UNVEILING THE DIGITAL TRANSFORMATION PATH TO SMALL ENTERPRISE SUCCESS: A CROSS-METHODOLOGICAL ROBUSTNESS CHECK BETWEEN PLS-SEM AND CB-SEM FRAMEWORKS

Apinya INGARD[1*], Kawitsara PRAYMEE[1], Laknara CHANDRARAMYA[1], Thapthep PAPRACH[1], Sawin SUEBSAHAKARN[1] and Nattawat THEAMTAD[1]

1 Faculty of Information and Communication Technology, Silpakorn University, Thailand; ingard_a@su.ac.th (A. I.) (Corresponding Author); praymee_s@su.ac.th (K. P.); chandraramya_l@su.ac.th (L. C.); Paprach_t@su.ac.th (T. P.); suebsahakarn_s@su.ac.th (S. S.); themtad_n@su.ac.th (N. T.)

ABSTRACT

This study establishes a rigorous psychometric and structural framework to investigate how entrepreneurial characteristics (CHAR) drive digital content marketing (DCM) and downstream business success and sustainability (BUSU) through the core mechanism of consumer data utilization (CDUS) within small hospitality enterprises. Methodologically, it addresses a prominent research gap by executing a dual-phase empirical investigation (n = 290) using parallel dual-estimation via PLS-SEM and CB-SEM as a cross-methodological robustness check. First, an iterative exploratory factor analysis workflow successfully purified the measurement instruments, refining a preliminary pool of 78 indicators down to stable, parsimonious scales. CDUS resolved cleanly into a distinct four-factor structure, validating the Resource-Based View and Dynamic Capabilities perspective. Second, structural model evaluations revealed exceptional cross-methodological convergence. All direct causal pathways aligned perfectly in direction and significance, with narrow parameter discrepancies ($\Delta\beta$ = 0.010 to 0.146), confirming model stability and the absence of method bias. DCM manifested the strongest direct impact on BUSU (β_{PLS} = 0.531; β_{CB} = 0.677). A critical algorithmic divergence emerged only within the long-range sequential mediation (CHAR→CDUS→DCM→BUSU), which achieved significance under CB-SEM ($p < 0.05$) but not PLS-SEM ($p = 0.085$), highlighting CB-SEM's heightened sensitivity to multi-stage covariance structures. Ultimately, the absolute alignment of total indirect effects (β_{PLS} = 0.319; β_{CB} = 0.438, $p < 0.001$) substantiates that the newly validated scale achieves a gold standard. Academically and managerially, the findings demonstrate that proactive entrepreneurial intent must be systematically operationalized into actionable data assets to engineer strategic digital content that yields sustainable multi-dimensional business success.

Keywords: Psychometric Validation, Digital Content Marketing, Consumer Data Utilization, Model Convergence, Small Enterprises, PLS-SEM, CB-SEM

CITATION INFORMATION: Ingard, A., Praymee, K., Chandraramya, L., Paprach, T., Suebsahakarn, S., & Theamtad, N. (2026). Unveiling the Digital Transformation Path to Small Enterprise Success: A Cross-Methodological Robustness Check Between PLS-SEM and CB-SEM Frameworks. *Procedia of Multidisciplinary Research, 4*(8), 6.

Data Availability Statement: The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Conflicts of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.



Copyright: © 2026 by the authors. This is a fully open-access article distributed under the terms of the Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0).