Management and employees are aligned in their commitment to sustainability.	Adapted at construct level from the Organizational Cohesion Inventory [31]	0.8330
IB5	Our organizational culture supports sustainability initiatives.	Adapted at construct level from the Organizational Cohesion Inventory [31]	0.7676
MO	Competitive Motivation		
MO1	Sustainability helps our enterprise gain competitive advantages.	Author-contextualized indicators; ecological-motivation and SME competitive-advantage basis [13, 32]	0.8054
MO2	Sustainability improves our business reputation in the marketplace.	Author-contextualized indicators; ecological-motivation and SME competitive-advantage basis [13, 32]	0.8448
MO3	Sustainability differentiates our products and services from competitors.	Author-contextualized indicators; ecological-motivation and SME competitive-advantage basis [13, 32]	0.7812
MO4	Sustainability initiatives create new business opportunities.	Author-contextualized indicators; ecological-motivation and SME competitive-advantage basis [13, 32]	0.8514
MO5	Improving competitiveness motivates our sustainability efforts.	Author-contextualized indicators; ecological-motivation and SME competitive-advantage basis [13, 32]	0.8673
SDA	Sustainable Development Adoption		
SDA1	Our enterprise actively implements environmentally friendly business practices.	Author-contextualized indicators; SME environmental-practice and sustainability-performance basis [30, 32, 33]	0.7971
SDA2	Sustainability principles are integrated into strategic planning.	Author-contextualized indicators; SME environmental-practice and sustainability-performance basis [30, 32, 33]	0.8472
SDA3	Our enterprise regularly invests in sustainable development activities.	Author-contextualized indicators; SME environmental-practice and sustainability-performance basis [30, 32, 33]	0.7498
SDA4	Environmental and social considerations influence operational decisions.	Author-contextualized indicators; SME environmental-practice and sustainability-performance basis [30, 32, 33]	0.8508
SDA5	Our enterprise continuously improves its sustainability performance.	Author-contextualized indicators; SME environmental-practice and sustainability-performance basis [30, 32, 33]	0.8830
CT	Customer Trust		
CT1	Customers perceive our enterprise as trustworthy.	Adapted at construct level from consumer/corporate trust measures in CSR settings [5-7]	0.8425
CT2	Customers believe that our enterprise acts responsibly.	Adapted at construct level from consumer/corporate trust measures in CSR settings [5-7]	0.8416
CT3	Customers have confidence in our long-term commitment to sustainability.	Adapted at construct level from consumer/corporate trust measures in CSR settings [5-7]	0.8093

CT4	Customers view our enterprise as transparent and ethical.	Adapted at construct level from consumer/corporate trust measures in CSR settings [5-7]	0.8287
CT5	Sustainability initiatives strengthen customer trust in our enterprise.	Adapted at construct level from consumer/corporate trust measures in CSR settings [5-7]	0.9013